

OHBM 2020

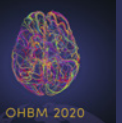
26TH ANNUAL MEETING OF THE
ORGANIZATION FOR HUMAN BRAIN MAPPING

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BRAIN STIMULATION

Deep Brain Stimulation

- 0002 Differential effects of deep brain stimulation and levodopa on brain activity in Parkinson's disease**
Karsten Mueller¹, Dusan Urgošik^{2,3}, Stefan Holiga¹, Harald Möller¹, Filip Růžička^{2,3}, Jan Roth^{2,3}, Josef Vymazal³, Matthias Schroeter^{1,4}, Evzen Růžička², Robert Jech^{2,3}
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- 0003 Clinical validation of patient-specific STN parcellation using 7T MRI: a DBS lead revision case**
Remi Patriat¹, Lauren Schrock¹, Jerrold Vitek¹, Noam Harel¹
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- 0010 Acute Fornix Deep Brain Stimulation Remodels Brain and Improves Memory in Alzheimer's Mouse Model**
Daniel Gallino¹, Gabriel Devenyi², Mallar Chakravarty³
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- 0016 DBS Modeling with Boundary Element Fast Multipole Method: Formulation, Test, and a Numerical Example**
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- 0018 Changes in brain volume following subcallosal cingulate deep brain stimulation for depression**
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- 0030 Hyperdirect Pathway DBS Reduces the Current Necessary for Direct Cortical Stimulation MEPs**
Kurt Weaver¹, David Caldwell¹, Jeneva Cronin¹, Chao Kuo², Michael Kogan³, Brady Houston¹, Vicente Martinez¹, Jeffrey Ojemann¹, Swati Rane¹, Andrew Ko¹
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- 0034 Patient-Specific Parcellations of DBS target structures at 7Tesla**
Remi Patriat¹, Tara Palnikar¹, Henry Braun¹, Jinyoung Kim¹, Oren Rosenberg¹, Noam Harel¹
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- 0043 Assessment of beta dynamical characteristics between OFF and ON medication conditions in Parkinson's**
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- 0046 Subthalamic nucleus activity dynamics and limb movement prediction in Parkinson's disease**
Saed Khawaldeh^{1,2,3}, Gerd Tinkhauser^{1,2,4}, Syed Ahmar Shah^{1,2,5}, Katrin Peterman⁴, Ines Debove⁴, T.A. Khoa Nguyen⁶, Andreas Nowacki⁶, Lenard Lachenmayer⁴, Michael Schuepbach⁴, Claudio Pollo⁶, Paul Krack⁴, Mark Woolrich^{2,3}, Peter Brown^{1,2}
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- 0048 Automated functional mapping of the thalamus and DBS lead localization in essential tremor**
James Gee¹, Tara Palnikar¹, Henry Braun¹, Jinyoung Kim¹, Remi Patriat¹, Noam Harel¹
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Direct Electrical/Optogenetic Stimulation

- 0004* Electroconvulsive therapy treatment responsive multimodal brain networks**
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- 0021* Optogenetic stimulation of the mouse entorhinal cortex reshapes whole brain dynamics**
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- 0027 Epidural Temporal Interference Stimulation for Minimally Invasive Electrical Deep Brain Stimulation**
Sangjun Lee¹, Jimin Park¹, Chang-Hwan Im¹
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- 0036 Correlation of fMRI with direct electrical stimulation in patients with left side brain gliomas**
Steren Chabert^{1,2}, Alejandro Veloz^{1,3}, Gisella Tapia⁴, Francisco Torres^{4,5}, Rodrigo Riveros^{4,5}, Begona Gongora^{6,4}, Matias Gonzalez^{4,5}, Carlos Bennett^{4,5}
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Non-invasive Electrical/tDCS/tACS/tRNS

- 0011 Unified approach in TES and IES optimization applied to realistic head models**
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- 0012 Concurrent fMRI-tACS: subject safety and the data quality evaluation**
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- 0022 TACS-induced phase-specific modulation of striatal activity in bimanual visuomotor force tracking**
Kirstin-Friederike Heise¹, Geneviève Albouy¹, Ronald Peeters², Dante Mantini³, Stephan Patrick Swinnen³
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- 0023 Effects of sub-threshold transcutaneous auricular vagus nerve stimulation on cerebral blood flow**
Conan Chen¹, Maryam Falahpour¹, Yixiang Mao¹, Vivek Sharma², Pankaj Sunker², Jason Sutor², John Hermiz², Kelly MacNiven², Gary Heit², Thomas Liu¹
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- 0025 Effects of sub-threshold auricular vagus nerve stimulation on resting state functional connectivity**
Maryam Falahpour¹, Yixiang Mao¹, Conan Chen¹, Vivek Sharma², Pankaj Sunker², Jason Sutor², John Hermiz², Kelly MacNiven², Gary Heit², Thomas Liu¹
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- 0049 Simulated electric field during prefrontal tDCS in mood disorders and schizophrenia**
Shun Takahashi^{1,2}, Shinya Uenishi¹, Atsushi Tamaki¹, Kasumi Yasuda¹, Daniel Keeser², Yuki Mizutani-Tiebe², Frank Padberg², Satoshi Uka¹
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- 0062 Frontal and Temporal tDCS Modulate Different Networks During Simultaneous tDCS+fMRI**
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- 0067 Optimization of intersectional pulsed transcranial current stimulation**
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Non-invasive Magnetic/TMS

- 0014 The Role of Continuous Theta Burst TMS on the Neurophysiology of Stroke: a Multimodal Study**
Ana Dionísio^{1,2}, João Castelhanos¹, Rita Gouveia¹, Carolina Xavier¹, Felix Duecker^{1,3,4}, Isabel Catarina Duarte¹, Gustavo Cordeiro⁵, João Sargento-Freitas⁵, Jorge Lains⁶, Filipe Carvalho⁶, Antero Abrunhosa¹, Miguel Castelo-Branco^{1,7,8}
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- 0028 Optimal Rotation Angles of Permanent Magnets for Transcranial Static Magnetic Stimulation**
Jimin Park¹, Sangjun Lee¹, Chany Lee², Chang-Hwan Im¹
¹Hanyang University, Seoul, Seoul, ²Department of Structure & Function of Neural Network, Korea Brain Research Institute, Daegu, Daegu
- 0037 Concurrent TMS/fMRI demonstrates direct sgACC target engagement**
Martin Tik¹, Matic Prinčič¹, Michael Woletz¹, Anna-Lisa Schuler¹, Christian Windischberger¹
¹Medical University of Vienna, Vienna, Austria
- 0040 Multimodal Language Mapping in Pre-Surgical Planning**
Anna-Lisa Schuler¹, Georg Widhalm¹, Martin Tik¹, Michael Woletz¹, Roland Fischer¹, Karl Rössler¹, Christian Windischberger¹
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- 0041 Probing the brain state with EEG phase-driven transcranial magnetic stimulation**
Ivan Alekseeichuk¹, Sina Shirinpour¹, Kathleen Mantell¹, Alexander Opitz¹
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- 0042 Transcranial Magnetic Stimulation Modulates Glutamate/Glutamine Levels in Young Adults with Autism**
Iska Moxon-Emre¹, Zafiris Daskalakis¹, Daniel Blumberger¹, Paul Croarkin², Natalie Forde¹, Hideaki Tani¹, Peter Truong¹, Meng-Chuan Lai¹, Pushpal Desarkar¹, Napapon Sailasuta¹, Peter Szatmari¹, Stephanie Ameis¹
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- 0050 Assessing the integrity and reorganization of the visual system after stroke by means of TMS-EEG**
Caroline Tscherpel^{1,2}, Christian Grefkes^{1,2}, Jana Freytag¹, Manuel Hermann³
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- 0059 Measuring change in memory networks after targeted repetitive transcranial magnetic stimulation**
Connor Phipps¹, Anthony Rangel¹, Abi Heller², Sara Craft², Liam Townley³, Vaishali Phatak³, Daniel Murman³, David Warren²
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- 0061 The impacts of theta-burst stimulation on structural connectome in autism spectrum disorder**
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- 0063 Inverse Mapping of Muscles and Synergies using TMS and Neural Networks**
Md Navid Akbar¹, Mathew Yarossi¹, Marc A Sommer², Moritz Dannauer², Dana Brooks¹, Eugene Tunik¹, Deniz Erdogmus¹
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- 0065 Pre-stimulus high and low beta phase coherence modulates the impact of TMS entrainment**
Adrien Martel¹, Chloé Stengele², Monica Toba³, Antoni Valero-Cabré⁴
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- 0068 Inducing Plasticity in the PPC-M1 Network with Corticocortical Paired-Associative Stimulation**
Ke Zeng¹, Yanqiu Wang^{1,2}, Kai-Hsiang Chen³, Robert Chen¹
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Sonic/Ultrasound

- 0001 Skull aberration correction in ultrasound brain imaging**
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- 0007 Longitudinal effects of non-invasive brain stimulation with ultrasound**
Eva Matt¹, Lisa Kaindl¹, Saskia Tenk¹, Anicca Egger¹, Teodora Kolarova¹, Nejla Karahasanovic¹, Ahmad Amini¹, Andreas Arslan¹, Kardelen Saricicek¹, Alexandra Weber¹, Roland Beisteiner¹
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- 0008* Low Intensity Focused Ultrasound Selectively Increases Regional Perfusion**
Bianca Dang^{1,2}, Taylor Kuhn^{3,2}, Norman Spivak^{1,4}, Sergio Becerra^{1,4}, Sonja Hiller¹, David Kronemyer^{1,5}, Nanthia Suthana^{6,5}, Martin Monti³, Susan Bookheimer^{7,2}
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- 0009 Low Intensity Focused Ultrasound: A Possible Non-Invasive Cognitive Neural Prosthetic**
Taylor Kuhn¹, Norman Spivak², Sergio Becerra¹, Bianca Dang², Sonja Hiller², Nanthia Suthana¹, Martin Monti³, Susan Bookheimer⁴
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- 0044 Acoustic Simulation to Understand Variability in Transcranial Ultrasound of Motor Cortex**
Ian Heimbuch¹, Tiffany Fan¹, Guido Faas¹, Marco Iacoboni¹, Andrew Charles¹
¹UCLA, Los Angeles, CA

TDCS

- 0006 Transcranial direct-current stimulation enhances dopamine release and attentiveness**
Yasuomi Ouchi¹, Tomoyasu Bunai², Toru Hirose³, Mina Fukai³, Shigeru Ito⁴, Ichiro Ando⁵, Etsuji Yoshikawa⁵, Mitsuru Kikuchi³
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- 0013 Transcranial direct-current stimulation induced changes in neural activity: an fNIRS pilot study**
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- 0017 Network-targeting in transcranial direct current stimulation: Inter and intra individual variability**
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- 0026 Validating target engagement in transcranial direct current stimulation (tDCS) using multimodal MRI**
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- 0031 Modulating Operator Vigilance with Transcranial Direct Current Stimulation (tDCS)**
E. Susan Duncan¹, Surani Nakkawita¹, Heather Lucas¹, Owen Carmichael², Marcio de Queiroz¹
¹Louisiana State University, Baton Rouge, LA, ²Pennington Biomedical Research Center, Baton Rouge, LA
- 0033 Effects of bifrontal tDCS on brain metabolites in patients with MDD and healthy controls**
Eva Mezger¹, Lucia Bulubas², Andre R Brunoni³, Birgit Ertl-Wagner⁴, Sophia Stoecklein⁵, Stephan Goerigk⁵, Alkomiet Hasan⁴, Frank Padberg⁴, Daniel Keeser⁴
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0035 Associations of grey matter volume and acute tDCS effects, shown by metabolite concentration changes

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0038 Effect of Transcranial Direct Current Stimulation in the first weeks after stroke: preliminary study

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0052 Modulation of aggression by prefrontal transcranial direct current stimulation

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0053 Does tDCS induced GABA change depend on the participant specific electric field in M1?

Tulika Nandi¹, William Clarke¹, James Kolasinski², Taylor Hanayik¹, Emily Hinson¹, Adam Berrington³, Velicia Bachtar⁴, Ainslie Johnstone⁵, Oula Puonti⁶, Heidi Johansen-Berg¹, Charlotte Stagg¹

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0064 Assessing Brain Network Effects of Targeted Transcranial Direct Current Stimulation

Danielle Nadin^{1,2}, Marie-Hélène Boudrias¹, Stefanie Blain-Moraes^{3,2}

¹McGill University, Montreal, QC, Canada, ²Montreal General Hospital, McGill University Health Center Research Institute, Montreal, QC, Canada, ³McGill University, Montreal, Quebec

0066 Value of MRI based biophysical models of cortical tDCS fields in primary progressive aphasia

Clara Sanches¹, Michel Katchaturian¹, Dennis Truong², Marom Bikson³, Lara Migliaccio¹, Marc Teichmann¹, Antoni Valero-Cabré¹

¹Institut du Cerveau et de la Moelle Epinière, Paris, Ile-de-France, ²City College of New York, New York, NY, ³City University of New York, New York, NY

TMS

0005 Multi-band accelerated TMS/fMRI for continuous EPI during stimulation shows acute 10Hz TMS effects

Martin Tik¹, Michael Woletz¹, Anna-Lisa Schuler¹, David Linhardt¹, Matic Prinčič², Allan Hummer¹, Christian Windischberger¹

¹Medical University of Vienna, Vienna, Austria, ²Medical University of Vienna, Vienna, Vienna

0020 Inputs at the optimum phase of beta cortical oscillations accelerate cortical synaptic transmission

Flavie Torrecillos^{1,2}, Emma Falato³, Alek Pogosyan^{1,2}, Timothy West^{1,2}, Vincenzo Di Lazzaro³, Peter Brow^{1,2}

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0024 TMS Focality Optimization at the Inner Cortical Surface with Boundary Element Fast Multipole Method

Sergey Makarov^{1,2}, William Wartman¹, Gregory Noetscher¹, Tommi Raji³, Mohammad Daneshzand², Kyoko Fujimoto⁴, Aapo Nummenmaa²

¹Worcester Polytechnic Institute, Worcester, MA, ²Harvard Medical School, Boston, MA, ³Shirley Ryan AbilityLab, Chicago, IL, ⁴Center for Devices and Radiological Health, FDA, Silver Spring, MD

0029 Functional Connectivity Alterations with the Target: A Combined Resting-state fMRI-TMS study

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0032 The effects of rTMS on resting-state function connectivity in obese adults

Sehong Kim¹, Juhye Chung¹, Bo-yong Park², Hyunjin Park³

¹The Catholic University of Korea, Seoul, Seoul, ²Montreal Neurological Institute, McGill University, Montreal, Quebec, ³School of Electronic and Electrical Engineering, Sungkyunkwan University, Suwon, Gyeonggido

0039 Cognitive Training with Information Based Neuromodulation to Enhance Working Memory

Heather Whittaker¹, Robert Zatorre², Sylvain Baillet³, Philippe Albouy⁴

¹McGill University, Montreal, Quebec, ²Montreal Neurological Institute, Montreal, Québec, ³McConnell Brain Imaging Centre, Montreal Neurological Institute, McGill University, Montreal, Quebec, ⁴Laval University, Quebec, Quebec

0045 MRS and TMS Measurements Predicting Responses Following Non-Invasive Brain Stimulation of M1

Jean-Marc Therrien-Blanchet¹, Marie Ferland², Sébastien Proulx³, Hugo Théoret⁴

¹Université de Montréal, Montreal, Quebec, ²Université de Montréal, Montréal, Québec, ³McGill, Montréal, QC, ⁴University of Montreal, Montreal, Quebec

0047 Toward State-of-the-Art Connectivity-Guided TMS: Personalization, Precision & Clinical Response

Robin Cash¹, Luca Cocchi², Jinglei Lv¹, Paul Fitzgerald³, Andrew Zalesky¹

¹University of Melbourne, Melbourne, Victoria, ²QIMR Berghofer, Brisbane, QLD, ³Epworth Healthcare and the Monash University Central Clinical School, Melbourne, Victoria

0051 Improving cortical language mapping by means of paired-pulse and high-frequency repetitive TMS

Charlotte Nettekoven¹, Julia Pieczewski¹, Denise Klütsch¹, Kristina Jonas², Roland Goldbrunner¹, Carolin Weiß Lucas¹

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- 0054 Impact of sham TMS periodical auditory stimulation on cortical oscillations and visual detection**
Chloé Stengel¹, Adrien Martel¹, Julian Amengual², Antoni Valero-Cabré^{1,3,4}
¹Institut du Cerveau et de la Moelle épinière (ICM), Paris, ²Institut des Sciences Cognitives Marc Jeannerod, Université Claude Bernard Lyon I, Lyon, Rhone, ³Laboratory of Cerebral Dynamics, Boston University School of Medicine, Boston, MA, ⁴Cognitive Neuroscience and Information Tech. Research Program, Open University of Catalonia, Barcelona, Spain
- 0055* BEST Toolbox: Brain Electrophysiological recording & STimulation Toolbox**
Umair Hassan¹, Steven Pillen¹, Christoph Zrenner², Til Ole Bergmann¹
¹Deutsches Resilienz Zentrum (DRZ), Mainz, Germany, ²Department of Neurology & Stroke, & Hertie Institute for Clinical Brain Research, Tübingen, Germany
- 0058 The effect of short-term arm immobilization on intracortical inhibition and motor skill learning**
Erin King¹, Martin Tan¹, Michael Borich¹
¹Emory University, Atlanta, GA
- 0060* An optimization approach to TMS targeting of functional ROIs informed by field modelling**
Jerrold Jeyachandra¹, Erin Dickie², Zafiris Daskalakis³, Daniel Blumberger³, Colin Hawco¹, Zhi-De Deng⁴, Aristotle Voineskos¹
¹Centre for Addiction and Mental Health, Toronto, Ontario, ²Centre for Addiction and Mental Health, University of Toronto, Toronto, Ontario, ³The Centre for Addiction and Mental Health, Toronto, Ontario, ⁴Noninvasive Neuromodulation Unit, National Institute of Mental Health, Bethesda, MD
- 0070 TMS Mapping using Active Inference for Spatial Sampling via User Guidance and Gaussian Processes**
Mathew Yarossi¹, Razieh Faghihpouryesh¹, Daniel Tanis², Gregory Ames³, Sergei Adamovich⁴, Dana Brooks¹, Deniz Erdogmus¹, Eugene Tunik¹
¹Northeastern University, Boston, MA, ²NYIT College Of Osteopathic Medicine, Glen Head, NY, ³Kessler Foundation Research Center, West Orange, NJ, ⁴New Jersey Institute of Technology, Newark, NJ
- 0015 Hypoxia-induced changes in EEG connectivity: effects of somatosensory entrainment**
Alejandro Weinstein¹, Grace Whitaker¹, Pavel Prado², Lucía Zepeda¹, José Ignacio Mendez³, Wael El-Deredy¹
¹Universidad de Valparaíso, Valparaíso, Valparaíso, ²Universidad Técnica Federico Santa María, Valparaíso, Valparaíso, ³CODELCO-Andina, Los Andes, NA
- 0019 Somatosensory evoked potentials in post-stroke spasticity and their modulation by botulinum toxin**
Tomas Veverka¹, Pavel Otruba¹, Jana Zapletalová¹, Petr Kaňovský¹, Petr Hlušík¹
¹Palacky University and University Hospital, Olomouc, Czechia
- 0057 Neurofeedback Training for Optimizing Archer's Performance**
Poyu Chen¹, Szu-Yuan Chen², Lung-Hung Chen³, Chih-Hao Chiu⁴
¹Department of Occupational Therapy, Chang Gung University, Taoyuan, Taiwan, ²Graduate Institute of Athletics and Coaching Science, National Taiwan Sport University, Taoyuan, Taiwan, ³Department of Recreation and Leisure Industry Management National Taiwan Sport University, Taoyuan, Taiwan, ⁴Department of Orthopedic Surgery, Chang Gung Memory Hospital, Taoyuan, Taiwan
- 0069* Entrainment of theta oscillations with visual rhythmic stimulation boosts auditory working memory**
Philippe Albouy¹, Robert Zatorre², Sylvain Baillet³
¹Laval University, Quebec, QC, ²Montreal Neurological Institute, Montreal, Québec, ³McGill University, Montreal

Non-Invasive Stimulation Methods Other

DISORDERS OF THE NERVOUS SYSTEM

Neurodegenerative/ Late Life (eg. Parkinson's, Alzheimer's)

- 0074 Voxel-Based Quantitative MRI reveals spatial patterns of grey matter alteration in Multiple Sclerosis**
Christophe Phillips¹, Pierre Maquet², Emilie Lommers¹
¹University of Liege, Liège, Belgium, ²University of Liège, Liège, Belgium
- 0079 Mechanisms underlying speech production in patients with cerebellar stroke damage**
Sharon Geva¹, Letitia Schneider¹, Thomas Hope¹, Shamima Khan¹, Andrea Gajardo-Vidal¹, Diego Lorca-Puls¹, Oivi Parker Jones², Susan Prejawa³, Marion Oberhuber¹, David Green¹, Cathy Price¹
¹University College London, London, London, ²University of Oxford, Oxford, Oxford, ³Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Leipzig
- 0086 Association between Cerebral Blood Flow and White Matter Signal Abnormalities in MCI**
Chanmie Kim¹, David Salat¹
¹MGH/MIT/HMS Athinoula A. Martinos Center for Biomedical Imaging, Charlestown, MA
- 0092 Cognitive impairment resting-state fMRI markers in elderly**
Karen Aguilar Mateu¹, Ana Castro Laguardia², Jorge Llibre³, Rosa Morgade Fonte², María Bobes-León²
¹Cuban Center for Neuroscience, Havana, Cuba, ²Cuban Center for Neuroscience, Havana, Cuba, ³National Institute of Neurology and Neurosurgery, Havana, Cuba
- 0093 Dynamic functional connectivity and dopaminergic treatment in Parkinson's disease**
María Díez-Cirarda¹, Iñigo Gabilondo², Naroa Ibarretxe-Bilbao³, Juan Carlos Gomez-Esteban², Jinhee Kim¹, Olaia Lucas-Jiménez³, Rocio del Pino², Javier Peña³, Natalia Ojeda³, Alexander Mihaescu¹, Mikael Valli¹, Maria Angeles Acera², Alberto Cabrera⁴, Maria Angeles Gomez-Beldarrain⁵, Antonio Strafella¹
¹Centre for Addiction and Mental Health, Toronto, Canada, ²BioCruces Health Research Institute, Bilbao, Spain, ³University of Deusto, Bilbao, Spain, ⁴OSATEK MR Unit, Bilbao, Spain, ⁵Neurology Service, Hospital of Galdakao, Bilbao, Spain
- 0095 Mild Traumatic Brain Injury Patients Exhibit Alterations in Cortical Lamination Patterns**
Omri Tomer¹, Galia Tsarfaty², Sarel Shlomo², Raffaella Bodini², Niv Tik¹, Yaniv Assaf¹, Abigali Livny²
¹Tel Aviv University, Tel Aviv-Yafo, Israel, ²Sheba Medical Center, Tel-Hashomer, Israel
- 0096 Effect of initial concentrations on a computational model of tau aggregation in tauopathies**
Arsalan Rahimabadi¹, Jean-Paul Soucy^{1,2}, Habib Benali¹
¹PERFORM centre, ECE Department, Concordia University, Montreal, QC, Canada, ²Montreal Neurological Institute, Montreal, QC, Canada
- 0097 Dynamic fMRI gives insight into neuromodulatory basis of fluctuating cognition in Lewy body dementia**
Elie Matar¹, Kaylena Ehgoetz Martens², Joseph Phillips³, Gabriel Wainstein⁴, Glenda Halliday¹, Simon Lewis¹, James 'Mac' Shine¹
¹University of Sydney, Sydney, New South Wales, ²University of Waterloo, Waterloo, Ontario, ³University of Western Sydney, Sydney, New South Wales, ⁴Universidad Católica de Chile, Santiago, Region Metropolitana
- 0099 Progression of Cortical Thinning in Parkinson's Disease**
Andrew Vo¹, Christina Tremblay¹, Shady Rahayel¹, Yvonne Yau¹, Alain Dagher¹
¹Montreal Neurological Institute, Montreal, Quebec

- 0100 A multimodal computational model of Parkinson's disease progression enriched for dementia risk**
Neil Oxtoby¹, Louise-Ann Leyland², Leon Aksman³, Peter Wijeratne⁴, George Thomas², Emma Bunting⁵, Fiona Bremner⁶, Anette Schrag^{7,8}, Daniel Alexander⁴, Rimona Weil^{2,9,8}
¹Centre for Medical Image Computing & Dept of Computer Science, University College London (UCL), London, United Kingdom, ²Dementia Research Centre, Institute of Neurology, UCL, London, United Kingdom, ³Centre for Medical Image Computing and Dept of Medical Physics & Biomedical Engineering, UCL, London, United Kingdom, ⁴Centre for Medical Image Computing & Dept of Computer Science, UCL, London, United Kingdom, ⁵Dementia Research Centre, UCL Queen Square Institute of Neurology, London, United Kingdom, ⁶Neuro-ophthalmology, National Hospital for Neurology and Neurosurgery, London, United Kingdom, ⁷Department of Clinical Neuroscience, Institute of Neurology, UCL, London, United Kingdom, ⁸UCL Movement Disorders Centre, London, United Kingdom, ⁹The Wellcome Centre for Human Neuroimaging, Institute of Neurology, UCL, London, United Kingdom
- 0104 A DTI Study in Subcortical Vascular Mild Cognitive Impairment with or without Depressive Symptoms**
Ziyun Xu^{1,2}, Jianjun Wang³, Hanqing Lyu⁴, Qingmao Hu^{1,2}
¹Institute of Biomedical and Health Engineering, Shenzhen Institutes of Advanced Technology, Shenzhen, Guangdong, ²University of Chinese Academy of Sciences, Beijing, China, ³Department of Neurology and Psychiatry, Shenzhen Traditional Chinese Medicine Hospital, Shenzhen, Guangdong, ⁴Department of Radiology, Shenzhen Traditional Chinese Medicine Hospital, Shenzhen, Guangdong
- 0105 Reduced Microstructural Integrity and Altered Structural Network in Cerebral Small Vessel Disease**
Mingxian Zhang¹, Nan Yang², Sina Chen², Jinhui Li¹, Haishan Yuan¹, Yu Guo¹, Qinyuan Chen³, Yichen Zhang¹, Ruiwang Huang^{1,3}
¹Center for Study of Applied Psychology, School of Psychology, South China Normal University, Guangzhou, China, ²Zhongshan Hospital of traditional Chinese Medicine, Zhongshan, China, ³Institute for Brain Research and Rehabilitation, South China Normal University, Guangzhou, China
- 0106 Degeneration of Structural Brain Networks is Associated with Cognitive Decline after Ischemic Stroke**
Hsiao-ju Cheng¹, Michele Veldsman^{2,3}, Fang Ji¹, Emilio Werden³, Mohamed Khelif³, Kwun Kei Ng¹, Joseph Lim¹, Xing Qian¹, Haoyong Yu¹, Juan Zhou^{1,4}, Amy Brodtmann³
¹National University of Singapore, Singapore, Singapore, ²University of Oxford, Oxford, UK, ³University of Melbourne, Melbourne, Australia, ⁴Duke-NUS Medical School, Singapore, Singapore
- 0107 Genetic, Cellular and Topological Characterization of Human Brain Regions Commonly Plagued by Glioma**
Ayan Mandal¹, Rafael Romero-Garcia¹, Michael Hart¹, John Suckling¹
¹University of Cambridge, Cambridge, Cambridgeshire
- 0109 Improved Memory-related Gamma Rhythms in Origami but not Reading Intervention among Older Adults**
Yang Jiang¹, Tyler Hammond¹, Tharunika Venkatesan¹, Sylvia Cerel-Suhl¹, Shoshana Bardach¹, Xiaopeng Zhao², Jing Xiang³, Gregory Jicha¹
¹University of Kentucky, Lexington, KY, ²University of Tennessee, Knoxville, TN, ³University of Cincinnati, Cincinnati, OH
- 0113 Quantitative susceptibility mapping in the motor cortex in limb-onset Amyotrophic Lateral Sclerosis**
Anjan Bhattachari^{1,2}, Zhaolin Chen², Phillip Ward², Paul Talman³, Susan Mathers⁴, Thanh Phan⁵, Caron Chapman⁴, James Howe⁴, Sarah Lee⁴, Yennie Lie⁴, Gary Egan², Phyllis Chua^{1,4}
¹Department of Psychiatry, Monash University, Clayton, Victoria, Australia, ²Monash Biomedical Imaging, Monash University, Clayton, Victoria, Australia, ³Department of Neuroscience, Barwon Health, Geelong, Victoria, Australia, ⁴Statewide Progressive Neurological Services, Calvary Health Care Bethlehem, South Caulfield, Victoria, Australia, ⁵Department of Neurology, Monash Health, Monash University, Clayton, Victoria, Australia
- 0114 Diagnosis of Parkinson's disease with convolutional neural network**
Jie Mei¹, Cécilia Tremblay², Jason Steffener³, Johannes Frasnelli¹
¹Université du Québec à Trois-Rivières, Trois-Rivières, Québec, ²Université du Québec à Trois-Rivières, Trois-Rivières, Québec, ³University of Ottawa, Ottawa, Ontario
- 0115 Structural connectivity loss & regional gene expression explain dementia risk in Parkinson's disease**
Angeliki Zarkali¹, Peter McColgan², Mina Ryten³, Regina Reynolds⁴, Louise-Ann Leyland⁵, Andrew Lees⁶, Geraint Rees⁷, Rimona Weil⁵
¹Dementia Research Centre, University College London, London, United Kingdom, ²Huntington's Disease Centre, University College London, London, NA, ³Department of Neurodegenerative Disease, University College London, London, NA, ⁴Department of Neurodegenerative Diseases, University College London, London, NA, ⁵Dementia Research Centre, University College London, London, NA, ⁶Reta Lila Weston Institute of Neurological Studies, University College London, London, NA, ⁷Wellcome Centre for Human Neuroimaging, University College London, London, NA
- 0116 Network controllability and regional gene expression explain visual hallucinations in Parkinson's**
Angeliki Zarkali¹, Peter McColgan², Mina Ryten³, Regina Reynolds⁴, Louise-Ann Leyland⁵, Andrew Lees⁶, Geraint Rees⁷, Rimona Weil⁵
¹Dementia Research Centre, University College London, London, United Kingdom, ²Huntington's Disease Centre, University College London, London, NA, ³Department of Neurodegenerative Disease, University College London, London, NA, ⁴Department of Neurodegenerative Diseases, University College London, London, NA, ⁵Dementia Research Centre, University College London, London, NA, ⁶Reta Lila Weston Institute of Neurological Studies, University College London, London, NA, ⁷Wellcome Centre for Human Neuroimaging, University College London, London, NA
- 0121 Characteristic functional Traits of Mild cognitive impairment in Parkinson's disease**
Vicente Ferrer Gallardo¹, Manuel Delgado^{2,3}, Irene Navalpotro⁴, Stefano Moia^{1,5}, Manuel Carreiras^{1,5,6}, María Cruz Rodríguez-Oroz^{1,7,6}, Cesar Caballero-Gaudes¹
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- 0128 Extra-Striatal Dopamine in Parkinsons Disease with Rapid Eye Movement Sleep Behaviour Disorder**
Mikaeel Valli¹, Sang Soo Cho², Yuko Koshimori³, María Díez-Cirarda⁴, Jinhee Kim⁵, Alexander Mihaescu³, Antonio Strafella⁵
¹CAMH, Toronto, Ontario, ²Johns Hopkins Medicine, Baltimore, MD, ³CAMH, Toronto, ON, ⁴CAMH, Toronto, Ontario, ⁵Centre for Addiction and Mental Health, Toronto, Ontario

- 0129 Redundant and Complementary Information in Visual Ratings and Volumetric Measures of Atrophy**
Ahmed Abdulkadir^{1,2}, Patric Wyss¹, Stefan Klöppel¹, David Ginsbourger^{3,4}
¹University Hospital of Old Age Psychiatry and Psychotherapy, University of Bern, Bern, Switzerland, ²Department of Radiology, University of Pennsylvania, Philadelphia, PA, ³Idiap Research Institute, Martigny, Switzerland, ⁴Institute of Mathematical Statistics and Actuarial Science, University of Bern, Bern, Switzerland
- 0130 Resting state functional connectivity of cerebellar networks in Parkinson's disease**
William Palmer¹, Brenna Cholerton², Cyrus Zabestian¹, Thomas Montine², Thomas Grabowski¹, Swati Rane¹
¹University of Washington, Seattle, WA, ²Stanford University, Stanford, CA
- 0131 Functional brain networks are associated with blood neurofilament light chain in Alzheimer disease**
Muriah Wheelock¹, Jeremy Strain¹, Beau Ances¹, Oliver Preische², John Morris¹, Randall Bateman¹, Mathias Jucker², Tammie Benzinger¹, Adam Eggebrecht¹, Brian Gordon¹, the Dominantly Inherited Alzheimer Network¹
¹Washington University in St. Louis, St. Louis, MO, ²University of Tübingen, Tübingen, Baden-Württemberg
- 0133 Graph theory analysis of dopamine D2 network in Parkinson's disease patients with cognitive decline**
Alexander Mihaescu¹, Jinhee Kim², Sang Soo Cho³, Mikael Valli⁴, María Díez-Cirarda⁵, Antonio Strafella²
¹Centre for Addiction and Mental Health, Toronto, ON, ²Centre for Addiction and Mental Health, Toronto, Ontario, ³Johns Hopkins Medicine, Baltimore, MD, ⁴CAMH, Toronto, Ontario, ⁵CAMH, Toronto, Ontario
- 0134 Applying CARE index Model for Identifying Individual Patient Progressing to Alzheimer's Disease**
Xiang Lu¹, Jiu Chen², Hao Shu¹, Zhijun Zhang¹
¹Department of Neurology, Affiliated ZhongDa Hospital, School of Medicine, Southeast University, Nanjing, Jiangsu, ²Institute of Neuropsychiatry, The Affiliated Brain Hospital of Nanjing Medical University, Nanjing, Jiangsu
- 0137 Impact of Brain Injury on Dementia: Preliminary Results from a Pakistani Cohort**
Muhammad Parvaz¹, Fatima Mubarak², Emily Dennis³, Syed Enam², Paul Thompson⁴, Xiaojian Kang⁵, Adeel Razi⁶, Maheen Adamson⁷
¹Icahn School of Medicine at Mount Sinai, New York, NY, ²Aga Khan University, Karachi, Sindh, ³University of Utah, Salt Lake City, UT, ⁴University of Southern California, Los Angeles, CA, ⁵Defense and Veterans Brain Injury Center (DVBIC) VA Palo Alto, CA, Palo Alto, CA, ⁶Monash University, Clayton, Victoria, ⁷DVBIC, VA Palo Alto/Stanford School of Medicine, Union City, CA
- 0138 Modeling Cognitive Scores from Normal Aging to Alzheimer's Disease Based on structural MRI and PET**
Seyed Hani Hojjati^{1,2}, Abbas Babajani-Feremi^{3,4,5}
¹Department of Pediatrics, University of Tennessee Health Science Center, Memphis, USA, ²Neuroscience Institute, Le Bonheur Children's Hospital, Memphis, USA, ³Department of Pediatrics, University of Tennessee Health Science Center, Memphis, TN, USA, Memphis, TN, ⁴Neuroscience Institute, Le Bonheur Children's Hospital, Memphis, TN, ⁵Department of Anatomy and Neurobiology, University of Tennessee Health Science Center, Memphis, TN
- 0140 The geometric microstructural damage of white matter with functional compensation in stroke patients**
Haichao Zhao¹, Tao Liu¹, Jian Cheng¹, Zixiao Li², Jiyang Jiang³, Wei Wen⁴, Perminder Sachdev⁵, Yongjun Wang²
¹Beihang University, Beijing, Beijing, ²Beijing TianTan Hospital, Capital Medical University, Beijing, Beijing, ³University of New South Wales, Sydney, New South Wales, ⁴Centre for Healthy Brain Ageing, School of Psychiatry (CHeBA), University of New South Wales, Sydney, Sydney, ⁵Centre for Healthy Brain Ageing (CHeBA), School of Psychiatry, University of New South Wales, Sydney, NSW
- 0145 Patterns of default mode network co-activation in young APOE ε4-carriers: an HCP replication study**
Lara Mentink^{1,2}, João Guimarães², Emma Sprooten², Marcel Olde Rikkert^{1,2}, Koen Haak², Christian Beckmann^{2,3}
¹Department of Geriatrics, Radboudumc Alzheimer Centre, Radboud University Medical Center, Nijmegen, The Netherlands, ²Donders Institute for Brain, Cognition and Behaviour, Radboud University, Nijmegen, The Netherlands, ³Oxford Centre for Functional MRI of the Brain (FMRIB), University of Oxford, Oxford, United Kingdom
- 0151* Changes in functional connectivity associated with vascular burden in person at-risk of AD**
Theresa Köbe¹, Alexa Pichet Binette¹, Jacob Vogel¹, Pierre-François Meyer¹, John Breitner¹, Judes Poirier¹, Sylvia Villeneuve¹
¹McGill University, Montréal, Quebec
- 0154 Comparison of voiding networks during urodynamic task and rest at 7T MRI in Multiple Sclerosis women**
Zhaoyue Shi¹, Christof Karmonik¹, Khue Tran², Rose Khavari²
¹Houston Methodist Research Institute, Houston, TX, ²Houston Methodist Hospital, Houston, TX
- 0161 Functional network redundancy in healthy aging and mild cognitive impairment**
Stephanie Langella¹, Kelly Giovanello¹, Peter Mucha¹, Eran Dayan¹
¹UNC-Chapel Hill, Chapel Hill, NC
- 0163 Trajectories of neuroanatomical changes in transgenic models of Alzheimer's disease**
Marina Blūma¹, Edoardo Micotti², Daniele Tolomeo², Gianluigi Forloni², Claudio Babiloni¹
¹Department of Physiology and Pharmacology "Vittorio Erspamer", Rome, Italy, ²Department of Neuroscience, IRCCS Istituto di ricerca Farmacologica, 'Mario Negri', Milan, Italy
- 0169 Network-based functional imaging output in multiple sclerosis correlates with disease progression**
Florence Chiang¹, Rebecca Romero¹, Larry Price², Peter Fox¹
¹University of Texas Health Science Center at San Antonio, San Antonio, TX, ²Texas State University, San Marcos, TX
- 0171 Cortical atrophy and cerebral metabolite concentrations in individuals with chronic stroke**
Jennifer Ferris¹, Jason Neva², Irene Vavasour¹, Kaitlin Attard¹, Katie Wadden³, Alex MacKay¹, Lara Boyd¹
¹The University of British Columbia, Vancouver, BC, ²Université de Montréal, Montreal, QC, ³Memorial University, St John's, NL
- 0174 Dopaminergic medication alters brain connectivity in Parkinson's disease with freezing of gait**
Alexandra Potvin-Desrochers¹, Alisha Atri¹, Thomas Gisiger², Caroline Paquette³
¹McGill University, Montréal, Quebec, ²Center for Research on Brain, Language and Music, Montréal, Quebec, ³McGill University, Montreal, Quebec

- 0178 Hippocampal Subfield Volumes in Post-Stroke Dementia**
Zhiyong Zhao¹, Huaying Cai², Weihao Zheng¹, Tingting Liu¹, Yi Zhang¹, Dan Wu¹
¹College of Biomedical Engineering & Instrument Science, Zhejiang University, Hangzhou, Zhe Jiang, ²Department of Neurology, Sir Run Run Shaw Hospital, Zhejiang University, Hangzhou, Zhe Jiang
- 0179 Harmonization of the multi-center imaging protocol on cerebral small vessel disease in China**
Bonnie Yin Ka Lam¹, Qianyun Chen², Kai Wang³, Yuhua Fan⁴, Jian-Hui Fu⁵, Qun Xu⁶, Haiqing Song⁷, Xiaolin Tian⁸, Lin Shi², Adrian Wong¹, Weitian Chen², Jill Abrigo², Vincent Chung Tong Mok¹
¹Department of Medicine and Therapeutics, The Chinese University of Hong Kong, Hong Kong, China, ²Department of Imaging and Interventional Radiology, The Chinese University of Hong Kong, Hong Kong, China, ³The First Hospital of Anhui Medical University, Hefei, Anhui, China, ⁴The First Affiliated Hospital, Sun Yat-sen University, Guangzhou, China, ⁵Department of Neurology, Huashan Hospital, Fudan University, Shanghai, China, ⁶Renji Hospital, School of Medicine, Shanghai Jiao Tong University, Shanghai, China, ⁷Department of Neurology, Xuanwu Hospital of Capital Medical University, Beijing, China, ⁸Department of Neurology, The Second Affiliated Hospital, Tianjin Medical University, Tianjin, China
- 0180 Links of Enlarged Perivascular Spaces to Age Related Neuropathologies and Cognitive Decline**
Carles Javierre Petit¹, Ashish Tamhane², Arnold Evia¹, Nazanin Makkinejad¹, Gady Agam¹, David Bennett², Julie Schneider², Konstantinos Arfanakis¹
¹Illinois Institute of Technology, Chicago, IL, ²Rush University Medical Center, Chicago, IL
- 0181* Generalizable, reproducible, and interpretable imaging biomarkers for Alzheimer's disease**
Dan Jin¹, Bo Zhou², Ying Han³, Jiaji Ren¹, Tong Han⁴, Bing Liu¹, Lu Jie³, Chengyuan Song⁵, Pan Wang⁶, Dawei Wang⁵, Jian Xu¹, Zhengyi Yang⁷, Hongxiang Yao², Chunshui Yu⁸, Kun Zhao⁹, Max Wintermark¹⁰, Nianming Zuo¹, Xinqing Zhang³, Yuying Zhou⁶, Xi Zhang², Tianzi Jiang⁷, Qing Wang⁵, Yong Liu¹
¹Institute of Automation Chinese Academy of Sciences, Beijing, Beijing, ²Chinese PLA General Hospital, Beijing, Beijing, ³Xuanwu Hospital of Capital Medical University, Beijing, Beijing, ⁴Department of Radiology, Tianjin Huanhu Hospital, Tianjin, Tianjin, ⁵Qilu Hospital of Shandong University, Jinan, Shandong, ⁶Tianjin Huanhu Hospital, Tianjin, Tianjin, ⁷Institute of Automation, Chinese Academy of Sciences, Beijing, Beijing, ⁸Tianjin Medical University General Hospital, Tianjin, Tianjin, ⁹Beihang university, Beijing, Beijing, ¹⁰Stanford University, Palo Alto, CA
- 0182 Cerebral hemodynamic responses of subjective cognitive decline evoked by loaded N-back tasks**
Yaoyu Zhang¹, Wenyong Du², Ying Han^{2,3,4}, Jia-Hong Gao¹
¹Center for MRI research, Peking University, Beijing, China, ²Department of Neurology, Xuanwu Hospital of Capital Medical University, Beijing, China, ³Center of Alzheimer's Disease, Beijing Institute for Brain Disorders, Beijing, China, ⁴National Clinical Research Center for Geriatric Disorders, Beijing, China
- 0186 Alpha power and functional connectivity in mild cognitive impairment**
Nena Lejko¹, Daouia Larabi^{1,2,3}, Christoph Herrmann⁴, Branislava Ćurčić-Blake¹, André Aleman¹
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- 0192 Iron overload in Substantia Nigra of REM Sleep Behavior Disorder and Parkinsons dDiseas Patients**
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- 0195 Deep learning-based biomarkers for early detection of Parkinsons dDiseas (PD)**
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- 0198 Effects of combination antiretroviral therapy on gray matter volume and cortical thickness of HIV**
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- 0201 Cerebral amyloid angiopathy is associated with decreased functional brain connectivity.**
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- 0202 Tract-Based Spatial Statistics of Cerebral Small Vessel Disease in an HIV Population**
Kyle Murray¹, Abrar Faiyaz¹, Bogachan Sahin¹, Madalina Tivarus¹, Md Nasir Uddin¹, Arun Venkataraman¹, Lu Wang¹, Yuchuan Zhuang¹, Jianhui Zhong¹, Sanjay Maggirwar², Giovanni Schifitto¹
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- 0205 Elucidating Scans Without Evidence of Dopaminergic Deficiency: A Tractography Study**
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- 0207 Effects of Traumatic Brain Injury on motor imagery of BA4a and BA4p**
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- 0209 Neuropsychological and Neuroimaging Study of Thalamic Nuclei Degeneration in Multiple Sclerosis**
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0211 Large-scale functional connectivity alterations in Amyotrophic Lateral Sclerosis: A multicenter study

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0213 Network-level functional connectivity correlates of everyday memory in Parkinson disease

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0215 The longitudinal relationship of thalamic volume and memory in Multiple Sclerosis

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0217 Differentiating the Dopaminergic Midbrain Nuclei in Parkinson's Disease Using Iron Imaging

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0218* Network Diffusion Model Enhances Predictions of Future Tau-PET Burden in Alzheimer's Patients

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0219 Validation of an epidemic spreading model to simulate A β spread in familial Alzheimer's disease

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0220 Gene-brain-behavior continuums across neurodegenerative disorders in ONDRI

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0225 Dynamic Connectivity within the Default Mode Network across the Alzheimer's Disease Spectrum

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0227 Atrophy Progression Revealed by Causal Network of Structural Covariance in Alzheimer's Disease

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0231 Continued neurodegeneration of the left inferior frontal gyrus after post-stroke aphasia

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0232 Complement and NfL associations with brain structure and functional connectivity alterations in GRN

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0234 Distinct fiber-specific white matter reductions pattern in early- and late-onset Alzheimer's disease

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0235 Validation of a Novel Method for conceptualizing cognitive reserve using Multi-modal neuroimaging

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0240 Neural-Referred Visual Receptive Field Properties in Posterior Cortical Atrophy

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0242 Prediction of Cognitive Performance in Old Age from Spatial Probability Maps of White Matter Lesions

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0246 The Association Between Cognitive Impairment and Structural and Functional Brain Organization in ALS

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0248 A Brain Signature of Prodromal Lewy Body Dementia

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0249 Network changes underlying cognitive decline in multiple sclerosis: an anatomofunctional MRI study

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0252 Mega-Analysis Shows Brain Structure Abnormalities Related to Disease Severity in Parkinsons dDiseas

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0253 Brain iron deposition tracks cognitive severity in Parkinson's disease

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0255 Determining the role of neuromodulatory impairment in Freezing of Gait in Parkinsons dDiseas

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0263 Characterization and diagnostic potential of automated tractography in multiple system atrophy

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0267 Physiological pulsations in brain are markedly elevated in Alzheimer's disease

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0269 Linking behavioural and neuroimaging features of Parkinson's disease

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0270 Obesity is associated with reduced orbitofrontal cortex volume: a coordinate-based meta-analysis

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0271 Using coupling measures to separate electromyography signals from tremor in ET and PD

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0273 Parkinson's disease affects neural control of step-by-step gait adjustments

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0274 The visual ventral network is disconnected in Lewy body dementia with visual hallucinations

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- 0275 Sensorimotor network control in Parkinson's disease, a dynamic functional connectivity study**
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- 0276 A Diffusion Tensor Imaging Study on Assessing the Recovery of Spinal Cord After Injury**
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- 0279 A small-scale explorative study on resting state effective connectivity in Alzheimer's disease**
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- 0281 Associations of poly(GP), NfL and functional network alterations in C9orf72 expansion carriers**
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- 0285 Impact of Depressive Symptoms on Alzheimer's Disease: A Spectral Dynamic Causal Modelling Study**
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- 0286 A Clustering Analysis of MS Lesions with T1-&T2-weighted, Diffusion, QSM, and MTR Imaging**
Sarah Scott^{1,2}, Ethan MacDonald^{1,2}, Deepthi Rajashekar^{1,2}, Wei-Qiao Liu^{1,2}, Hongfu Sun³, G. Bruce Pike^{1,2}, Yunyan Zhang¹, Luanne Metz⁴
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- 0291 Resting state fMRI reveals evidence of cerebellar cholinergic impairments in Gulf War Illness**
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- 0295 Imbalanced Dual Systems of Decision Making in Stroke**
Kaori Ito¹, Laura Cao¹, Renee Reinberg¹, Brenton Keller¹, John Monterosso¹, Nicolas Schweighofer¹, Sook-Lei Liew¹
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- 0297 Evaluating the influence of dopamine on limbic network connectivity at rest in Parkinson's patients**
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- 0298 Longitudinal Change in Brain Region Functional Integration in Subjective Cognitive Decline**
Raymond Viviano¹, Jessica Damoiseaux¹
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- 0303 Functional brain network analysis using minimum spanning trees in Parkinson's disease: an MEG study.**
Isabelle Buard¹
¹University of Colorado Denver, Aurora, CO
- 0305 Enhanced Detection of Cortical Degeneration from MRI using Surface Strain Minimization**
Emily Iannopolo¹, Kara Garcia¹
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- 0306 Individual Variability in Age-related Locus Coeruleus MRI Intensity is due to Alzheimer Pathology**
Heidi Jacobs¹, John Becker², Kenneth Kwong³, Fred d'Oleire Uquillas², Kathryn Papp⁴, Michael Properzi², Dorene Rentz⁴, Georges El Fakhri², Marc Normandin², Reisa Sperling⁴, Keith Johnson¹
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- 0309 Spatiotemporal imaging phenotypes of tau pathology in Alzheimer's disease**
Jacob Vogel¹, Alexandra Young², Neil Oxtoby³, Ruben Smith⁴, Rik Ossenkoppele⁵, Leon Aksman³, Olof Strandberg⁴, Renaud La Joie⁶, Michel Grothe⁷, Chul Hyoung Lyoo⁸, Gil Rabinovic⁶, Daniel Alexander³, Alan Evans¹, Oskar Hansson⁴
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- 0310 Effects of Alzheimer's disease and healthy aging on cerebellar functional organisation and structure**
Helena Gellersen¹, Xavier Guell², Saber Sami³
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- 0312 Short and long-term functional connectivity differences associated with Alzheimer's progression**
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- 0315 Identifying lifestyle factors that promote brain resilience in carriers of two ApoE4 risk variants**
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- 0318 Hippocampal dynamic functional brain networks in Alzheimer's disease**
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- 0320 Local Functional Brain Connectivity Changes after an Exercise Intervention in Multiple Sclerosis**
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¹University of Victoria, Victoria, British Columbia, ²Neurology Department, Island Health, Victoria, British Columbia
- 0323 Hippocampal subfield volumes distinguish ischemic stroke patients from healthy individuals better**
 Mohamed Salah Khelif¹, Emilio Werden¹, Laura Bird¹, Natalia Egorova¹, Wasim Khan¹, Amy Brodtmann¹
¹Dementia Theme, The Florey Institute of Neuroscience and Mental Health, Melbourne, Australia
- 0329 Hippocampal Microstructural Abnormalities in Cognitively Impaired and Amyloid Positive Individuals**
 Talia Nir¹, Julio Villalon-Reina¹, Alyssa Zhu¹, Lauren Salminen¹, Sophia Thomopoulos¹, Meral Tubi¹, Piyush Maiti¹, Paul Thompson¹, Neda Jahanshad¹
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- 0330 Baseline brain amyloid burden predicts cognitive decline in subjective cognitive decline**
 YunJeong Hong¹, Jae-Hong Lee², Kyung Won Park³, Jeong Wook Park¹, Si Baek Lee¹, Seong Hoon Kim¹, Dong Woo Ryu¹, Yongbang Kim¹, KwonOh Park⁴
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- 0332 Brain aging in Parkinson's disease related to disease duration, cognitive and motor impairment**
 Claudia Eickhoff¹, Felix Hoffstaedter², Julian Caspers³, Christian Mathys⁴, Kathrin Reetz⁵, Imis Dogan⁵, Katrin Amunts⁶, Alfons Schnitzler¹, Simon B Eickhoff⁷
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- 0333 Cardiovascular Brain Impulse in Alzheimer's Disease**
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- 0334 Connectivity-based segmentation of the subthalamic nucleus**
 Rafael Rodriguez Rojas¹, Jose A. Pineda-Pardo², Jorge U. Mañez², Raul Martinez-Fernandez², Marta del Alamo², Frida Hernández-Fernández², Jose A Obeso²
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- 0336 Brain tissue iron and regional gene expression relate to risk of dementia in Parkinson's disease**
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- 0339 Striatal somatotopic denervation and functional reorganization in de novo Parkinson's disease**
 Jose A. Pineda-Pardo¹, Alvaro Sanchez-Ferro¹, Mariana Monje¹, Ignacio Obeso¹, Jose A Obeso¹
¹hmCINAC. Hospital HM-Puerta del Sur, Madrid, Madrid
- 0340 Optimizing parameters choice for BIANCA on multimodal MRI images in multiple sclerosis.**
 Giordano Gentile¹, Mark Jenkinson², Giovanna Maria Dimitri¹, Vaanathi Sundaresan², Ludovico Luchetti¹, Antonio Giorgio¹, Ludovica Griffanti², Nicola De Stefano¹, Marco Battaglini¹
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- 0342 A noradrenergic role in Parkinson's disease reinforcement learning – 7T imaging and atomoxetine**
 Claire O'Callaghan¹, Naresh Subramaniam², Frank Hezemans², Rong Ye², Catarina Rua³, Luca Passamonti², Trevor Robbins⁴, James Rowe⁵
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- 0343 Vascular disruptions in the tau pathology model of Alzheimer disease (rTg4510 mouse)**
 Kwangyeol Baek¹, Rachel Bennett², Bradley Hyman², Woo Hyun Shim³, Young Kim¹
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- 0345 Radiomic feature as new biomarker for Alzheimer's disease: a study based on amyloid PET**
 Kun Zhao¹, Yanhui Ding², Jing Sun², Yuanjie Zheng², Shuyu Li³, Yong Liu⁴
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- 0346 Altered topological organization of morphological brain networks in individuals with SCD**
 Zhenrong Fu^{1,2}, Mingyan Zhao^{3,4}, Xuotong Wang^{1,2}, Yirong He^{1,2}, Siyu Ma^{1,2}, Ying Han^{3,5,6,7}, Shuyu Li^{1,2}
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- 0348 Interoceptive prediction in behavioural variant frontotemporal dementia using SCR**
 Amelie Huebner¹, Ima Trempler¹, Andreas Johnen², Ricarda Schubotz¹
¹University of Muenster, Muenster, NRW, ²Clinic of Neurology, Muenster, NRW
- 0352 Tracking cortical reorganization during motor recovery after stroke**
 Caroline Tschirpel^{1,2}, Sebastian Dern¹, Julien Schuckelt¹, Lukas Hensel¹, Christian Grefkes^{1,2}
¹Faculty of Medicine, University of Cologne; Department of Neurology, University Hospital Cologne, Cologne, Germany, ²Institute for Neuroscience and Medicine (INM-3), Research Centre Juelich, Juelich, Germany
- 0354 Association between functional connectivity and sleep quality and fatigue in multiple sclerosis**
 Adriana Ruiz Rizzo¹, Kathrin Finke², Peter Bublak², Sven Rupperecht²
¹Ludwig-Maximilians Universität München, Munich, Bavaria, ²Universitätsklinikum Jena, Jena, Thuringia

- 0361 Cerebral regional perfusion patterns associated with antidepressants in REM sleep behavior disorder**
Andree-Ann Baril¹, Jean-François Gagnon², Amélie Pelletier³, Jean-Paul Soucy⁴, Ronald Postuma³, Jacques Montplaisir³
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- 0367 Microglial activation and brain networks in Alzheimer's disease: The ActiGliA cohort study**
Boris-Stephan Rauchmann¹, Matthias Brendel², Daniel Keeser³, Maia Tato³, Carla Palleis⁴, Mirlind Zaganjori³, Ersin Ersözlü³, Oliver Goldhardt⁵, Timo Grimmer⁵, Johannes Levin⁴, Sophia Stoecklein¹, Günter Höglinger⁶, Christian Haass⁷, Robert Perneczky³
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- 0368 Cognitive Reserve Moderates Functional Connectivity Changes in resting-state**
Ersin Ersözlü¹, Boris-Stephan Rauchmann², Oliver Peters³, Josef Priller³, Anja Schneider⁴, Jens Wiltfang⁴, Frank Jessen⁴, Emrah Duezel⁵, Katharina Buerger⁶, Stefan Teipel⁷, Christoph Laske⁸, Annika Spottke⁴, Alfredo Ramirez⁹, Michel Wagner⁴, Robert Perneczky¹
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- 0369 Functional connectivity changes in cortex connected to pontine lesions correlate with motor recovery**
Emily Olafson¹, Keith Jamison², Hesheng Liu³, Joel Bruss⁴, Aaron Boes⁴, Amy Kuceyeski²
¹Weill Cornell Medical College, New York, NY, ²Weill Cornell Medicine, New York, NY, ³Harvard Medical School, Cambridge, MA, ⁴University of Iowa, Iowa City, IA
- 0372 The Temporal Relationship between White Matter Hyperintensities, Neurodegeneration, and Cognition**
Mahsa Dadar^{1,2}, Richard Camicioli³, Simon Duchesne⁴, Louis Collins⁵
¹McGill University, Montréal, Canada, ²Laval University, Quebec, Canada, ³University of Alberta, Edmonton, Alberta, ⁴Laval University, Quebec, Quebec, ⁵McConnell Brain Imaging Center, Montreal Neurological Institute, Montreal, Quebec
- 0375 Parkinson's disease polygenic risk score and brain structure in neurologically healthy individuals**
Nooshin Abbasi¹, Lynne Krohn², Uku Vainik³, Ziv Gan-Or², Alain Dagher¹
¹McConnell Brain Imaging Centre, Montreal Neurological Institute, McGill University, Montreal, Quebec, ²Department of Human Genetics, McGill University, Montreal, Quebec, ³University of Tartu, Tartu, Tartu
- 0378 Frontal and Basal Ganglia Connectivity are Associated with Parkinson's Disease Progression**
Arun Venkataraman¹, Md Nasir Uddin¹, Taylor Myers¹, Zhengwu Zhang¹, Ruth Schneider¹, Jianhui Zhong¹, Giovanni Schifitto¹
¹University of Rochester, Rochester, NY
- 0380 Multimodal Brain Associations with Clinical Profiles and Treatment Effects in Parkinson's Disease**
Sue-Jin Lin¹, Christophe Lenglos¹, Yashar Zeighami², Rafael Rodríguez Rojas³, Felix Carbonell⁴, Yasser Iturria-Medina¹
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- 0381 Comparison of Human Hippocampal Volumes and BOLD Values of Two Independent Manual Segmentations**
Mark McAvoy¹, Ryan Chang¹, Tony Durbin¹, John Morris¹, Marcus Raichle¹, Tammie Benzinger¹, Manu Goyal¹, Andrei Vlassenko¹
¹Washington University, Saint Louis, MO
- 0389 Disentangling Neural Correlates of the Alien Limb in Corticobasal Syndrome with Multimodal MRI**
Matthias Schroeter¹, Franziska Albrecht¹, Tommaso Ballarini¹, Markus Otto²
¹Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, ²Department of Neurology, University Hospital Ulm, Ulm, Germany
- 0392 Identifying Parkinson's disease using machine-learning on multi-modal MRI**
Christian Rubbert¹, Christian Mathys², Christiane Jockwitz³, Christian Hartmann⁴, Simon B Eickhoff⁵, Felix Hoffstaedter⁶, Svenja Caspers⁷, Claudia Eickhoff⁸, Nikolas Teichert¹, Martin Südmeyer⁹, Bernd Turowski¹, Alfons Schnitzler⁸, Julian Caspers¹⁰
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- 0401 The Impact of Multiple Sclerosis Lesion Tract Burden on the Cortex**
M Ethan MacDonald¹, Sarah Scott², Wei-Qiao Liu³, Yunyan Zhang⁴, Luanne Metz⁵, G. Bruce Pike⁶
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- 0403 Structural gray matter network-based measures correlate with clinical measures in patients with MS**
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¹University College of London UCL, London, UK, ²University College of London UCL, London, UK, ³McConnell Brain Imaging Centre, Montreal Neurological Institute, McGill University, Montreal, Canada, ⁴University College of London, London, UK
- 0404 Integrity of the Locus Coeruleus in Alzheimer's Disease revealed by Neuromelanin-Sensitive MRI**
Clifford Cassidy¹, Seyda Celebi², Melissa Savard³, Mira Chamoun⁴, Christine Tardif⁵, Pedro Rosa-Neto⁶
¹The Royal Ottawa Institute of Mental Health Research, Ottawa, ON, ²The Royal Ottawa Institute of Mental Health, Ottawa, ON, ³Douglas Research Institute, McGill University, Montreal, Quebec, ⁴Douglas Research Institute, McGill University, Montreal, QC, ⁵MNI, McGill University, Montréal, QC, ⁶Douglas Research Institute, McGill university, Montreal, Quebec

- 0407 Baseline Hippocampal Grading Predicts Cognitive Decline in Subjects with Mild Alzheimer's Disease**
Neda Shafiee¹, Mahsa Dadar¹, Louis Collins²
¹McGill University, Montreal, Quebec, ²McConnell Brain Imaging Center, Montreal Neurological Institute, Montreal, Quebec
- 0409 White matter alterations in a preclinical APP knock-in mouse model of Alzheimer's disease using DTI**
Zachery Morrissey¹, Liang Zhan², Olusola Ajilore¹, Orly Lazarov¹, Alex Leow¹
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- 0415 Brain atrophy progression after four years in de novo Parkinson's disease: a longitudinal study**
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- 0417 Cerebral glucose metabolism in different ALS genotypes**
Joke De Vocht¹, Donatienne Van Weehaeghe², Koen Van Laere³, Philip Van Damme¹
¹UZ/KULeuven, Leuven, Vlaams Brabant, ²KULeuven, Leuven, Vlaams Brabant, ³UZ Leuven, Leuven, Vlaams Brabant
- 0422 DTI-ALPS index reveals age-related glymphatic system impairment in epilepsy following TBI**
Adam Goodman¹, W. Curt LaFrance Jr.², Jerzy Szaflarski¹
¹University of Alabama at Birmingham, Birmingham, AL, ²Brown University, Providence, RI
- 0427 Accelerated brain ageing predicts a future diagnosis of dementia**
Francesca Biondo¹, James Cole²
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- 0436 Brain age through a deep learning approach a biomarker of early-onset Alzheimer's disease phenotypes**
Morgan Gautherot¹, Gregory Kuchcinski², Cecile Bordier², Romain Viard², Xavier Leclerc¹, Jean-Pierre Pruvo¹, Florence Pasquier¹, Renaud Lopes¹
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- 0439 Imaging markers of neuropsychiatric profiles in Friedreich ataxia**
Janna Krahe¹, Imis Dogan¹, Sandro Romanzetti¹, Claire Didszun¹, Ute Habel², Jörg Schulz¹, Ruben Gur³, Kathrin Reetz¹
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- 0440 The dual cognitive syndrome hypothesis in Parkinson's disease: volumetric and morphological features**
Quentin Devignes^{1,2}, Renaud Lopes^{1,2}, Romain Viard^{1,2}, Nacim Betrouni^{1,2}, Guillaume Carey^{1,2}, Luc Defebvre^{1,2}, Anja Moonen³, Albert Leentjens³, Kathy Dujardin^{1,2}
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- 0444 Association of mild cognitive impairment and hippocampal shape across five cohorts**
William Matloff¹, Lu Zhao¹, Kaida Ning¹, Nibal Arzouni¹, Jin Gahm², Yonggang Shi¹, Scott Neu¹, Arthur Toga¹
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- 0445 Degenerative cervical myelopathy leads to neuroplasticity of the cervical spinal cord and the brain**
Kevin Vallotton¹, Michela Azzarito¹, Armin Curt¹, Patrick Freund^{1,2,3,4}, Maryam Seif¹
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- 0447 Distinct functional connectivity patterns in Primary and Secondary Progressive Multiple Sclerosis**
Giulia Bommarito¹, Maria Giulia Preti², Maria Petracca³, Amgad Droby⁴, Mohamed Mounir El Mendili⁵, Matilde Inglese⁵, Dimitri Van De Ville⁶
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- 0448 Multidimensional Diffusion MRI to Assess Microscopic Anisotropy and Kurtosis in Multiple Sclerosis**
Diana Valdés Cabrera¹, Penelope Smyth¹, Gregg Blevins¹, Derek Emery¹, Filip Szczepankiewicz², Markus Nilsson³, Carl-Fredrik Westin², Christian Beaulieu¹
¹University of Alberta, Edmonton, Alberta, ²Harvard Medical School, Boston, MA, ³Lund University, Lund, Scania
- 0452 Precision Medicine in Post-Concussion Syndrome Using Computational Models**
Melisa Gumus¹, Michael Mack¹, Robin Green², Mozghan Khodadadi³, Richard Wennberg⁴, David Mikulis⁴, Brenda Colella⁵, Apameh Tarazi⁵, Adrian Crawley⁴, Ruma Goswami⁴, Charles Tator⁴, Maria Carmela Tartaglia⁴
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- 0458 Delayed correlation analyses are sensitive to functional network changes in Parkinson's disease**
Mite Mijalkov¹, Giovanni Volpe², Joana B. Pereira^{1,3}
¹Department of Neurobiology, Care Sciences and Society, Karolinska Institutet, Stockholm, Sweden, ²Department of Physics, Goteborg University, Goteborg, Sweden, ³Memory Research Unit, Department of Clinical Sciences Malmö, Lund University, Lund, Sweden
- 0459 Atlas-based in vivo Measurement of Human Locus Coeruleus in Neurodegenerative Disorders with 7T MRI**
Rong Ye¹, Claire O'Callaghan^{2,3}, Catarina Rua^{1,4}, Frank Hezemans⁵, Luca Passamonti¹, James Rowe^{1,5}
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0461 Dynamic functional connectivity markers of cognitive impairment in Parkinson's disease*Abigail Eubank¹, Aaron Kemp¹, James Galvin², Linda Larson-Prior³*¹University of Arkansas Medical Center, Little Rock, AR, ²University of Miami Miller School of Medicine, Miami, FL, ³University of Arkansas for Medical Sciences, Little Rock, AR**0463 Brain aging, estrogen, and APOE genotype***Christina Boyle¹, Cyrus Raji², Kirk Erickson³, Oscar Lopez⁴, James Becker⁴, H. Michael Gach⁵, Lewis Kuller⁴, W.T. Longstreth, Jr.⁶, Owen Carmichael⁷, Paul Thompson⁸*¹Imaging Genetics Center, Keck School of Medicine, University of Southern California, Marina Del Rey, CA, ²Washington University, St Louis, MO, ³The University of Pittsburgh, Pittsburgh, PA, ⁴University of Pittsburgh, Pittsburgh, PA, ⁵University of Washington, St Louis, MO, ⁶University of Washington, Seattle, WA, ⁷Pennington Biomedical Research Center, Baton Rouge, LA, ⁸Imaging Genetics Center, Keck School of Medicine, University of Southern California, Marina del Rey, CA**0465* Discovering Propagation Pattern of Neurodegeneration across Brain Networks***Defu Yang¹, Di Hu², Martin Styner², Guorong Wu²*¹Hangzhou Dianzi University, Hangzhou, Zhejiang, ²University of North Carolina at Chapel Hill, Chapel Hill, NC**0468 Modeling Central Olfactory Network Alteration in Type 2 Diabetes: From Primary to Advanced Cortex***Wen Zhang¹, Jiaming Lu¹, Jiani Liu¹, Bing Zhang¹*¹Nanjing Drum Tower hospital, The Affiliated Hospital of Nanjing University Medical School, Nanjing, China**0469 Serum matrix metalloproteinase-9 is related to grey matter atrophy in REM sleep behavior disorder***Filip Ruzicka¹, Robert Jech¹, Marta Kalousova², Jiri Keller³, Karel Šonka¹, Evzen Růžička¹, Jerrold Vitek⁴, Petr Dušek⁵*¹Department of Neurology and Center of Clinical Neuroscience, Charles University in Prague, Prague, Czech Republic, ²Institute of Medical Biochemistry and Laboratory Diagnostics, Charles University in Prague, Prague, Czech Republic, ³Na Homolce Hospital, Prague, Czech Republic, ⁴University of Minnesota, Minneapolis, MN, ⁵Department of Neurology and Center of Clinical Neuroscience, Prague, Czech Republic**0472 Alteration of Frontal-Executive and Corticolimbic Circuits in Late-Life Depression and Relationship***Neda Rashidi-Ranjbar^{1,2}, Dayton Miranda², Meryl Butters³, Benoit Mulsant^{2,4}, Aristotle Voineskos^{2,4}*¹Institute of Medical Science, Faculty of Medicine, University of Toronto, Toronto, ON, ²Centre for Addiction and Mental Health, Toronto, ON, ³Department of Psychiatry, University of Pittsburgh School of Medicine, Pittsburgh, PA, ⁴Department of Psychiatry, University of Toronto, Toronto, ON**0474* Advanced vs. resilient brain aging in a harmonized cohort of 29,841 MRIs; the iSTAGING consortium***Ioanna Skampardon¹, Raymond Pomponio², Mohamad Habes², Erus Guray², Monica Hill-Truelove², Haochang Shou³, Jimit Doshi², Elizabeth Mamourian², Ilya Nasrallah⁴, Lenore Joy Launer⁵, Tanweer Rashid², Murat Bilgel⁶, Yong Fan², Kristine Yaffe⁷, Aristeidis Sotiras², Dhivya Srinivasan², Mark Espeland⁸, Colin Masters⁹, Paul Maruff⁹, Jurgen Fripp¹⁰, Henry Völzk¹¹, Sterling Johnson¹², John Morris¹³, Marilyn Albert¹⁴, Nick Bryan¹⁵, Hans Grabe¹⁶, Susan Resnick⁶, David Wolk¹⁷, Konstantina Nikita¹, Christos Davatzikos²*¹National Technical University of Athens, Athens, Greece, ²Center for Biomedical Image Computing and Analytics, University of Pennsylvania, USA, Philadelphia, PA, ³Department of Biostatistics, Epidemiology and Informatics, University of Pennsylvania, USA, Philadelphia, PA, ⁴Department of Radiology, University of Pennsylvania, USA, Philadelphia, PA, ⁵Laboratory of Epidemiology and Population Sciences, National Institute on Aging, USA, Bethesda, MD, ⁶Laboratory of Behavioral Neuroscience, National Institute on Aging, Baltimore, USA, Baltimore, MD, ⁷Departments of Neurology, Psychiatry and Epidemiology and Biostatistics, UCSF, San Francisco, CA, ⁸Department of Biostatistics and Data Science, Wake Forest School of Medicine, North Carolina, Winston-Salem, NC, ⁹Florey Institute of Neuroscience and Mental Health, University of Melbourne, Melbourne, Australia, Melbourne, Melbourne, ¹⁰CSIRO Health and Biosecurity, Australian e-Health Research Centre CSIRO, Australia, Australia, Australia, ¹¹Institute for Community Medicine, University of Greifswald, Germany, Greifswald, Germany, ¹²Wisconsin Alzheimer's Institute, University of Wisconsin School of Medicine and Public Health, Madison, WI, ¹³Department of Neurology, Washington University in St. Louis, St. Louis, MO, St. Louis, MO, ¹⁴Department of Neurology, Johns Hopkins University School of Medicine, Baltimore, MD, ¹⁵Department of Diagnostic Medicine, University of Texas, Austin, TX, Austin, TX, ¹⁶Department of Psychiatry and Psychotherapy, University of Greifswald, Germany, Greifswald, Germany, ¹⁷Department of Neurology and Penn Memory Center, University of Pennsylvania, USA, Philadelphia, PA**0476 Prefrontal GABA Concentration Correlates with Memory in Older Adults at Risk for Alzheimer's Disease***Linda Mah¹, Geetanjali Murari¹, Darren Liang¹, Nathan Herrmann², J. Jean Chen³, Nicolaas Paul L.G Verhoeff¹*¹Rotman Research Institute, Baycrest, University of Toronto, Toronto, ON, ²Sunnybrook Health Sciences Centre, Toronto, ON, ³Rotman Research Institute, Toronto, ON**0482 Progressive cerebral degeneration detected by MR spectroscopy in clinical subtypes of ALS***Daniel Ta¹, Ojas Srivastava¹, Abdullah Ishaque¹, Chris Hanstock¹, Peter Seres¹, Sneha Chenji¹, Dean Eurich¹, Collin Luk¹, Agessandro Abrahao², Hannah Briemberg³, Richard Frayne⁴, Angela Genge⁵, Simon J. Graham², Lawrence Korngut⁴, Lorne Zinman⁶, Sanjay Kalra¹*¹University of Alberta, Edmonton, Alberta, ²Sunnybrook Research Institute, Toronto, Ontario, ³University of British Columbia, Vancouver, BC, ⁴University of Calgary, Calgary, Alberta, ⁵McGill University, Montreal, Quebec, ⁶University of Toronto, Toronto, Ontario**0487 Multimodal Imaging Hippocampal Neurodegeneration and Functional Connectivity in AD***Shaozhen Yan¹, Yun Zhou², Jie Lu¹*¹Department of Radiology, Xuanwu Hospital Capital Medical University, Beijing, China, ²Mallinckrodt Institute of Radiology, Washington University in St. Louis, School of Medicine, Saint Louis, United States**0491 Shape analysis of hippocampal subfields in patients with mild cognitive impairment***Kirsten Lynch¹, Farshid Seppehrband¹, Arthur Toga²*¹University of Southern California, Los Angeles, CA, ²Laboratory of Neuro Imaging, Keck School of Medicine of USC, University of Southern California, Los Angeles, CA

0493 Similar Cerebral Neurodegradation Between Mild Traumatic Brain Injury and Alzheimer's Disease
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0496 White Matter Integrity in Hemodialysis Patients
Wesley Richerson¹, Dawn Wolfgram¹, Brian Schmit²
¹Medical College of Wisconsin, Milwaukee, WI, ²Marquette University, Milwaukee, WI

0497 Neuroimaging Biomarkers of Longitudinal Changes in Former Athletes with Multiple Concussions.
Anna Vasilevskaya^{1,2}, Foad Taghdiri^{1,2}, Charles Burke¹, Apameh Tarazi^{3,2}, Pablo Rusjan⁴, Seyed Ali Naeimi³, Mozghan Khodadadi³, Ruma Goswami³, Richard Wennberg^{3,2}, David Mikulis^{3,5,6}, Robin Green^{3,7}, Brenda Colella^{3,7}, Karen Davis^{3,8}, Sylvain Houle⁴, Charles Tator^{9,10,6}, Maria Carmela Tartaglia^{11,2,12}
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0498 Amygdala-related functional connectivity change in idiopathic REM sleep behavior disorder
Heejung Kim¹, Jee-Young Lee¹, Yu Kyeong Kim¹, Hyunwoo Nam¹, Sang Jeong Kim², Beomseok Jeon²
¹SMG-SNU Boramae Medical Center, Seoul, Seoul, ²SNU, Seoul, Seoul

0500 Changes in three-tissue microstructural compositions of normal-appearing white matter after stroke
Wasim Khan¹, Mohamed Salah Khliif², Remika Mito³, Thijs Dhollander⁴, Amy Brodtmann⁵
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Neurodevelopmental/ Early Life (eg. ADHD, autism)

0071 Association of higher right thalamus functional connectivity with the emergence of ADHD in children
Felipe Almeida Picon¹, João Ricardo Sato², Giovanni Abrahão Salum¹, Maurício Anés¹, Marco Del Aquilla³, Mario Pedro Pan³, André Zugman³, Luciana de Moura³, Ary Gadelha³, Euripedes Constantino Miguel⁴, Andrea Parolin Jackowski³, Rodrigo Affonseca Bressan³, Luis Augusto Paim Rohde¹
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0078 An fMRI Study on Developmental differences between children and adults with ADHD
Li-Ying Fan^{1,2,3}, Susan Gau^{2,3,4,5}, Tai-Li Chou^{3,4,5}
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0081 Structural Connectivity Deficits Following Therapeutic Hypothermia for Neonatal Encephalopathy
Arthur Spencer¹, Jonathan Brooks¹, Hollie Byrne¹, Richard Lee-Kelland¹, Sally Jary¹, James Tonks¹, Naoki Masuda², Ela Chakkarapani¹
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0084 Adjusting for Allometric Scaling in ABIDE I Challenges Subcortical Volume Differences in Autism
Camille Williams¹, Hugo Peyre², Roberto Toro³, Anita Beggiano³, Franck Ramus⁴
¹École Normale Supérieure, Paris, Île-de-France, ²Université Paris Diderot, Paris, Île-de-France, ³Institut Pasteur, Paris, Île-de-France, ⁴CNRS, Paris, Île-de-France

0090 Shared & unique network features predict cognition, mental health and personality in childhood
Jianzhong Chen¹, Angela Tam¹, Valeria Kebets¹, Leon Qi Rong Ooi¹, Scott Marek², Nico Dosenbach², Danilo Bzdok³, Avram Holmes⁴, B.T. Thomas Yeo¹
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0091 Neuroimaging predicts personalized motor function after perinatal stroke: A machine learning study
Helen Carlson¹, Brandon Craig¹, Jacquie Hodge¹, Deepthi Rajashekar¹, Pauline Mouches¹, Nils Forkert², Adam Kirton³
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0094 Accounting for motion in fMRI: What part of the spectrum are we characterizing in autism and ADHD?
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0101 Sensory perception in autism: An ALE meta-analysis of task-based fMRI studies
Nazia Jassim¹, Simon Baron-Cohen², John Suckling³
¹University of Cambridge, Cambridge, United Kingdom, ²Autism Research Centre, University of Cambridge, Cambridge, United Kingdom, ³University of Cambridge, Cambridge, United Kingdom

0102 Resting-state fMRI correlates of clinical response to stimulants in youth with ADHD
Victor Pereira-Sanchez¹, Alexandre Franco², Pilar de Castro-Manglano³, Maria Vallejo-Valdivielso⁴, Azucena Diez-Suarez⁴, Cesar Sotullo⁵, Maria Fernandez-Seara⁴, Michael Milham⁶, Francisco Castellanos⁷
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0110 The association of brain volumes with early life outcome in the Developing Human Connectome Project
Oliver Gale-Grant¹, Ralica Dimitrova¹, Lucilio Cordero-Grande², Andreas Schuh¹, Anthony Price², Katy Vecchiato¹, Andrew Chew¹, Nicholas Harper¹, Shona Falconer¹, Emer Hughes¹, Jonathan O'Muircheartaigh¹, Serena Counsell¹, Daniel Rueckert³, Steve Smith⁴, Joseph Hajnal¹, David Edwards¹, Dafnis Batalle¹
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- 0111 Tracking network mechanisms of executive dysfunction in epilepsy: a task-based dynamic fMRI analysis**
Lorenzo Caciagli^{1,2}, Xiaosong He¹, Urs Braun^{1,3}, Bianca De Biasi^{1,2}, Britta Wandschneider², Sallie Baxendale², Pamela Thompson², John Duncan², Matthias Koepp², Danielle Bassett¹
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- 0122 A cross-species link between mTOR-dependent hyperactivity and functional over-connectivity in autism**
Marco Pagan¹, Alice Bertero¹, Stavros Trakoshis², Laura Ulysse³, Alessia De Felice¹, Andrea Locarno⁴, Ieva Miseviciute⁴, Carola Canella¹, Kaustubh Supekar⁵, Vinod Menon⁵, Alberto Galbusera¹, Raffaella Tonini⁴, Gustavo Deco³, Michael Lombardo², Massimo Pasqualetti⁶, Alessandro Gozzi¹
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- 0124 Implementation of a pre- and in-scan system to reduce head motion in pediatric participants with ASD**
Corey Horien¹, Scuddy Fontenelle, IV¹, Kohrissa Joseph¹, Nicole Powell¹, Chaela Nutor¹, Diogo Fortes¹, Maureen Butler¹, Kelly Powell¹, Deanna Macris¹, James McPartland¹, Fred Volkmar¹, Dustin Scheinost¹, Katarzyna Chawarska¹, R. Todd Constable¹
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- 0136 Effect of Polygenic Risk for Autism on Salience Network Functional Connectivity**
Katherine Lawrence¹, Leanna Hernandez¹, Emily Fuster¹, Namita Padgaonkar¹, Genevieve Patterson¹, Jiwon Jung¹, Nana Okada¹, Jennifer Lowe¹, Jackson Hoekstra¹, Shulamite Green¹, Susan Bookheimer², Daniel Geschwind¹, Mirella Dapretto¹
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- 0141 Functional Brain Networks and Neurodevelopmental Outcomes in Children with Congenital Heart Disease**
Sarah Provost^{1,2}, Solène Fourdain^{1,2}, Phetsamone Vannasing³, Julie Tremblay^{1,2}, Nancy Poirier⁴, Anne Gallagher^{5,2}
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- 0142 Detecting tissue abnormalities in childhood epilepsy with developmental models of clinical MRI**
Jonathan O'Muircheartaigh¹, Sara Lorio^{1,2}, Sophie Adler², Torsten Baldeweg², Helen Cross², David Carmichael¹, Christopher Clark²
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- 0143 Unveiling the comorbidity between DBD and ADHD: Combined meta-analyses and predictive modeling**
Ting-Yat Wong¹, Han Zhang¹, Anqi Qiu¹
¹Department of Biomedical Engineering, National University of Singapore, Singapore, Singapore
- 0149 A longitudinal, multimodal investigation of maternal immune activation in mice**
Lani Cupo^{1,2}, Elisa Guma^{1,2}, Daniel Gallino², Masoumeh Dehghani^{2,3}, Gabriel Devenyi^{2,3}, Jamie Near^{2,3}, M Mallar Chakravarty^{2,3,4}
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- 0155 The Role of Parental BMI on the Dorsolateral Prefrontal Cortex Food Cue Reactivity in Children**
Shan Luo¹, Brendan Angelo¹, Ting Chow², John Monterosso¹, Anny Xiang², Kathleen Page¹
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- 0156 Structural Connectome in Pediatric Mild Head and Orthopedic Injury Compared to Typical Development**
Ashley Ware¹, Catherine Lebel², Ayushi Shukla³, Xiangyu Long³, Bryce Geeraert³, Roger Zemek⁴, Miriam Beauchamp⁵, William Craig⁶, Quynh Doan⁷, Bradley Goodyear³, Keith Yeates³
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- 0158 Diffusion MRI at Term and Prediction of Neurodevelopment at Three Years in Very Preterm Infants**
Milan Parikh¹, Ming Chen^{2,3}, Adebayo Braimah², Julia Kline¹, Kelly McNally⁴, J Logan⁴, Weihong Yuan^{2,5}, Lili He^{1,2,6}, Nehal Parikh^{1,2,6}
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- 0159 Common and unique multimodal covarying patterns in Autism Spectrum Disorder subtypes**
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- 0162 Mapping latent neuroanatomical substrates underlying severe temper outbursts in children**
Anthony Mekhanik¹, Seok-Jun Hong², Michael Milham³, Amy Roy⁴
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- 0165 Cortical gyrification in ASD and ADHD across the lifespan: A systematic review and meta-analysis**
Avideh Gharehgazlou^{1,2}, Carina Freitas^{3,2}, Stephanie Ameis^{4,5,6}, Margot Taylor^{7,3,8,9}, Jason Lerch^{10,11,7}, Joaquim Radua^{12,13,14}, Evdokia Anagnostou^{2,3,15,7}
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- 0166* Functional cartography of cognitive dysfunction in focal epilepsies: a multiscale task-fMRI analysis**
Lorenzo Caciagli^{1,2}, Casey Paquola³, Xiaosong He¹, Maria Centeno², Christian Vollmar^{2,4}, Karin Trimme^{2,5}, Pamela Thompson², Sallie Baxendale², Gavin Winston², John Duncan², Danielle Bassett¹, Matthias Koepp², Boris Bernhardt³
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- 0168 Robust Topological Alterations in the Frontal Lobe and Default Mode Network in ADHD**
Zeus Gracia-Tabuenca¹, Juan Carlos Diaz-Patino¹, Isaac Arelio¹, Sarael Alcauter¹
¹Universidad Nacional Autónoma de México, Querétaro, México
- 0170 Longitudinal Changes of Magnetization Transfer Ratio in Postoperative Cerebellar Mutism Syndrome**
Ping Zou¹, Raja Khan¹, Matthew Scoggins¹, Heather Conklin¹, Giles Robinson¹, Oliver Bieri², Amar Gajjar¹, Zoltan Patay¹, Julie Harreld¹
¹St. Jude Children's Research Hospital, Memphis, TN, ²University of Basel, Gewerbestrasse, Allschwil
- 0172 Using Functional Networks to Classify Seizure Onset Zones in Children with Focal Epilepsy**
Wei Zhang¹, Zili Chu², Robert Azencott³, Michael Paldino⁴
¹UTHealth School of Public Health, Houston, TX, ²Dept. of Radiology, Texas Children's Hospital, Houston, TX, ³Dept. of Mathematics, University of Houston, Houston, TX, ⁴Department of Radiology, UPMC Children's Hospital of Pittsburgh, Pittsburgh, TX
- 0183 Structural brain network development in middle childhood after prenatal methamphetamine exposure**
Annerine Roos¹, Jean-Paul Fouche², Stefani Du Toit¹, Stefan Du Plessis¹, Dan Stein², Kirsten Donald²
¹Stellenbosch University, Cape Town, Western Cape, ²University of Cape Town, Cape Town, Western Cape
- 0184 Decreased Dynamic Integration Ability in Cortical Resting-State Networks in Autism Spectrum Disorder**
Qi Zhao¹, Zhaowen Liu², Jie Zhang³, Jianfeng Feng³
¹School of Mathematical Sciences, Fudan University, Shanghai, ²Massachusetts General Hospital, Boston, MA, ³Institute of Science and Technology for Brain Inspired Intelligence, Fudan University, Shanghai, China
- 0187 Stratifying longitudinal attention-deficit hyperactivity disorder with their neural signatures**
Di Chen¹, Tianye Jia¹, Gunter Schumann², Jianfeng Feng¹, IMAGEN Consortium³
¹Institute of Science and Technology for Brain-Inspired Intelligence, Fudan University, Shanghai, China, ²Institute of Psychiatry, Psychology and Neuroscience, King's College London, London, UK, ³IMAGEN Consortium, London, UK
- 0196 Decreased gyrification is related to autistic traits but not polygenic risk for autism**
Silvia Alemany¹, Elisabet Blok², Philip Jansen³, Ryan Muetzel⁴, Tonya White⁵
¹Barcelona Institute for Global Health, Barcelona, Spain, ²Erasmus University Medical Center, Rotterdam, Netherlands, ³VU University Medical Center, Amsterdam, Netherlands, ⁴Erasmus University Medical Centre, Rotterdam, Zuid Holland, ⁵Erasmus University Medical Centre, Rotterdam, Netherlands
- 0200 Altered functional connectivity of white matter networks in mesial temporal lobe epilepsy**
Wei Cui^{1,2}, Kun Shang³, Lang Qin^{1,4}, Jie Lu³, Jia-Hong Gao¹
¹Center for MRI Research, Peking University, Beijing, China, ²Center for Biomedical Engineering, University of Science and Technology of China, Anhui, China, ³Department of Nuclear Medicine, Xuanwu Hospital Capital Medical University, Beijing, China, ⁴Department of Linguistics, the University of Hong Kong, Hong Kong, China
- 0206* Aberrant social orienting and extrinsic functional connectivity during natural viewing in autism**
Juha Lahnakoski^{1,2}, Laura Albantakis², Marie-Luise Brandt², Lara Henco², Simon Eickhoff^{1,3}, Juergen Dukart¹, Leonhard Schilbach^{2,4,5}
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- 0210 Functional connectivity differences between ADHD individuals with good and poor treatment response**
Jung-Chi Chang¹, Hsiang-Yuan Lin^{2,3}, Yu-Chieh Chen⁴, Susan Gau^{1,3,4}
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- 0226 Infant Regional Corpus Callosum and Forebrain Volumes After Surgery for Long-Gap Esophageal Atresia**
Mackenzie Kagan¹, Chandler Mongerson², Madhuri Jois³, Sonia Main⁴, David Zurakowski⁵, Russell Jennings⁵, Dusica Bajic⁵
¹University of Pennsylvania, Philadelphia, PA, ²Boston Children's Hospital, Boston, MA, ³Georgia Institute of Technology, Atlanta, GA, ⁴Boston College, Boston, MA, ⁵Boston Children's Hospital and Harvard Medical School, Boston, MA
- 0233 Functional brain dynamics in autism assessed using co-activation pattern analysis**
Lauren Kupis¹, Bryce Dirks¹, Celia Romero¹, Meaghan Parlade¹, Michael Alessandri¹, Jason Nomi¹, Lucina Uddin¹
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0239 Gene expression-cortical morphometry association in autism subtypes with different language outcomes

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0245 Patterns of functional hypo- and hyperconnectivity in data driven symptom-defined autism subtypes

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0250 Non-sedated neuroimaging to detect brain changes after mild traumatic brain injury in young children

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0259* Gray Matter Co-Alteration Networks in Autism Spectrum Disorder: A Meta-Connectomic Approach

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0261 The General and Specific Neurocognitive Configurations of Attention-Deficit/Hyperactivity Disorder

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0266 Uncertainty-informed detection of MRI-negative focal cortical dysplasia using Bayesian deep learning

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0268 Early life adversity and hippocampal maturation in children with autism spectrum disorders

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0278 Optimal control energy landscape tracks metabolic underpinnings in temporal lobe epilepsy

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0284 ADHD symptom level and neural processing of a naturalistic stimulus in typically developing children

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- 0287 Brain activity during emotional movies predicts subtypes of psychopathic personality traits**
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- 0296 Lower sex prediction accuracy in females with autism supports the extreme brain male hypothesis**
 Han Peng¹, Dorothea Floris², Tony Charman³, Julian Tillmann⁴, Christine Ecker⁵, Flavio Dell'Acqua⁶, Tobias Banaschewski⁷, Carolin Moessnang⁸, Simon Baron-Cohen⁹, Rosemary Holt¹⁰, Sarah Durston¹¹, Eva Loth¹², Declan Murphy⁴, Jan Buitelaar¹³, Andrea Vedaldi¹⁴, Steve Smith¹, Christian Beckmann²
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- 0302 Longitudinal White Matter Development and Changes in Autism Severity Across Early Childhood**
 Derek Andrews¹, Joshua Lee¹, Danielle Harvey², Einat Waizbard-Bartov¹, Marjorie Solomon¹, Sally Rogers¹, Christine Wu Nordahl¹, David Amaral¹
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- 0314 The relationship between externalizing and internalizing behaviour and the cortico-amygdalar network**
 Hajer Nakud¹, Colin Hawco², Natalie Forde³, Grace Jacobs⁴, Michael Joseph⁵, Aristotle Voineskos⁶, Anne Wheeler⁷, Meng-Chuan Lai⁸, Peter Stazmar⁹, Russell Schachar⁷, Margot Taylor¹⁰, Evdokia Anagnostou¹¹, Jason Lerch¹², Paul Arnold¹³, Stephanie Ameis¹⁴
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- 0331 Atypical neural underpinnings of face processing in ASD revealed by cross-modal analyses**
 Dorothea Floris¹, Emily Jones², Luke Mason², Charlotte Pretzsch³, Tony Charman⁴, Julian Tillmann³, Christine Ecker⁵, Flavio Dell'Acqua⁶, Tobias Banaschewski⁷, Carolin Moessnang⁸, Simon Baron-Cohen⁹, Rosemary Holt¹⁰, Sarah Durston¹¹, Eva Loth¹², Declan Murphy³, Andre Marquand¹, Jan Buitelaar¹³, Christian Beckmann¹⁴
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- 0335 Stability of EEG markers over two years in a clinical dataset of ADHD patients and healthy controls**
 Marionna Münger¹, Ilia Pershin², Gian Candrian², Gian-Marco Baschera², Johannes Kasper³, Hossam Abdel Rehim⁴, Dominique Eich⁵, Andreas Müller², Lutz Jäncke^{6,1}
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- 0347 Head Circumference and other Morphological Parameters in Male Adults with Autism Spectrum Disorder**
 Niklaus Denier¹, Gerrit Steinberg¹, Tobias Bracht¹
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- 0355 A connectome-wide mega-analysis of functional dysconnectivity in autism spectrum disorder**
 Iva Ilioska^{1,2}, Marianne Oldehinkel³, Maarten Mennes^{1,2}, Christian Beckmann^{4,2,5}, Alex Fornito³, Jan Buitelaar^{2,1,6}
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- 0364 Task-induced ACC network adjustments mediate effect of childhood psychopathology on social function**
 Adam Kaminski¹, Xiaozhen You², Katie Flaharty¹, Alyssa Verbalis², Serene Habayeb², Charlotte Jeppsen², Madison Berl², Lauren Kenworthy², Chandan Vaidya¹
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- 0374 Longitudinal Functional Connectivity of Cognitive Brain Networks in Older Adults with Autism**
 Melissa Walsh¹, Emily Foldes¹, Broc Pagni¹, Ashley Nespodzany¹, Leslie Baxter², Chris Smith³, B. Blair Braden¹, Nicolas Guerithault¹
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- 0382 Altered functional brain connectivity to verbal sounds in preterm born infants**
 Isabelle Gaudet¹, Julie Tremblay¹, Phetsamone Vannasing², Franco Lepore¹, Anne Gallagher³, Natacha Paquette⁴
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- 0386 Brain Neural Flexibility as a Potential Biomarker for ADHD Evaluation**
 Weiyang Yin¹, Han Zhang¹, Jessica Cohen¹, Peter Mucha¹, Weili Lin¹
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- 0391 Reduced structural connectivity in newborns with congenital heart disease.**
Megan Ní Bhroin^{1,2}, Samy Seada¹, Alexandra Bonthron¹, Christopher Kelly¹, Daan Christiaens¹, Andreas Schuh³, Maximilian Pietsch¹, Jana Hutter¹, J-Donald Tournier¹, Lucillio Cordero-Grande¹, Stephen Smith⁴, Daniel Rueckert³, Joseph Hajnal¹, Kuberan Pusharajah^{3,5}, John Simpson⁶, A. David Edwards¹, Mary Rutherford¹, Serena Counsell¹, Dafnis Batalle^{1,7}
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- 0395 T1/T2 ratios: investigating myelination in perinatal stroke patients**
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- 0400 Functional connections underlying the bilingual executive function advantage in children with autism**
Celia Romero¹, Zachary Goodman¹, Lauren Kupis¹, Bryce Dirks¹, Meaghan Parlade¹, Michael Alessandri¹, Stephanie Custode¹, Lynn Perry¹, Jason Nomi¹, Lucina Uddin^{1,2}
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- 0402 Abnormal Sulcal Pattern in Children with 16p11.2 Deletion and Duplication Syndrome**
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- 0410 Motor Performance and White Matter Microstructure in Young Children with Prenatal Alcohol Exposure**
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- 0413 Altered Cortical Folding Depth in Fetuses with Down Syndrome**
Hyuk Jin Yun¹, Juan Perez¹, Neel Madan², Rie Kitano³, Shizuko Akiyama², Diana Bianchi⁴, P. Ellen Grant¹, Tomo Tarui², Kiho Im¹
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- 0418 Aberrant functional connectivity in affective networks underlies persistent post-traumatic headache**
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- 0420 Language network connectivity relates to language outcomes in children with Benign Epilepsy with CSTS**
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- 0421 Estimating the impact of drug prevention on functional brain outcomes using Bayesian mixed effects**
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- 0425 Evaluation of MRI scoring systems prediction with two-year outcome in Neonatal Encephalopathy**
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- 0431 Mapping Neural Correlates of Biological Motion in School-Age Children with Autism using HD-DOT**
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- 0438 Altered Functional Connectivity in Limbic & Striatal Network Regions in Adolescents with Concussion**
Rachelle Ho¹, Saurabh Shaw¹, Geoffrey Hall¹, Carol DeMatteo¹, Nicholas Bock¹
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- 0446 The structural and functional interplay in autism animal models: Grik4over mice as an example**
Amr Eed¹, M. Isabel Aller¹, Silvia De Santis¹, Santiago Canals¹, Juan Lerma¹
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- 0450 Motor cortical beta-band inter-trial variability and age-related change in autism spectrum disorder**
Luke Bloy¹, Timothy Roberts¹, William Gaetz¹
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- 0451 The structural basis for functional connectivity: an evidence from agenesis of corpus callosum**
Xiaopeng Song¹, Junliang Yuan², Shuangkun Wang², Long Zuo², Wenli Hu², Fei Du¹, Dost Ongur¹
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- 0454 Age-related parietal GABA alterations in children with Autism Spectrum Disorder**
Marilena DeMayo¹, Ashley Harris², Ian Hickie¹, Adam Guastella¹
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- 0457 Reduced asymmetry of hand knob volume and impaired U-fiber hand tracts in aging adults with ASD**
Janice Hau¹, Ashley Baker¹, Mikaela Kinnear¹, Jiwandeep Kohli¹, Ian Shryock¹, Lisa Mash¹, Molly Wilkinson², R Joanne Jao Keehn¹, Ruth Carper¹, Ralph-Axel Müller¹
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- 0464 Longitudinal symptoms changes are correlated to altered local gyrification index (LGI) in autism**
Yu-Chieh Chen¹, Susan Gau²
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- 0475 Relationship between fMRI BOLD signal and MEG theta power in autism spectrum disorders**
Molly Wilkinson¹, Yuqi You¹, Yangfeifei Gao¹, Kalekirstos Alemu¹, Michael Olson¹, Annika Linke¹, R. Joanne Jao Keehn¹, Ksenija Marinkovic¹, Ralph-Axel Müller¹
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- 0477 A canonical correlation analysis and diffusion MRI study on children with mild TBIs**
Guido Guberman Diaz¹, Sonja Stojanovski², Jean-Christophe Houde³, Alain Ptito¹, Anne Wheeler⁴, Maxime Descoteaux⁵
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- 0478 A brief intervention targeting impulsivity and sensation seeking: effects on reward anticipation.**
Irina Filippi¹, Mohammad Hassan Afzali¹, Vincent Migneron-Foisy¹, Sean Spinney¹, Patricia Conrod¹
¹Sainte-Justine Hospital, University of Montreal, Montreal, Quebec
- 0479 Associations between MRI, Hammersmith Infant Neurological Exam and General Movements in Very Preterm**
Karen Harpster¹, Stephanie Merhar², Venkata Sita Priyanka Illapani², Beth Kline-Fath², Nehal Parikh²
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- 0486 Altered Probabilistic Connectivity of Striatal-Executive Networks in Children with Hydrocephalus**
Daamoon Ghahari¹, Roy Eagleson¹, J Bruce Morton¹, Sandrine de Ribaupierre¹
¹Western University, London, Ontario
- 0492 Autism Symptoms and Sensory Abnormalities: Their Relationship and Underlying Functional Connectivity**
Garrett Cardon¹, Don Rojas²
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- 0495 Sex-specific Volumetric Differences Associated with Substance Use through Adolescence**
Xavier Navarri¹, Irina Filippi¹, Mohammad Hassan Afzali², Patricia Conrod¹
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- 0501 Dimensional and categorical approaches to map neurobiology underlying cognitive imbalances in autism**
Suk Jun Hong¹, Laurent Mottron², Bo-yong Park³, Yifei Weng⁴, Oualid Benkarim³, Brian Hyung³, Sara Larivière³, Reinder Vos de Wael³, Sofie Valk⁵, Adriana Di Martino¹, Michael Milham¹, Boris Bernhardt³
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- 0503 Regional cerebellar volumes in children with autism and associations with core autism traits**
Micah Plotkin¹, Rebecca Rochowiak¹, Julia Bernal², Stewart Mostofsky¹, Deana Crocetti¹
¹Kennedy Krieger Institute, Baltimore, MD, ²Johns Hopkins University, Baltimore, MD

Psychiatric (eg. Depression, Anxiety, Schizophrenia)

- 0073 Hippocampus connectivity mediates the association between acceptance and PTSD symptom severity**
Wi Hoon Jung¹, Nam Hee Kim²
¹Daegu University, Gyeongsan-si, Gyeongsangbuk-do, ²Maumtodac Psychiatric Clinic, Ansan, Gyeonggi
- 0075 Pre-operative local brain volumes predict outcome of subcallosal cingulate DBS for depression**
Jurgen Germann¹, Gavin Elias¹, Alexandre Boutet², Michelle Beyn³, Aditya Pancholi³, Clemens Neudorfer³, Aaron Loh³, Peter Giacobbe⁴, Andres Lozano³
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- 0076 Dissociating trait and state anxiety effects on mismatch negativity and sensory gating ERPs**
Vasileios Ioakeimidis¹, Laura Lennuyeux-Comnene¹, Nareg Khachatoorian¹, Sebastian Gaigg¹, Corinna Haenschel¹, Marinos Kyriakopoulos^{2,3}, Danai Dima^{1,4}
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- 0077 Functional connectivity gradients of the striatum in schizotypy and first-episode psychosis**
Marianne Oldehinkel¹, Sidhant Chopra¹, Kristina Sabaroedin¹, Jeggan Tiego¹, Shona Francey², Brian O'Donoghue², Vanessa Cropley³, Barnaby Nelson², Jessica Graham², Lara Baldwin², Steven Tahtalian³, Hok Pan Yuen², Kelly Allott², Mario Alvarez-Jimenez², Susy Harrigan², Christos Pantelis³, Stephen Wood^{2,4,5}, Patrick McGorry², Mark Bellgrove¹, Alex Fornito^{1,6}
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- 0080 Simultaneous associations of brain volume with depression symptoms and urban environment features**
Liliana Garcia Mondragon^{1,2,3}, Yi An Liao^{1,2,3}, Alex Ing⁴, Jiayuan Xu⁵, Gunter Schumann³
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- 0082 The early postpartum period – differences between women with and without a history of depression**
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- 0083 Linked Independent Component Analysis for Treatment Response in Schizophrenia**
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0085 Investigating changes to glutamate and GABA in gender dysphoria

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0087 Activity flow models reveal the role of schizophrenia network abnormalities in cognitive activation

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0088 Longitudinal Connectome-Wide Analysis of the Real-time fMRI Neurofeedback Training Effects in MDD

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0089 RS-fMRI in the Assessment of the Functional State of the Brain in Patients with Opioid Addiction

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0098 Associations of cigarette smoking with gray and white matter in the UK Biobank

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0103 Multivariate Autoregressive Models reveal altered directional network interactions in schizophrenia

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0108 Electrophysiological connectivity following ketamine infusion in healthy and depressed volunteers

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0112 Myelin Imaging of the Cholinergic System in First-Episode Psychosis

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0117 Surface area covariance in the mentalizing network: Insight into social cognition in schizophrenia

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0118 Changes in Resting-State MEG Spectral Power and Connectivity from Combat Related PTSD

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0119 The frequency-specific resting connectome in bipolar disorder: A MEG study

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0120 Inverse correlation between omega-3 concentration and emotional brain response on major depression

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0123 Cytokines levels reflect the disrupted functional connectivity in patients with bipolar disorder

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0125* Convergent molecular, cellular, and neuroimaging signatures of major depression

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- 0126 Neural processing and interpretation of physical social interaction in disruptive behavior disorders**
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- 0127 Personality Traits are related with Dynamic Functional Connectivity in Major Depression Disorder**
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- 0132 Functional neural correlates of social ostracism in anxious youth at high risk for bipolar disorder**
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- 0135 Linking schizophrenia symptom dimensions to neural processes by multivariate pattern prediction**
Ji Chen¹, Veronika Müller¹, Felix Hoffstaedter¹, Thomas Nickl-Jockschat², Birgit Dernt³, Lydia Kogler³, Renaud Jardri⁴, Oliver Gruber⁵, André Aleman⁶, Iris Sommer^{6,7}, Kaustubh Patil¹, Simon Eickhoff¹
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- 0139 Cortical myelination patterns of bipolar disorder related affective temperaments**
Yidan Qiu¹, Fengchun Wu^{2,3}, Qunjun Liang¹, Wenjin Zou², Xiaolin Yang¹, Xiaofang Cheng², Yu Guo¹, Yuping Ning^{2,3}, Huawang Wu^{4,3}, Ruiwang Huang¹
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- 0144 Temporal dynamic variations during rumination: a reproducible fMRI study**
Xiao Chen¹, Ning-Xuan Chen¹, Yang-Qian Shen², Hui-Xian Li¹, Chao-Gan Yan³
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- 0146 Hierarchical Bayesian learning under persecutory delusional ideation in a variable social environment**
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- 0147 fMRI connectivity distinguishes psychosis cases and controls with replicable, interpretable features**
Sarah Morgan¹, Jonathan Young², Ameera Patel¹, Kirstie Whitaker³, Cristina Scarpazza², Therese van Amelsvoort⁴, Machteld Marcelis⁴, Jim van Os⁴, Gary Donohoe⁵, David Mothersill⁶, Aiden Corvin⁷, Celso Arango⁸, Andrea Mechelli², Martijn van den Heuvel⁹, Rene Kahn¹⁰, Philip McGuire², Michael Brammer², Edward Bullmore¹
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- 0148 Opposing effects of early adversity and PTSD on amygdala function: Timing and lateralization matter**
Maurizio Sicorello¹, Julia Herzog¹, Janine Thome¹, Stefanie Lis¹, Martin Bohus¹, Christian Schmahl¹
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- 0150 Multi-scale feature reduction and semi-supervised learning for parsing neuroanatomical heterogeneity**
Junhao Wen¹, Ganesh Chand¹, Ahmed Abdulkadir², Raymond Pomponio¹, Guray Erus¹, Aristeidis Sotiras¹, Dhivya Srinivasan¹, Jimit Doshi¹, Alessandro Pigoni³, Paola Dazzan⁴, Rene Kahn⁵, Hugo Schnack⁶, Marcus Zanetti⁷, Eva Meisenzahl⁸, Geraldo Busatto⁷, Benedicto Crespo-Facorro⁹, Christos Pantelis¹⁰, Stephen Wood¹¹, Chuanjun Zhuo¹², Russell Shinohara¹, Haochang Shou¹, Yong Fan¹, Ruben Gur¹, Raquel Gur¹, Dominic Dwyer³, Theodore Satterthwaite¹³, Nikolaos Koutsouleris³, Daniel Wolf¹⁴, Erdem Varol¹, Christos Davatzikos¹
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- 0152 Neural dysfunctions in antisocial spectrum: a meta-analysis of fMRI studies on 5 research domains**
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- 0153 Neural Processing of Monetary Reward in Youth with Depression, Obesity, and Loss of Control Eating**
Kelsey Hagan¹, Cara Bohon¹, Akua Nimarko¹, Adina Fischer¹, Sarthak Angal¹, Nicholas Rodriguez¹, Natalie Rasgon¹, Manpreet Singh¹
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- 0157 The link between psychopathy, corticostriatal connectivity and crime in methamphetamine use disorder**
Milky Kohno^{1,2}, Laura Dennis², Holly McCready², William Hoffman^{1,2}
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- 0160*** **The relevance of transdiagnostic shared networks to symptoms and cognition in schizophrenia**
Shile Qi¹, Juan Bustillo², Jessica Turner³, Rongtao Jiang⁴, Dongmei Zhi⁴, Zening Fu⁵, Thomas P. Deramus³, Victor Vergara¹, Xiaohong Ma⁶, Xiao Yang⁶, Mike Stevens⁷, Chuanjun Zhuo⁸, Yong Xu⁹, Vince Calhoun¹⁰, Jing Sui⁴
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- 0164** **Using task and intrinsic functional connectivity to detect changes after ketamine**
Jen Evans¹, Carlos Zarate Jr.¹
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- 0167** **Failure of network segregation during memory consolidation and retrieval in schizophrenia**
Asadur Chowdury¹, Ryan Jones¹, Jeffrey Stanley¹, Vaibhav Diwadkar¹
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- 0173** **Sulcal alterations and functional implications associated with hallucinations in schizophrenia**
Colleen Rollins¹, Jane Garrison², Zhi Li³, Raymond Chan³, Jon Simons², Graham Murray¹, John Suckling¹
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- 0175** **Altered Neurobehavioral Responses to Social Reciprocity in Women with Bulimia Nervosa**
Yi Luo¹, Carlisdania Mendoza², Sarah Pelfrey², Terry Lohrenz¹, Xiaosi Gu^{3,4}, Carrie McAdams², Read Montague^{1,5,6,7}
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- 0176** **Regional Heterogeneity of Gray and White Matter Changes in Schizophrenia**
Jinglei Lv^{1,2}, Maria Di Biase¹, Robin Cash¹, Luca Cocchi³, Vanessa Cropley¹, Paul Klauser⁴, Fernando Calamante², Andrew Zalesky¹
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- 0177** **Machine Learning Prediction of Childhood Maltreatment Using Multimodal Neuroimaging Data**
Matthew Price¹, Sage Hahn¹, Nicholas Allgaier¹, Anthony Juliano¹, Zoe Brier¹, Alison Legrand¹, Katherine von Stolk-Cooke¹, Hugh Garavan²
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- 0185** **Association between polygenic risk for schizophrenia with functional and structural brain**
Jujiao Kang¹, Jianfeng Feng¹, Xiaohong Gong¹
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- 0188** **Fractional anisotropy and processing speed are associated in depressed patients and healthy controls**
Susanne Meinert¹, Nico Nowack¹, Dominik Grotegerd¹, Jonathan Repple¹, Nils Winter¹, Stella Fingas¹, Hannah Lemke¹, Lena Waltemate¹, Frederike Stein², Katharina Brosch², Simon Schmitt², Tina Meller², Olaf Steintr ater², Igor Nenadic², Ronny Redlich¹, Nils Opel¹, Ricarda Schubotz¹, Bernhard Baune¹, Tilo Kircher², Udo Dannlowski¹
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- 0189** **No evidence for biological subtypes of depression: Another non-replication of Drysdale et al. (2017)**
Maximilian Lueckel¹, Helena Metzker¹, Bernd Kraemer¹, Oliver Gruber¹
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- 0190** **Midline thalamus-based connectivity and hyperarousal in insomnia during wakefulness and sleep**
Guangyuan Zou^{1,2}, Jiayi Liu^{1,2}, Shuqin Zhou¹, Jing Xu³, Lang Qin^{1,4}, Yuezhen Li^{5,6}, Yan Shao⁵, Ping Yao⁵, Hongqiang Sun⁵, Qihong Zou¹, Jia-Hong Gao^{1,2,7,8}
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- 0191** **Classifying Major Depression Using Ensemble GAN (EnGAN) Based on Functional Network Connectivity**
Jianlong Zhao^{1,2}, Dongmei Zhi^{1,2}, Weizheng Yan^{1,2}, Xiaohong Ma^{3,4}, Xiao Yang^{3,4}, Vince Calhoun⁵, Jing Sui^{1,2,6}
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- 0193** **BCPL: Convolutional Prototype Learning for Brain Networks for Depression Diagnosis**
Dongmei Zhi^{1,2}, Xiaohong Ma³, Chuanyue Wang⁴, Luxian Lv^{5,6}, Xianbin Li⁴, Vince Calhoun⁷, Weizheng Yan^{8,2}, Dongren Yao^{1,2}, Shile Qi⁷, Rongtao Jiang^{1,2}, Jianlong Zhao⁸, Xiao Yang³, Yongfeng Yang^{5,6}, Miao Pan^{5,9}, Jing Sui^{1,2,10}
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- 0194** **A LHPP genetic variant conferring risk to MDD and SCH was associated with GMV of parahippocampus**
Zeyu Jiao¹
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- 0197 Functional brain imaging markers as predictors for response to Escitalopram and Sertraline**
Helena Metzker¹, Egle Simulionyte¹, Sandi Hebib¹, Maximilian Lueckel¹, Oliver Gruber¹
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- 0199 Morphological Alterations in Obsessive-compulsive Disorder**
Jia Li Teo¹, Goi Khia Eng^{1,2,3}, Bhanu Gupta⁴, Hariram Jayaraman⁴, Jackki Hoon Eng Yim⁵, Roger Chun Man Ho⁶, Cyrus Su Hui Ho⁶, Melvyn Weibin Zhang⁶, Rathi Mahendran⁶, Kang Sim⁷, Shen-Hsing Annabel Chen^{1,8,9}
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- 0203 Prefrontal hyperactivity related to expected reward value in adolescent major depressive disorder**
David Willinger¹, Iliana Karipidis², Plamina Dimanova¹, Carolina Rauch¹, Isabelle Häberling¹, Gregor Berger¹, Susanne Walitza¹, Silvia Brem¹
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- 0204 Depression phenotypes and structural brain changes following childhood trauma: A replication study**
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- 0208 Higher-order psychopathology associations with total brain volume**
Francisco Meyer¹, Kendra Hinton¹, Victoria Villalta-Gil², Bennett Landman¹, Benjamin Lahey³, David Zald¹
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- 0212 Multi-site bipolar disorder classification using subcortical shape morphometry**
Ling-Li Zeng^{1,2}, Christopher Ching², Tomas Hajek³, Boris Gutman⁴, Sophia Thomopoulos², Dewen Hu¹, Jair Soares⁵, Benson Irungu⁵, David Glahn^{6,7}, Colm McDonald⁸, Giulia Tronchin⁸, Dara Cannon⁸, Ingrid Agartz^{9,10,11,12}, Lars Westlye⁹, Paul Thompson², Ole Andreassen⁹
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- 0214 Age-related changes in grey-matter free water distinguish depression and mild cognitive impairment**
John Anderson¹, Neda Rashidi-Ranjbar¹, Benoit Mulsant¹, Nathan Herrmann², Linda Mah³, Alastair Flint⁴, Corrine Fischer⁵, Bruce Pollock¹, Tarek Rajji¹, Aristotle Voineskos⁶
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- 0216 Positive Symptoms Associated with Gray Matter Patterns in the Cerebellum and OFC in Schizophrenia**
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- 0221 C-Reactive Protein and Brain Structure in Major Depressive Disorder**
Claire Green¹, Xueyi Shen¹, Mathew Harris², Emma Hawkins², Stephen Lawrie¹, Andrew McIntosh¹, Heather Whalley¹
¹University of Edinburgh, Edinburgh, Midlothian, ²University of Edinburgh, Edinburgh, Lothians
- 0222 Reward Processing Does Not Predict Anhedonia in Depressed Adolescents**
Dylan Nielson¹, Hanna Keren¹, Georgia O'Callaghan¹, Sarah Jackson¹, Dipta Saha¹, Chris Camp¹, Lisa Gorham¹, Christine Wei¹, Stuart Kirwan¹, Argyris Stringaris¹
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- 0223 Brain Dynamics of Mind Wandering and Behavioral Variability in ADHD**
Aaron Kucy¹, Michael Esterman², Susan Whitfield-Gabrieli³, Eve Valera⁴
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- 0224 Prefrontal Hyperconnectivity Linked to Persistent Symptoms in Mild Traumatic Brain Injury**
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- 0228 Brain activation patterns during working memory tasks in schizophrenia and major depressive disorder**
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- 0229 A novel cognition-guided neurofeedback treatment for methamphetamine addiction**
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- 0230 Disrupted intrinsic visual-auditory connectivity networks associated with depressed symptoms in MDD**
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- 0236 Depression and self vigilance: Victim sensitivity and its neural correlates among patients with MDD**
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- 0237 Atypical Antipsychotics Prevent Illness-Related Volume Loss within the Basal Ganglia in Psychosis**
 Sidhant Chopra¹, Alex Fornito¹, Shona Francey², Brian O'Donoghue³, Vanessa Croyley⁴, Barnaby Nelson², Jessica Graham², Lara Baldwin², Steven Tahtalian⁴, Hok Pan Yuen², Kelly Allott², Mario Alvarez-Jimenez², Susy Harrigan⁵, Kristina Sabarodien¹, Christos Pantelis⁴, Stephen Wood², Patrick McGorry²
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- 0238 Voxel-wise meta-analysis of grey matter changes in Major Depressive Disorder**
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- 0241 Structural connectivity of white matter tracts in patients with obsessive-compulsive disorder**
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- 0243 Genetic specific deficit of abnormal gyrification in unaffected relatives of schizophrenia patients**
 Inkyung Park¹, Tae Young Lee^{2,3}, Wu Jeong Hwang¹, Minah Kim^{2,4}, Yoo Bin Kwak¹, Sanghoon Oh^{2,4}, Silvia Kyungjin Lho^{2,4}, Sun-Young Moon^{2,4}, Jun Soo Kwon^{1,2,3,4}
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- 0244 Interactions between smoking and internet gaming disorder on spontaneous brain activity**
 Xianxin Qiu^{1,2}, Xu Han³, Yao Wang³, Weina Ding³, Yawen Sun³, Yan Zhou³, Hao Lei^{1,2}, Fuchun Lin^{1,2}
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- 0247 Resting-state functional connectivity using network-based thalamic seeds in first episode psychosis**
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- 0251* Brain Age and Epigenetic Age Acceleration During Conversion to Psychosis.**
 Anton Iftimovic¹, Edouard Duchesnay², Oussama Kebir³, Josselin Houenou⁴, Marie-Odile Krebs³, Boris Chaumette³
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- 0254 Disrupted Intersubject Variability Architecture in Functional Connectomes in Schizophrenia**
 Xiaoyi Sun¹, Jin Liu¹, Qing Ma¹, Ke Xu², Jia Duan², Yanqing Tang², Fei Wang², Yong He¹, Mingrui Xia¹
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- 0256 Cerebellar volume reduction predicts treatment response in women with anorexia nervosa**
 Lisa-Katrin Kaufmann¹, Jürgen Hänggi¹, Volker Baur², Marco Piccirelli², Roland von Kaenel², Lutz Jäncke¹, Gabriella Milos²
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- 0257 Relating structural to functional brain connectivity in individuals with alcohol use disorder**
 Sarah Gerhardt¹, Damian Karl¹, Derik Hermann¹, Anne Koopmann¹, Karl Mann¹, Falk Kiefer¹, Sabine Vollstädt-Klein¹
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- 0258 Identification of the epileptogenic zone using interictal MEG networks and graph theory**
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- 0260 Adaptive neurofeedback stimulation to support smoking cessation**
 Amelie Haugg¹, Mirjam Habegger¹, Anna Speckert², Sarah Meier³, Ronald Sladky⁴, Philipp Stämpfli¹, Cindy Lor⁴, Ellen van Maren³, Apurva Watve¹, Andrei Manoliu⁵, Erich Seifritz¹, Matthias Kirschner⁶, Marcus Herdener¹, Boris Quednow¹, Frank Scharnowski⁴
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- 0262 Effect of threat on working memory related dlPFC activity in healthy subjects and anxiety patients.**
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- 0264 Brain functional correlates of recurrent major depressive disorder – a longitudinal fMRI study**
 Tiana Borgers¹, Lisa Frankenberger¹, Verena Enneking¹, Udo Dannlowski¹, Ronny Redlich¹
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- 0265 Meta-analysis of coincident grey matter volume increases and decreases in psychiatric diseases**
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- 0272 Clinical-anatomical phenotypes of schizophrenia**
Matthias Kirschner¹, Golia Shafiei¹, Ross Markello², Carolina Makowski³, Alexandra Talpalaru⁴, Benazir Hodzic-Santor¹, Gabriel Devenyi⁵, Martin Lepage⁶, M Mallar Chakravarty², Alain Dagher⁷, Bratislav Misic⁸
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- 0277 Tools for Neuroimaging-Behavioral Relationships In Dimensional Geometric Embedding (N-BRIDGE)**
Jie Lisa Ji¹, Markus Helmer¹, Joshua Burt¹, Zailyn Tamayo¹, Jure Demšar², Brendan Adkinson¹, Aleksandar Savic^{3,1}, Katrin Preller^{4,1}, Flora Moujaes^{4,1}, William Margin⁵, Grega Repovš², John Murray¹, Alan Anticevic¹
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- 0280* Hallucinations and Delusions Relate to Distinct Hierarchical Alterations in Neural Timescales**
Kenneth Wengler¹, Andrew Goldberg¹, George Chahine², Guillermo Horga¹
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- 0282 Characterizing cortical myeloarchitecture in schizophrenia spectrum disorder**
Yu Veronica Sui¹, Hilary Bertisch¹, Donald Goff¹, Alexey Samsonov², Mariana Lazar¹
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- 0283 Neuroanatomical signature of a novel transcriptome-based polygenic risk score for depression**
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- 0289 Thinner Parahippocampal Area 3 in First-Episode Psychosis in Discovery and Replication Samples**
Mark Curtis¹, Vanessa Fishel¹, Natasha Torrence¹, Yiming Wang¹, Dylan Seebold¹, Rebekah Farris¹, Brian Coffman¹, Dean Salisbury¹
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- 0290 Effects of cross-sex hormone treatment on own body perception in relation to self**
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- 0292 Brain Microstructure Alterations and Human Cytomegalovirus Infection in Major Depressive Disorder**
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- 0293 Impaired TPJ Deactivation during Category Fluency in First-Episode Psychosis**
Leana Perumaly¹, Mark Curtis¹, Vanessa Fishel¹, Natasha Torrence¹, Yiming Wang¹, Dylan Seebold¹, Rebekah Farris¹, Brian Coffman¹, Dean Salisbury¹
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- 0294 Effects of Oxytocin on Neural Reward Processing in Women with and without Autism**
Tanya Procyshyn¹, Michael Lombardo², Meng-Chuan Lai³, Bonnie Auyeung⁴, S Crockford¹, Nazia Jassim⁵, J Deakin⁶, S Soubramanian⁷, A Sule¹, Simon Baron-Cohen¹, Richard Bethlehem¹
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- 0299 Effects of Simultaneous rtfMRI and EEG Neurofeedback in Major Depression: Insights from eLORETA**
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- 0300 Structural MRI spatial pattern associated with schizophrenia patients in a multivariate approach**
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- 0301 Empathy subtypes in MDD based on amygdala connectivity at 7 Tesla and socio-emotional behaviour**
Anna-Lisa Schuler¹, Martin Tik¹, Christoph Kraus¹, Daniela Pfabigan², Andreas Hahn¹, Katharina Paul², Stuart Reed¹, Manfred Klöbl¹, Bastian Auer¹, Rupert Lanzenberger¹, Claus Lamm², Christian Windischberger¹
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- 0304 Increased structural covariance of the insula in drug-dependent subjects**
Jonatan Ottino-González¹, Matthew Albaugh¹, Nicholas Allgaier¹, Scott Mackey¹, Hugh Garavan¹, ENIGMA Addiction Working Group¹
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- 0307 RTMS Treatment Alters the Dynamics Between Functional Networks in Treatment-resistant Depression**
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- 0308 fMRI Neurofeedback Amygdala Training Influences Immune Responses**
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- 0311 Brain alterations associated with suicidal ideation and attempt across 18 international studies**
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- 0313 The relationship of free water and cognition within the cognitive control network in early psychosis**
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- 0316 Thicker prefrontal cortex is associated with negative symptoms in schizotypy – an ENIGMA study**
Matthias Kirschner¹, Benazir Hodzic-Santor¹, Tilo Kircher², Axel Krug², Igor Nenadic², Tina Meller², Alex Fornito³, Mark Bellgrove⁴, Jeggan Tieggo⁵, Aurina Arnatkevičiūtė⁶, Melissa Green⁷, Yann Quidé⁸, Emiliana Tonini⁹, Christos Pantelis¹⁰, Udo Dannlowski¹¹, Bernhard Baune¹², Dominik Grotegerd¹², Pamela DeRosse¹³, Ashley Moyett¹³, Raymond Chan¹⁴, Martin Debbané¹⁵, Melodie Derome¹⁵, Wulf Rössler¹⁶, Lukasz Smigielski¹⁶, Irina Lebedeva¹⁷, Alexander Tomyshev¹⁷, Haeme Park¹⁸, Kristina Wiebels¹⁸, Mathilde Antoniadou¹⁹, Jan-Bernard Marsman²⁰, James Gilleen²¹, Anne-Kathrin Fett²², Theo Van Erp²³, Jessica Turner²⁴, Paul Thompson²⁵, André Aleman²⁶, Gemma Modinos²⁷, Stefan Kaiser²⁸, Alain Dagher²⁹
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- 0317 Consistent Temporal Dynamic Response to Drug Cues across Multiple Clinical Populations**
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- 0319 Learning without contingencies induces higher order asynchrony in brain networks in schizophrenia**
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- 0321 Association of reduced cortical thickness with treatment resistance in schizophrenia**
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- 0322 Effects of Levodopa on Cue Reactivity in Abstinent Alcoholics**
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- 0324 Abnormal maintenance of long-range temporal dependence during sleep in insomnia**
Jiayi Liu^{1,2}, Guangyuan Zou^{1,2}, Shuqin Zhou¹, Jing Xu³, Lang Qin^{1,4}, Yuezhen Li^{5,6}, Yan Shao⁵, Ping Yao⁵, Hongqiang Sun⁵, Qihong Zou¹, Jia-Hong Gao^{1,2,7,8}
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- 0325 White matter integrity in people with treatment-resistant schizophrenia**
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- 0326 Abnormal effective connectivity in the right frontoparietal network in major depressive disorder.**
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- 0327 Resting-State Network Properties Reflect Adolescent Psychiatric Symptoms and Immune Activity**
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- 0328 White Matter Integrity Across Major Depressive Disorder, Bipolar Disorder and Schizophrenia**
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- 0337 Hippocampal subfields volume and cognitive function in schizophrenia and mood disorders**
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- 0338 Neuroimaging effect of aerobic exercise on white matter abnormality in patients with schizophrenia**
Shun Takahashi^{1,2}, Daniel Keeser¹, Temmuz Karali¹, Boris-Stephan Rauchmann¹, Thomas Schneider-Axmann¹, Katriona Keller-Varady¹, Isabel Maurus¹, Peter Dechent³, Thomas Wobrock⁴, Alkomiet Hasan¹, Andrea Schmitt^{1,5}, Frank Padberg¹, Birgit Ertl-Wagner^{1,6}, Berend Malchow^{1,7}, Peter Falkai¹
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- 0341 Brain connectivity patterns during rest associated with suicidal risk**
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- 0344 Cmorph LGI is more spatially precise than standard FreeSurfer method – evidence from schizophrenia**
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- 0349 Characterising Neural Heterogeneity in Psychiatric Disorders using Normative Models**
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- 0350 Male Internet gaming disorder subjects are more impulsive than females in inter-temporal decisions**
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- 0351 Altered Brain Functional Connectome as a Trait Marker of Anorexia Nervosa**
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- 0353 Reward-related decision making in anorexia nervosa – a longitudinal fMRI study**
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- 0356 Hallucination proneness modulates functional involvement of the dorsal cingulate cortex circuit**
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- 0357 Association of CDH13 genotype with structural connectivity estimates in human corticospinal tract**
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- 0358 Morphometric profiles of eating disorder symptomatology in the ABCD study**
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- 0359 Schizophrenia disorganization and core-deficit association with diminished postmovement beta rebound**
Mohanbabu Rathnaiah¹, Elizabeth Liddle¹, Lauren Gascoyne², Jyothika Kumar¹, Mohammad Zia Katshu¹, Catherine Faruqui³, Christina Kelly³, Malkeet Gill³, Lena Palaniyappan⁴, Matthew Brookes⁵, Peter Morris¹, Peter Liddle⁶
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- 0360 Predicting Conversion to Schizophrenia from Prodromal States using a Machine Learning Approach**
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- 0362 In vivo mGluR5 binding and functional connectivity in abstinent subjects with alcohol dependence**
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- 0363 Sex-specific effects of C4 schizophrenia risk alleles on longitudinal changes in cortical structure.**
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- 0365 Opposite functional connectivity changes in manic and depressive episodes in bipolar disorder**
Paola Fuentes-Claramonte^{1,2}, Edith Pomarol-Clotet^{1,2}, Silvia Alonso-Lana^{1,3}, Noemí Moro⁴, Caterina Bonnin^{5,2,6,7}, José Manuel Goikolea^{5,2,6,7}, Paloma Fernandez-Corcuera¹, Eduard Vieta^{5,2,6,7}, Salvador Sarró^{1,2}, Edward Bullmore⁸, Raymond Salvador^{1,2}, Sarah Morgan⁹
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- 0366 Identifying Major Depressive Disorder from Resting State fMRI Using Convolutional Neural Networks**
Xiaodi Zhang¹, Shella Keilholz¹
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- 0370 Alcohol Cue Related Effects on the Response Inhibition Network in Patients with Alcohol Use Disorder**
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- 0371 Thalamic neuro-metabolite correlates of cognitive impairments in Schizophrenia**
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- 0373 Effects of chronic cocaine use on frontostriatal functional connectivity: a longitudinal study**
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- 0377 Positive valence systems deficits in adolescent depression**
Qi Liu¹, Benjamin Ely¹, Emily Stern^{2,3}, Junqian Xu⁴, Vilma Gabbay^{1,2}
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- 0383 Quantitative Susceptibility Mapping of Brain Tissue-Iron Distribution in the Psychosis Spectrum**
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- 0385 Examining Depression in MS Using Multi-Shell Diffusion Imaging & Structural Connectometry**
Cristina Roman¹, Peter Arnett²
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- 0388 EEG Microstates in Patients with Psychotic Disorders: Effect of Antipsychotic medication**
Renate de Bock¹, Amatya Mackintosh¹, Stefan Borgwardt², Christina Andreou²
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- 0390 fMRI-Based Prediction of Clinical Improvement in Psychosis with Machine and Deep Learning**
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- 0393 A double-blind rtfMRI neurofeedback study on auditory verbal hallucinations**
Jana Zweerings¹, Micha Keller¹, Mikhail Zvyagintsev¹, Martin Klaser¹, Klaus Mathiak¹
¹RWTH Aachen University, Aachen, NRW
- 0394 Transient States Changes of Functional Network Connectivity in Major Depressive Disorder**
Hailong Li¹, Xinyu Hu¹, Xuan Bu¹, Yingxue Gao¹, Lianqing Zhang¹, Lu Lu¹, Shi Tang¹, Yanlin Wang¹, Yanchun Yang², Xiaoqi Huang¹
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- 0396 Reward circuitry activations during feedback of performance differentiate anxiety variants in youth**
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- 0397 Association between Grey Matter Volume and Altered Brain Signal Complexity in Schizophrenia**
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- 0398 Enhancement of memory in schizophrenia with PDE4 inhibitor Roflumilast**
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- 0399 Hippocampal progression in First Episode Psychosis**
Diana Tordesillas-Gutiérrez¹, Noelia Rodríguez-Pérez², Víctor Ortíz-García de la Foz², Esther Setién-Suero³, Rosa Ayesa-Arriola², Javier Vázquez-Bourgon², Benedicto Crespo-Facorro⁴
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- 0405 Graph theoretic analyses of brain networks in schizophrenia during memory formation & consolidation**
Emmanuel Meram¹, Shahira Baajour¹, Asadur Chowdury¹, Jeffrey Stanley¹, Vaibhav Diwadkar¹
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- 0406 Effects of lifetime alcohol consumption on surface morphometry in alcohol-dependent patients**
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- 0408 Classifying Heterogeneous Presentations of PTSD via Intrinsic Connectivity Network Machine Learning**
Andrew Nicholson¹, Sherain Harricharan¹, Maria Densmore¹, Richard Neufeld¹, Tomas Ros², Margaret McKinnon³, Paul Frewen¹, Jean Theberge¹, Rakesh Jetly⁴, David Pedlar⁵, Ruth Lanus¹
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- 0411* Psychopathology phenotypes explain individuals' unique deviations from normative neurodevelopment**
Linden Parkes¹, Tyler Moore¹, Monica Calkins¹, David Roalf¹, Daniel Wolf¹, Ruben Gur¹, Raquel Gur¹, Theodore Satterthwaite¹, Danielle Bassett¹
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- 0412 Insula hypoactivation is associated with dissociative experiences**
Hao-Ting Wang¹, Charlotte Rae¹, Geoff Davies², Cassandra Gould van Praag¹, Anil Seth¹, Hugo Critchley¹, Sarah Garfinkel¹
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- 0414 Association between Structural and Functional Alterations in Anorexia Nervosa**
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- 0416 Neuroimaging defined psychosis spectrum phenotypes in the general population**
Shalaila Haas¹, Gaëlle Doucet², Mathilde Antoniadou³, Amirhossein Modabbernia¹, Cheryl Corcoran¹, Rene Kahn¹, Nikolaos Koutsouleris⁴, Sophia Frangou¹
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- 0423 Dynamic Coactivation Patterns and Depressive Symptoms in a Normative Adult Sample**
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- 0424 Mapping Individually Actionable Brain-Behavior Space Variation Across the Mood Spectrum**
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- 0426 Sparse Deep Neural Networks on Imaging Genetics for Schizophrenia Discrimination**
Jiayu Chen¹, Xiang Li¹, Vince D. Calhoun², Jessica Turner¹, Theo Van Erp³, Lei Wang⁴, Ole Andreassen⁵, Ingrid Agartz⁶, Lars Westlye⁷, Jingyu Liu¹, Shihao Ji¹
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- 0428* Uncoupling of Energy Consumption and Functional Connectivity in Psychotic Disorders**
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- 0429 Network-Based Cortical Atrophy in Posttraumatic Stress Disorder: Results from the ENIGMA PGC PTSD**
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- 0430 Directional relationships between brain nodes in schizophrenia recovered by dynamic graphical models**
Tristan Attisha¹, Shahira Baajour¹, Asadur Chowdury¹, Jeffrey Stanley¹, Vaibhav Diwadkar¹
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- 0432 Neurophysiological abnormalities in post-traumatic stress disorder during working-memory processing**
Veronika Pak¹, Lori Wozney², Zoë O'Brien-Moran³, Beverly Lieuwen⁴, Róisín (Rose) Walls², Steven Beyea¹, Sandra Meier⁵, Patrick McGrath¹, Maher Quraan⁶
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- 0433 Selective Left Hemisphere Auditory Cortex Pathophysiology in First Episode Psychosis**
Dean Salisbury¹, Xi Ren¹, Erin Duricy², Lydia Chlupka², Mark Curtis², Rebekah Farris², Vanessa Fisher², Dylan Seebold², Natasha Torrence², Yiming Wang², Brian Coffman²
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- 0434 Cortical Thickness in Adolescent Females with Anorexia Nervosa – Interactions with BMI and Puberty**
Lauren Breithaupt¹, Amanda Lyall¹, Alexandra Stanford², Joshua Goldenberg¹, Meghan Slattery¹, Laura Holsen³, Randy Gollub¹, Jennifer Thomas¹, Kamryn Eddy¹, Madhusmita Misra¹, Elizabeth Lawson⁴
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- 0435 Hippocampal volume changes associated with childhood trauma in acute suicidal behavior**
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- 0437 White matter abnormalities in children with the Child Behavior Checklist-Dysregulation Profile**
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- 0441 Cortisol Effects on Brain Functional Connectivity during Emotion Processing in Women with Depression**
Charlene Rivera-Bonet¹, Rasmus Birn², Roxanne Hoks¹, Elizabeth Meyerand¹, Heather Abercrombie¹
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- 0442 Effects of serial ketamine on connectivity of resting-state networks in major depressive disorder**
Megha Vasavada¹, Joana Loureiro¹, Ashish Sahib¹, Randall Espinoza², Shantanu Joshi³, Benjamin Wade⁴, Antoni Kubicki³, Eliza Congdon¹, Katherine Narr³, Amber Leaver⁵
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- 0443 Control over robotically-mediated hallucinations through dFC-based rt-fMRI neurofeedback**
Herberto Dhanis¹, Nicolas Gninenko², Nathan Faivre³, Giulio Rognini⁴, Masayuki Hara⁵, Dimitri Van De Ville⁶, Olaf Blanke⁴
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- 0449 Variability in Striatal DOPA Decarboxylase Activity and Symptoms in Primary Psychosis**
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- 0453** **OCD symptom dimensions predict the degree of dACC modulation during motor control and working memory**
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- 0455** **Preferential response to slow stimuli in MDD, and its basis in intrinsic neural activity (at rest)**
Shankar Tumati¹, Georg Northoff²
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- 0456** **Morphological brain correlates of substance user: A systematic review and meta-analysis**
Victor Pando-Naude¹, Sebastian Toxto², Sofía Fernández³, Christine Parsons⁴, Sarael Alcauter⁵, Eduardo Garza-Villarreal⁶
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- 0460** **Alterations in Social Cognitive Networks in Individuals at Risk for Psychosis**
Kristen Haut¹, Austin Lee¹, Savannah Lokey², Briana Galindo¹, Mor Nahum³, Christine Hooker¹
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- 0466** **Mapping Neurodevelopmental Trajectories of Thalamo-cortical Systems Across the Mental Health Spectra**
Clara Fonteneau¹, Amber Howell¹, Geena Fram¹, Audrey Butler¹, Yvette Afriyie-Agyemang¹, Diego Martell¹, Jie Lisa Ji¹, Grega Repovs², Neil Woodward³, Alan Anticevic⁴
¹Yale University, New Haven, CT, ²University of Ljubljana, Ljubljana, NA, ³Vanderbilt University School of Medicine, Nashville, TN, ⁴Yale University School of Medicine, New Haven, CT
- 0467** **Adolescent behavior and brain volume related to adult polygenic risk score for alcohol use disorder**
Scott Mackey¹, Bader Chaarani¹, Matthew Albaugh¹, Shana Adise¹, Anthony Juliano¹, Sarah Medland², Hugh Garavan¹
¹University of Vermont, Burlington, VT, ²QIMR Berghofer Research Institute, Herston, Queensland
- 0470** **White matter microstructural deficits in 364 adults with a history of suicide attempts**
Joanna Bright¹, Alyssa Zhu¹, Lauren Salminen¹, Paul Thompson¹, Neda Jahanshad¹
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- 0471** **Disrupted functional connectome hierarchy in depression: a multi-site fMRI study with 2234 subjects**
Mingrui Xia¹, Xiaoyi Sun¹, Qing Ma¹, Jin Liu¹, Tianmei Si², Xiaoqin Wang³, Jia Duan⁴, Chen Chen⁵, Bangshan Liu⁶, Chu-Chung Huang⁷, Yanting Zheng⁸, Yankun Wu², Taolin Chen⁹, Yuqi Cheng¹⁰, Xiufeng Xu¹⁰, Qiyong Gong¹¹, Shijun Qiu¹², Ching-Po Lin¹³, Jingliang Cheng⁵, Yanqing Tang⁴, Ke Xu⁴, Fei Wang⁴, Jiang Qiu¹⁴, Peng Xie¹⁵, Lingjiang Li⁶, Yong He¹
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- 0473** **Effects of saracatinib on reward circuitry in subjects with and without a family history of alcohol**
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- 0480** **Relationship between amygdala subregional networks and positive symptom severity in schizophrenia**
Meng Zhang¹, Fude Yang¹, Fengmei Fan¹, Zhiren Wang¹, Hong Xiang², Yunlong Tan¹, Shuping Tan¹, L. Elliot Hong³
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- 0481** **FC deficits as neural biological correlate of trait and state characteristics in MDD**
Zongling He¹, Fengmei Lu¹, Qian Cui², Huafu Chen¹
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- 0483** **Neural oscillations abnormalities in first-episode schizophrenia**
Yanli Zhao¹, Haokui Xu², Weiting Wang³, Xin Wang³, Hongzhen Fan¹, Yuanyuan Zhang³, Jinguo Zhang¹, Dong Li¹, Shuping Tan¹, Zhiren Wang¹
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- 0484** **Patients with psychosis present abnormal transitions between their dynamic functional networks**
Juan Ramirez-Mahaluf¹, Ángeles Tepper¹, Luz Maria Allende¹, Nicolas Crossley¹
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- 0485** **Sex-Specific Hippocampal Volume and Verbal Memory Relationships in Psychosis**
Gabriella Buck¹, Katie Lavigne¹, Carolina Makowski¹, Ridha Joobar², Ashok Malla², Martin Lepage¹
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- 0488 Exploring the Relationship Between Early Psychosis Verbal Memory Deficits and White Matter Integrity**
Charlie Henri-Bellemare¹, Gregory Kiar², Katie Lavigne², Raihaan Patel², M Mallar Chakravarty², Martin Lepage³
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- 0489 Characterisation of structural underpinnings of functional connectivity differences in schizophrenia**
Jiayi Zhang¹, Geetha Chilla¹, Qian Hui Chew², Renick Lee², Kuan Jin Lee¹, Kang Sim³, Bhanu Prakash KN¹
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- 0490 Functional MRI to distinguish apraxia-related processes in stroke: Healthy pilot study**
Fred Tam¹, Elahe Marandi¹, Luke Chung², Vessela Stamenova³, Tom Schweizer⁴, Eric Roy⁵, Simon Graham¹, Sandra Black¹
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- 0494 Altered Brain Connectivity in Patients with Schizophrenia**
Matthew Hughes¹, Oren Civier¹, Will Woods¹, Philip Sumner¹, Sean Carruthers¹, Alessandra Gaillard¹, Patricia Michie², Susan Rossell¹
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- 0499 Functional connectivity associated with primary and secondary reward in bipolar disorder**
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¹Beijing Huilongguan Hospital, Peking University Huilongguan Clinical Medical School, Beijing, China
- 0502 Obesity and Cerebral Blood Flow in the Reward Circuitry of Adolescents with Bipolar Disorder**
Anahit Grigorian¹, Kody Kennedy², Nicholas Luciw³, Bradley MacIntosh⁴, Benjamin I Goldstein Goldstein⁵
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EMOTION, MOTIVATION AND SOCIAL NEUROSCIENCE

Emotional Learning

- 0527 Replicable neural and behavioral patterns of delayed fear extinction in a multicenter fMRI setting**
Isabelle Ridderbusch¹, Adrian Wroblewski¹, Yunbo Yunbo¹, Hans-Ulrich Wittchen², Andreas Ströhle³, Alfons Hamm⁴, Jan Richter⁴, Volker Arolt⁵, Jürgen Margraf⁶, Jürgen Deckert⁷, Tilo Kircher¹, Benjamin Straube¹
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- 0542 Adding positive punishment facilitates learning in fMRI neurofeedback**
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- 0554 Neural Correlates of Aversive Learning as Mechanisms Linking Childhood Trauma with Psychopathology**
Stephanie DeCross¹, Katie Mclaughlin²
¹Harvard University, Cambridge, MA, ²Harvard, Boston, MA
- 0586 Neural Correlates of the Relationship between Micro-expressions Recognition and Deception Detection**
Zhencai Chen¹, Zhennan Liu¹, Keding Li¹, Ziyue Xin¹, Xunbing Shen¹
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Emotional Perception

- 0507 Aberrant cortical connectivity demonstrated by HEFs in patients with mood disorders**
Yutaka Kato^{1,2}, Yuichi Takei², Satoshi Umeda³, Masaru Mimura⁴, Masato Fukuda², Hajime Tabuchi⁴
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- 0515 Neural processing of alarm and non-alarm signaling in human scream calls**
Sascha Frühholz¹, Joris Deitziker¹, Matthias Staib¹, Wiebke Trost¹
¹University of Zurich, Zurich, Zurich
- 0516 Artificial intelligence is perceived as evolutionary threat: neural evidence from amygdala response**
Zhengde Wei¹, Ying Chen¹, Xiaochu Zhang¹
¹University of Science & Technology of China, Hefei, Anhui
- 0530 Temporal Decoding of Vocal and Musical Emotions: Same Code, Different Timecourse?**
Sebastien Paquette¹, Simon Rigoulot², Karina Grunewald Zola³, Alexandre Lehmann⁴
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- 0534 Neurobiological Affective Processes' Contribution to General Intelligence**
Leonardo Christov-Moore¹, Anthony Vaccarro¹, Antonio Damasio¹, Jonas Kaplan¹
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- 0536 The role of the pontine region in visual affective processing**
Jingjun Wong¹, Dorita H. F. Chang¹, Di Qi¹, Weiwei Men², Jia-Hong Gao², Tatia Lee¹
¹The University of Hong Kong, Hong Kong, ²Peking University, Beijing
- 0537 Cognitive consequences related to depressive traits: an ERPs study**
Jean-Philippe Caron¹, Benoit Brisson¹, Simon Rigoulot¹
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- 0538 Reduced probability but preserved empathic ability in adolescents with CD and high CU traits**
Yali Jiang¹, Yidian Gao², Shuqiao Yao²
¹South China Normal University, Guangzhou, Guangdong, ²Medical Psychological Center, The Second Xiangya Hospital, Central South University, Changsha, Hunan
- 0552 Neurophysiological and behavioral correlates of emotional auditory processing in healthy adult women**
Rosario Gajardo¹, Rodrigo Henríquez¹, Sergio Osorio², Francisco Aboitiz¹
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- 0553 Mind acts upon mind: Brain-to-brain synchrony in lover-lover dyads revealed by EEG hyperscanning**
Shen Liu¹, Yijun Chen¹, Xiaochu Zhang²
¹University of Science and Technology of China, Hefei, Anhui, ²University of Science & Technology of China, Hefei, Anhui
- 0563 Psychological and Neural Correlates of Real-time Affective Instability**
Oksana Berhe¹, Carolin Mößnang¹, Markus Reichert^{1,2}, Urs Braun^{3,1}, Ren Ma¹, Gabriela Gan¹, Ulrich Ebner-Priemer², Andreas Meyer-Lindenberg⁴, Heike Tost¹
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- 0571 Neural spiking in the human medial temporal limbic system to normal and whispered emotional voices**
Marine Bobin^{1,2}, Tommaso Fedele³, Johannes Sarnthein³, Sascha Frühholz^{1,2,4}
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- 0575 Mood symptom severity affects prefrontal emotion processing in psychogenic nonepileptic seizures**
Jane Allendorfer¹, Adam Goodman¹, Caroline Byington¹, Amber Martin¹, Krista Tocco², Valerie Vogel², W. Curt LaFrance Jr.², Jerzy Szaflarski¹
¹University of Alabama at Birmingham, Birmingham, AL, ²Brown University, Providence, RI
- 0579 Neural Correlates of Emotional Perception by Multi-Voxel Pattern Analysis**
Isaac David Reyes González¹, Fernando Barrios¹
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- 0584 Functional neuroanatomy of dimensional emotions in facial processing: An ALE meta-analysis**
Shaoling Peng¹, Pengfei Xu², Gaolang Gong³
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- 0588 Alteration in cortical processing of facial emotions in broader autism phenotype**
Patricia Soto-Icaza¹, Brice Beffara², Lorena Vargas³, Francisco Aboitiz⁴, Pablo Billeke¹
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Reward and Punishment

- 0545 The effect of specific types of childhood maltreatment on subcortical structures**
Janik Goltermann¹, Lena Waltemate¹, Dominik Grotegerd¹, Hannah Lehmke², Stella Fingas¹, Susanne Meinert³, Verena Enneking⁴, Simon Schmitt⁵, Tina Meller⁵, Frederike Stein⁵, Katharina Brosch⁵, Andreas Jansen⁵, Axel Krug⁵, Igor Nenadic⁵, Tilo Kircher⁵, Bernhard Baune¹, Udo Dannlowski¹, Nils Opel¹
¹University of Münster, Münster, NRW, ²University Münster, Münster, NRW, ³University of Münster, Münster, Germany, ⁴University of Münster, Muenster, NRW, ⁵University of Marburg, Marburg, Hessen
- 0547* Lower Reward Network Glutamate is Associated with Diminished Reward Responsiveness**
Valerie Sydnor¹, Bart Larsen¹, Christian Kohler^{1,2}, Andrew Crow¹, Monica Calkins^{1,2}, Ruben Gur^{1,2}, Raquel Gur^{1,2}, Joseph Kable¹, Jami Young², Ravi Nanga³, Ravinder Reddy³, Daniel Wolf^{1,2}, Theodore Satterthwaite^{1,2}, David Roalf^{1,2}
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- 0582 Up-regulation of an electrical fingerprint of the ventral striatum via musical neurofeedback**
Neomi Singer¹, Arielle Rabinowitz¹, Gilad Poker², Marcel Farres-Franch³, Maayan Doron⁴, Netta Dunsky⁵, Shlomi Nemni⁶, Talma Hendler⁷, Alain Dagher⁸, Robert Zatorre⁹
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- 0585 How do abstinent stimulant users process monetary risk in non-choice situations?**
Sabrina Sabrin¹, Joanne Lin¹, Grace Wang², Ian Kirk³, Louise Curley¹
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Self Processes

- 0541 Core Aspects of Self-Concept Biases in Social Anxiety: Neurobehavioral Indications**
Ofir Shany^{1,2}, Netta Dunsky^{3,2}, Gadi Gilam⁴, Ayam Greental^{3,2}, Shira Balter², Talma Hendler^{2,3,1,5}
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- 0548 Freudian ideas represented in the brain: A fMRI-study of ego-functions, the BIG-5, and the DMN.**
Florian Fischmeister¹, Corina Sturm¹, Marilena Wilding¹, Veronika Schöpf²
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Sexual Behavior

- 0506 Functional and morphological changes related to sexual orientation in female-to-male transsexuals**
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²Department of Psychiatry, Massachusetts General Hospital and Harvard Medical School, Boston, MA,
³Department of Radiology, Chonnam National University Medical School, Gwangju, Chonnam
- 0546 Neural Correlates of Sexual Orientation in Men: Brain Activity During Reading Mind in the Eyes task**
Monika Folkierska-Zukowska¹, Artur Marchewka², Jan Szczypiński², Andrzej Sokołowski³, Wojciech Dragan⁴
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³Weill Institute for Neurosciences, University of California San Francisco, San Francisco, CA,
⁴Interdisciplinary Center for Behavior Genetics, Faculty of Psychology, University of Warsaw, Warsaw, Poland
- 0567 Premature Ejaculation Recognition Using Convolutional Neural Network Based on FC and SICE Features**
Jiaming Lu¹, Xin Zhang¹, Wen Zhang¹, Qian Chen¹, Zhao Qing¹, Bing Zhang¹
¹Drum Tower Hospital, The Affiliated Hospital of Nanjing University Medical School, Nanjing, Jiangsu

Social Cognition

- 0504 Why are you laughing? Neural correlates of social intent attribution to auditory and visual laughter**
Dirk Wildgruber¹, Sophia Stegmaier¹, Katharina Koch¹, Lena Schwarz¹, Benjamin Kreifelts¹, Thomas Ethofer¹
¹University of Tuebingen, Tuebingen, Germany
- 0505 An fMRI study on the neural bases of interference in false belief reasoning.**
Foyzul Rahman¹, Dwayne May¹, Daniel Shaw¹, Klaus Kessler¹, Charlotte Hartwright¹
¹Aston University, Birmingham, United Kingdom
- 0509 Relationship between depression and dorsolateral prefronto-thalamic tract injury following mild TBI**
Hyeok Gyu Kwon¹, Sung Ho Jang², Mi Young Lee³
¹Eulji University, Sunghnam-si, CT, ²College of Medicine, Yeungnam University, Daegu, Daegu,
³Department of Physical Therapy, College of Health and Therapy, Daegu Haany University, Gyeongsansi, Gyeongsansi
- 0510 Neural responses of in-group “favoritism” and out-group “discrimination” toward moral behaviors**
Wenjian Zhang¹, Dongmei Mei², Lijun Yin¹
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- 0524 Altered Hippocampal Function and Self-Reflection Network in Psychogenic Nonepileptic Seizures (PNES)**
Adam Goodman¹, Neha Balachandran¹, Jane Allendorfer², Amber Martin¹, Valerie Vogel³, Krista Tocco³, W. Curt LaFrance Jr.⁴, Jerzy Szaflarski¹
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- 0532 An fMRI Study on Mentalization and Intergenerational Ambivalence**
Chanyoung Ko^{1,2}, Hyojung Eom¹, Sunghyon Kyeong¹, Min-Kyeong Kim¹, Sunyoung Park³, Jae-Jin Kim^{1,4}
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⁴Department of Psychiatry, Gangnam Severance Hospital, Yonsei University Health System, Seoul, Korea
- 0533 ERP evidence for modulations of spontaneous gender categorization of faces by perceived race**
Shihui Han¹, Ting Zhang¹
¹Peking University, Beijing, Beijing
- 0535 An Interplay Between Pubertal and Adult Testosterone and Brain Response to Faces in Young Men**
Zhijie Liao¹, Steven Tilley², Ammar Khairullah¹, Tomas Paus³
¹University of Toronto, Toronto, Ontario, ²Bloorview Research Institute, Holland Bloorview Kids Rehabilitation Hospital, Toronto, Ontario, ³Bloorview Research Institute, Holland Bloorview Kids Rehabilitation, Toronto, Ontario/Canada
- 0550 Theory of mind and grey matter volume in late childhood**
Yu Tong Guo¹, Élizabel Leblanc¹, Miriam Beauchamp^{1,2}, Annie Bernier¹
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- 0557 Haste Makes Waste: Oxytocin Effect On Intertemporal Choice**
Danyang Wang¹, Yina Ma²
¹Beijing Normal University, Beijing, Beijing, ²State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, Beijing
- 0559 Does theory of mind has a structural substrate?**
Fernando Lizcano¹, Jalil Rasgado¹
¹Instituto de Neurobiología, Universidad Nacional Autónoma de México, Querétaro, Querétaro
- 0562 Motherhood Influences on Neural Mechanisms for Perceiving Eye Gaze and Emotional Facial Expressions**
Shadi Bagherzadeh Azbari¹, Andrea Hildebrandt², Werner Sommer¹
¹Humboldt-Universität zu Berlin, Berlin, Deutschland, ²Carl von Ossietzky Universität Oldenburg, Oldenburg, deutschland
- 0566 Examining social attribution skills in very preterm born children using MEG and fMRI**
Sarah Mossad¹, Marlee Vandewouw², Margot Taylor³
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- 0576 Neural Correlates of Charitable Cognition Moderated by Likelihood of Making a Difference**
Samantha Fede¹, Emma Pearson², Nancy Diazgranados¹, Reza Momenan³
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- 0581 The neurocognitive systems underlying shared attention to emotional videos**
Junaid Merchant¹, Sarah Dziura¹, Diana Alkire¹, Deena Shariq¹, Adnan Rashid¹, Elizabeth Redcay¹
¹University of Maryland, College Park, MD
- 0583 The role of functional connectivity in the link of peer victimization and adolescent psychopathology**
Hanie Edalati¹, Mohammad Hassan Afzal², Rachel Sharkey³, Josiane Bourgue¹, Alain Dagher⁴, patricia Conrod⁵
¹University of Montreal, Montreal, Quebec, ²Saint Justine Hospital, Montreal, Quebec, ³Montreal Neurological Institute, McGill University, Montreal, Quebec, ⁴Montreal Neurological Institute, Montreal, Quebec, ⁵Universite de Montreal, Montreal, Quebec
- 0589* Doctor Trustworthiness Reduces Pain and Its Neural Correlates in Virtual Medical Interactions**
Elizabeth Losin¹, Steven Anderson¹, Tor Wager², Morgan Gianola¹, Natalia Medina¹, Jennifer Perry¹
¹University of Miami, Coral Gables, FL, ²Dartmouth College, Hanover, NH
- 0592 Expectations of Identity-Specific Social Outcomes in Orbitofrontal Cortex**
James Thompson¹, Eslam Hassan¹, Lindsay Shaffer¹
¹George Mason University, Fairfax, VA

Social Interaction

- 0508 Reduced Accumbal Volume in Individuals with Anxious Tendencies, Regardless of Their Bully History**
Hideo Suzuki¹, Jacob Benton¹
¹University of Nebraska-Lincoln, Lincoln, NE
- 0522* Social perspective taking shapes brain hemodynamic activity and eye-movements during movie viewing**
Mareike Bacha-Trams¹, Elisa Ryyppö¹, Enrico Glerean¹, Mikko Sams¹, Iiro Jääskeläinen¹
¹Aalto University, Espoo, Finland
- 0525 Dissecting the midlife crisis: Social, personality & demographic indicators in social brain anatomy**
Hannah Kiesow¹, Lucina Uddin², Sami Hamdan¹, Boris Bernhardt³, Joseph Kable⁴, Danilo Bzdok³
¹RWTH Aachen, Aachen, NRW, ²University of Miami, Coral Gables, FL, ³McGill University, Montreal, Quebec, ⁴University of Pennsylvania, Philadelphia, PA
- 0539 Neural basis of sharing information through goal-directed conversation: hyperscanning fMRI study**
Takahiko Koike¹, Motofumi Sumiya¹, Masako Hirotani², Norihiro Sadato¹
¹National Institute for Physiological Sciences, Okazaki, Aichi, ²Carleton University, Ottawa, Ontario
- 0543 Neural networks supporting digital and natural voice recognition**
Claudia Roswadowitz¹, Thayabaran Kathiresan², Elisa Pellegrino², Volker Dellwo², Sascha Frühholz^{1,3}
¹Department of Psychology, University of Zurich, Zurich, Switzerland, ²Institute of Computational Linguistics, University of Zurich, Zurich, Switzerland, ³Neuroscience Center Zurich, Zurich, Switzerland
- 0549 Parent-adolescent fMRI hyperscanning and dyadic neurofeedback for influencing brain response**
Kara Kerr¹, Erin Ratliff¹, Stormie Fuller^{1,2}, Danielle DeVille^{3,4}, Kelly Cosgrove^{3,4}, Masaya Misaki⁴, Amanda Morris^{1,4}, Jerzy Bodurka^{4,5}
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- 0565 Violations in the eye of beholders: noradrenergic system, social norms processing and pupillometry**
Élise Désilets¹, Benoit Brisson¹, Sylvain Sirois¹, Philip Jackson², Sébastien Héту³
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- 0569 Evidence of Parent-adolescent Cross-brain Connectivity during an fMRI Hyperscanning Task**
Erin Ratliff¹, Masaya Misaki², Kara Kerr¹, Kelly Cosgrove³, Andrew Moore², Margaret Johnson², Danielle DeVille³, Kyle Simmons⁴, Jerzy Bodurka², Amanda Morris¹
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- 0572 Increased Synchronous Brain Activity of Dyads in fMRI Hyperscanning Joint Attention Studies**
Hiroki Tanabe¹, Ayumi Yoshioka¹, Takahiko Koike², Eri Nakagawa², Motofumi Sumiya², Norihiro Sadato²
¹Nagoya University, Nagoya, Aichi, ²National Institute for Physiological Sciences, Okazaki, Aichi
- 0580 Increasingly Closer Relationships Indicate Increasing Similarities In Brain Activity Viewing A Movie**
Gokce Ertas Yorulmaz¹, Mareike Bacha-Trams¹, Enrico Glerean¹, Iiro Jääskeläinen^{1,2,3}, Mikko Sams¹
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- 0587 A computational model of one-shot economic game and its neural substrates**
Hiroki Tanaka¹, Atsushi Miyazaki¹, Haruto Takagishi¹, Tetsuya Matsuda¹
¹Tamagawa University Brain Science Institute, Machida, Tokyo
- 0591 Reduced Volume of the Nucleus Accumbens in Bully Perpetration and Victimization Experiences**
Hideo Suzuki¹, Danae Peterson¹, Dzhovid Dzhuraev¹
¹University of Nebraska-Lincoln, Lincoln, NE
- 0594 Childhood Trauma Is Associated with Bully Perpetration Depending on Amygdala Volume**
Hideo Suzuki¹, Sophie Tonjes¹
¹University of Nebraska-Lincoln, Lincoln, NE

Social Neuroscience Other

- 0514 Linking emotion perception to neurocomputational processes underlying adaptive social functioning**
Erica Ho¹, Jenna Reinen², Lauren Patrick¹, Kevin Anderson¹, Hyojung Seo³, Ifat Levy⁴, Avram Holmes¹
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- 0528 Child and Adult Stress: Effects on the Brain and Cognitive Ability in the UK Biobank Sample**
Elizabeth McManus¹, Hamied Haroon¹, Nils Muhlert¹
¹University of Manchester, Manchester, United Kingdom
- 0531 An fMRI study on the magnitude of romantic love and psychological characteristics in couples**
Junhyung Kim^{1,2}, Hyojung Eom², Sunghyon Kyeong², Jooyoung Oh¹, Min-Kyeong Kim², Jae-Jin Kim^{1,2}
¹Department of Psychiatry, Yonsei University College of Medicine, Seoul, Korea, Republic of, ²Institute of Behavioral Science in Medicine, Yonsei University College of Medicine, Seoul, Korea, Republic of

0556 Towards a neurometric-based construct validity of trust*Pin-Hao Chen¹, Dominic Fareri², Berna Güroglu³, Mauricio Delgado⁴, Luke Chang⁵*¹National Taiwan University, Taipei, Taiwan, ²Adelphi University, Garden City, NY, ³Leiden University, Leiden, Netherlands, ⁴Rutgers University, Newark, NJ, ⁵Dartmouth College, Hanover, NH**0570 Insula, thalamus and anterior cingulate volumetric changes after mindfulness training in novices***Karen Fitzgerald¹, Patricia Lück², Ben Steyn³, Francesca Little¹, Ernesta Meintjes⁴*¹University of Cape Town, Cape Town, Western Cape, ²University of Rochester School of Medicine & Dentistry, Rochester, NY, ³University of Pretoria, Pretoria, Gauteng, ⁴University of Cape Town, Cape Town, Western Cape**0590 Lack of relationship between empathy and aspects of brain structure and function in children.***Katherine Bray¹, Vicki Anderson², Christos Pantelis³, Sarah Whittle⁴*¹University of Melbourne, Melbourne, Victoria, ²Murdoch Children's Research Institute, Melbourne, Victoria, ³Melbourne Neuropsychiatry Centre, Department of Psychiatry, The University of Melbourne, Melbourne, Victoria, ⁴University of Melbourne, Melbourne, VIC

Emotion and Motivation Other

0512 Brain Decoding of Affective Meaning through Personal Stories*Hong Ji Kim¹, Choong-Wan Woo²*¹Center for Neuroscience Imaging Research, Suwon, Gyeonggi-do, ²Center for Neuroscience Imaging Research, Institute for Basic Science, Suwon, Gyeonggi-do**0517 An ERP study of appreciation in different uses***Hui-Ya Wang¹, Yu-Chen Chan¹*¹National Tsing Hua University, Hsinchu, Taiwan**0518 Creative comprehension and appreciation: an ERP study***Jun-Yu Yang¹, Yu-Chen Chan¹*¹National Tsing Hua University, Hsinchu, Taiwan**0519 An ERP study of humor in the resolution processes***Jui-Hsuan Hsieh¹, Yu-Chen Chan¹*¹National Tsing Hua University, Hsinchu, Taiwan**0520 An EEG Study of Magic Attention and awareness***Min-Tsung Yueh¹, Yu-Chen Chan¹*¹National Tsing Hua University, Hsinchu, Taiwan**0521 An ERP study of humor and monetary rewards***Chuan-Han Kao¹, Lin-Yi Wang¹, Yu-Chen Chan¹*¹National Tsing Hua University, Hsinchu, Taiwan**0523 An fMRI study of reasoning jokes on humor processing***Yu-Ting Li¹, Yu-Chen Chan¹*¹National Tsing Hua University, Hsinchu, Taiwan**0529* The relationship between BMI and volume of subcortical structures is age-dependent***Filip Morys¹, Alain Dagher¹*¹Montreal Neurological Institute, Montreal, Quebec**0540 Selectively altering love related-belief in the human brain improves romantic relationships***Hongwen Song¹, Lin Zuo², Difei Liu¹, Wen Guo¹, Weili Liu¹, Xiaochu Zhang³*¹University of Science and Technology of China, Hefei, Anhui Province, ²University of Science and Technology of China, Hefei, Anhui Province, ³University of Science & Technology of China, Hefei, Anhui**0544 Can we reliably measure emotion regulation using fMRI?***Carmen Morawetz¹, Stella Berboth², Nils Kohn³, Christian Windischberger⁴*¹Medical University Vienna, Vienna, Austria, ²Department of Education and Psychology, Freie Universität Berlin, Germany, Berlin, Berlin, ³Radboud University Medical Center, Nijmegen, Netherlands, ⁴Center for Medical Physics and Biomedical Engineering, Medical University of Vienna, Vienna, Vienna**0551 Distinctions between needs and desires in the brain: a meta-analysis***Juvenal Bosulu¹, Max-Antoine Allaire¹, Sébastien Héту¹*¹University of Montreal, Montreal, Quebec**0555 A rs-fMRI Study on People with High and Low Life Satisfaction based on Psychological Needs Support***Joon Hee Kwon¹, Hesun Kim², Eun Joo Kim³, Joohan Kim⁴, Jae-Jin Kim⁵*¹Brain Korea 21 PLUS Project for Medical Science, Yonsei University, Seoul, Republic of Korea, ²Institute of Behavioral Science in Medicine, Yonsei University College of Medicine, Seoul, Republic of Korea, ³Graduate School of Education, Yonsei University, Seoul, Republic of Korea, ⁴Department of Communication, Yonsei University, Seoul, Republic of Korea, ⁵Department of Psychiatry, Yonsei University College of Medicine; Institute of Behavioral Science in, Seoul, Republic of Korea**0560 Microstructural variability in the external capsule is associated with emotional reactivity to daily***Sunghyun Shin¹, Jong An Choi², Mina Jyung³, M. Justin Kim⁴, Incheol Choi³, Sunhae Sul¹*¹Pusan National University, Busan, Busan, ²Kangwon National University, Chuncheon, Gangwon-do, ³Seoul National University, Seoul, Seoul, ⁴University of Hawaii at Manoa, Honolulu, HI**0561 Religious chanting may affect brainstem activity and modulate emotion***JL Gao¹, Stavros Skouras², Hang Kin Leung³, Bonnie Wai Yan Wu³, CQ Chang⁴, Hin Hung SIK⁵*¹The University of Hong Kong, Hong Kong, AZ, ²Department of Biological and Medical Psychology, faculty of Psychology, University of Bergen, Bergen, ID, ³The University of Hong Kong, Hong Kong, IN, ⁴School of Biomedical Engineering, Shenzhen University, Shenzhen, FL, ⁵The University of Hong Kong, Hong Kong, AK**0564 Sense of humor moderates the mesolimbic reward pathways: An fMRI study of humorous rewards***Yu-Chen Chan¹, Yu-Cheng Chen¹, Wei-Chin Hsu², Ping Li³*¹National Tsing Hua University, Hsinchu, Taiwan, ²National Taiwan University of Science and Technology, Taipei, Taiwan, ³The Hong Kong Polytechnic University, Hong Kong, Hong Kong**0568 Being moved by moving images: Brain responses to artistic landscape clips***Ayşe İlkay Isik¹, Edward A. Vessel²*¹Max Planck Institute for Empirical Aesthetics, Frankfurt am Main, Germany, ²Max Planck Institute for Empirical Aesthetics, Frankfurt am Main, Hessen**0573 Prediction of the intensity of humour-related amusement over time: A behavioural and EEG study***Gabrielle Toupin¹, Anne-Lise Saive¹, Golnoush Alamian¹, Mohamed Benlamine¹, Marie Buffo², Claude Frasson¹, Karim Jerbi¹*¹Université de Montréal, Montreal, Quebec, ²Université de Montpellier, Montpellier, FM

0574 Shared vs. distinct neural bases for hunger and emotion: A functional neuroimaging meta-analysis

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0577 Does resting state cortico-limbic functional connectivity relate to emotion regulation ability?

Anne Gärtner¹, Christoph Scheffel¹, Denise Dörfel¹
¹Technische Universität Dresden, Dresden, Saxony

0578 A human brain circuit for spirituality and religiosity

Michael Ferguson¹, Frederic Schaper², Alexander Cohen³, Shan Siddiqi⁴, Sarah Merrill⁵, Jordan Grafman⁶, Cosimo Urgesi⁷, Franco Fabbro⁷, Michael Fox⁸
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0593 Offending behavior linked to activity in regions subserving emotional processes: An ALE meta-analysis

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0604 FAAH genetic variation modulates neural correlates of extinction recall – An fMRI study

Jennifer Spohrs¹, Birgit Abler², Laura Bindila³, Paul Plener¹, Michael Prost⁴, Georg Grön², Martin Ulrich²
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0606 Making the MOSTest of imaging genetics

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0610 Altered White Matter and Ventricle Structure Associated with C4A Gene Expression in Schizophrenia

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0611 Identification of Independent Genomic Sources Driving Structural and Functional Brain Variation

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0616* Improving discovery of the genetic architecture of the cerebral cortex

Carolina Makowski¹, Dennis van der Meer², Oleksandr Frei², Tobias Kaufmann², Lars Westlye², Ole Andreassen², Donald Hagler¹, Chun Chieh Fan¹, Terry Jernigan¹, Anders Dale¹, Chi-Hua Chen¹
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0617 Presymptomatic and Symptomatic MAPT Mutation Carriers Feature Functional Connectivity Alterations

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GENETICS

Genetic Association Studies

0599 Association of ULK4 and the Hyperdopaminergic Response of the Human Reward System

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0602 Extending Genome-Wide Association Study Results for Subcortical Brain Volumes in a Neonatal Cohort

Harriet Cullen¹, Konstantina Dimitrakopoulou², Dafnis Batalle³, Oliver Gale-Grant³, Hamel Patel⁴, Charles Curtis⁴, Andreas Schuh⁵, Lucilio Cordero-Grande⁶, Emer Hughes³, Anthony Price⁶, Daniel Rueckert⁵, Joseph Hajnal³, Steve Smith⁷, David Edwards³
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0603 An EEG and Genetic Study of Adaptation to Subpolar and Polar Regions

Alexander Savostyanov^{1,2,3}, Sergey Tamozhnikov¹, Ekaterina Proshina¹, Tatiana Astakhova³, Alexander Saprygin¹, Alexandra Karpova⁴, Nataliya Borisova⁴, Elena Afanaseva⁴, Nataliya Milakhina^{2,1}
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0622 Acceleration of Heritability and Genetic Association Studies with Algorithms and GPU Parallelization

Kathryn Hatch¹, Habib Ganjgahi², Brian Donohue³, Meghann Ryan¹, L. Elliot Hong⁴, Bhim Adhikari⁵, Neda Jahanshad⁶, Paul Thompson⁷, David Glahn⁸, John Blangero⁹, Thomas Nichols², Sarah Medland¹⁰, Peter Kochunov¹

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0626 Genome-Wide Brain-Wide Analysis of Betweenness Centrality: A Structural Connectome Study

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0629 Genome-wide association study of language network's functional connectivity

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0630* Molecular genetics of the biological age of the brain in the UK Biobank

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0632 Age-related changes in sleep duration and brain structure with genetic association

Sol Ah Kim¹, Song E Kim², Hyeon Jin Kim², Soril Kim³, Regina Kim³, Chol Shin³, Hyang Woon Lee⁴

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0633 Polygenic Mediation Analysis of Amyloid Imaging Phenotypes in Alzheimer's disease

Yingxuan Eng¹, Xiaohui Yao¹, Kefei Liu¹, Shannon Risacher², Andrew Saykin², Qi Long¹, Yize Zhao³, Li Shen¹

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0634 Polygenic score for Schizophrenia is associated with white matter connectivity in healthy population

Neha Bhutani¹, Noor Al-Sharif¹, Uku Vainik², Matthias Kirschner³, Budhachandra Khundrakpam⁴, Alan Evans⁵, Alain Dagher⁶

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Genetic Modeling and Analysis Methods

0596 The Impact of Population Structure on Neuroimaging Studies

Zhaowen Liu^{1,2,3}, Yen-Chen Feng^{1,2,3}, Jingwei Li⁴, Ru Kong⁴, Joshua Roffman², Avram Holmes⁵, B.T. Thomas Yeo⁴, Randy Buckner⁶, Jordan Smoller^{1,2,3}, Tian Ge^{1,2,3}

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0598 Genetic Associations in Diagnostic Specific Trajectories Revealed with Autoregressive Mixed Models

Qifan Yang¹, Sophia Thomopoulos¹, Alyssa Zhu¹, Paul Thompson¹, Neda Jahanshad¹

¹Imaging Genetics Center, Keck School of Medicine, University of Southern California, Marina del Rey, CA

0609 Heritability of Subcortical Structures Using a Twin and Non-Twin Sibling Design

Nadia Blostein^{1,2}, Sejal Patel³, Raihaan Patel^{2,4}, Stephanie Tullo^{2,5}, Eric Plitman⁶, Saashi Bedford², Gabriel Devenyi⁷, M Mallar Chakravarty^{1,7}

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0614 Signatures of functionally interacting genetic assemblies in the human brain.

Justine Hansen¹, Ross Markello¹, Bratislav Misic¹

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0618 Genetic and Environmental Influence on Resting State Networks in Young Healthy Adults

Arman Kulkarni¹, Cole Cook², Gyujoon Hwang², Veena Nair², Elizabeth Meyerand², Barbara Bendlin¹, Vivek Prabhakaran²

¹University of Wisconsin, Madison, Madison, WI, ²University of Wisconsin-Madison, Madison, WI

0623 Handling Genetically Related Subjects through Linear Mixed-Effects Modeling in Neuroimaging

Gang Chen¹, Sanaz Khosravi², Kristina Simonyan³, Robert Cox¹

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0628 The influence of genetic variation on resting-state connectivity in infancy

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Neurogenetic Syndromes

- 0601 Enabling big-data analyses of Huntington's disease with federated BIDS-compatible public datasets**
Dorian Pustina¹, Andrew Wood¹
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- 0607 Age-dependent connectivity differences within the default mode network in Down Syndrome**
Katherine Koenig¹, Se-Hong Oh², Melissa Stasko³, Emma Lissemore³, Elizabeth Roth³, Anne Birnbaum³, Thomas Scheidemantel⁴, Hudson Taylor⁴, Nancy Roizen⁴, Stephen Ruedrich⁴, James Leverenz¹, Alberto Costa³
¹The Cleveland Clinic, Cleveland, OH, ²Hankuk University of Foreign Studies, Yongin, AK, ³Case Western Reserve University, Cleveland, OH, ⁴University Hospitals, Cleveland, OH
- 0620 High-risk psychiatric mutations affect functional connectivity along shared parsimonious dimensions**
Clara Moreau¹, Guillaume Huguet², Sebastian Urchs³, Hanad Sharmarke⁴, Claudia Modenato⁵, Kuldeep Kumar⁶, Elise Douard⁷, Ana Dos Santos Silva⁸, David Linden⁹, Sarah Lippe¹⁰, Carrie Bearden¹¹, Anne Maillard¹², Paul Thompson¹³, Pierre Bellec¹⁴, Sébastien Jacquemont¹⁵
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- 0621 Expression of Genes Causing Spinocerebellar Ataxia is Related to Dopamine Synthesis Measured by PET**
Michael Gregory¹, Bhaskar Kolachana², Daniel Eisenberg³, Angela Ianni³, Philip Kohn³, Karen Berman³
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- 0625 Impact of 7q11.23 Copy Number Variation on Developmental Gray Matter Trajectories**
Shane Kippenhan¹, Tiffany Nash¹, Michael Gregory¹, Philip Kohn¹, Carolyn Mervis², Daniel Eisenberg¹, Madeline Hamborg¹, Leah Sorcher¹, Karen Berman¹
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Transcriptomics

- 0600 Pairwise Interactions in Gene Expression Determine a Hierarchical Transcription Profile of the Human**
Jiaojiao Hua¹, Zhengyi Yang¹, Tianzi Jiang¹, Shan Yu¹
¹Institute of Automation, Chinese Academy of Sciences, Beijing, Beijing

- 0605* Transcriptomic Analysis of Alzheimer's Disease Associated Brain Hypometabolism**
Sejal Patel¹, Derek Howard¹, Alana Man^{2,3}, Deborah Schwartz^{4,5}, Joelle Jee^{2,6}, Daniel Felsky¹, Zdenka Pausova⁷, Tomas Paus^{5,8,9,10}, Leon French^{1,2,9,10}
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- 0608* Validating cellular dimensions of cortical organization through neuroimaging-transcriptomics**
Jakob Seidlitz¹, Ajay Nadig², Siyuan Liu², Richard Bethlehem³, Petra Vertes⁴, Sarah Morgan⁵, Frantisek Vasa⁶, Rafael Romero-Garcia³, Casey Paquola⁷, Boris Bernhardt⁸, Konrad Wagstyl⁹, Damon Polioudakis¹⁰, Luis de la Torre-Ubieta¹⁰, Daniel Geschwind¹¹, Edward Bullmore³, Armin Raznahan¹²
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- 0612 Transcriptomic parcellation of the human brain reflects structure and function**
Andre Altmann¹, Juan Eugenio Iglesias¹
¹University College London, London
- 0613 Neuroimaging-genetic associations in Parkinson's disease**
Silvia Basaia^{1,2}, Ibai Diez², Federica Agosta^{1,3}, Elisenda Bueicheku², Maricruz Rodríguez⁴, Vladimir Kostic⁵, Massimo Filippi^{1,3}, Jorge Sepulcre²
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- 0615 Comparison of brain connectomes by MRI and genomics and its implication in Alzheimer's Disease**
Young Woo¹, Panos Roussos¹, Vahram Haroutunian¹, Pavel Katsef¹, Samuel Gandy¹, Eric Schadt¹, Jun Zhu¹
¹Icahn School of Medicine at Mount Sinai, New York, NY
- 0624* Principal axes of gene-regulated spatial organization of the human brain**
Jacob Vogel¹, Konrad Wagstyl², Casey Paquola¹, Jakob Seidlitz³, Alex Diaz-Papkovich¹, Thomas Funck¹, Bratislav Misic¹, Boris Bernhardt¹, Alan Evans¹
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- 0627* Brain disorders taxonomy from a transcriptomics point of view**
Yashar Zeighami¹, Trygve Bakken², Michael Hawrylycz², Alan Evans³
¹McGill University, Montreal, Quebec, ²Allen Institute for Brain Sciences, Seattle, WA, ³McGill University, Montreal, Montreal

Genetics Other

- 0595 Genetic influences on Hippocampal Subfields: An Emerging Area of Neuroscience Research**
Natalia Vilor-Tejedor^{1,2,3}, Gregory Operto², Tavia Evans³, Hieab Adams³, Jose L Molinuevo², Roderic Guigo¹, Juan D Gispert²
¹Centre for Genomic Regulation (CRG), Barcelona, Spain, ²BarcelonaBeta Brain Research Center (BBRC) - Pasqual Maragall Foundation, Barcelona, Spain, ³Department of Clinical Genetics, ERASMUS MC, Rotterdam, Netherlands
- 0619 Genetic influences on brain function for conditioned threat in humans**
Gránit Kastrati¹, Jorgen Rosen², Ralf Kuja-Halkola¹, Henrik Larsson³, Karin Jensen⁴, Fredrik Åhs⁵
¹Karolinska Institute, Stockholm, Sweden, ²Uppsala University, Uppsala, Sweden, ³Örebro Universitet, Örebro, Sweden, ⁴Karolinska Institutet, Stockholm, Sweden, ⁵Mittuniversitetet, Östersund, Sweden
- 0631 Cerebral blood flow differences in limbic regions: an effect of FTO genotype**
Jed Wingrove¹, Adrian Brown¹, Efthimia Karra¹, Ahmed Yousseif¹, Steven Williams², Fernando Zelaya², Rachel Batterham¹, Owen O'Daly²
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HIGHER COGNITIVE FUNCTIONS

Decision Making

- 0642 Online decoding for rtfMRI neurofeedback via group classification models of a decision-making task**
Mark Orloff¹, Jeff Soldate¹, Jonathan Lisinski¹, Stephen LaConte¹, Brooks King-Casas¹, Pearl Chiu¹
¹Virginia Tech, Roanoke, VA
- 0650 Posterior parietal cortex plays a role in tactile perception and decision making**
Donghyeok Lee¹, June Sic Kim¹, Seokyun Ryon¹, Chun Kee Chung^{1,2}
¹Seoul National University, Seoul, Korea, Republic of, ²Seoul National University Hospital, Seoul, Korea, Republic of
- 0668 Modulations of Insular Cortex Activity during Risky Decision Making: a fMRI Study**
Zorina Von Siebenthal¹, Olivier Boucher², Latifa Lazzouni³, Véronique Taylor³, Kristina Martinu⁴, Mathieu Roy⁵, Pierre Rainville³, Franco Lepore³, Dang K. Nguyen⁶
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- 0669 Causal role of Parietal Cortex in valuing uncertainty information during ambiguity decision-making**
Gabriela Valdebenito-Oyarza¹, Maria Paz Martinez-Molina², Josefina Larrain-Valenzuela², Ximena Stecher³, Cesar Salinas³, Alejandra Figueroa-Vargas², Francisco Zamorano², Rafael Polania⁴, Pablo Billeke⁵
¹Universidad Del Desarrollo, Santiago, Chile, ²Universidad Del Desarrollo, Santiago, Santiago, ³Clínica Alemana, Santiago, Santiago, ⁴University of Zurich, Zurich, Zurich, ⁵Universidad Del Desarrollo, Santiago, Santiago
- 0673 Noradrenaline in Optimal Decision-Making: Testing SAPEs in Electrophysiology and BOLD Imaging**
Ashley Tyrer¹, Iain Gilchrist¹, Rosalyn Moran²
¹University of Bristol, Bristol, Avon, ²King's College London, London

- 0675 Toward a Predictive Model of Delay Discounting**
Jeremy Myslowski^{1,2}, Jeff Soldate¹, Mikhail Koffarnus³, Jonathan Lisinski², Warren Bicke², Sarah Snider², Stephen LaConte^{1,2}
¹Virginia Tech, Roanoke, VA, ²Fralin Biomedical Research Institute, Roanoke, VA, ³University of Kentucky, Lexington, KY
- 0679 Anxiety representation in anterior insula is not task related but baseline related**
Haeorm Park¹, Jaejoong Kim¹, Seonghwan Kim¹, Bumseok Jeong¹
¹KAIST, Daejeon, Korea, Republic of
- 0693 An fMRI investigation of the neural correlates of reasoning in moral judgment**
Fiona Ching¹, Isaac N. Ip¹, H. T. Chiu¹, Y. L. Chan¹, Ken K. C. Wu¹, Savio W. H. Wong¹
¹The Chinese University of Hong Kong, Hong Kong, Hong Kong
- 0696 Perirhinal and ventromedial prefrontal cortex involvement in configural objects value estimation**
Gabriel Pelletier^{1,2}, Nadav Aridan³, Lesley Fellows^{1,2}, Tom Schonberg³
¹McGill University, Montreal, Canada, ²Montreal Neurological Institute, Montreal, Canada, ³Tel Aviv University, Tel Aviv, Israel
- 0698 Neural Correlates of Accuracy and Confidence during Realistic Decision-Making in Noisy Environments**
Davide Valeriani^{1,2,3}, Lena O'Flynn^{2,3}, Alexis Worthley^{2,3}, Kristina Simonyan^{1,2,3}
¹Harvard Medical School, Boston, MA, ²Massachusetts Eye and Ear Infirmary, Boston, MA, ³Massachusetts General Hospital, Boston, MA
- 0705 Deciding to Sample: Modeling instrumental information demand and belief updating in humans**
Nicholas Singletary¹, Jacqueline Gottlieb¹, Guillermo Horga¹
¹Columbia University, New York, NY
- 0706 Fronto-Striatal Structural Alterations Associated with Risk-Seeking Behavior in Adolescents**
Akul Sharma¹, Marie L. Gillespie¹, Katherine Tseung¹, Theo Van Erp^{1,2,3}, Uma Rao^{1,3,4}
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- 0711 Individual-specific functional architecture and activation patterns in medial prefrontal cortex**
Claudio Toro-Serey¹, Yixin Chen¹, Lauren Sussman¹, Joseph McGuire¹
¹Boston University, Boston, MA
- 0713 Neurobiological Substrates Associated with Risk-Seeking Behavior in Adolescents.**
Akul Sharma¹, Marie L. Gillespie¹, Katherine Tseung¹, Theo Van Erp^{1,2,3}, Monique Ernst⁴, Uma Rao^{1,5,3}
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- 0721 Neural computations underlying human reinforcement learning in a continuous choice space**
Jisu Lee¹, Sungshin Kim¹
¹IBS Center for Neuroscience Imaging Research, Sungkyunkwan University, Suwon, Republic of Korea

Executive Function, Cognitive Control and Decision Making

- 0635 Network centrality dissociates brain regions in right ventral IFC activated for response inhibition**
Akitoshi Ogawa¹, Uta Fujimoto¹, Takahiro Osada¹, Masaki Tanaka¹, Akimitsu Suda¹, Nobutaka Hattori², Koji Kamagata², Shigeki Aoki¹, Seiki Konishi¹
¹Juntendo University, Tokyo, Japan, ²Juntendo University, Tokyo, Japan

- 0636 Virtual training leads to real acute physical, cognitive and neural benefits on healthy adults.**
Dalila Burin^{1,2}, Noriki Yamaya², Ryuta Kawashima^{1,2}
¹Institute of Development, Aging and Cancer, Tohoku University, Sendai, Miyagi, Japan, ²Smart-Aging Research Center, Tohoku University, Sendai, Miyagi, Japan
- 0640 Neural correlates of numbtouch in healthy subjects**
Esra Al¹, Fivos Iliopoulos¹, Tilman Stephani¹, Vadim Nikulin¹, Arno Villringer¹
¹Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany
- 0644 The DMCC Project: A neuroimaging study of individual variation in cognitive control function**
Todd Braver¹, Alexander Kizhner¹, Rongxiang Tang¹, Michael Freund¹, Matthew Singh¹, Anxu Wang¹, Joset Etzel¹
¹Washington University in St. Louis, Saint Louis, MO
- 0648* Brain structure and function predict different domains of cognitive control in normal aging**
Jenny Rieck¹, Giulia Baracchin^{2,3}, Cheryl Grady^{1,4}
¹Rotman Research Institute, Baycrest Health Sciences, Toronto, Ontario, Canada, ²Montreal Neurological Institute, McGill University, Montreal, Quebec, Canada, ³Douglas Research Centre, McGill University, Montreal, Quebec, Canada, ⁴University of Toronto, Toronto, Ontario, Canada
- 0649 Longer screen time and functional connectivity in children with dyslexia**
Tzipi Horowitz-Kraus¹, Mark DiFrancesco², Paige Greenwood², Elisha Scott², John Hutton², Jon Doudley², Rola Farah³
¹Cincinnati Children's/Technion, Cincinnati, OH, ²Cincinnati Children's Hospital, Cincinnati, OH, ³Technion, Haifa, Haifa
- 0651 Neural Signatures of Dual-Task Response Conflicts and Their Modulation by Age**
Lya Paas Oliveros^{1,2}, Aleks Pieczykolan^{3,4}, Rachel Pläschke², Simon Eickhoff^{1,2}, Robert Langner^{1,2}
¹Institute of Neuroscience and Medicine (INM7: Brain and Behaviour), Forschungszentrum Jülich, Jülich, Germany, ²Institute of Systems Neuroscience, Heinrich Heine University Düsseldorf, Düsseldorf, Germany, ³Institute of Psychology, University of Würzburg, Würzburg, Germany, ⁴Human Technology Center, RWTH Aachen University, Aachen, Germany
- 0652 Age Differences in Predicting Executive Functioning from Structural and Functional Neuroimaging Data**
Marisa Heckner^{1,2}, Edna Cieslik^{1,2}, Kaustubh Patil^{1,2}, Simon Eickhoff^{1,2}, Felix Hoffstaedter^{1,2}, Robert Langner^{1,2}
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- 0653 Representational similarity analysis of color-word Stroop reveals neural coding of cognitive control**
Mike Freund¹, Todd Braver²
¹Washington University in St Louis, St. Louis, MO, ²Washington University, St Louis, MO
- 0656 Conflict monitoring modulates effective connectivity of the cingulo-cerebellar circuitry in humans**
Hengyi Cao¹, Tyrone Cannon¹
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- 0657 Neural coding of visual objects rapidly reconfigures to reflect subtrial shifts in attentional focus**
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- 0658 Brain Activity during Switching and Cardiorespiratory Fitness in Adults with Cardiovascular Risks**
Yu-Wei Chiu¹, Ssu-Yuan Chen^{2,3}, Pei-Fang Tang^{1,3,4,5,6}, Joshua Goh^{4,5,6,7}, Ya-Fang Chen^{8,9}, Wen-Yih Tseng^{4,5,10,11}, Jen-Hau Chen^{12,13}, Yu-Ling Chang^{5,6,7,14}
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- 0660 Food-related cognitive flexibility and future body fat gain: neural correlates and modulation of BMI**
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- 0662 The no-smoking signs with high craving smoking symbols induced low craving: An fMRI and EEG study**
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- 0664 Shared mechanisms of attention and emotion control in depression**
Leonie Loeffler¹, Theodore Satterthwaite², Ute Habel³, Frank Schneider⁴, Sina Radke⁵, Birgit Derntl⁶
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- 0665 The neural correlates of emotional influence on cognitive control in alexithymia**
Shu-Hui Lee¹, Chia-Ho Lai², Ting Chen², Chuan-Ching Liao²
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- 0667 Effective amygdala-prefrontal connectivity during emotion regulation: a meta-analysis of PPIs**
Stella Berboth¹, Carmen Morawetz²
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- 0670 Can fatigue resulting from cognitive work be distinguished from fatigue due to task disengagement?**
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- 0671 Brain signal variability and cognitive flexibility across the lifespan**
Salome Kornfeld^{1,2}, Jason Nomi¹, Zach Goodman¹, Celia Romero¹, Bryce Dirks¹, Lucina Uddin¹
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- 0672 Cognitive control networks coordinate domain general task information throughout the brain**
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- 0678 Neural Mechanisms of Motivated Cognitive Control in Older Adults**
Jennifer Crawford¹, Debbie Yee^{1,2}, Bidhan Lamichhane¹, Elisa Di Rosa^{1,3}, Todd Braver¹
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- 0680 Variability of Functional Connectivity Underlies Individual Differences in Delay Gratification**
Liangfang Li¹, Yangyang Yi¹, Ying Lin¹, Jiehui Qian¹, Zhengjia Dai¹
¹Sun Yat-sen University, Guangzhou, China
- 0682 Multiple-demands & cognitive control: Task-switching is not specific to anterior prefrontal cortex.**
Richard Daws¹, Yuqi Li¹, Eyal Soreq¹, John Duncan², Stefano Sandrone¹, Adam Hampshire¹
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- 0684 Predicting successful response inhibition using machine learning based on beta bursts**
Nadja Enz¹, Laura Rueda-Delgado¹, Germán Rodríguez-Bermúdez², Robert Whelan¹, Kathy Ruddy¹
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- 0686 Suppress me if you can: Neurofeedback of the Readiness Potential**
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- 0690 Reward network connectivity differentially disrupted in treatment resistant schizophrenia**
Charlotte Horne¹, Lucy Vanes², Tess Verneuil¹, Elias Mouchlianitis¹, Tímea Szentgyorgyi¹, Robert Leech¹, Rosalyn Moran¹, Sukhi Shergill¹
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- 0694 Neural activation depicts distinct roles of IFG, ACC and PHG in scientific cognitive conflict task**
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- 0695 Brain activity and functional connectivity during the scientific conflict tasks: a fMRI study**
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- 0700 Movement Errors during Skilled Motor Performance Engage Distinct Prediction Error Mechanisms**
Ella Gabitov¹, Ovidiu Lungu¹, Geneviève Albouy², Julien Doyon¹
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- 0702 Towards an Optimal Realtime fMRI Neurofeedback Signal Source: A comparison of ROI and SVM approaches**
Reza Momenan¹, Samantha Fede¹, Vinai Roopchansingh², Sarah Dean¹, Mallory Kisner¹
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- 0704 Role of Arousal in Choice Conflict Adjustments**
Marcus Grueschow¹, Christian Ruff¹, Birgit Kleim¹
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- 0708 Brain structure mediates the relationship between prenatal nicotine exposure and BMI in children.**
Shana Adise¹, Nicholas Allgaier¹, Max Owens¹, Sage Hahn¹, Bader Chaarani¹, Jennifer Laurent¹, Stephen Higgins¹, Alexandra Potter¹, Hugh Garavan²
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- 0709 Shared and Distinct Neuronal Mechanisms underlying Cognitive and Affective Flexibility.**
Dominik Kraft¹, Cindy Eckart¹, Lena Rademacher¹, Christian J. Fiebach¹
¹University of Frankfurt, Frankfurt, Germany
- 0710 Theta activity priming in superior frontal sulcus increases proactive cognitive control**
Maria Paz Martinez-Molina¹, Gabriela Valdebenito-Oyarzo¹, Josefina Larrain-Valenzuela¹, Ximena Stecher², Cesar Salinas³, Francisco Zamorano⁴, Pablo Billeke⁵
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- 0712 Towards Real-Time Detection of Attentional Shielding in a Set-Switching Task**
Michael Marxen¹, Felix Knorr¹, Philipp Neukam², Michael Smolka²
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- 0714 Differentiated Effects of Normal Aging on Cortical Substrates of Executive Functioning**
Lia Chen¹, Eve De Rosa²
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- 0719 Medial prefrontal cortex activity tracks effort expenditure in sustained goal pursuit**
Lauren Patrick¹, Kevin Anderson¹, Avram Holmes²
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- 0720 The effects of left hemisphere stroke lesions on cognitive control.**
Joshua McCall¹, Candace van der Stelt¹, Andrew Demarco¹, J. Vivian Dickens¹, Elizabeth Dvorak¹, Elizabeth Lacey^{1,2}, Sarah Snider¹, Peter Turkeltaub^{1,2}
¹Georgetown University Medical Center, Washington, DC, ²MedStar National Rehabilitation Hospital, Washington, DC
- 0722 Cortico-Striato-Thalamo-Cortical Network for Cognitive Flexibility in Obsessive-Compulsive Disorder**
Taekwan Kim¹, Wi Hoon Jung², Youngwoo Yoon³, Minah Kim⁴, Jun Soo Kwon⁴
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0723 Neural activity underlying temporal switching between predictive and reactive saccades*Olivia Calancie¹, Don Brien¹, Linda Booij², Sarosh Khalid-Khan¹, Doug Munoz¹*¹Queen's University, Kingston, Ontario, ²Concordia University, Montreal, Quebec

Imagery

0639 Neural and behavioural outcomes differ following motor imagery vs. physical practice-based training*Sarah Kraeutner¹, Alexandra Stratas², Jennifer McArthur², Carl Helmick², David Westwood², Lara Boyd¹, Shaun Boe²*¹University of British Columbia, Vancouver, Canada, ²Dalhousie University, Halifax, Canada**0645 Probing the effect of block duration on corticospinal excitability during motor imagery performance***JungWoo Lee¹, Sarah Kraeutner², Devan Pancura¹, Shaun Boe¹*¹Dalhousie University, Halifax, Nova Scotia, ²Dalhousie University, North Saanich, BC**0659* Neural Tracking of Rhythmic Constructs in Imagined Speech***Lingxi Lu^{1,2}, Jingwei Sheng², Jia-Hong Gao^{1,2}*¹McGovern Institution for Brain Research, Peking University, Beijing, China, ²Center for MRI Research, Peking University, Beijing, China**0663* Real-time reconstruction of letter shapes in the Mind's Eye***Rick van Hoof¹, Salil Bhat¹, Michael Lührs^{1,2}, Mario Senden¹, Rainer Goebel^{1,2}*¹Faculty of Psychology and Neuroscience, Maastricht University, Maastricht, The Netherlands,²Department of Research and Development, Brain Innovation BV, Maastricht, The Netherlands**0676 Signatures of excitatory and inhibitory activity on the hemodynamic response in the awake mouse***Jeremie Guilbert¹, Michèle Desjardins¹*¹Université Laval, Québec, Québec**0681 Perceived and mentally rotated contents are differentially represented in cortical layers of V1***Polina Iamshchinina¹, Daniel Kaiser², Renat Yakupov³, Daniel Haenelt⁴, Alessandro Sciarra⁵, Hendrik Mattern⁵, Emrah Duezel³, Oliver Speck³, Nik Weiskopf⁴, Radoslaw Martin Cichy⁶*¹Berlin School of Mind and Brain, Humboldt-Universität Berlin, Berlin, Germany, ²Department of Psychology, University of York, Heslington, York, UK, ³German Center for Neurodegenerative Diseases (DZNE), Magdeburg, Germany, ⁴Department of Neurophysics, Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, ⁵Department of Biomedical Magnetic Resonance, Institute for Physics, Otto-von-Guericke-University, Magdeburg, Germany, ⁶Department of Education and Psychology, Freie Universität Berlin, Berlin, Germany**0699* Content-Specific Neural Patterns in Auditory Cortices During Imagery of Music***Mor Regev¹, Andrea Halpern², Adrian Owen³, Aniruddh Patel⁴, Robert Zatorre¹*¹Montreal Neurological Institute, Montreal, Québec, ²Bucknell University, Lewisburg, PA, ³University of Western Ontario, London, Ontario, ⁴Tufts University, Medford, MA

Music

0637 Musical Rhythm and Pleasure in Parkinson's Disease*Victor Pando-Naude¹, Maria Witek², Andreas Højlund³, Erik Johnsen⁴, Eduardo Garza-Villarreal⁵, Peter Vuust³*¹Aarhus University, Aarhus, Denmark, ²University of Birmingham, Birmingham, Birmingham, ³Aarhus University, Aarhus, Aarhus, ⁴Aarhus University Hospital, Aarhus, Aarhus, ⁵Instituto de Neurobiología, Universidad Nacional Autónoma de México, Juriquilla, Queretaro**0646 Investigating a cortical musical gradient using multivariate pattern & connectivity analyses***Peer Herholz¹, Jocelyne Whitehead², Jean-Baptiste Poline³, Jorge Armony⁴*¹Montréal Neurological Institute, McGill University, Montréal, Canada, ²Integrated Program in Neuroscience, McGill University, Montréal, Canada, ³Montréal Neurological Institute, McGill University, Montreal, Canada, ⁴Department of Psychiatry, McGill University, Montréal, Canada**0677 The plasticity of white matter connectivity on bilateral PAC by musical improvisation training***Sijia Guo¹, Binxin Huang¹, Jinnan Gong¹, Jing Lu¹, Dezhong Yao¹*¹School of Life Science and Technology, University of Electronic Science and Technology of China, Chengdu, China**0691 Effects of musicianship and absolute pitch on structural brain networks***Simon Leibold¹, Carina Klein¹, Lutz Jäncke¹*¹University of Zurich, Zurich, Switzerland**0715 An auditory-reward network processes musical uncertainty and surprise to pleasurable effect***Benjamin Gold¹, Marcus Pearce^{2,3}, Ernest Mas-Herrero⁴, Randy McIntosh⁵, Catie Chang¹, Alain Dagher⁴, Robert Zatorre^{6,7}*¹Vanderbilt University, Nashville, TN, ²Queen Mary University of London, London, England, ³Aarhus University, Aarhus, Denmark, ⁴Montreal Neurological Institute, Montreal, Quebec, ⁵University of Toronto, Toronto, Ontario, ⁶Montreal Neurological Institute, Montreal, Québec, ⁷International Laboratory for Brain, Music, and Sound Research, Montreal, Quebec, Canada**0717 Sensorimotor adaptation during vocal pitch regulation in trained singers***Boris Kleber¹, Ole Heggli¹, Elvira Brattico¹, Peter Vuust¹*¹Center for Music in the Brain, Department of Clinical Medicine, Aarhus University & The Royal Academ, Aarhus, Denmark**0718 The Open Multimodal Music and Auditory Brain Archive (OMMABA)***Marcel Farrés Franch¹, Kristi Von Handorf², Joshua Hoddinott², Peer Herholz³, Jessica Grahn², Robert Zatorre⁴*¹McGill University, Montréal, QC, ²Western University, London, Ontario, ³McGill University, Montreal, QC, ⁴Montreal Neurological Institute, Montreal, Québec

Reasoning and Problem Solving

0641 Problem Description Modulates Brain Representation of Arithmetic Word Problem Solving*Chan Tat Ng¹, Ting-Ting Chang^{1,2}*¹Department of Psychology, National Chengchi University, Taipei City, Taiwan, ²Research Center for Mind, Brain, and Learning, National Chengchi University, Taipei City, Taiwan**0654 Understanding Human Reasoning from the Text of bAbI Dataset***Juhyeon Lee¹, Minseok Choi¹, Jinsu Kim¹, Hyun-Chul Kim¹, Sungman Jo¹, Jong-Hwan Lee¹*¹Korea University, Seoul, Republic of Korea**0687 A machine learning method revealing brain systems in belief-logic conflict***Maryam Ziaei¹, Mohammad Reza Bonyadi¹, David Reutens¹*¹Centre for Advanced Imaging, the University of Queensland, Brisbane, Australia

Space, Time and Number Coding

0655 Does selective coupling precede selective activity? A study of numeral processing in kindergartners*Benjamin Conrad¹, Gavin Price¹*¹Vanderbilt University, Nashville, TN

0674* **Individual Differences in Shared Representation of Symbolic and Nonsymbolic Number at 7T fMRI**
Eric Wilkey¹, Benjamin Conrad², Gavin Price²
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0724 **Whole vs. Rational: A preliminary study of neural distance effects in decimal number comparison**
Melanie Pincus¹, Linsah Coulanges¹, Roberto Abreu-Mendoza¹, Ravi Mill¹, Michael Cole¹, Miriam Rosenberg-Lee¹
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Higher Cognitive Functions Other

0638 **Slip-sliding away: common reductions in task positive neural systems emerge with the passage of time**
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0643 **Integration of structural and functional connectomes to predict individual cognitive abilities**
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0647 **Emergence of neural dynamics within a co-ordinate space of large-scale neural hierarchies**
Theodoros Karapanagiotidis¹, Diego Vidaurre², Andrew Quinn², Deniz Vatansever³, Giulia Poerio⁴, Adam Turnbull¹, Robert Leech⁵, Boris Bernhardt⁶, Elizabeth Jefferies¹, Daniel Margulies⁷, Thomas Nichols², Mark Woolrich², Jonathan Smallwood¹
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0661 **Human Intracranial Recordings reveal specific Connectivity signatures stemming from the Hippocampus**
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0666 **Sex-specific cognitive profiles relate to resting state functional connectivity in males and females**
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0683 **Self-reflectiveness relates to functional connectivity dynamics and structural connectome topology**
Daouia Larabi¹, Remco Renken², Joana Cabral³, Jan-Bernard Marsman², André Aleman², Branislava Ćurčić-Blake²
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0689 **Morphological changes after chemotherapy treatment for breast cancer**
Gwen Schroyen¹, Jeroen Blommaert², Ahmed Radwan¹, Smeets Ann³, Koen Van Laere⁴, Sabine Deprez¹, Stefan Sunaert¹
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0692 **Voxel sensitivity to kinematic and object-related features during action observation**
Francesca Simonelli¹, Giacomo Handjaras¹, Francesca Benuzzi², Giulio Bernardi¹, Andrea Leo¹, Davide Duzzi², Luca Cecchetti¹, Paolo Nichelli², Carlo Porro², Pietro Pietrin¹, Fausta Lui², Emiliano Ricciardi¹
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0701* **Individual Variability in Brain Activity during Cognitive Tasks and Relationship with Cognition**
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0703 **Establishing a causal role for medial prefrontal cortex in reality monitoring**
Karuna Subramaniam¹, Hardik Kothare¹, Leighton Hinkley¹, Phiroz Tarapore¹, Srikantan Nagarajan¹
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0707 **Brain functional plasticity in response to creativity training with music composing**
Anna Arkhipova¹, Pavel Hok¹, Jan Valošek¹, Markéta Trnečková¹, Gabriela Všeticková², Vít Zouhar², Petr Hlušík¹
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LANGUAGE

Language Acquisition

0750 **Ventrolateral frontal to parietal connectivity patterns relate to second language learning**
Kaija Sander^{1,2,3}, Daniel Di Giovanni^{1,2,3}, Xiaoqian Chai², Shari Baum^{3,4}, Michael Petrides^{1,2,3,5}, Denise Klein^{1,2,3}
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0751 **Brain activation during auditory statistical learning predicts adults' vocabulary**
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Language Comprehension and Semantics

0725 The neural dynamics of semantic categorization in semantic variant of Primary Progressive Aphasia.

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0729 Identifying the core language system in brain with individual fingerprint

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0735 Age-related differences in processing violations in highly predictable speech: An fMRI study

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0737 Neural Encoding of Natural Story Comprehension Reveals Cortical Representation of Semantic Relations

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0738 The neural bases underpinning flexible semantic retrieval of thematic and taxonomic relations

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0741 Controlled Thematic Integration in the Human Brain

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0744* A Gradient from Long-term Memory to Novel Cognition

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0746 Difference in the Structural Language Connectome Between German and Arabic Native Speakers

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0753 Neural correlates of Metaphors comprehension in Mexican children and adolescents

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0758 The cognitive and neural correlate of verbal irony

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0759 Self-image in a mirror enhances EEG oscillation in theta and alpha bands in linguistic judgments

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0761 Thematic and Taxonomic Relations in the Brain

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0762 Neural activity for honorification: Social cognition in language

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0763 The Effect of Task on Concrete and Abstract Semantic Processing

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0764 Reorganization of language networks after temporal lobe epilepsy surgery – a clinical fMRI study

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0766 An fMRI study of late bimodal bilinguals during story comprehension

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0778* Neural correlates of individual differences in story understanding

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Reading and Writing

0727 Brain networks underlying orthographic, phonological and semantic processing of Chinese characters

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- 0734 Scripts of Mother Tongues Affect Cortical Structure in Bilinguals' Reading Network**
Hsin-Yu Lin¹, Chiao-Yi Wu¹, Beth O'Brien², Yuvadarshini Ilang Kumaran¹, Marilyn Cai Ling Yeo³, Brenda Rapp⁴, Michael McCloskey⁴, Kenichi Oishi⁵, John Desmond⁶, SH Annabel Chen^{1,3,7}
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- 0736 Connectome-level connectivity in children with reading disabilities**
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- 0747 White Matter Diffusion Correlates of Reading Deficits in Subacute Stroke.**
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- 0749 Cortical Thickness, Surface Area and Volume in the Reading Network of Children with Dyslexia**
Rita Barakat¹, Jason Zevin¹, Kristi Clark¹
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- 0752 Multimodal Principal Component Analysis to Link White Matter Features to Reading Skill**
Bryce Geeraert¹, Marc Lebel¹, Maxime Chamberland², Catherine Lebel³
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- 0754 The Impact of Script Sets on the Functional Organization of Bilinguals' Reading Network**
Chiao-Yi Wu¹, Beth O'Brien², Hsin-Yu Lin¹, Yuvadarshini Ilang Kumaran¹, Marilyn Cai Ling Yeo³, Brenda Rapp⁴, Michael McCloskey⁴, Kenichi Oishi⁵, John Desmond⁶, Shen-Hsing Annabel Chen^{1,3,7}
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- 0757 The Brain Activation during Chinese Characters Recognition**
Wanwan Guo¹, Shujie Geng¹, Colin Blakemore², Miao Cao¹, Jianfeng Feng¹
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- 0767 Auditory cortex myelination in dyslexia: marker of behavioral deficits**
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- 0768 What Distinguishes Resting State and Reading Networks? A Graph Theory Analysis of fMRI Data**
Francesco Usai¹, Aaron Newman¹
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- 0772 A longitudinal study of neural networks for reading in patients with medulloblastoma**
Matthew Scoggins¹, Ping Zou¹, Stu McAfee², Nicholas Phillips¹, Yimei Li², Zoltan Patay¹, Amar Gajjar¹, Heather Conklin¹
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- 0773 Multivariate Classification of Four Writing Systems Within the Brain's Reading Network**
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- 0780 Field functional Near Infrared Spectroscopy fNIRS Neuroimaging for Global Child Development**
Kaja Jasinska¹, Ben Zinszer¹, Fabrice Tanoh², Joelle Hannon-Cropp¹, Hermann Akpe³, Axel Seri Blahoua⁴, Elise Aya Kouadio²
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Speech Perception

- 0730 Hemispheric asymmetry of auditory evoked magnetic fields related to words in synthetic speech**
Minoru Hayashi¹
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- 0731 Modulation of amygdala activity and amygdalo-cortical connectivity by dynamic affective vocalization**
Florence Steiner^{1,2}, Natalia Fernandez¹, Philipp Stämpfli^{3,4}, Joris Dietziker^{1,2}, Erich Seifritz^{3,4}, Anton Rey⁵, Sascha Frühholz^{1,2,6}
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- 0733 Resting State and DTI Imaging of Speech in Noise**
David Wack¹, Kathleen McNeerney², Konstantinos Slavakis¹, Sarah Muldoon¹, Ferdinand Schweser¹, Audrey Wack³, Cheryl McGranor¹, Erin Kelly⁴, Robert Miletich¹
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- 0740 Transcranial Magnetic Stimulation Enhances Speech Perception in Noise in Young and Aging Adults**
Valerie Brisson¹, Maxime Perron², Pascale Tremblay²
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- 0742 Neurocognitive dynamics of near-threshold voice signal detection and affective voice evaluation**
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- 0743 Speech Perception in Noise in Amateur Singers: an MRI Study**
Maxime Perron¹, Valerie Brisson¹, Josée Vaillancourt¹, Pascale Tremblay¹
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- 0745 When Less is More – Unpicking the structural basis of speech in noise comprehension**
Alexis Hervais-Adelman¹, Robert Becker¹
¹University of Zurich, Zurich, Switzerland
- 0769 Separating brain responses to speech from noise in naturalistic listening environments**
Maansi Desai¹, Ian Griffith¹, Jade Holder¹, Cassandra Villarreal¹, Natalie Clark¹, Liberty Hamilton¹
¹The University of Texas at Austin, Austin, TX
- 0774 Anatomical differences in Heschl's gyrus in dyslexia**
Josue Luiz Dalboni da Rocha¹, Damien Marie^{1,2}, Sanne Rutten¹, Narly Golestani¹
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Speech Production

- 0726 Cortical dynamics of speech motor control in the non-fluent variant of Primary Progressive Aphasia**
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- 0728 Language Production in English-French Bilinguals: Structural Findings Beyond the Cortex**
Jasmine Lee¹, Annie Gilbert¹, Shanna Kousaie¹, Denise Klein¹, Shari Baum¹
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- 0748 Mapping cortical activations during overt language generation using HD-DOT**
Mariel Schroeder¹, Rachel Ulbrich¹, Arefeh Sherafati¹, Andrew Fishell¹, Alexandra Svoboda¹, Joseph Culver¹, Adam Eggebrecht¹
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- 0775 Predicting language impairments from microstructure of perilesional tissue in chronic stroke**
Bradley Caron¹, Mitchell Mehringer¹, Franco Pestilli¹, Brielle Stark¹
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- 0777 Solving the enigma: dual role of the cerebellum in predictive speech planning**
Hélène Loevenbruck¹
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Language Other

- 0732 Optimizing grammar tasks for pre-operative fMRI based on task-based and resting-state activations**
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- 0739 Evaluation of three fMRI language protocols in presurgical patients from a public hospital in Chile**
Steren Chabert^{1,2}, Alejandro Veloz^{1,2}, Denisse Aguilera¹, Matias Avila¹, Valentina Contreras¹, Roberta Henríquez¹, Angele Jara¹, Camila Medina¹, Catalina Orostizaga¹, Gisella Tapia³, Francisco Torres^{3,4}, Rodrigo Riveros^{3,4}, Begona Gongora^{5,3}, Matias Gonzalez^{3,4}, Carlos Bennett^{3,4}
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- 0755 A new computational approach for language lateralization in children with intractable epilepsy**
Hyun Freeman¹, Jeffery Killen¹, Roy Martin¹, Ismail Mohamed¹
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- 0756 Effects of Bilingualism on Resting-State Functional Connectivity**
Tanya Dash¹, Pierre Berroir¹, Yves Joannette², Ana Ansaldo¹
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- 0765 Degeneration of contralesional corpus callosum in acute post-stroke aphasia**
Melody Courson¹, Christophe Bedetti¹, Bérengère Houzé¹, Amélie Brisebois¹, Alex Desautels¹, Karine Marcotte¹, Simona Brambati¹
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- 0770 Bilingual language experience and the neural underpinnings of working memory**
Shanna Kousaie¹, Shari Baum², Natalie Phillips³, Vincent Gracco⁴, Debra Titone², Jen-Kai Chen¹, Denise Klein¹
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- 0771 The role of the dorsal branch of the arcuate fasciculus in phonological working memory in bilinguals**
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- 0776 Predicting early post-stroke aphasia outcomes from initial language severity**
Alberto Osa García¹, Simona Brambati¹, Amélie Brisebois¹, Marianne Désilets-Barnabé¹, Christophe Bedetti¹, Bérengère Houzé¹, Elizabeth Rochon², Carol Leonard³, Alex Desautels¹, Karine Marcotte¹
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0779 Extracallosal hyperconnectivity in well-performing preterm children versus language-impaired peers

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Long-Term Memory (Episodic and Semantic)

0782 A novel approach to investigate memory encoding with inter-subject correlation analysis

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0786* Telling the truth from false memories by restudy: The role of parietal cortex

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0787 The effect of cognitive load on the retrieval of long term memory: an fMRI study

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0793* Decoding Identity from Brain Activity elicited during the Recollection of Personal Experiences

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0794 The subsequent memory effects before and during memory encoding period of scalp EEG

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0798 Towards a perfect whole-brain classifier of future memory recognition

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0806 Hippocampal subfield volumes predicts behavioral pattern separation during childhood

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0807 Structural brain network supporting episodic memory in the absences of one medial temporal lobe

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0808 Topographic profiling of memory-related pattern separation processes

Qionglin Li^{1,2}, Shahin Tavakoli², Jessica Royer², Reinder Vos de Wael², Sara Lariviere², Bo-yong Park², Benoit Caldairou³, Andrea Bernasconi³, Neda Bernasconi³, Dewi Schrader⁴, Shuyu Li¹, Boris Bernhardt²
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0814 Working Memory and Episodic Memory Distinct Processes: Insight from Lesion Symptom Mapping.

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0825 Aging and neural recruitment during episodic memory encoding

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0831 Evidence for predictive coding mechanism in repetition suppression for faces in FFA

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0834 Category specificity in the medial temporal lobe during associative memory and integration

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0836 Age-related difference in neural mechanisms underlying the reverse own-age bias in source memories

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0837 An fMRI study of Autobiographical Memory Associated with Self-Defining Episodes During Adolescence

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0844 Dynamic switching between brain networks – A Tri-Network perspective

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0845 Narrative speech production in angular gyrus: autobiographical, event-semantic, and object-semantic

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0855 Connectivity Gradients During Episodic Past and Future Thinking and Their Modulation by TMS
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Neural Plasticity and Recovery of Function

0784 Changes in Structural Connectivity Show a Novel Type of Primary Cortex Reorganization
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0785 Brain plasticity mediates the effect of vigorous physical activity on mental health in adolescence

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0789 A single, clinically relevant dose of baclofen significantly impairs motor sequence learning

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0791 A new insight of brain reorganization in the sensorimotor cortex after spinal cord injury

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0796 Activity-dependent changes in white-matter in the adult human brain with neurofeedback fMRI

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0799 Microstructural specificity of white matter imaging after stroke

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0802 Persistent hippocampal network abnormalities in long-term follow-up of NMDA receptor encephalitis

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0805 What Can MR Spectroscopy Measures of Occipital GABA tell about Visual Plasticity in Human Adult?

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0812 Motor network integrity of the anterior intraparietal sulcus aids grasping performance after stroke

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0813 An MRI Pilot Study on Mindfulness and Cognitive Impairment After Breast Cancer Treatment

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0815 GABAergic inhibition in sensorimotor cortex promotes retention of adaptation memory in older adults

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0816 Real-time fMRI Neurofeedback in chronic stroke patients to increase lateralisation of brain activity

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0823 White matter microstructural changes in short-term learning of a sequential pinch-force task

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0824 Population receptive field properties reflect remapping in V1 in peripheral retinal degeneration

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0826 Rest EEG Connectivity between Posterior Parietal and Primary Motor Cortices During Stroke Recovery

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- 0827 Training Selective Attention in Older Adults via Real-Time fMRI Based Neurofeedback**
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¹University of Florida, Gainesville, FL, ²Pontificia Universidad Católica de Chile, Santiago, Chile
- 0829 Interhemispheric Functional Reorganization after BCI-Guided Upper-Limb Training in Chronic Stroke**
Kai Yuan¹, Xin Wang¹, Cheng Chen¹, Cathy Lau¹, Raymond Tong¹
¹The Chinese University of Hong Kong, Shatin, Hong Kong
- 0830 Sequential topological network changes after stroke restricted to primary motor cortex**
Mitsouko Van Assche¹, Elisabeth Dirren¹, Andreas Kleinschmidt¹, Emmanuel Carrera¹
¹University Hospitals of Geneva, Geneva, Switzerland
- 0832 BCI Training Effects on Chronic Stroke Correlate with Functional Reorganization in Motor Regions**
Cheng Chen¹, Kai Yuan¹, Xin Wang¹, Raymond Tong¹
¹The Chinese University of Hong Kong, Shatin, Hong Kong
- 0847 Structural neuroplastic responses preserve functional connectivity in children born without a corpus**
Vanessa Siffredi¹, Maria Giulia Preti², Valeria Kebets³, Silvia Obertino⁴, Richard Leventer⁵, Alissandra McIlroy⁵, Amanda Wood⁶, Vicki Anderson⁵, Megan Spencer-Smith⁷, Dimitri Van De Ville⁸
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- 0849* Disuse-driven plasticity is specific to the somatomotor and cingulo-opercular networks**
Dillan Newbold¹, Timothy Laumann¹, Catherine Hoyt², Jacqueline Hampton², David Montez³, Mario Ortega⁴, Evan Gordon⁵, Abraham Snyder⁶, Nico Dosenbach⁷
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- 0854 Quantitative MRI of Social Isolation in Male and Female Mice**
Sarah McGillivray¹, Marius Tuznik², Gabriel Devenyi³, M Mallar Chakravarty³, David Rudko², Christine Tardif²
¹Integrated Program in Neuroscience, McGill University, Montreal, Quebec, ²McConnell Brain Imaging Centre, McGill University, Montreal, Quebec, ³Douglas University Mental Health Institute, McGill University, Verdun, Quebec

Skill Learning

- 0790 Investigating phase synchrony of sensorimotor cortices while learning a novel bimanual motor task**
Marleen Schoenfeld^{1,2,3}, Charlotte Stagg^{1,2,3}, Catharina Zich^{4,1,2}
¹Wellcome Centre for Integrative Neuroimaging, FMRIB, Nuffield Department of Clinical Neurosciences, University of Oxford, Oxford, United Kingdom, ²Oxford Centre for Human Brain Activity, Wellcome Centre for Integrative Neuroimaging, Department of Psychiatry, University of Oxford, Oxford, United Kingdom, ³Medical Research Council Brain Network Dynamics Unit, University of Oxford, Oxford, United Kingdom, ⁴Department for Clinical and Movement Neurosciences, UCL Queen Square Institute of Neurology, London, United Kingdom

- 0792* Rethinking repetition suppression as a metric of learning**
Eva Berlot¹, Nicola Popp¹, Joern Diedrichsen²
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- 0797 Exploring error detection/correction mechanisms in motor imagery**
Jack Solomon¹, Shaun Boe¹
¹Dalhousie University, Halifax, Nova Scotia
- 0817 Sensory stimulation-induced changes in EEG power during sleep relate to motor memory consolidation**
Menno Veldman¹, Nina Dolfen¹, Mareike Gann¹, Julie Carrier², Brad King³, Geneviève Albouy¹
¹KU Leuven, Leuven, Belgium, ²Centre for Advanced Research in Sleep Medicine, Hôpital du Sacré-Coeur de Montréal, Montreal, Quebec, ³Leuven Brain Institute, Leuven, Belgium
- 0828 Connectivity between contralateral SMA and ipsilateral M1 predicts cross-education of a SRTT**
Justin Andrushko¹, Jacob Levenstein², Catharina Zich², Jonathan Farthing¹, Charlotte Stagg²
¹University of Saskatchewan, Saskatoon, SK, ²University of Oxford, Oxford, Oxfordshire
- 0840 Specific patterns of functional connectivity predict motor learning and intermanual transfer**
Elisabeth Dirren¹, Mitsouko Van Assche¹, Emmanuel Carrera¹
¹University Hospitals of Geneva, Geneva, Switzerland
- 0842 Exercise effects on motor memory consolidation and intermuscular coherence**
Ali Khan¹, Hannah Strinholm¹, Matthew Rostad¹, Cameron Mang¹
¹University of Regina, Regina, Saskatchewan
- 0852 Dynamic Imaging of Phase-Amplitude Coupling during Rhythm Processing in Percussionists**
Jiun-Wei Chen¹, Intan Low¹, Li-Kai Cheng¹, Hui-Ling Chan^{2,3}, Hsin-Yen Yu⁴, Yong-Sheng Chen², Jen-Chuen Hsieh^{1,5,6}, Li-Fen Chen^{1,5,6,7}
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Working Memory

- 0783 Pramipexole increases lateral prefrontal and parietal activity underlying sequential working memory**
Guanyu Zhang¹, Yingshuang Zhang², Weizhong Xiao², Zheng Ye³
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- 0788 Probing the Network Basis of Memory Function and Dysfunction in Children with Epilepsy**
Olivia Arski^{1,2}, Simeon Wong^{1,2}, George Ibrahim^{1,2}
¹Hospital for Sick Children, Toronto, Ontario, Canada, ²University of Toronto, Toronto, Ontario, Canada

- 0795 Working memory load-related theta power modulation in frontal cortex: intracortical evidence**
Alejandra Figueroa¹, Rodrigo Henríquez², Tomás Ossandon², Marcela Perrone-Bertolotti³, Philippe Kahane³, Jean-Philippe Lachaux³, Francisco Zamorano⁴, Pablo Billeke⁵
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- 0800 The Effect of Resistance Training on Visuospatial Working Memory: An ERP Study**
Mei-Hsuan Wu^{1,2}, Wei-Chih Lai¹, Yu-Chen Chan¹
¹National Tsing-Hua University, Hsinchu, Taiwan, ²Hsinchu Cathay General Hospital, Hsinchu, Taiwan
- 0801 Does everyone use common neural networks for visual short-term memory and attention control?**
Mengya Zhang¹, Joe Rennie¹, Jonathan Jones¹, Duncan Astle¹
¹MRC Cognition and Brain Sciences Unit, University of Cambridge, Cambridge, Cambridgeshire
- 0803 Dorsal Caudate Connectivity Mediates the Effect of Severe Pediatric Obesity on Working Memory**
Laya Rajan¹, Alaina Pearce^{2,1}, Joseph Cherry¹, Xiaozhen You^{1,3}, Alexandra Olson⁴, Eleanor Mackey⁴, Evan Nadler^{4,3}, Chandan Vaidya^{1,3}
¹Georgetown University, Washington, DC, ²Pennsylvania State University, State College, PA, ³Children's Research Institute, Washington, DC, ⁴Children's National Hospital, Washington, DC
- 0810 Which BOLD feature is most important to working memory performance?**
Ekarin Pongpipat¹, Maria Boylan¹, Chris Foster¹, Christina Webb¹, Kristen Kennedy¹, Karen Rodrigue¹
¹The University of Texas at Dallas, Dallas, TX
- 0811 The transfer Effects of Adaptive Visual-spatial Span Training**
Xiongying Chen¹, Wan Zhao², Jun Li³
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- 0819 Working memory alterations after a romantic relationship breakup**
Anne Verhallen¹, Remco Renken¹, Jan-Bernard Marsman¹, Gert ter Horst¹
¹University Medical Center Groningen, Department of Biomedical Sciences of Cells and Systems, Groningen, the Netherlands
- 0820 Neural Oscillations of Working Memory for Spatial and Temporal Order Information: An MEG Study**
Fu-Te Wong¹, Ovid Tzeng², Hsu-Wen Huang³, Chih-Mao Huang¹
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- 0822 A Gradient of Dopamine Receptors Controls Access to Working Memory in a Large-Scale Model of Cortex**
Sean Froudust-Walsh¹, Nicola Palomero-Gallagher², Daniel Bliss¹, Xingyu Ding¹, Lucija Jankovic-Rapan², Meiqi Niu², Kenneth Knoblauch³, Henry Kennedy³, Karl Zilles², Xiao-Jing Wang¹
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- 0839 Predicting cognitive abilities using voxel-wise measures of neural efficiency and capacity**
Jason Steffener¹, Dylan Franklin¹, Maryse Gad¹, Meghan Lau¹, Yara Yakoub¹
¹Neural Cognitive Mapping Lab, University of Ottawa, Ottawa, Ontario

- 0851 Task-Merging for Finer Separation of Functional Brain Networks in Working Memory**
Nicole Sanford¹, Todd Woodward¹
¹University of British Columbia, Vancouver, British Columbia

Learning and Memory Other

- 0804 Targeted Memory Reactivation features on Sleep Spindle activity recorded with High-density EEG**
Andrea Sánchez Corzo¹, David Baum², Martín Irani², Jens Klinzing³, Ranganatha Sitaram⁴
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- 0809 Dynamic changes in resting-state fMRI and episodic memory performance**
Kazushi Shinagawa¹, Yuri Terasawa¹, Satoshi Umeda¹
¹Keio University, Mita, Tokyo
- 0818 A Study of Semantic Memory Retrieval Patterns; An eye-tracking study**
Jiseon Baik¹, Hae-Jeong Park^{2,3}, Haeil Park⁴
¹Kyunghee University, Seoul, Korea, Republic of, ²Yonsei University College of Medicine, Seoul, Korea, Republic of, ³Laboratory of Molecular Neuroscience, Department of Nuclear Medicine, Radiology, Korea, Republic of, ⁴Kyunhee University, Seoul, Korea, Republic of
- 0821 Dynamic Functional Connectivity During Context-Dependent Rule Learning**
Thomas Morin¹, Weida Ma¹, Allen Chang¹, Chantal Stern¹
¹Boston University, Boston, MA
- 0833 Associative learning under uncertainty in autism**
Laurie-Anne Sapey-Triomphe¹, Laura Timmermans¹, Johan Wagemans¹
¹Laboratory of Experimental Psychology, Leuven Brain Institute, KU Leuven, Leuven, Belgium
- 0835* Stress modulates the link between striatal GABA and hippocampal activity during motor learning**
Nina Dolfen¹, Lars Schwabe², Mareike Gann¹, Menno Veldman¹, Mark Mikkelsen^{3,4}, Nicolaas Puts^{3,4}, Richard Edden^{3,4}, Andreas Von Leupoldt¹, Stephan Patrick Swinnen¹, Brad King¹, Geneviève Albouy¹
¹KU Leuven, Leuven, Belgium, ²University of Hamburg, Hamburg, Germany, ³The Johns Hopkins University School of Medicine, Baltimore, MD, ⁴F. M. Kirby Research Center for Functional Brain Imaging, Kennedy Krieger Institute, Baltimore, MD
- 0838 Electrophysiological correlates of BOLD self-regulation of Supplementary Motor Cortex**
Ranganatha Sitaram¹, Martin Irani², Pradyumna Sepulveda³, Sergio Ruiz²
¹Pontificia Universidad Católica de Chile, Santiago, Chile, ²PUC, Santiago, Santiago, ³University College London, Londres, Londres
- 0841 Behavioral and neurofunctional BDNF-effects in a longitudinal verbal learning task**
Lena Sophie Geiger¹, Carolin Moessnang¹, Torsten Wüstenberg², Zhenxiang Zang¹, Mirjam Melzer¹, Tamar vanRaalten³, Andreas Meyer-Lindenberg¹, Heike Tost¹
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- 0843 Daytime nap enhances memory by boosting hippocampal and higher visual area activation at encoding**
Jia-Hou Poh^{1,2}, Shamsul Azrin Jamaluddin², Xin Yu Chua², Michael W.L. Chee²
¹Duke University, Durham, NC, ²National University of Singapore, Singapore, Singapore

- 0846 Sensorimotor network dynamics underlying visuomotor adaptation**
Daniel Gale¹, Corson Areshenkoff², Dominic Standage³, Joseph Nashed¹, Randall Flanagan¹, Jason Gallivan¹
¹Queen's University, Kingston, Ontario, ²Queens University, Kingston, Ontario, ³University of Birmingham, Birmingham, Midlands
- 0848 Neural signatures of interacting sensorimotor and temporal expectations during rhythm learning**
Rachel Brown¹, Sonja Kotz¹
¹Maastricht University, Maastricht, Limburg
- 0850 Associations between Hippocampal Subfield Volumes and Memory: Examination of Laterality Models**
Ivan Campbell¹, Heidi Sarles¹, Emma Jones², Shannon McNally¹, Lawrence Sweet¹
¹University of Georgia, Athens, GA, ²University of Georgia, Athens, GA
- 0853 Exercise levels, verbal memory, and hippocampal gray matter volume in persons with epilepsy**
D. Mackensie Terry¹, Ayushe Sharma¹, Johanna Popp¹, Jerzy Szaflarski¹, Roy Martin¹, Rodolphe Nenert¹, Manmeet Kaur¹, Gabrielle Brokamp¹, Jane Allendorfer¹
¹University of Alabama at Birmingham, Birmingham, AL

LIFESPAN DEVELOPMENT

Aging

- 0857 Associations Between Adiposity and Hippocampal Subfield Volume: the IGNITE study**
Jermon Drake^{1,2}, Lauren Raine³, Charles Hillman³, Arthur Kramer^{3,4}, Jeffrey Burns⁵, Eric Vidoni⁵, Edward McAuley^{4,6}, John Jakicic⁷, Brad Sutton^{4,8}, Haiqing Huang¹, Chelsea Stillman¹, George Grove¹, Chaeryon Kang⁹, Ana Daugherty^{10,11}, Kirk Erickson^{1,2}
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- 0858 Effects of Musical Instrument Training Program on Verbal Memory and Neural Efficiency in the Elderly**
Xia Guo^{1,2}, Masatoshi Yamashita², Maki Suzuki^{2,3}, Chie Ohsawa^{2,4}, Kohei Asano², Nobuhito Abe², Kaoru Sekiyama²
¹Kumamoto University, Kumamoto, Japan, ²Kyoto University, Kyoto, Japan, ³Osaka University, Osaka, Japan, ⁴Mukogawa Women's University, Nishinomiya, Japan
- 0859 Effects of hormone exposure and APOE genotype on brain aging in 16,854 UK Biobank women.**
Claudia Barth¹, Ann-Marie de Lange², Tobias Kaufmann³, Ivan Maximov², Dennis van der Meer³, Ingrid Agartz¹, Lars Westlye²
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- 0860 Impact of ageing on resting-state networks in 3 large cohorts of healthy elderly adults**
Gaëlle Doucet¹, Marc Joliot², Sophia Frangou³
¹Icahn School of Medicine At Mount Sinai, New York, NY, ²UMR5293, CEA, CNRS, University Bordeaux, Bordeaux, ³Icahn School of Medicine at Mount Sinai, New York, NY
- 0861 The relation between regional white matter hyperintensity and parameters of alpha oscillations**
Deniz Kumral^{1,2}, Elena Cesnaite¹, Frauke Beyer¹, Simon M. Hofmann¹, Christian Sander^{3,4}, Tilman Hensch^{3,4}, Ulrich Hegerl⁵, Stefan Haufe⁶, Arno Villringer^{1,2,4}, A. Veronica Witte¹, Vadim V. Nikulin^{1,7}
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- 0862 The Association between Poor Sleep and Accelerated Brain Ageing in Older Adults**
Jivesh Ramduny¹, Matteo Bastiani^{1,2,3}, Stamatios Sotiropoulos^{1,2,3}, Magdalena Chechlacz⁴
¹Sir Peter Mansfield Imaging Centre, School of Medicine, University of Nottingham, Nottingham, United Kingdom, ²National Institute for Health Research (NIHR), Nottingham Biomedical Research Centre, Queen's Medical Centre, Nottingham, United Kingdom, ³Wellcome Centre for Integrative Neuroimaging (WIN) – Oxford Centre for Functional Magnetic Resonance Imaging of the Brain (FMRIB), Oxford, United Kingdom, ⁴Centre for Human Brain Health, School of Psychology, University of Birmingham, Birmingham, United Kingdom
- 0864 Anticholinergic drugs may accelerate degeneration of nucleus basalis of Meynert in healthy people**
Dewen Meng¹, Dorothee Auer¹
¹University of Nottingham, Nottingham, Nottinghamshire
- 0869 Effects of the PICMOR Intervention Program on Regional Brain Volume in Older Adults**
Hikaru Sugimoto¹, Mihoko Otake-Matsuura¹
¹RIKEN, Tokyo, Japan
- 0870 Electrophysiological signatures of brain network dynamics in elderly**
Christian Goelz¹, Karin Mora², Julia Stroehlein¹, Claus Reinsberger¹, Solveig Vieluf¹
¹Institute of Sports Medicine, Paderborn University, Paderborn, North Rhine-Westphalia, ²Department of Mathematics, Paderborn University, Paderborn, North Rhine-Westphalia
- 0875 Adult age differences of value beliefs and prediction error processing in pupillary responses**
Hsiang-Yu Chen¹, Franka Thurm¹
¹Faculty of Psychology, Technische Universität Dresden, Dresden, Germany
- 0878 Kinematic analysis of postural anticipation and recovery in young and older adults**
Elnaz Torabinejad¹, Laurence Lai¹, Kesaan Kandasamy¹, Habib Benali¹, Nancy St-Onge¹, Karen Li¹
¹PERFORM Centre, Concordia University, Montreal, Quebec
- 0881 Reduced Modulation of Task-Related Connectivity Mediates Age-Related Declines in Motor Performance**
Thiago Santos Monteiro¹, Hamed Zivari Adab¹, Sima Chalavi¹, Jolien Gooijers¹, Brad King¹, Koen Cuy¹, Dante Mantini¹, Stephan Patrick Swinnen¹
¹Leuven Brain Institute, KU Leuven, Leuven, Flemish Brabant

- 0884 Amyloid-based Modulation of Functional Connectivity between Locus Coeruleus and Medial Temporal Lobe**
Nina Engels¹, Prokopis Prokopiou², Fred d'Oleire Uquillas³, Matthew Scott³, Aaron Schultz³, Kathryn Papp⁴, Dorene Rentz⁴, Reisa Sperling⁴, Keith Johnson³, Heidi Jacobs³
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- 0886 Changes in Gray Matter Asymmetry in Broca's Area in Later Adulthood**
Eileen Luders¹, Nicolas Cherbuin², Florian Kurth¹
¹University of Auckland, Auckland, New Zealand, ²Australian National University, Canberra, Australian Capital Territory
- 0887 Aging of Prefrontal White Matter Tracts: Insights from Diffusion Tensor Imaging**
Wojciech Pietrasik¹, Ivor Cribben¹, Yushan Huang¹, Fraser Olsen¹, Nikolai Malykhin¹
¹University of Alberta, Edmonton, Alberta
- 0888 Age Effects on Subregions of the Fusiform Gyrus in Healthy Older Adults**
Florian Kurth¹, Mahima Shah¹, Eileen Luders¹
¹University of Auckland, Auckland, New Zealand
- 0889 Brains appear older with increasing blood pressure with or without hypertension.**
Nicolas Cherbuin¹, Erin Walsh¹, Katja Franke², Marnie Shaw¹, Eileen Luders³, Christian Gaser⁴
¹Australian National University, Canberra, Australian Capital Territory, ²Jena University Hospital, Jena, Thuringia, ³UoA, Auckland, New Zealand, ⁴Jena University Hospital, Jena, Germany
- 0891 Alteration of Emotion Regulation in Late-life Depression – a dynamic causal modelling study**
Lihong Wang¹, Kevin Manning¹, David Steffens¹
¹University of Connecticut Health Center, Farmington, CT
- 0893 Cognitive decline associated with frequency specific resting state functional change in normal aging**
Dong-qiong Fan¹, Tao Liu², Jiyang Jiang³, Nicole A. Kochan³, Henry Brodaty³, Perminder Sachdev⁴, Wei Wen⁵
¹Beihang University, Beijing, Beijing, ²Beihang University, Beijing, Beijing, ³University of New South Wales, Sydney, New South Wales, ⁴Centre for Healthy Brain Ageing (CHeBA), School of Psychiatry, University of New South Wales, Sydney, NSW, ⁵Centre for Healthy Brain Ageing, School of Psychiatry (CHeBA), University of New South Wales, Sydney, Sydney
- 0894 Determinants of Gray and White Matter Volume in a Chinese Population: the Shanghai Changfeng study**
Liangqi Wang^{1,2}, Huandong Lin^{1,3,4}, Chu-Chung Huang⁵, Chun-Yi Zac Lo⁵, Xin Gao^{1,3,4}
¹Department of Endocrinology and Metabolism, ZhongShan Hospital, Fudan University, Shanghai, China, ²Department of Radiology, Putuo District Central Hospital, Shanghai, China, ³Institute for Metabolic Diseases, Fudan University, Shanghai, China, ⁴Human Phenome Institute, Fudan University, Shanghai, China, ⁵Institute of Science and Technology for Brain Inspired Intelligence, Fudan University, Shanghai, China
- 0897 MR-based classifier of arteriolar sclerosis and small vessel atherosclerosis**
Nazanin Makkinejad¹, Arnold Evia², Ashish Tamhane², David Bennett², Julie Schneider², Konstantinos Arfanakis^{1,2}
¹Illinois Institute of Technology, Chicago, IL, ²Rush University Medical Center, Chicago, IL
- 0899 Age-related Functional Connectivity Changes within the Default Mode Network**
Cassandra Leonardo¹, Crystal Franklin¹, John Blangero², David Glahn³, Peter Fox¹
¹Research Imaging Institute, UT Health San Antonio, San Antonio, TX, ²South Texas Diabetes and Obesity Institute, University of Texas Rio Grande Valley, Brownsville, TX, ³Tommy Fuss Center for Neuropsychiatric Disease Research, Harvard Medical School, Boston, MA
- 0903 A high spatial resolution diffusion tensor template of the older adult brain**
Mohammad Rakeen Niaz¹, Yingjuan Wu¹, Abdur Raquib Ridwan¹, Xiaoxiao Qi¹, Shengwei Zhang², David Bennett², Konstantinos Arfanakis^{1,2}
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- 0904 Age-related Overlapping Modular Organization of Resting-state fMRI**
Yue Gu¹, Ying Lin¹, Chenfan Yang¹, Zhengjia Dai¹
¹Sun Yat-sen University, Guangzhou, Guangdong
- 0905 Does shiftwork affect brain and cognitive health? Multimodal evidence from a population-based sample**
Nora Bittner^{1,2}, Horst-Werner Korf¹, Johanna Stumme^{3,2}, Svenja Caspers^{1,2,4}
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- 0906 Age Related Change of Brain Activation during NF-fMRI Training Using a Small Humanoid Robot Agent**
Toshiharu Nakai^{1,2}, Akihiro Yoshida³, Mika Ueno⁴, Shohei Kato¹, Epifanio Bagarinao²
¹Graduate School of Engineering, Nagoya Institute of Technology, Nagoya, Japan, ²Brain and Mind Research Center, Nagoya University, Nagoya, Japan, ³Nagoya University Graduate School of Medicine, Nagoya, Japan, ⁴Research Center for Psychological Science, Doshisha University, Kizugawa, Japan
- 0908 Neural plasticity with and without short-term exercise-intervention in healthy elderly people**
Takahiro Soshi¹, Micael Andersson², Toshikazu Kawagoe³, Shu Nishiguchi⁴, Minoru Yamada⁵, Yuki Otsuka¹, Ryusuke Nakai¹, Nobuhito Abe¹, Adibah Aslah⁶, Tomohiko Igasaki⁶, Lars Nyberg², Kaoru Sekiyama¹
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- 0911 Two distinct histograms of magnetic transfer ratio of white matter in a large healthy cohort**
Ting-En Chang¹, Chang-Le Chen¹, Pin-Yu Chen¹, Yung-Chin Hsu², Wen-Yih Isaac Tseng^{1,2,3,4}
¹Institute of Medical Device and Imaging, National Taiwan University College of Medicine, Taipei, Taiwan, ²AcroViz Technology Inc., Taipei, Taiwan, ³Department of Medical Imaging, National Taiwan University Hospital, Taipei, Taiwan, ⁴Molecular Imaging Center, National Taiwan University, Taipei, Taiwan
- 0913 Reaction time is associated with altered choline and GABA in aging: a drift-diffusion analysis**
Lauren Revie¹, Craig Hedge¹, Claudia Metzler-Baddeley¹
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- 0914 Age prediction by functional and structural connectivity: a multivariate pattern analysis**
Johanna Stumme^{1,2}, Christiane Jockwitz^{1,2}, Jan Schreiber¹, Svenja Caspers^{1,3,4}
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- 0915 Neuro-functional age effects in the mesolimbic dopaminergic reward system**
Bernd Krämer¹, Martin Kramer², Oliver Gruber³
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- 0918 Effects of age and APOE genotype on hippocampal subfield volumes in 19,400 people in the UK Biobank**
Lisa Nobis¹, Sanjay Manohar¹, Stephen Smith¹, Mark Jenkinson¹, Fidel Alfaro-Almagro¹, Clare Mackay¹, Masud Husain¹
¹University of Oxford, Oxford, Oxfordshire
- 0920 Characterization of cortical and subcortical changes in healthy aging**
Silvano Sele¹, Franziskus Liem¹, Susan Mérillat¹, Lutz Jäncke¹
¹University of Zurich, Zurich, ZH
- 0921 Age Related White Matter Changes in the Healthy Canine Brain**
Erica Barry¹, Philippa Johnson²
¹Cornell University, Sacramento, CA, ²Cornell University, Ithaca, NY
- 0922 Using Eye Movements as a Measure of Medial Temporal Lobe Integrity**
Jenna Blujus¹, L. Tugan Muftuler², Deborah Hannula¹, Ira Driscoll¹
¹University of Wisconsin-Milwaukee, Milwaukee, WI, ²Medical College of Wisconsin, Milwaukee, WI
- 0923 Reliability Analysis of Brain-age Algorithms**
Jessica Dafflon¹, Walter Pinaya^{2,3}, James Cole⁴
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- 0924 Estradiol Modulation of Network Connectivity Across the Adult Female Lifespan**
Myles LoParco¹, M. Natasha Rajah¹
¹McGill University, Montreal, Quebec
- 0925 Investigating accelerated brain aging in military Veterans exposed to trauma in childhood**
M.Nicole Buckley^{1,2}, Amanda Watts^{1,2}, Ashley Clausen^{1,2}, Molly Monsour¹, Courtney Haswell^{1,2}, Emily Clarke-Rubright^{1,2}, Kelene Fercho^{3,4}, Lee Baugh⁵, ENIGMA Brain Age Workgroup⁶, ENIGMA-PGC PTSD Neuroimaging Workgroup¹, Rajendra Morey^{1,2}
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- 0927 A spatio-temporally consistent longitudinal structural template of the older adult brain**
Abdur Raquib Ridwan¹, Mohammad Rakeen Niaz¹, Yingjuan Wu¹, Xiaoxiao Qi¹, David Bennett², Konstantinos Arfanakis¹
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- 0930 Early age-related inhibitory control differences in major frontal fiber tracts**
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- 0931 Genetic (APOE, BDNF) influences on functional brain connectivity in healthy older adults**
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- 0932 The Neurophysiological Evidence of Age Difference in Framing effect on Value-based Decision Making**
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- 0933 Reproducible dynamic functional connectivity differences between healthy young and old individuals**
Joanna Su Xian Chong¹, Chenhao Wang¹, Kwun Kei Ng¹, Xing Qian¹, Amelia Jialing Koh¹, Marcus Qin Wen Ong¹, June C. Lo¹, B.T. Thomas Yeo^{1,2}, Woon Puay Koh^{3,1}, Michael W.L. Chee^{1,3}, Juan Helen Zhou^{1,3}
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- 0934 Brain Age Gaps: a Methodological Comparison & Correlations to Other Biological Clocks and Depression**
Laura Han¹, Hugo Schnack², Rachel Brouwer², Rick Jansen¹, Josine Verhoeven¹, Yuri Milaneschi¹, Moji Aghajani¹, Lianne Schmaal³, Brenda Penninx¹
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- 0935 Hippocampal modulators of delayed recall: Human Connectome Project in Aging at UCLA**
Tyler Wishard¹, Timothy Ly¹, Claire Wang², Marcela Caldera¹, Kevin Japardi¹, Taylor Kuhn¹, Susan Bookheimer¹
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- 0937 Alzheimer's disease polygenic risk scores predict hippocampal subfield volumes in the UK Biobank**
Heidi Foo¹
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- 0941 Modulation of cognitive and affective empathy with emotionally-valenced stimuli in late adulthood**
Maryam Ziaei¹, Natalie Ebner^{2,3,4}, David Reutens¹
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- 0944 Epigenetic signatures of inflammation associate with global reductions in brain volume**
Eleanor Conole¹, Anna Stevenson¹, Sarah Harris¹, Susana Munoz-Maniega¹, María Valdés-Hernández¹, Mathew Harris¹, Veronique Miron¹, Heather Whalley¹, Mark Bastin¹, Joanna Wardlaw¹, Riccardo Marioni¹, Ian Deary¹, Simon Cox¹
¹University of Edinburgh, Edinburgh, Scotland
- 0947 Rest-Activity Rhythms and White Matter Differences in Aging**
Megan McMahon¹, Yoshita Malneedi¹, Darrell Worthy², David Schnyer¹
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- 0950 Effects of 6 months of exercise on cardiac-related brain pulsatility in older adults using BOLD fMRI**
Sarah Atwi¹, Andrew Robertson², Athena Theyers², Joel Ramirez², Richard Swartz³, Susan Marzolini⁴, Bradley MacIntosh²
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- 0951 Microstructural Correlates of Cognitive Performance in Aging**
Raihaan Patel^{1,2}, M Mallar Chakravarty^{1,2,3}, Clare Mackay^{4,5}, Enikő Zsoldos^{4,5}, Klaus Ebmeier⁴, Sana Suri^{4,5}
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- 0956 Human age is predicted by a linear covariation of brain network and behavioral factors**
Brent McPherson¹, Franco Pestilli¹
¹Indiana University, Bloomington, IN
- 0957 Lower education is accompanied by greater longitudinal brain network decline in older adults**
Micaela Chan¹, Claudia Carreno¹, Ziwei Zhang¹, Rebekah Rodriguez¹, Megan LaRose², Jason Hassenstab², Gagan Wig^{1,3}
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- 0962 RsFC-Based Brain Aging in Depression is associated with Increased Impulsivity and Response to TMS**
Katharine Dunlop¹, Lindsay Victoria¹, Jonathan Downar², Faith Gunning¹, Conor Liston¹
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- 0965 Basal Ganglia Connectivity in Senior Adults Has High Sensitivity to Time-of-Day Effect**
Chu-Shin Peng¹, Shang-Cheng Chiu², Fan-Chi Hsiao², Chi-Yun Liu³, Chih-Mao Huang⁴, Chien-Ming Yang², Changwei Wu³
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- 0970 Aging is associated with higher glucose cost and beta amyloid burden in the sensorimotor cortex**
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- 0971 Cortical Atrophy in Adults 80+ Years with Superior Memory vs Cognitively Average Middle-Age Adults**
Fatima Eldes¹, Jaiashre Sridhar¹, Hui Zhang¹, Alan Kuang¹, Christina Coventry¹, Stacey Moeller¹, Amanda Maher², Marek Marsel Mesulam¹, Sandra Weintraub¹, Emily Rogalski¹
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- 0973 Characterizing the Generalizability of an Attention Neuromarker in Healthy Aging**
Heena Manglani¹, Stephanie Fountain-Zaragoza¹, Monica Rosenberg², Ruchika Prakash¹
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- 0974 Brain microstructure and cognitive aging in community-dwelling older adults**
Emilie Reas¹, Donald Hagler², Murray Andrews¹, Roland Lee¹, Anders Dale², Linda McEvoy¹
¹University of California, San Diego, La Jolla, CA, ²University of California San Diego, La Jolla, CA
- 0975 Mapping Memory Related Tissue Changes in Healthy Aging via Multidimensional Diffusion Encoding at 7T**
Erpeng Dai¹, Grant Yang^{1,2}, Adam Kerr², Alexandra Trelle³, Marc Harrison³, Madison Hunt³, Nicole Corso³, Brian Rutt¹, Carolyn Fredericks⁴, Anthony Wagner³, Elizabeth Mormino⁵, Jennifer McNab¹
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- 0979 Intranasal Oxytocin Modulates the Salience Network in Aging**
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- 0980 Statistical estimation of accelerated brain aging after mild traumatic brain injury in older adults**
Van Ngo¹, Sean Mahoney¹, Andrei Irimia¹
¹Leonard Davis School of Gerontology, University of Southern California, Los Angeles, CA
- 0984 Default mode network dysfunction in geriatric mild traumatic brain injury vs. Alzheimer's disease**
Alexander Maher¹, Nikhil Chaudhari¹, Elliot Jacobs¹, Sean Mahoney¹, Andrei Irimia¹
¹Leonard Davis School of Gerontology, University of Southern California, Los Angeles, CA
- 0985 The Musicians Aging Brain**
Oana Rus-Oswald^{1,2}, Jan Benner³, Céline Burki², Julia Reinhardt^{4,5}, Hofmann Elke⁶, Stippich Christoph⁵, Reto Kressig², Peter Schneider⁷, Maria Blatow⁵
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- 0987 Oxytocin Facilitates Neural Recruitment in Medial Prefrontal Cortex and Superior Temporal Gyrus**
Diana S.Cortes¹, Amirhossein Manzouri², Kristoffer NT Månsson³, Petri Laukka², Natalie Ebner⁴, Håkan Fischer⁵
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- 0989 Predicting Alzheimer's disease susceptibility from cerebellar gradients**
Helena Gellersen¹, Xavier Guell², Saber Sami³
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- 0990 Age differences in white matter: a 3-way multimodal fusion analysis.**
Andrea Mendez Colmenares¹, Vince Calhoun², Arthur Kramer³, Edward McAuley⁴, Agnieszka Burzynska¹
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- 0991 APOE4 genotype and air pollution interact to predict brain structure in healthy adults in UK Biobank**
Lauren Salminen¹, Fabrizio Pizzagalli¹, Alyssa Zhu¹, Talia Nir¹, Joanna Bright¹, Neda Jahanshad¹, Paul Thompson¹
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- 0993 WMH and PVS mapping from clinical MRI using semi-supervised multi-modal convolutional neural network**
Farshid Sepehrband¹, Arthur Toga²
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- 0994 Age-related Changes in Cortical Architecture and Cognitive Function**
Akihiro Sasaki¹, Takuya Hayashi², Joonas Autio³, Hikaru Fukutomi¹, Kyosuke Watanabe¹, Kei Mizuno¹, Yasuyoshi Watanabe¹
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Early life, Adolescence, Aging

- 0867 Restricted plasticity after long-term unilateral deprivation in adolescents with profound deafness**
Carly Anderson^{1,2}, Blake Papsin^{3,4}, Sharon Cushing^{3,4}, Karen Gordon^{1,2,3,4}
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- 0872 Distinct developmental trajectory of middle temporal gyrus sub-regions from children to adult**
Jinping Xu¹, Jiaojian Wang², Qingmao Hu¹
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- 0874 Influence of normal variation in birthweight on brain structure in later life**
Emily Wheeler¹, Simon Cox¹, Mark Bastin¹, Susan Shenkin¹, María Valdés-Hernández¹, Susana Munoz-Maniega¹, Joanna Wardlaw¹, Ian Deary¹, James Boardman¹
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- 0876 Striatal dopamine function contributes to the effect of incentives on adolescent inhibitory control**
Ashley Parr¹, Finnegan Calabro¹, Bart Larsen², Valur Olafsson³, Beatriz Luna¹
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- 0880 Reduced frontopolar volume links childhood trauma to adulthood obesity**
Lingli Zhang¹, Qiang Luo², Fei Li¹, Trevor Robbins³
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- 0892 Inferring the infant pain experience**
Eugene Duff¹, Sean Fitzgibbon², Luke Baxter¹, Fiona Moultrie¹, Alexandre Abos³, Sezgi Goksan⁴, Tor Wager⁵, Rebecca Slater¹
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- 0895 Refining the fingerprint: Optimising connectome fingerprinting for neurodevelopmental applications**
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- 0898 Spatiotemporal patterns of sulcal pits in the fetal brain**
Hyuk Jin Yun¹, Lana Vasung¹, Tomo Taru², Caitlin Rollins¹, Cynthia Ortinau³, P. Ellen Grant¹, Kiho Im¹
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- 0902 Parenting behavior and brain functional connectivity development in children**
Elena Pozzi¹, Julian Simmons¹, Nandita Vijayakumar², Sarah Whittle¹
¹University of Melbourne, Melbourne, VIC, ²Deakin University, Melbourne, VIC
- 0907 Neurodevelopment of Semantic Systems in Reading**
Fanlu Jia¹
¹The University of Jinan, Jinan, Shandong
- 0909 Investigating brain structural variation in infants with congenital heart disease**
Isabel Ng¹, Alexandra Bonthron¹, Christopher Kelly¹, Emer Hughes¹, Jakki Brandon¹, Camilla O'Keefe¹, Lucilio Cordero-Grande¹, Anthony Price¹, Jana Hutter¹, Andreas Schuh², Daniel Rueckert², Joseph Hajnal^{1,3}, John Simpson⁴, David Edwards¹, Mary Rutherford¹, Dafnis Batalle^{1,5}, Serena Counsell¹
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- 0916 Sex Differences in Adolescent Functional Connectivity Maturation Relate to Major Depression**
Lena Dorfschmidt¹, František Váša², Simon White¹, Petra Vertes¹, Edward Bullmore¹
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- 0929 Sex Continuum: Brain, Body, and Personality**
Daniel Vosberg¹, Catriona Syme², Louis Richer³, Zdenka Pausova⁴, Tomas Paus⁵
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- 0939 Metacognition using Child-Parent Perspectives Scale: The Cortical Thickness Contribution**
Kelssy Kawata¹, Akiko Uematsu¹, Yuko Nakamura¹, Naohiro Okada¹, Kiyoto Kasai¹, Shinsuke Koike¹
¹The University of Tokyo, Tokyo, Japan
- 0943 Generative models of network rewiring during neurodevelopment**
Xiaolong Zhang¹, Urs Braun¹, Ren Ma¹, Gabriela Gan¹, Markus Reichert¹, Ulrich Ebner-Priemer², Andreas Meyer-Lindenberg¹, Danielle Bassett³, Heike Tost¹
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- 0945 Decomposing the role of alpha oscillations during brain maturation using aperiodic signal components**
Marius Tröndle¹, Christian Pfeiffer¹, Nicolas Langer¹
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- 0948 Prenatal stress alters hypothalamic-pituitary-gonadal axis structures in adults: Project Ice Storm**
Sherri Lee Jones¹, Chloe Anastassiadis², Matthieu Dupuis³, Guillaume Elgbeili³, François-Pierre Marcoux⁴, James Gazetas⁴, Gabriel Devenyi², Jamie Near², David Laplante³, Tuong-Vi Nguyen⁵, Jens Pruessner⁶, Suzanne King²
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- 0949 Developmental trajectory of striatal reward processing relates to subclinical psychiatric risk**
Ren Ma¹, Gabriela Gan¹, Markus Reichert¹, Marco Giurgiu², Urs Braun¹, Kristina Schwarz¹, Carolin Moessnang¹, Iris Reinhard¹, Ulrich Ebner-Priemer², Andreas Meyer-Lindenberg¹, Heike Tost¹
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- 0952 Amygdalar Emotional Responses Moderating the Links Between Family Conflict and Youth Adjustment**
Sihong Liu¹, Assaf Oshri¹
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- 0953 Longitudinal development of brain iron is linked to cognition in youth**
Bart Larsen¹, Josiane Bourque¹, Tyler Moore¹, Azeez Adebimpe¹, Monica Calkins¹, Mark Elliott¹, Raquel Gur¹, Ruben Gur¹, Paul Moberg¹, David Roalf¹, Kosha Ruparel¹, Bruce Turetsky¹, Simon Vandekar², Daniel Wolf¹, Russell Shinohara¹, Theodore Satterthwaite¹
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- 0954 Greater age-related changes in fronto-limbic white matter morphometry following early life stress**
Rajpreet Chahal¹, Jaclyn Schwartz¹, Tiffany Ho², Dana Mastrovito¹, Ian Gotlib¹
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- 0955 Early malnutrition induced premature cognitive aging is mediated by Brain States set at school-age**
Fuleah Abdul Razzaq¹, Carlos Naranjo¹, Maria L. Bringas-Vega², Lidice Galán-García³, Arielle Rabinowitz⁴, Janina Galler⁵, Jorge Bosch-Bayard⁶, Pedro A. Valdés-Sosa⁷
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- 0959 Lifespan Volume Trajectories from Non-Harmonized T1-weighted MRI Before and After Site Correction**
Sarah Treit¹, Emily Stolz¹, Julia Rickard¹, Prayash Katlariwala¹, Cheryl McCreary², Mercedes Bagshawe², Kassondra Pedenko², Richard Frayne², Catherine Lebel², Derek Emery¹, Christian Beaulieu¹
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- 0960 Development of Neonatal Structural Covariance Networks**
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- 0961 Early Parenting Intervention Effects on Brain Responses to Maternal Cues Among High-Risk Children**
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- 0964 Region-specific Early Developmental Patterns of the Nodal Efficiency in the Infant Brain**
Weixiong Jiang¹, Zhen Zhou¹, Xuyun Wen¹, Bing Jing¹, Tae-Eui Kam¹, Li-Ming Hsu¹, Li Wang¹, Zhengwang Wu¹, Guoshi Li¹, Kim-Han Thung¹, Pew-Thian Yap¹, Dinggang Shen¹, Weili Lin¹, Han Zhang¹, for UNC/UMN Baby Connectome Project Consortium²
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- 0969* Discovering developmental patterns and regionalization of cortical myelin during the first two years**
Ying Huang¹, Fan Wang¹, Zhengwang Wu¹, Tengfei Li¹, Xifeng wang², Li Wang¹, Weili Lin¹, Dinggang Shen¹, Gang Li¹, for UNC/UMN Baby Connectome Project Consortium¹
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- 0976 Differential structural brain development of healthy adolescents with lower and higher IQ**
Sahil Bajaj¹, Ru Zhang¹, Johannah Bashford¹, Karina Blair¹, James Blair¹
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- 0977 Arithmetic in the developing bilingual brain**
Vanessa Cerda¹, Nicole Wicha^{1,2}
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- 0978 Increased Spectral Power in Default Mode Networks in Adolescents**
Oktay Agcaoglu¹, Tony Wilson², Yu-Ping Wang³, Julia Stephen⁴, Vince D. Calhoun^{1,4}
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- 0981* Harmonious family climate mediates the impact of socioeconomic status on child brain function**
Han Zhang¹, Guodong Liu¹, Anqi Qiu¹
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- 0982 Sex specific neurodevelopmental associations with maternal and paternal history of suicide in ABCD**
Alyssa Zhu¹, Paul Thompson¹, Neda Jahanshad¹
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- 0986 Neural correspondence of primary and secondary reward processing in typically developing children**
Giorgia Picci¹, Kathleen Keller¹, Diana Fishbein¹, Emma Rose¹
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0988 Developmental Trajectories of Cortical Thickness are Confounded by Age-Related MRI Quality Variance

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0992 Monkey Offspring Functional Brain Connectivity Echoes Prior Human Findings Predicting Maternal IL-6

Julian Ramirez¹, Oscar Miranda-Dominguez², Elina Thomas², AJ Mitchell², Robert Hermsillo², Mollie Marr², Darrick Sturgeon², Samantha Papadakis², Jennifer Bagley³, Jarod Rasmussen⁴, Pathik Wadhwa⁴, Claudia Buss⁴, Eric Feczko², Michael Milham¹, Ting Xu¹, Alice Graham², Elinor Sullivan³, Damien Fair⁵

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Normal Brain Development: Fetus to Adolescence

0863* Tracking white matter development in the human fetus

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0865* The Developing Human Connectome Project: functional connectivity across the perinatal period

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0868 Exploring the microstructural properties of the newborn sensorimotor network with diffusion MRI

Maelig Chauvel^{1,2}, Francois Rheault³, Cindy Rolland^{1,2}, Kevin Aubrain^{1,2}, Francois Leroy^{4,2}, Heloise de Vareilles², Gabriel Girard^{5,6}, Denis Riviere², Lucie Hertz-Pannier^{2,1}, Jean-François Mangin², Maxime Descoteaux³, Jessica Dubois^{1,2,7}

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0871 Performance Evaluation of Open Source Neonatal Brain Extraction Software using Public Datasets

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0877 Brain activation patterns in newborns: The influence of prenatal exposure to a foreign language

Laura Caron-Desrochers¹, Natacha Paquette¹, Phetsamone Vannasing², Julie Tremblay², Alejandra Hüscher¹, Cassandra Roger¹, Sarah Provost¹, Clémence Noiseux¹, Sarah Kraimeche¹, Pauline Lebrét², Florence Ménard¹, Catherine Taillefer², Isabelle Boucoiran², Anne Gallagher¹

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0882 The Development Gradients in the School-age Children Connectome

Yunman Xia¹, Ziyi Shi¹, Tianyuan Lei¹, Xinyu Liang¹, Xiaodan Chen¹, Xuhong Liao², Tengda Zhao¹, Weiwei Men³, Yanpei Wang¹, Shaozheng Qin¹, Jiahong Gao³, Tao Sha¹, Dong Qi⁴, Mingrui Xia¹, Yong He¹

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0885 The Organization of the Brain Functional Connectome Follows Puberty-Dependent Nonlinear Trajectories

Zeus Gracia-Tabuenca¹, Martha Beatriz Moreno¹, Fernando Barrios¹, Sarael Alcauter¹

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0890 Resting state functional networks in 1-to-3-year-old typically developing children

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0900 Association between the thickness of transient fetal cortical compartments and gene expression

Lana Vasung¹, Chenying Zhao², Jennings Zhang¹, Hyuk Jin Yun¹, Caitlin Rollins¹, Clemente Velasco-Annis¹, Kiho Im¹, P Grant¹, Simon Warfield¹, Ali Gholipour¹, Hao Huang²

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0910* High temporal resolution longitudinal observation of fetal brain development. A baboon pilot study

Olivier Coulon¹, Julien Sein², Guillaume Auzias², Bruno Nazarian², Jean-Luc Anton², Rousseau Francois³, Lionel Velly², Nadine Girard⁴

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0912 Multilayer network dynamics at birth predicts cognitive and language function at two years of age

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0917 Brain Structure Related to Irritability in Early Childhood across Two Clinically Enriched Samples

Ashley Nielsen¹, Michael Gaffrey², Joan Luby³, Deanna Barch³, Lauren Wakschlag¹, Elizabeth Norton¹

¹Northwestern University, Chicago, IL, ²Duke University, Durham, NC, ³Washington University, Saint Louis, MO

- 0919 Early mother-child attachment security predicts child white matter microstructure 9 years later**
Fanny Dégeilh^{1,2}, Élizabel Leblanc¹, Véronique Daneault^{1,3,4}, Miriam Beauchamp^{1,2}, Annie Bernier¹
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- 0926 Developmental Trajectories of the Rat Brain: an In-vivo High-Resolution MRI Study**
Erika Gonzalez-Perez¹, Juan Ortiz-Retana¹, Sarael Alcauter¹
¹Universidad Nacional Autónoma de México, Querétaro, México
- 0928* The subgrouping structure of newborns with heterogenous brain-behavior relationships**
Yuanyuan Chen¹, Shuxin Liu^{1,2}, Andrew Salzwedel¹, Rebecca Stephens³, Emil Cornea³, Barbara Goldman⁴, John Gilmore³, Wei Gao^{1,5}
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- 0936 Developmental Brain Module Dynamics Associates with Transcriptome Profiles in School-Age Children**
Tianyuan Lei^{1,2,3}, Xuhong Liao⁴, Xiaodan Chen^{1,2,3}, Yuehua Xu^{1,2,3}, Weiwei Men^{5,6}, Yanpei Wang¹, Shaozheng Qin^{1,2,3}, Shuping Tan⁷, Jiahong Gao^{5,6,8}, Tao Sha¹, Qi Dong¹, Yong He^{1,2,3}
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- 0938 Dramatic Reconfiguration of Functional Connectivity Patterns in Infant Brains During Third Trimester**
Qiushi Wang^{1,2,3}, Xuhong Liao⁴, Yuehua Xu^{1,2,3}, Tengda Zhao^{1,2,3}, Zhilei Xu^{1,2,3}, Yong He^{1,2,3}
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- 0940 Functional connectivity centrality in the developing Human Connectome Project**
Sunniva Fenn-Moltu^{1,2}, Sean Fitzgibbon³, Judit Ciarrusta^{1,2}, Stefan Holiga⁴, Lucilio Cordero-Grande², Andreas Schuh⁵, Ralica Dimitrova², Jakki Brandon², Katy Vecchiato^{1,2}, Anthony Price², Emer Hughes², Eugene Duff^{3,6}, Joerg Hipp⁴, Jonathan O'Muircheartaigh^{1,2}, Tomoki Arichi^{2,7}, Christopher Chatham⁴, Daniel Rueckert⁵, Joseph Hajnal², Grainne McAlonan¹, A. David Edwards², Dafnis Batalle^{1,2}
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- 0942 Folding Dynamics of the Sylvian Fissure : a Longitudinal Study on Preterms**
Héloïse de Vareilles¹, Denis Riviere¹, Manon Benders², Zhong Yi Sun¹, Clara Fischer^{1,3}, Francois Leroy⁴, Jessica Dubois^{5,6}, Jean-François Mangin^{1,3}
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- 0946 Reduced fiber density in the white matter of premature born adults**
Aurore Menegaux¹, Dennis Hedderich², Josef Baum², Andrei Manoliu³, Marcel Daamen⁴, Henning Boecker⁴, Peter Bartmann⁴, Dieter Wolke⁵, Christian Sorg⁶, Philipp Stämpfli⁷
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- 0958 Development of white matter tract axonal density in early childhood**
Dennis Dimond¹, Stella Heo¹, Amanda Ip¹, Christiane Rohr¹, Ryann Tansey¹, Kirk Graff¹, Thijs Dhollander², Robert Smith², Catherine Lebel¹, Deborah Dewey¹, Alan Connelly², Signe Bray¹
¹University of Calgary, Calgary, Alberta, ²The Florey Institute of Neuroscience and Mental Health, Melbourne, Victoria
- 0966 Early Childhood Stress is Associated with Blunted Development of Ventral Tegmental Area Connectivity**
Anne Park¹, Ursula Tooley¹, Austin Boroshok¹, Julia Leonard¹, Allyson Mackey¹
¹University of Pennsylvania, Philadelphia, PA
- 0967 Non-linear effects of socioeconomic status on brain and language development**
Budhachandra Khundrakpam¹, Suparna Choudhury¹, Uku Vainik², Noor Al-Sharif¹, Neha Bhutani¹, Seun Jeon¹, Alan Evans¹
¹McGill University, Montreal, QC, ²University of Tartu, Tartu
- 0968 Dense Temporal Mapping of Cortical Microstructure in the Early Developing Brain**
Khoi Huynh^{1,2}, Ye Wu¹, Kim-Han Thung¹, Sahar Ahmad¹, Zhengwang Wu¹, Weili Lin^{1,2}, Han Zhang¹, Li Wang¹, Gang Li¹, Pew-Thian Yap^{1,2}, the UNC/UMN Baby Connectome Project Consortium¹
¹Department of Radiology and BRIC, University of North Carolina, Chapel Hill, NC, ²Biomedical Engineering Department, University of North Carolina, Chapel Hill, NC
- 0972 The effect of body mass on hippocampal shape across childhood and adolescence**
Kirsten Lynch¹, Kathleen Page¹, Arthur Toga², Kristi Clark¹
¹University of Southern California, Los Angeles, CA, ²Laboratory of Neuro Imaging, Keck School of Medicine of USC, University of Southern California, Los Angeles, CA
- 0983 Developmental Heatmaps of Brain Functional Connectivity from Newborns to 6-year-olds**
Haitao Chen^{1,2}, Yuanyuan Chen¹, Andrew Salzwedel¹, Emil Cornea³, John Gilmore³, Wei Gao^{1,4}
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Lifespan Development Other

- 0856 Structural properties of human superior longitudinal fasciculus lateralization along the lifespan**
Kaoru Amemiya^{1,2}, Eiichi Naito^{1,2}, Hiromasa Takemura^{1,2}
¹Center for Information and Neural Networks (CiNet), NICT, Suita, Osaka, Japan, ²Graduate School of Frontier Biosciences, Osaka University, Suita, Osaka, Japan
- 0866 Task-context functional connectivity differences across the lifespan**
Patrick Pruitt¹, Lingfei Tang¹, Jessica Hayes¹, Noa Ofen¹, Jessica Damoiseaux^{1,2}
¹Wayne State University Institute of Gerontology, Detroit, MI, ²Wayne State University Department of Psychology, Detroit, MI
- 0873 Prematurity affects functional cortical networks and their relationship to neurological performance**
Pauliina Yrjölä^{1,2,3}, Susanna Stjerna^{2,3,4}, Sampsa Vanhatalo^{2,3,4}, Anton Tokariev^{2,3}
¹Aalto University, Espoo, Finland, ²University of Helsinki, Helsinki, Finland, ³Baby Brain Activity Center, Helsinki, Finland, ⁴Helsinki University Central Hospital, Helsinki, Finland
- 0879 Brain-Wide Functional Connectivity Differences During Movie-Watching and Rest Across Development**
Sara Sanchez-Alonso¹, Monica Rosenberg², Richard Aslin¹
¹Haskins Laboratories & Yale University, New Haven, CT, ²University of Chicago, Chicago, IL
- 0883 Prenatal exposure to antiepileptic drugs affects cortical networks of newborns**
Anton Tokariev^{1,2}, Mari Videman^{1,3,4}, Sampsa Vanhatalo^{1,2,3,4}
¹University of Helsinki, Helsinki, Finland, ²Baby Brain Activity Center, Helsinki, Finland, ³Helsinki University Hospital, Helsinki, Finland, ⁴New Children's Hospital, Helsinki, Finland
- 0901 Functional connectivity signatures of sex chromosome aneuploidies**
Iliana Karipidis¹, Allan L. Reiss¹, David S. Hong¹
¹Department of Psychiatry & Behavioral Sciences, Stanford University, Stanford, CA
- 0963 Maternal Health Factors and Intracranial Hemorrhage Associations with Preterm Neonates' Brain Volume**
Wesley Surento¹, Iyad Ba Gari¹, Zhe Sun¹, Joshua Boyd¹, Hosung Kim², Paul Thompson¹, Rowena Cayabyab³, Mark Shiroishi¹, Neda Jahanshad¹
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MODELING AND ANALYSIS METHODS

Activation (eg. BOLD task-fMRI)

- 1010 What is the test-retest reliability of common task-fMRI measures?**
Maxwell Elliott¹, Annchen Knodt¹, David Ireland², Meriwether Morris¹, Richie Poulton², Sandyha Ramrakha², Maria Sison¹, Terrie Moffitt¹, Avshalom Caspi¹, Ahmad Hariri¹
¹Duke University, Durham, NC, ²University of Otago, Dunedin, Otago

- 1035 BOLD fMRI to assess the impact of alcohol advertisements in young drinkers**
Quentin Duché¹, Elise Bannier^{1,2}, Jacques François Diouf³, Romain Moirand⁴, Karine Gallopel-Morvan⁵, Sophie Lacoste-Badie⁶, Olivier Droulers³
¹Université de Rennes, Inria, CNRS, Inserm, IRISA, EMPENN ERL U1228, F-35000, Rennes, France, ²CHU Rennes, Service de Radiologie, Rennes, France, ³Université Rennes, CNRS, CREM (Centre de Recherche en Economie et Management) - UMR 6211, Rennes, France, ⁴CHU Rennes, Service d'Addictologie, Rennes, France, ⁵EHESP, School of Public Health, CNRS, CREM (Centre de Recherche en Economie et Management)-UMR 6211, Rennes, France, ⁶Université Lille, CNRS, LEM (Lille Economie Management) - UMR 9221, Lille, France
- 1118 Language signatures in intrinsic functional space and their perturbations in epileptic patients**
Elise Roger¹, Jessica Royer², Sara Lariviere³, Sonja Banjac¹, Qionglin Li⁴, Lorenzo Caciagli⁵, Monica Baciú¹, Boris Bernhardt⁶
¹Université Grenoble Alpes, Grenoble, FR, ²Montreal Neurological Institute, Montréal, QC, ³McGill University, Montreal, QC, ⁴Montreal Neurological Institute, Montreal, Quebec, ⁵University of Pennsylvania, Philadelphia, PA, ⁶McGill University, Montreal, Quebec
- 1170 An fMRI Study of Emotional Working Memory in Males with Childhood Sexual Abuse Histories**
Carley Chiasson¹, Andra Smith¹, Jessie Moorman¹, Elisa Romano¹
¹University of Ottawa, Ottawa, ON
- 1185 Exercise versus diet effects on the neuronal response to visual food cues**
Kristina Legget¹, Marc-Andre Cornier¹, Brianne Sutton¹, Allison Hild¹, Jason Tregellas¹
¹University of Colorado School of Medicine, Aurora, CO
- 1197 Pain conditioning of behavioural and regional brain responses to tussive stimuli.**
Abubakar Abubakar¹, Matthew Dimmock¹, Stuart Mazzone², Michael Farrell¹
¹Monash University, Melbourne, Australia, ²The University of Melbourne, Melbourne, Australia
- 1199 Genetic variation of PDE4B modulates activity of brain regions relevant for psychiatric disorders**
Karolin Einenkel¹, Jens Treutlein¹, Esther Diekhof², Bernd Kraemer¹, Anja Richter¹, Oliver Gruber¹
¹Section for Experimental Psychopathology and Neuroimaging, Department of General Psychiatry, Heidelberg University, Heidelberg, Germany, ²Biocenter Grindel and Zoological Institute, Department of Human Biology, Hamburg University, Hamburg, Germany
- 1202 Cognitive Evaluation in Adult Survivors of Childhood Acute Lymphoblastic Leukemia using fMRI**
Daniel Svärd¹, Eva Marie Erfurth², Robin Hellerstedt³, Peter Mannfolk⁴, Johan Mårtensson⁵, Cecilia Follin⁶
¹Department of Diagnostic Radiology, Lund University, Lund, ²Department of Endocrinology, Skåne University Hospital, Lund, ³Department of Psychology, Lund University, Lund, ⁴Department of Medical Imaging and Physiology, Skåne University Hospital, Lund, ⁵Department of Logopedics, Phoniatrics and Audiology, Lund University, Lund, ⁶Department of Oncology, Skåne University Hospital, Lund
- 1224 Quantifying consistency of activation across individuals and groups: the case of perinatal stroke**
Kelly Martin¹, Anna Seydell-Greenwald¹, William Gaillard², Peter Turkeltaub^{1,3}, Elissa Newport^{1,3}
¹Georgetown University Medical Center, Washington, DC, ²Children's National Medical Center, Washington, DC, ³MedStar National Rehabilitation Hospital, Washington, DC
- 1229 A Novel Approach for Group fMRI Studies Using BrainSync Transform and Pairwise Statistics**
Anand Joshi¹, Soyoung Choi¹, Jian Li¹, Haleh Akrami¹, Richard Leahy¹
¹University of Southern California, Los Angeles, CA

- 1251 Efficient modelling of oxygen diffusion in the fMRI voxel using a finite element method.**
Jeremie Tanguay^{1,2}, Louis Gagnon^{1,2}, Mathieu Walsh^{1,2}, Ludovic Plasman¹, Jean Deteix¹, Louis Archambault^{1,2}, Michèle Desjardins^{1,2}
¹Université Laval, Quebec, Quebec, ²Centre de recherche du CHU de Québec, Quebec, Canada
- 1265 Uncovering latent brain state dynamics during sustained attention task**
Ayumu Yamashita^{1,2,3,4}, David Rothlein^{1,4}, Aaron Kucy⁵, Eve Valera⁶, Michael Esterman^{1,4}
¹Boston University School of Medicine, Boston, MA, ²ATR, Kyoto, Japan, ³RIKEN, Kobe, Japan, ⁴Boston Attention and Learning Laboratory, VA Boston Healthcare System, Boston, MA, ⁵Northeastern University, Brookline, MA, ⁶Harvard Medical School, Boston, MA
- 1286 Diverging Neural Processes Underlying Pain Expectation in Fibromyalgia vs. Healthy Subjects**
Angelica Sandström¹, Isabel Ellerbrock², Jeanette Tour², Diana Kadetoff², Karin Jensen², Eva Kosek²
¹Karolinska Institutet, stockholm, ²Karolinska Institutet, Stockholm, -
- 1309 Brain activity during task-based fMRI as predictor for antidepressant response to agomelatine**
Sandi Hebib¹, Egle Simulionyte¹, Helena Metzker¹, Maximilian Lueckel¹, Eva Gruber¹, Oliver Gruber¹
¹Section for Experimental Psychopathology and Neuroimaging, Department of General Psychiatry, Heidelberg University, Heidelberg, Germany
- 1311 Latent Variable Modeling Enhances Individual Differences Analyses of Task Activation fMRI**
Shelly Cooper¹, Todd Braver²
¹Washington University in St. Louis, St. Louis, MO, ²Washington University, Saint Louis, MO
- 1338 Machine Learning Modeling for the Prediction of Stop Signal Reaction Time in the ABCD study**
Dekang Yuan¹, Sage Hahn¹, Max Owens¹, Nicholas Allgaier¹, Hugh Garavan²
¹University of Vermont, Burlington, VT, ²The University of Vermont, Burlington, VT
- 1345 Neuroplastic effects of SSRIs evaluated with learning tasks and fMRI**
Murray Reed¹, Thomas Vanicek¹, Rene Seiger¹, Alexander Kautzky¹, Manfred Kloeb¹, Paul Michenthaler¹, Benjamin Spurny¹, Patricia Handschuh¹, Vera Ritter¹, Jakob Unterholzner¹, Alim Basaran¹, Godber Godbersen¹, Gregor Gryglewski¹, Christoph Kraus¹, Dietmar Winkler¹, Andreas Hahn¹, Rupert Lanzenberger¹
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- 1362 Driving with distraction: brain activity and oculomotor behaviour using fMRI and eye-tracking**
Nicole Yuen^{1,2}, Fred Tam², Nathan Churchill³, Tom Schweizer³, Simon Graham^{1,2}
¹University of Toronto, Toronto, Ontario, ²Sunnybrook Research Institute, Toronto, Ontario, ³St. Michael's Hospital, Toronto, Ontario
- 1373 Differentiating of Cortical Neuronal Encoding Direction of Wrist Movements using fMRI and fNIRS**
Maziar Jalalvand^{1,2}, Nader Riahi Alam^{2,3}, Hamid Sharini¹
¹Kermanshah University of Medical Sciences, Kermanshah, Kermanshah, ²Tehran University of Medical Sciences, tehran, Iran, Islamic Republic of, ³Concordia University, PERFORM Center, Montreal, Quebec, Canada., Montreal, Quebec, Canada.
- 1396 High-Resolution 7T-fMRI of Human Hippocampal Subfields During Threat Generalization**
Ashley Huggins¹, Carissa Weis¹, Elizabeth Parisi¹, Kenneth Bennett¹, Christine Larson¹
¹University of Wisconsin-Milwaukee, Milwaukee, WI
- 1440 Detecting task events in fMRI time series based on the topological structure of visibility graphs**
Adrian Onicas¹, Tommaso Gili¹, Luca Cecchetti¹, Emiliano Ricciardi¹
¹IMT School for Advanced Studies Lucca, Lucca, LU
- 1462 An Empirical Investigation of the Benefit of Increasing the Temporal Sampling Rate of fMRI Data**
Virág Darányi¹, Petra Hermann¹, Zoltán Vidnyánszky¹, Zoltan Nagy²
¹Brain Imaging Centre, Research Centre for Natural Sciences, Budapest, Hungary, ²Laboratory for Social and Neural System Research, University of Zurich, Zurich, Switzerland
- 1467 Implications of handedness on language brain lateralization in early bilinguals**
Maïte Termenon¹, Stefano Moia¹, Pedro Paz-Alonso¹, Nicola Molinaro^{1,2}, Simona Mancini¹, Bernard Mazoyer^{3,4,5}, Nathalie Tzourio-Mazoyer^{3,4,5}, Fabrice Crivello^{3,4,5}, Manuel Carreiras^{1,2}, César Caballero-Gaudes¹
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- 1504 Neural Spatial Working Memory Changes During Spaceflight**
Ana Paula Salazar¹, Kathleen Hupfeld¹, Heather McGregor¹, Nichole Gadd², Igor Kofman², Yiri De Dios², Scott Wood³, Ajitkumar Mulavara², Jacob Bloomberg³, Patricia Reuter-Lorenz⁴, Rachael Seidler¹
¹University of Florida, Gainesville, FL, ²KBR, Houston, TX, ³NASA Johnson Space Center, Houston, TX, ⁴University of Michigan, Ann Arbor, MI
- 1530 Imaging of the cortex, brainstem and cerebellum during grip force control**
Trina Mitchell¹, Winston Chu¹, David Vaillancourt¹
¹University of Florida, Gainesville, FL
- 1563 Test-Retest Reliability of fMRI Drug Cue Reactivity**
Rayus Kuplicki¹, Hamed Ekhtiari¹, Martin Paulus¹
¹Laureate Institute for Brain Research, Tulsa, OK
- 1567 Compensatory Neural Mechanisms during Intact Verbal-Associative Learning in Temporal Lobe Epilepsy.**
Kapil Chaudhary¹, Shilpi Modi¹, Gaëlle Doucet², David Weinstein³, Ashith Kumar¹, Andrew Crow¹, Xiaosong He⁴, Chaitanya Ganne⁵, Michael Sperling¹, Joseph Tracy¹
¹Thomas Jefferson University, Philadelphia, PA, ²Icahn School of Medicine At Mount Sinai, New York, NY, ³Thomas Jefferson University, Philadelphia, Pennsylvania, Philadelphia, PA, ⁴University of Pennsylvania, Philadelphia, PA, ⁵University of Alabama, Birmingham, AL
- 1569 Language Lateralization in Temporal Lobe Epilepsy as Measured by Lexical Reading of Exception Words**
Shaylyn Kress¹, Josh Neudorf¹, Layla Gould¹, Marla Mickleborough¹, Kate Gibb², Ron Borowsky¹
¹University of Saskatchewan, Saskatoon, Saskatchewan, ²University of Saskatchewan
- 1577 In Search for a Transdiagnostic Abnormal Emotion Regulatory Network: A Neuroimaging Meta-analysis**
Zahra Saltaninejad¹, Tina Khodadadifar², Claudia Eickhoff³, Christian Sorg⁴, Thilo van Eimeren⁵, Kai Vogeley⁶, Mojtaba Zarei¹, Simon Eickhoff⁷, Masoud Tahmasian¹
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- 1618 Cerebral network synchronization and attention demand**
Alexander Poznanski¹, Asadur Chowdury¹, Vaibhav Diwadkar¹
¹Wayne State University, Detroit, MI

1637 Whole-brain HRF Parameters Investigation from Functional Magnetic Resonance Imaging*Asma Qureshi¹, Amanda Taylor¹, Jung Hwan Kim¹, David Ress¹*¹Baylor College of Medicine, Houston, TX**1650 Comparing driving neural networks with cognitive test-related brain activity***Natasha Talwar¹, Nathan Churchill¹, Megan Hird¹, Iryna Pshonyak¹, Fred Tam², Corrine Fischer¹, Simon Graham², Tom Schweizer¹*¹St. Michael's Hospital, Toronto, Ontario, ²Sunnybrook Research Institute, Toronto, Ontario**1691 The Neural Impact of Felt-Gender Minority Stress on Working Memory***Hannah Loso¹, Bader Charani¹, Sarah Jane Dube¹, Nicholas Allgaier¹, Hugh Garavan², Alexandra Potter¹*¹University of Vermont, Burlington, VT, ²The University of Vermont, Burlington, VT

Bayesian Modeling

1043 Bayesian network change point detection using weighted stochastic block model for task fMRI*Lingbin Bian¹, Tiangang Cui¹, Adeel Razi^{1*}, Jonathan Keith^{1*}*¹Monash University, Melbourne, Australia**1110 MRI-based prediction of medication response and surgical outcome in temporal lobe epilepsy***Hyo Lee¹, Fatemeh Fadaie¹, Ravnoor Gill¹, Benoit Caldaïrou¹, Seok-Jun Hong¹, Andrea Bernasconi¹, Neda Bernasconi¹*¹Neuroimaging of Epilepsy Laboratory, McConnell Brain Imaging Center, Montreal Neurological Institute, Montreal, Quebec**1452 The signal in the noise: modelling site variation across surface-based and volumetric image features***Hester Huijsdens¹, Richard Dinga², Maarten Mennes³, Thomas Wolfers⁴, Christian Beckmann⁵, Seyed Kia⁶, Andre Marquand⁷*¹Donders Institute for Brain, Cognition and Behaviour, Nijmegen, FM, ²Donders Institute for Brain Cognition and Behaviour, Nijmegen, Netherlands, ³Donders Institute for Brain, Cognition and Behaviour, Radboud University, Nijmegen, ⁴University of Oslo, Oslo, FM, ⁵Donders Institute, Nijmegen, Gelderland, ⁶Donders Institute for Brain, Cognition and Behaviour, nijmegen, FM, ⁷Donders Institute for Brain, Cognition and Behaviour, Nijmegen, Gelderland**1606 Template ICA: Leveraging big data priors for accurate estimation of individual brain networks***Amanda Mejia¹, Mary Beth Nebe², Yikai Wang³, Brian Caffo⁴, Ying Guo³*¹Indiana University, Bloomington, IN, ²Kennedy Krieger Institute, Baltimore, MD, ³Emory University, Atlanta, GA, ⁴Johns Hopkins University, Baltimore, MD

Classification and Predictive Modeling

0999 Biological brain age prediction ability of different subcortical structures using deep learning*Pauline Mouches¹, Banafshe Felfelïyan², Sönke Langner³, Nils Forkert¹*¹Department of Radiology and Hotchkiss Brain Institute, University of Calgary, Calgary, Alberta, ²McCaig Institute for Bone & Joint Health, University of Calgary, Calgary, Alberta, ³Institute for Diagnostic Radiology and Neuroradiology, University Medicine Rostock, Rostock, Mecklenburg-Vorpommern**1004 A Connectivity-based Psychometric Prediction Framework for Brain-behavior Relationship Studies***Jianxiao Wu^{1,2}, Simon Eickhoff^{1,2}, Felix Hoffstaedter^{1,2}, Kaustubh Patil^{1,2}, Holger Schwender², Sarah Genon^{1,2}*¹Research Center Jülich, Jülich, Germany, ²Heinrich-Heine University Düsseldorf, Düsseldorf, Germany**1013 The Dos and Don'ts of Connectomics***Jaewon Chung¹, Jayanta Dey¹, Joshua Vogelstein¹*¹Johns Hopkins University, Baltimore, MD**1017 Network-specific modification of brain state by Naturalistic Viewing***Susanne Weis¹, Felix Hoffstaedter², Lisa Mochalski³, Robert Langner⁴, Simon Eickhoff², Kaustubh Patil²*¹Medical Faculty, Heinrich Heine University Düsseldorf, Düsseldorf, Germany, ²Research Center Juelich, Juelich, North Rhine-Westphalia, ³Research Center Juelich, Juelich, Northrhine-Westfalia, ⁴Medical Faculty, Heinrich Heine University Düsseldorf, Düsseldorf, Northrhine-Westalia**1018 Predicting brain function from anatomy in humans using neuroimaging and geometric deep learning***Fernanda Ribeiro¹, Steffen Bollmann¹, Alexander Puckett¹*¹University of Queensland, Brisbane, Queensland**1020 A deep learning-based approach to distinguish the brain structure of children with and without ADHD***Chung-Yuan Cheng¹, Yu-Chieh Chen², Susan Gau³*¹Institute of Biomedical Informatics, National Yang-Ming University, Taipei, Taiwan, ²Institute of Clinical Medicine, National Taiwan University, Taipei, Taiwan, ³Department of Psychiatry, National Taiwan University Hospital and College of Medicine, Taipei, Taiwan**1040 Unary classification & PCA feature extraction for generalized fMRI decoding under rapid-event design***Tsz Yan So¹, Hakwan Lau^{2,1}*¹The University of Hong Kong, Hong Kong, ²University of California, Los Angeles, Los Angeles, CA**1060 Machine Classification of Brain SPECT Images Using Stochastic Discrimination Machine Learning***David Wack¹, Venkatapavani Punugu¹, Robert Miletich¹*¹University at Buffalo, Buffalo, NY**1079 Connectome-based predictions of processing speed in aging population***Mengxia Gao^{1,2}, Clive Wong^{1,2}, Tatia Lee^{1,2}*¹The State Key Laboratory of Brain and Cognitive Sciences, The University of Hong Kong, Hong Kong, ²Laboratory of Neuropsychology, The University of Hong Kong, Hong Kong**1095 Meta-matching: exploiting large-scale datasets to boost RSFC behavior prediction in small studies***Tong He¹, Lijun An¹, Jiashi Feng¹, Simon Eickhoff², B.T. Thomas Yeo¹*¹National University of Singapore, Singapore, South West, ²Research Center Juelich, Juelich, North Rhine-Westphalia**1102 Comprehensive brain reading: decoding mental processes from Web repositories of fMRI***Romuald Meneu¹, Jérôme Docksès², Gaël Varoquaux¹, Bertrand Thirion³*¹INRIA, Saclay, Ile de France, ²INRIA, Palaiseau, Saclay, ³inria, Gif sur Yvette**1112 Predicting BMI from whole-brain functional connectivity***Erin Yeagle¹, Javid Dadashkarimi², Siyuan Gao³, Abigail Greene¹, Daniel Barron¹, Vivian Duan⁴, Dustin Scheinost²*¹Yale School of Medicine, New Haven, CT, ²Yale University, New Haven, CT, ³Yale University, Hamden, CT, ⁴Syosset High School, Syosset, NY**1126 A hierarchical classifier for temporal ICA component classification for denoising fMRI data***Chunhui Yang¹, Timothy Coalson¹, Steve Smith², David Van Essen¹, Matthew Glasser³*¹Washington University in St. Louis, St. Louis, MO, ²University of Oxford, Oxford, UK, ³Washington University, Saint Louis, MO

- 1133*** **Brain Gender Spectrum**
Yi Zhang¹, Qiang Luo¹, Jianfeng Feng¹, Barbara Sahakian², Edward Bullmore²
¹Fudan University, Shanghai, Shanghai, ²University of Cambridge, Cambridge, Cambridgeshire
- 1138** **High positive predictive value in classification of progression from mild cognitive impairment to AD**
Debra Dawson¹, Ziqi Hao², Kelvin Mok¹, Li Lin³, Ying Han³, Pierre Bellec⁴, Amir Shmuel¹
¹McGill University, Montreal, Québec, ²Electronic Information Engineering, Sichuan University, Chengdu, Sichuan, ³Xuanwu Hospital of Capital Medical University, Beijing, Hebei, ⁴Centre de recherche de l'institut de gériatrie de Montréal, Montréal, Québec
- 1139** **Behavioral performance prediction in aging with advanced resting-state imaging acquisitions**
Scott Peltier¹, Michelle Karker¹, Bruno Giordani¹, Henry Paulson¹, Benjamin Hampstead¹
¹University of Michigan, Ann Arbor, MI
- 1143** **Self-supervised deep learning from sleep EEG signals**
Hubert Banville^{1,2}, Isabela Albuquerque³, Aapo Hyvärinen⁴, Graeme Moffat², Denis-Alexander Engemann¹, Alexandre Gramfort¹
¹Inria, Université Paris-Saclay, Paris, France, ²InteraXon Inc., Toronto, Canada, ³INRS-EMT, Université du Québec, Montréal, Québec, ⁴University of Helsinki, Helsinki, Finland
- 1147** **Commonality and specificity across psychosis sub-groups using brain dynamic functional connectivity**
Yuhui Du^{1,2}, Hui Hao¹, Shuhua Wang¹, Godfrey D Pearlson³, Vince Calhoun²
¹School of Computer and Information Technology, Shanxi University, Taiyuan, Shanxi, ²Tri-Institutional Center for Translational Research in Neuroimaging and Data Science (TReNDS), Atlanta, GA, ³Departments of Psychiatry, Yale University, New Haven, CT
- 1161** **Clustering Based on sMRI and Relationships with Cognition, Personality Traits and Depression**
Honwah Yeung¹, Xueyi Shen¹, Aleks Stolicyn¹, Matthew Harris¹, Laura De Nooij¹, Andrew McIntosh¹, Simon Cox¹, Keith Smith^{2,3}, Heather Whalley¹
¹University of Edinburgh, Edinburgh, United Kingdom, ²Usher Institute, University of Edinburgh, Edinburgh, United Kingdom, ³Health Data Research UK, London, United Kingdom
- 1171** **ABCD ML: A Machine Learning library designed for Neuroimaging data**
Sage Hahn¹, De Kang Yuan¹, Wes Thompson², Nick Allgaier¹, Hugh Garavan¹
¹University of Vermont, Burlington, VT, ²University of California San Diego, La Jolla, CA
- 1196** **Deep-learning based segmentation and detection of perivascular spaces in young adults**
Boutinaud Philippe¹, Ami Tsuchida², Filipa Adonias², Junyi Zhang³, zahra hanifehlou⁴, VICTOR NOZAIS⁵, Alexandre Laurent², Yi-Cheng Zhu⁶, Leonie Lampe⁷, Christophe Tzourio⁸, Bernard Mazoyer², Marc Joliot⁵
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- 1207** **Accuracy of predicting task activity from brain connections relates to cognitive and mood measures**
Ali-Reza Mohammadi-Nejad^{1,2}, Dorothee Auer^{1,2}, Stamatios Sotiropoulos^{1,2,3}
¹National Institute for Health Research (NIHR) Nottingham Biomedical Research Centre, Queens Medical, Nottingham, United Kingdom, ²Sir Peter Mansfield Imaging Centre, School of Medicine, University of Nottingham, Nottingham, United Kingdom, ³Wellcome Centre for Integrative Neuroimaging – FMRIB, University of Oxford, Oxford, United Kingdom
- 1214** **Predicted Age Difference of the Language Network is Associated with Explicit and Implicit Memory**
Hui-Ming Tseng¹, Chang-Le Chen¹, Pin-Yu Chen¹, Yung-Chin Hsu², Wen-Yih Isaac Tseng^{1,3}
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- 1216** **Multimodal Neuroimaging for Cardiovascular Disease Risk Prediction**
Amy Sentis¹, Javier Rasero¹, Peter Gianaros², Timothy Verstynen¹
¹Carnegie Mellon University, Pittsburgh, PA, ²University of Pittsburgh, Pittsburgh, PA
- 1225** **Incorporating bagging into Connectome Predictive Modelling**
David O'Connor¹, Evelyn Lake¹, Dustin Scheinost¹, R. Todd Constable¹
¹Yale University, New Haven, CT
- 1230** **Stacking Learning of Multimodal Neuroimaging data enhances cognitive prediction**
Javier Rasero¹, Timothy Verstynen¹, Amy Sentis¹, Fang-Cheng Yeh²
¹Carnegie Mellon University, Pittsburgh, PA, ²University of Pittsburgh, Pittsburgh, PA
- 1233** **Extraction of discriminative features from EEG signals of dyslexic children, before and after cure.**
Anahita Oliabee¹, Ashkan Oliabee², Maryam Mohebbi¹, Reza Rostami³
¹Department of Biomedical Engineering, K. N. Toosi University of Technology, Tehran, Iran, ²Department of Electrical Engineering, Sharif University of Technology, Tehran, Iran, ³Faculty of Psychology and Education, University of Tehran, Tehran, Iran
- 1248** **Deep Net Region-Aligned Prediction (RAP) localises life factors affecting brain aging in UK Biobank**
Han Peng¹, Christian Beckmann², Steve Smith¹, Andrea Vedaldi³
¹University of Oxford, Oxford, UK, ²Donders Institute, Nijmegen, Gelderland, ³University of Oxford, Oxford, FM
- 1252** **Bridging the gaps between clinical scales and brain imaging in Multiple Sclerosis**
Barbora Buckova^{1,2}, Jan Mares³, Jakub Kopal¹, Kamila Rasova⁴, Jaroslav Hlinka⁵
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- 1262** **Divergence between schizophrenia and autism spectrum disorder on brain function and structure**
Yuhui Du^{1,2}, Xingyu He¹, Xiaowen Deng¹, Yuliang Hou¹, Peter Kochunov³, Godfrey Pearlson⁴, Vince Calhoun²
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- 1272** **The Contribution of Brain Structural and Functional Variance in Predicting Age, Sex and Treatment**
Ning-Xuan Chen¹, Gui Fu², Le Li³, Xiao Chen¹, Su Liu⁴, Chao-Gan Yan¹
¹Institute of Psychology, Chinese Academy of Sciences, Beijing, China, ²Department of Radiology, Sun Yat-sen University Cancer Center, Guangzhou, China, ³Center for Cognitive Science of Language, Beijing Language and Culture University, Beijing, China, ⁴Department of Radiology, West China Hospital, Chengdu, China

- 1274 Brain functional connectivity feature selection based on neighborhood rough set**
Ying Xing¹, Yuhui Du¹
¹School of Computer & Information Technology, Shanxi University, Taiyuan, Shanxi Province
- 1275* Unfairness in RSFC-based behavioral prediction across African American and White American samples**
Jingwei Li¹, Danilo Bzdok^{2,3,4}, Avram Holmes⁵, B.T. Thomas Yeo¹, Sarah Genon⁶
¹ECE, CSC, CIRC, N.1 & MNP, National University of Singapore, Singapore, Singapore, ²Department of Biomedical Imaging, McGill University, Montreal, QC, Canada, ³McConnell Brain Imaging Centre, Montreal Neurological Institute, McGill University, Montreal, QC, Canada, ⁴Mila - Quebec Artificial Intelligence Institute, Montreal, Canada, ⁵Yale University, New Haven, CT, USA, ⁶Institute of Neuroscience and Medicine, Brain and Behaviour (INM-7), Forschungszentrum Jülich, Jülich, Germany
- 1277 Identification of Minimal Hepatic Encephalopathy based on Dynamic Graph Theory Analysis**
Yuexuan Li¹, Yue Cheng², Wen Shen², Gaoyan Zhang¹
¹Tianjin University, Tianjin, Tianjin, ²Tianjin First Center Hospital, Tianjin, Tianjin
- 1287 Manifold learning reveals anomalies of language and memory processing in temporal lobe epilepsy**
Sonja Banjac¹, Félix Renard², Elise Roger¹, Arnaud Attyé³, Emilie Cousin¹, Cédric Pichat¹, Laurent Lamalle⁴, Lorella Minotti⁵, Chrystelle Mosca⁵, Alexandre Krainik⁶, Philippe Kahane⁵, Monica Baciuc¹
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- 1294 Cortical thickness subtyping of Autism Spectrum Disorder (ASD) using Normative modeling**
Mariam Zabihi¹, Christian Beckmann², Andre Marquand³
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- 1295 Automated Classification of Alzheimer's Disease with Graph Neural Network**
Jiyoung Byun^{1,2}, Yong Jeong^{1,2}
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- 1296 Confound removal and normalization in practice: a neuroimaging based sex prediction case study**
Shammi More^{1,2}, Frank Rudzicz³, Julian Caspers⁴, Simon Eickhoff^{1,2}, Kaustubh Patil^{1,2}
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- 1298 Fluid Intelligence Classification Based on Cortical WM/GM Contrast, Cortical Thickness and Volumetry**
Vandad Imani¹, Juan Valverde¹, Mithilesh Prakash¹, John D. Lewis², Jussi Tohka³
¹University of Eastern Finland, Kuopio, Kuopio, ²Montreal Neurological Institute, McGill University, Montreal, Québec, ³University of Eastern Finland, A.I. Virtanen Institute for Molecular Sciences, Kuopio, Kuopio
- 1310 Factors influencing fMRI neurofeedback learning – a machine learning mega-analysis**
Amelie Haugg¹, David Steyr², Fabian Renz², Sebastian Götzendorfer², Cindy Lor², Andrew Nicholson², Frank Scharnowski²
¹University of Zurich, Zurich, Switzerland, ²University of Vienna, Vienna, Austria
- 1318 Are there morphological subgroups in MDD and how can we find them? Towards clustering in ENIGMA MDD**
Lee Jollans¹, Philipp Sämann¹, Elisabeth Binder²
¹Max Planck Institute of Psychiatry, Munich, Germany, ²Max Planck Institute of Psychiatry, München, München
- 1321 Comparing Predicting Power of Three Brain Age Gap Estimation Pipelines in Major Depression Disorder**
Amanda Watts^{1,2}, M. Nicole Buckley^{1,2}, Ashley Clausen^{1,2}, Kelene Fercho³, Molly Monsour¹, Courtney Haswell^{1,2}, Emily Clarke-Rubright^{1,2}, ENIGMA Brain Age Workgroup⁴, Lee Baugh^{5,6}, Seth Disner⁷, Rajendra Morey^{1,2}
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- 1329 Reproducible high risk functional connectivity endophenotype for subset of ASD**
Sebastian Urchs^{1,2}, Hien Nguyen³, Clara Moreau^{4,2}, Christian Dansereau², Angela Tam², Alan Evans¹, Pierre Bellec²
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- 1337 Automated Segmentation of Cerebral Microbleeds and Iron Deposits using Deep Learning**
Tanweer Rashid¹, Ahmed Abdulkadir², Ilya Nasrallah¹, Jeffrey Ware¹, Pascal Spincemaille³, Jose Romero⁴, Robert Bryan⁵, Susan Heckbert⁶, Mohamad Habes⁷
¹University of Pennsylvania, Philadelphia, PA, ²UPD, Bern, PA, ³Weill Cornell Medical College, New York, NY, ⁴Boston University, Boston, MA, ⁵University of Texas at Austin, Austin, TX, ⁶University of Washington, Seattle, WA, ⁷University of Texas Health Science Center at San Antonio, San Antonio, TX
- 1350 A benchmark on data augmentation schemes for fMRI data**
Hugo Richard¹, Bertrand Thirion²
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- 1352 Benchmarking CPU vs GPU training of deep artificial neural networks for decoding brain activity**
Yu Zhang¹, Loic Tetre², Julie Boyle³, Pierre Bellec⁴, Samir Das⁵, Shawn Brown⁶, Alan Evans⁷, Anthony Reina⁸
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1361 Learnt dynamics generalizes across tasks, datasets, and populations

Md Mahfuzur Rahman¹, Usman Mahmood¹, Alex Fedorov², Zening Fu¹, Vince D. Calhoun³, Sergey M. Plis¹

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1380 Machine learning algorithm for the diagnosis of behavioural variant frontotemporal dementia

Ana Manera¹, Mahsa Dadar¹, John van Swieten², Barbara Borroni³, Raquel Sanchez-Valle⁴, Fermin Moreno⁵, Robert LaForce⁶, Caroline Graff⁷, Matthis Synofzik⁸, Daniela Galimberti⁹, James Rowe¹⁰, Mario Masellis¹¹, Maria Carmela Tartaglia¹², Elizabeth Finger¹³, Rik Vandenberghe¹⁴, Alexandre de Mendonça¹⁵, Fabrizio Tagliavini¹⁶, Isabel Santana¹⁷, Chris Butler¹⁸, Alex Gerhard¹⁹, Adrian Danek²⁰, Johannes Levin²⁰, Markus Otto²¹, Giovanni Frisoni²², Roberta Ghidoni²³, Sandro Sorbi²⁴, Jonathan Rohrer²⁵, Simon Ducharme¹, Louis Collins²⁶

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1381 Deep Learning reconstruction of respiratory variation signals from fMRI data

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1385 Cognitive state annotation of human brain dynamics using deep graph convolution

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1392 Predicting Longitudinal Atrophy in Parkinsons dDiseas using Agent-Based Model

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1394 Controlling for Effects of Confounding Variables on Machine Learning Predictions

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1403 Automatic Placement of Anatomical Fiducials using Regression Forests and 3-Dimensional Features

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1407 Brain disorder diagnosis by fusing multi-modal brain measures using deep learning

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1414 Transfer Learning: Leveraging Big Data for Prediction in Clinical (Stuttering) Datasets

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1430 Predict functional connectivity from structural connectivity with artificial neural network

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1431 Machine Learning Based Classification of Temporal Lobe Epilepsy with the Neuropsychological Tests

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1433 Functional Connectome Fingerprinting Using a Simple Feedforward Neural Network

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1436 Dynamic network coding of working-memory domains.

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1438 Diagnostic Prediction for Major Depressive Disorder via MVPA of Cerebellum GMV Features

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- 1441 Exploring hippocampal activation in language and memory tasks using the machine learning approach**
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- 1461 EGFR mutation status prediction using radiomics of brain metastasis of the contrast-enhanced T1 MRI**
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- 1472 Detecting Clinically Variable Tissue Injuries in Neonatal MRI**
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- 1478 Predicting individual differences in mathematical ability with functional connectivity**
Dai Zhang¹, Ke Zhou¹
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- 1481 Towards holistic neural encoding models for multimodal naturalistic stimuli**
Meenakshi Khosla¹, Gia Ngo¹, Keith Jamison², Amy Kuceyeski², Mert Sabuncu¹
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- 1482 Understanding deep learning-based brain age predictions**
Simon Hofmann^{1,2,3}, Wojciech Samek³, Markus Löffler², Klaus-Robert Müller^{4,5,6}, Arno Villringer^{1,2,7}, A. Veronica Witte^{1,2}
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- 1541 Multimodel machine learning, feature selection and MRI: Classifying Schizophrenia**
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- 1553 High-dimensional prescriptive inference in the focally damaged human brain**
Tianbo Xu¹, Anna Bonkhoff², Ashwani Jha¹, Hans Jager¹, Michel Thiebaut de Schotten³, Geraint Rees¹, Parashkev Nachev¹
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- 1554 New factorization method improves brain prediction of depressive symptoms in the general population**
Laura Muzzarelli^{1,2}, Simon B Eickhoff^{1,2}, Ji Chen^{1,2}, Kaustubh Patil^{1,2}, Hans Grabe^{3,4}, Katharina Wittfeld^{3,4}, Mohammad Herzallah^{5,6}, Abdul-Rahman Sawalma^{5,7}, Erik Giltay⁸, Ingrid Carlier⁸, Jesús Sanz⁹, María Paz García-Vera⁹, Susanne Weis^{1,2}
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- 1566 Using CNNs for structural MRI classifications of cognitive decline on small samples**
Thomas Carr¹, Saber Sami¹, Julie Sanderson¹
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- 1575 Language deficits can be predicted from multi-modal connectivity fingerprints**
Daniel Di Giovanni¹, Danilo Bzdok¹, Denise Klein¹, Louis Collins²
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- 1592 Identifying states with dynamic Connectome Predictive Modelling**
David O'Connor¹, Dustin Scheinost¹, R. Todd Constable¹
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- 1597 MRI imaging-based Anatomical Markers of Post-traumatic Epilepsy**
Haleh Akrami¹, Richard Leahy¹, Paul Kim¹, Christianne Heck¹, Anand Joshi¹
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- 1633 Deep learning-based quality control for infant fMRI based on features beyond head motion**
Zhen Zhou¹, Xuyun Wen², Bing Jing¹, Tae-Eui Kam¹, Li-Ming Hsu¹, Zhengwang Wu¹, Maissa Soussia¹, Kim-Han Thung¹, Li Wang¹, Gang Li¹, Pew-Thian Yap¹, Weili Lin¹, Han Zhang¹, Dinggang Shen¹, for UNC/UMN Baby Connectome Project Consortium¹
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- 1642 Prediction of early-stage Parkinson's disease using connectivity and morphometry of the striatum**
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- 1658 Accelerated brain aging in young adult frequent cannabis users**
Katja Franke¹
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- 1666 Importance of feature selection in brain age estimation using structural MRI**
Bhaskar Ray¹, KuaiKuai Duan², Zening Fu³, Pranav Suresh¹, Sarah Johnson¹, Jiayu Chen⁴, Jingyu Liu¹
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- 1669 Multimodal estimation of cognitive-load under stress**
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- 1675 Imaging genetic strategies for predicting the quality of sleep using depression-specific biomarkers**
Man su Kim¹, Xiaohui Yao¹, Bo-yong Park², Jingwen Yan³, Li Shen¹
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- 1677 Generalized Multimodal Predictors of Antidepressant Treatment Response Across Multiple Interventions**
Benjamin Wade¹, Ashish Sahib², Joana Loureiro², Megha Vasavada², Antoni Kubicki³, Shantanu Joshi³, Randall Espinoza¹, Eliza Congdon², Katherine Narr³
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- 1682 Stacked classification for Schizophrenia Diagnosis**
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- 1690 Age-related Choroid Plexus Calcification: Association with subcortical brain volumes and hypertension**
Iyad Ba Gari¹, Shruti Gadewar¹, Wesley Surento¹, Alyssa Zhu¹, Paul Thompson¹, Neda Jahanshad¹
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- 1700 Modeling ADHD and Stimulant Medication Use in Adolescents With Machine Learning**
Zoe Hulce¹
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- 1701 Spatially Adaptive Biomarkers across Alzheimer's and Parkinson's dDiseas**
Yuji Zhao¹, Anvar Kurmukov², Boris Gutman³
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- 1702 Decoding behavioral responses from fMRI without learning behavioral responses from fMRI**
Joram Soch^{1,2}, John-Dylan Haynes^{1,2,3,4,5,6,7,8}
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- 1712 Lesion Localization in Paediatric Epilepsy Using Patch-based Convolutional Neural Network**
Azad Aminpour¹, Mehran Ebrahimi¹, Elysa Widjaja²
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- 1723 Effects of Pain on the Brain Hemodynamic Response of Mental Arithmetic Tasks**
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- 1725 Encoding models of auditory features in full-length movies estimated using transfer learning**
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- 1727 Fusion of functional and structural connectivity improve performance in predicting fluid intelligenc**
Xuetong Wang^{1,2}, Debin Zeng^{1,2}, Qionglin Li^{1,2}, Shuyu Li^{1,2}
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- 1737 How are cross-validated decoding accuracies distributed across subjects?**
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- 1744 Transfer learning on EEG image based feature maps for robust classification**
Daniel Campoy¹, Thomas Carr¹, Michal Mackiewicz¹, Saber Sami¹
¹University of East Anglia, Norwich, Norfolk
- 1750 Multi-Kernel SVM Based on Subspace of Independent Component for Multi-Modal Classification**
Shuang Gao^{1,2,3}, Vince Calhoun⁴, Jing Su^{1,2,5}
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- 1752 Functional Brain Network-Subject Mapping Using Deep Siamese 3D-Convolutaional Neural Networks**
Reihaneh Hassanzadeh¹, Vince Calhoun²
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Connectivity (eg. functional, effective, structural)

- 0995 Functional connectivity of EEG is subject-specific, related to phenotype, and different from fMRI**
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- 1012 Human Structural Connectomes are Heritable**
Jaewon Chung¹, Jayanta Dey¹, Gregory Kiar², Carey Priebe¹, Joshua Vogelstein¹
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- 1014 Enriching Statistical Inferences on Brain Connectivity via Latent Space Graph Embeddings**
Xin Ma¹, Guorong Wu², Won Hwa Kim³
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- 1015 Task-driven white matter connectivity in the cognitive control network**
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- 1016 Network localisation of multiple system atrophy derived from heterogeneous neuroimaging findings**
Daniel Corp¹, Michelle Shaul¹, Elizabeth Ellis¹, Jordan Morrison-Ham¹, Juho Joutsa², Michael Fox³
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- 1019 Age- and Sex-Specific Influence of Testosterone-Cortisol Ratio on Cortico-Hippocampal Development**
Christina Caccese¹, Sherri Lee Jones¹, Mrinalini Ramesh², Ally Yu², Marie Brossard-Racine², Kelly Botteron³, James McCracken⁴, Tuong-Vi Nguyen¹
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- 1021 Reliability modelling of resting-state fMRI functional connectivity**
Jalmar Teeuw¹, Rachel Brouwer¹, Dorret Boomsma², Hilleke Hulshoff Pol¹
¹University Medical Center Utrecht, Utrecht, Netherlands, ²Vrije Universiteit Amsterdam, Amsterdam, Netherlands
- 1026 Rich spatio-temporal structure of spinal cord resting-state networks revealed by iCAPs**
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- 1028 Involvement of hippocampal integrity and connectivity in multiple sclerosis**
Gabriel Gonzalez-Escamilla¹, Dumitru Ciolac¹, Vinzenz Fleischer¹, Angela Radetz¹, Julia Krämer², Sven Meuth², Muthuraman Muthuraman¹, Sergiu Groppa¹
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- 1039 Exploring the brain's routing strategies by simulating packet-based communication on the connectome**
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- 1052 Uncovering the role of brain microstructural attributes on the formation of functional connectivity**
Eirini Messaritaki¹, Sonya Foley¹, Krish Singh¹, Derek Jones¹
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- 1062 Multi-resolution Graph Neural Network to Identify Disease Relevant Variations in Brain Connectivity**
Xin Ma¹, Guorong Wu², Won Hwa Kim³
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- 1063 The high-creative brain can provide an optimized framework routing core cognitive functions to creat**
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- 1065 Investigating Cerebral Blood Flow and Grey Matter Covariance Networks in the Adolescent Brain**
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- 1068 Causal functional brain network: An advanced approach to study brain cognitive variance**
Aiyi Zhang¹, Gemeng Zhang², Biao Cai³, Julia Stephen⁴, Tony Wilson⁵, Vince Calhoun⁶, Yu-Ping Wang²
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- 1070 Functional and structural connectivity predicts MS patients' motor impairment with machine learning**
Ceren Tozlu¹, Keith Jamison¹, Susan Gauthier², Amy Kuceyeski³
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- 1078 Gender differences in hippocampus: a combined structural and functional study**
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- 1081 Avalanches, the Temporal Variability of Functional Connectivity, and Mental Disorders**
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- 1085 Learning in neuromorphic networks**
Laura Suarez¹, Guillaume Lajoie², Bratislav Misisic¹
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- 1086 Efficient Coding in the Economics of Human Brain Connectomics**
Dale Zhou¹, Christopher Lynn¹, Zaixu Cui¹, Rastko Ciric², Graham Baum³, Tyler Moore¹, David Roalf¹, John Detre¹, Ruben Gur¹, Raquel Gur¹, Theodore Satterthwaite¹, Danielle Bassett¹
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- 1093 High frequency oscillations are associated with large-scale brain reorganization in epilepsy**
Jessica Royer¹, Sara Lariviere¹, Casey Paquola¹, Nicolas von Ellenrieder¹, Shahin Tavakol¹, Qionglin Li¹, Reinder Vos de Wael¹, Birgit Frauscher¹, Boris Bernhardt¹
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- 1119 Functional connectivity-based decoding of game performance**
Uijong Ju¹, Christian Wallraven¹
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- 1122 Macroscale structural manifold perturbations in autism spectrum disorder**
Bo-yong Park¹, Seok-Jun Hong^{1,2}, Oualid Benkarim¹, Casey Paquola¹, Laurent Mottron³, Jonathan Smallwood⁴, Boris Bernhardt¹
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- 1124* Structural connectome manifolds guide dynamic functional network reconfigurations**
Bo-yong Park¹, Reinder Vos de Wael¹, Casey Paquola¹, Bratislav Mistic¹, Danilo Bzdok^{1,2}, Jonathan Smallwood³, Boris Bernhardt¹
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- 1125 Predicting the Structural Connectome in Humans based on Functional and Resource Constraints**
Amrit Kashyap¹, Shella Keilholz², Kellen Haynes³
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- 1130 Dual regression may reduce global signal bias in fMRI functional connectivity maps**
Robert Kelly¹, Matthew Hoptman², Martin McKeown³
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- 1132 Inner- and Inter- Hemispheric Connectivity Balance in the Human Brain**
Ronnie Krupnik¹, Yossi Yovel¹, Yaniv Assaf¹
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- 1142 Predicting seizure outcome of epilepsy surgery using virtual resection of MEG-based brain networks**
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- 1146 The Organization of Functional Connections Without Direct Structural Links**
Zhen-Qi Liu¹, Richard Betzel², Bratislav Mistic¹
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- 1149 Brain parcellation driven by dynamic functional connectivity better predict cognitive performance**
Liangwei Fan¹, Hui Shen¹, Ling-Li Zeng¹, Dewen Hu¹
¹National University of Defense Technology, Changsha, Hunan
- 1155 Neuroanatomical alteration is associated with moderate alcohol use in bipolar disorder**
Fiona Martyn¹, Leila Nabulsi¹, Genevieve McPhilemy¹, Stefani O'Donoghue¹, Liam Kilmartin¹, Brian Hallahan¹, Colm McDonald¹, Dara Cannon¹
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- 1156 Modelling hemodynamic variations for improving effective connectivity estimates of regression DCM**
Yu Yao¹, Stefan Frässle¹, Jakob Heinzle¹, Klaas Enno Stephan¹
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- 1157 Stochastic Resonance and Multi-stability in Frequency-Dependent Plasticity**
Caroline Lea-Carnall¹, Lisabel Tanner¹, Marcelo Montemurro¹
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- 1163* Ketamine's influence on global rs-fMRI and individual variation in neuro-behavioral relationships**
Flora Moujaes¹, Jie Lisa Ji², Katrin Preller³, Franz Vollenweider⁴, Charlie Schleifer⁵, Brendan Adkinson², Sarah Fineberg², John Krystal⁶, Grega Repovš⁷, Nicole Santamauro⁸, Aleksandar Savic⁹, Youngsun Cho⁸, John Murray², Alan Anticevic¹⁰
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- 1164 Understanding the mechanisms that establish functional connectivity in the human brain**
Eirini Messaritaki¹, Sonya Foley¹, Derek Jones¹, Krish Singh¹
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- 1168 Emergence of Canonical Functional Networks From Complex Laplacian of Structural Connectome**
Xihe Xie¹, Chang Cai², Pablo Damasceno², Srikanth Nagarajan², Ashish Raj²
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- 1180 How tasks change whole-brain functional organization to reveal brain-phenotype relationships**
Abigail Greene¹, Siyuan Gao², Stephanie Noble¹, Dustin Scheinost¹, R. Todd Constable¹
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- 1183 Dynamic spatio-temporal brain connectivity patterns in psychosis**
Emeline Mullier¹, Jakub Vohryzek², Alessandra Griffa³, Yasser Aleman-Gomez⁴, Paul Klauser⁵, Pascal Steullet⁵, Philipp Baumann⁵, Philippe Conus⁵, Kim Do⁵, Patric Hagmann⁶
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- 1184 Modulation of white matter bundle connectivity in the presence of axonal truncation pathologies**
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- 1192 A Spatial Developmental Generative Model of Human Brain Structural Connectivity**
Stuart Oldham¹, Ben Fulcher², Kevin Aquino¹, Aurina Arnatkevičiūtė¹, Rosita Shishegar¹, Alex Fornito¹
¹Monash University, Clayton, Victoria, ²School of Physics, The University of Sydney, Sydney, NSW

- 1193 Brain Fingerprint Analysis using resting state fMRI in Asymptomatic High-School Football Athletes**
Sumra Bari¹, Nicole Vike¹, Eric Nauman¹, Joaquin Goni¹, Thomas Talavage¹
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- 1204 Sex-related changes of cigarette smoking on dopamine functional circuits**
Fuchun Lin^{1,2}, Xu Han³, Yao Wang³, Weina Ding³, Yawen Sun³, Yan Zhou³, Hao Lei^{1,2}
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²University of Chinese Academy of Sciences, Beijing, China, ³Renji Hospital, School of Medicine, Shanghai Jiaotong University, Shanghai, China
- 1211 Atypical Intrinsic Visual Motor Functional Connectivity Associated with Imitation Deficits in Autism**
Rebecca Rochowiak^{1,2}, Daniel Listone^{1,2}, Bahar Tuncgenc³, Carolina Pacheco⁴, Romila Santra¹, Sydney Santos¹, Rene Vidal⁴, Stewart Mostofsky^{1,2,5,6}, Mary Beth Nebel^{1,6}
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- 1220 Relating EEG power to laminar specific fMRI connectivity.**
Rene Scheeringa¹, Tim van Mourik², Mathilde Bonnefond³, David G. Norris⁴, Peter Koopmans¹
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- 1256 Statistical inference for joint embeddings of multiple connectome data**
Jesus Arroyo¹, Avanti Athreya¹, Joshua Cape², Guodong Chen¹, Jaewon Chung¹, Carey Priebe¹, Joshua Vogelstein¹
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- 1260 Age and task load modulate association of brain network reconfiguration with spatial working memory**
Wan Lin Yue¹, Kwun Kei Ng¹, Siwei Liu¹, Xing Qian¹, Joanna Su Xian Chong¹, Amelia Jialing Koh¹, Marcus Qin Wen Ong¹, B.T. Thomas Yeo^{1,2}, Juan Helen Zhou^{1,3}
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- 1263 Structural covariance network changes in focal and generalized epilepsies: a worldwide ENIGMA study**
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- 1280 A Unified Framework for Multimodal Structure–function Mapping Based on Eigenmodes**
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- 1291 Modelling EEG alpha power in eyes-open and eyes-closed states using DCM**
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- 1297 A 3-minute individual multimodal brain network**
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- 1308 Stress-evoked connectivity changes across time**
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- 1312 Local dynamics and network topology disrupted in HIV revealed by whole-brain computational modeling**
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- 1313 Assessing the validity of EEG-based network measures of brain connectivity**
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- 1317 Probing the role of connectivity in structural covariance through a mouse model of disconnectivity**
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- 1334 Effects of interictal epileptiform discharges on electrocorticographic functional connectivity**
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- 1343* Brain Network Connectivity Architecture of Ego Dissolution under LSD**
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- 1376 Functional Connectivity during Frustration is Predictive of Individual Differences in Irritability**
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- 1377 Effects of structural connectivity for the whole-brain resting-state dynamical models**
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- 1378 Sensory Structural Connectivity in Deaf Individuals**
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- 1379 Core and Matrix Thalamic Sub-Populations Delineate Spatiotemporal Gradients in the Resting Brain**
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- 1400 Diffuse coupling mediates complex network dynamics via the formation of quasi-critical brain states**
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- 1401 Individual Differences in Mental Imagery Modulates Effective Connectivity of Scene Regions at Rest**
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- 1408 Evolutionary Parameter Optimization for Resting-state Functional Connectivity Model**
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- 1415 Test-retest reliability of functional connectivity at resting-state and naturalistic movie viewing**
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- 1416 Effective Connectivity of Frontostriatal Systems in First-Episode Psychosis**
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- 1417 Childhood maltreatment is associated with widespread functional dysconnectivity in adolescents**
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- 1422 Body Mass Index (BMI) and Structural Brain Connectivity in the Human Connectome Project Dataset**
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- 1426 Dynamic functional network connectivity at rest and its behavioral correlates in response inhibition**
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- 1447 Network structure of the mouse brain connectome with voxel resolution**
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- 1454 Topographic patterns of connectivity between amygdala and striatum.**
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- 1457 Revisiting correlation-based functional connectivity to compare brain anatomy and function**
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- 1473 The Structural Basis of Individual Differences in Brain Functional Connectivity**
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- 1474* Hemispheric specialization of the inferior parietal lobe across key cognitive domains**
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- 1476 Functional Connectivities Mediate the Essential Hypertension History to Prospective Memory**
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- 1484 Modelling cortical layer connectivity in the macaque brain**
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- 1486 MEG functional connectivity and topology changes distinguish between voluntary hand and foot**
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- 1487 The R1-weighted connectome: complementing brain networks with a myelin-sensitive measure**
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- 1491 Targeting in the neurosurgical treatment of tremor: a connectivity study of Vim variability**
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- 1494 Using the Free-energy Principle to Understand Neurofeedback Self-regulation learning**
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- 1496 Altered structural covariance of the striatum in lifelong premature ejaculation patients**
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- 1505 Functional organization of the hippocampus on its anteroposterior axis during childhood**
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- 1506 Prediction loss aversion with topological metrics**
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- 1508 Multilayer Brain Network Dynamics in Autism Spectrum Disorders: A Multi-Site fMRI Study**
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- 1515 Brain Network Simulations Indicate Effect of NRG-1 on Excitation-Inhibition Balance**
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- 1517 Enhancing the Statistical Power of Tracking Network Alterations Using Longitudinal Network Analysis**
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- 1518 Tensor factorization based identification of brain subnetwork level correlates of clinical measures.**
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- 1519 Interictal epileptic discharge: A biomarker of structural and functional network pathology**
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- 1520 Evolution of functional connectivity in stroke patients: a longitudinal study**
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- 1526 A General Learning-based Framework to Characterize Intrinsic Connectivity Strength in Brain Networks**
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- 1529 Functional Multi-Way Connectivity between Networks and Voxels**
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- 1532 Task-based Approach for Classification in Schizophrenia**
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- 1543 Functionally connected networks based on high lesion probability seed from traumatic brain injury**
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- 1549 Improved cognitive flexibility after glioma surgery is related to functional connectivity changes.**
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- 1564 Effects of acute exercise on resting state functional connectivity in young and older adults**
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- 1568 Systemic Physiological Noise Might Falsely Boost NIRS RSFC Test-retest Reliability**
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Oyetunde Gbadeyan¹, Ruchika Prakash¹
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- 1579 Hyperconnectivity in Motor and Salience Regions in Neuropathic Pain After Spinal Cord Injury**
Shana Black¹, Jace King¹, Jeffrey Anderson¹, Christopher Butson¹
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- 1583 Seed-Based Functional Connectivity Analysis for EEG Resting State Realistic Simulations**
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- 1585 Resting-state fMRI and MEG connectivity show similar pattern of modulations with behavioral changes**
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- 1586 Characterizing Network Resilience in Alzheimer's Disease**
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- 1601 Genes driving correlated gene expression in the default mode network**
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- 1602* Investigation of spatiotemporal functional interactivity among large-scale brain networks**
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- 1603 A human brain circuit for lesion induced epilepsy**
Frederic Schaper¹, Joey Hsu¹, Alexander Cohen², Louis Soussand¹, Michael Ferguson¹, Marta Simó³, Jordi Bruna³, Jordan Grafman⁴, Jurriaan Peters², Rob Rouhl⁵, Yasin Temel⁵, Michael Fox¹
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- 1608 Functional connectivity contrast across cortical hierarchy marks daily mood state**
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- 1624 Dynamic Changes in the Core-Periphery Organisation of Functional Brain Networks of Concept Learning**
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- 1625* Global signal topography changes across the lifespan**
Jason Nomi¹, Danilo Bzdok², Jingwei Li³, Taylor Bolt⁴, Salome Kornfeld⁵, Zachary Goodman⁴, B.T. Thomas Yeo⁶, R. Nathan Spreng⁷, Lucina Uddin⁸
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- 1630 Increased interhemispheric motor connectivity in children with ADHD: Association with mirror overflow**
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- 1645 ICA-based Denoising Improves Correlation of Functional Connectivity with Neural Tracers**
Takuya Hayashi¹, Joonas Autio¹, Yujie Hou², Henry Kennedy², David Van Essen³, Stephen Smith⁴, Matthew Glasser³
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- 1646 Networks behind hippocampal subfields detected by morphological covariance analysis**
Philipp Sämann¹, Juan Eugenio Iglesias², Boris Gutman³, Theo Van Erp⁴, Christopher Whelan⁵, Neda Jahanshad⁶, Lianne Schmaal⁷, Paul Thompson⁸, Michael Czisch⁹
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- 1654 Evolutionary Tradeoffs in the Functional and Structural Organization of the Brain**
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- 1657 Modulation of drug- and food-related functional connectivity**
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- 1665 Exploring the topography of structure-function mappings across cortico-thalamic systems.**
Amber Howell¹, Shaun Warrington², Jie Lisa Ji¹, Antonija Kolobaric¹, Brendan Adkinson¹, Clara Fonteneau¹, Stamatios Sotiropoulos³, John Murray¹, Alan Anticevic⁴
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- 1684 Sustained Connectivity Predicts Executive Functioning in Alzheimer's Disease**
Jace King¹, Jeffrey Anderson¹, Sariah Porter¹, Kayla Suhrie¹, Ava Dixon¹, Dustin Hammers¹, Kevin Duff¹, John Hoffman¹
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1694* A multi-analysis approach to task-modulated functional connectivity in autism

Carolin Moessnang¹, Alberto Llera², Roselyne Chauvin², Tristan Looden², Dorothea Floris², Sarah Baumeister³, Julian Tillmann⁴, Tony Charman⁴, Simon Baron-Cohen⁵, Sarah Durston⁶, Eva Loth⁷, Declan Murphy⁴, Heike Tost¹, Andreas Meyer-Lindenberg¹, Jan Buitelaar⁸, Christian Beckmann²
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1703 Comparison of Network Architecture in Clinically Distinct Subgroups of Children with Mild TBI

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1704 Causal modeling of task information flow with high spatiotemporal precision in source EEG networks

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1709 Disrupted Functional and Structural Connectivity and Clinical Implication in Temporal Lobe Epilepsy

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1718 Network communication models improve structure-function coupling and prediction of human behavior

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1722 Predicting Brain Age Using Functional Network Connectivity: A Deep Neural Network Method

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1729 Triple-network connectivity differences in youth with autism compared to early-onset psychosis

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1731 Functional Connectivity of Resting State Networks is Affected by Excess Environmental Stimuli

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1738 Independent and combined effects of chronic cannabis use and HIV on insular functional connectivity

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1739 Functional Network Connectivity of High-Frequency Resting-State Components

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1742 Multi-echo fMRI and Localization Method Affect Functional Estimates of the Locus Coeruleus

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1751 Robustness of structural network metrics across parcellations: between health and disease

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1753 Directed activity flow: Directed connectivity improves causal interpretation of predictive models

Ruben Sanchez-Romero¹, Takuya Ito¹, Ravi Mill¹, Carrisa Cocuzza¹, Richard Chen¹, Michael W. Cole¹
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0997 Quantitative Analysis of the Sensitivity of Probabilistic Tractography to Seed Placement

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1009 White matter microstructural differences in young children carrying a 16p11.2 deletion

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1011 Structural connectivity manifolds in the human temporal lobe

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1033 NODDI can differentiate microstructural changes due to inflammation and tissue destruction in humans

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- 1034 Hybrid Surface-Volume Segmentation for improved Anatomically-Constrained Tractography**
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- 1036 Expression quantitative trait loci-derived scores and white matter microstructure in UK Biobank**
Miruna Barbu¹, Athina Spiliopoulou¹, Marco Colombo¹, Paul McKeigue¹, Toni Clarke¹, David Howard², Mark Adams¹, Xueyi Shen¹, Stephen Lawrie¹, Andrew McIntosh¹, Heather Whalley¹
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- 1050 Non-Negative Decomposition of Structural Connectivity in the Developing Brain**
Elinor Thompson¹, Saad Jbabdi², Matthew Glasser^{3,4}, Matteo Bastiani^{1,2}, Stamatios Sotiropoulos^{1,2}
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- 1066 Multi-compartment modelling of diffusion MRI signal shows TE-based volume fraction bias**
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- 1101 Optimization of Diffusion Imaging at 10.5T in Nonhuman Primates**
Mark Grier¹, Jan Zimmermann¹, Steen Moeller¹, Essa Yacoub¹, Gregor Adriany¹, Russell Lagore¹, Noam Harel¹, Ru-Yuan Zhang¹, Christophe Lenglet¹, Kamil Ugurbil¹, Sarah Heilbronner¹
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- 1108 Multivariate Quantification of Brain Development During the First Two Years of Life**
Khoi Huynh^{1,2}, Ye Wu¹, Kim-Han Thung¹, Sahar Ahmad¹, Hoyt Taylor¹, Weili Lin^{1,2}, Pew-Thian Yap^{1,2}, the UNC/UMN Baby Connectome Project Consortium¹
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- 1144 What underlies differences in fractional anisotropy in aging? The role of complex fibre architecture**
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- 1145 Cortical diffusivity: A distinct and sensitive marker of adult aging**
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- 1167 Quantifying Differences in White Matter within Multiple Sclerosis Women using Machine Learning**
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- 1200 Single Subject Based Analysis of Learning Induced DTI Changes**
Naama Friedman¹, Ido Tavor¹
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- 1208 Structural connectivity changes in thalamus related network in patients with functional constipation**
Zhida Zhang¹, Yang Hu¹, Yang He¹, Ganggang Lv¹, Jia Wang¹, Yongzhan Nie², Yi Zhang¹
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- 1328 Connectomic Analysis of SNc and VTA Projections to the Striatum and Cortex**
Nicholas Handfield-Jones^{1,2}, Erind Alushaj^{1,2}, Nole Hiebert^{1,2}, Adrian Owen^{1,2}, Ali Khan^{1,3}, Penny MacDonald^{1,2}
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- 1333 Diffusion MRI Reveals Heterogeneous Lifespan Trajectories Across the Hippocampus Head, Body and Tail**
Kevin Solar¹, Sarah Treit¹, Emily Stolz¹, Christian Beaulieu¹
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- 1344 A machine-learning method for the clinical study of the white matter fascicles in epileptic patients**
Elise Roger¹, Félix Renard², Sonja Banjac³, Cédric Pichat⁴, Arnaud Attyé⁵, Monica Baciú⁶
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- 1359 Effect of free water correction in grey and white matter in cART treated HIV patients**
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- 1368 Exploring ComBat For Multi-site Diffusion Magnetic Resonance Imaging Data Harmonization**
Suheyra Cetin-Karayumak¹, Marek Kubicki¹, Yogesh Rathi¹
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- 1387 Relating Shortest Path, Greedy Routing, and Diffusion Theories of DTI Networks to FMRI Activation**
Josh Neudorf¹, Shaylyn Kress¹, Ron Borowsky¹
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- 1406 Stick Stippling for Direct 3D Visualization of Diffusion MRI Fiber Orientations and Density**
Ryan Cabeen¹, David Laidlaw², Arthur Toga¹
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- 1410 White Matter Tract Abnormalities in Sport-Related Concussion: An Image Based Meta-Analysis**
Sarah Hellewell¹, Thomas Welton¹, Vy Phuong Brenda Nguyen¹, Ruchira Jayasena¹, Stuart Grieve¹
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- 1439** **THC exposure and differential microstructure of the cerebral cortex and amygdala in young adults**
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- 1444** **Non-invasive quantification of inflammation, axonal and myelin injury in MS using DBSI**
Simona Schiavi^{1,2}, Maria Petracca¹, Peng Sun³, Lazar Fleysher⁴, Sirio Cocozza^{1,5}, Mohamed Mounir El Mendili¹, James Babb⁶, Kornelius Podranski¹, Sheng-Kwei Song^{3,7,8,9}, Matilde Inglese^{1,4,10,2}
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- 1445** **Cerebello-thalamo-cortical tract profiles after thalamotomy in patients with disabling tremors.**
Romain Viard¹, Guillaume Carey¹, Cecile Bordier¹, Morgan Gautherot¹, Luc Defebvre², Jean-Pierre Pruvo³, Gustavo Touzet⁴, Gregory Kuchcinski¹, Nicolas Carriere², Renaud Lopes¹
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- 1450** **Associations of symptom improvement with white matter microstructure in ADHD**
Anne Leenders¹, Christienne Damatac¹, Marcel Zwiwers², Roselyne Chauvin³, Daan van Rooij¹, Sophie Akkermans¹, Jilly Naaijen¹, Barbara Franke⁴, Jan Buitelaar⁵, Christian Beckmann³, Emma Sprooten¹
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- 1477** **Cluster-based analysis of diffusion MRI tractography measures in Huntington's disease**
Viviana Siless¹, Herminia Diana Rosas^{1,2,3}
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- 1485** **3D-printed phantom for diffusion MRI model validation**
Michael Woletz¹, Franziska Gantner^{2,3}, Benedikt Hager¹, Peter Gruber^{2,3}, Siawoosh Mohammadi⁴, Zoltan Nagy⁵, Aleksandr Ovsianikov^{2,3}, Christian Windischberger¹
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- 1497** **Microstructural changes in the penumbra of cerebral small vessel disease lesions**
Kirstin Walker¹, Joel Ramirez¹, Hassan Akhavein¹, Melissa Holmes¹, Christopher Scott¹, Seyyed Haddad², Paula McLaughlin³, Brian Levine⁴, Donna Kwan⁵, Manuel Montero-Odasso⁶, Anthony Lang⁷, Maria Carmela Tartaglia⁸, Jennifer Mandzia⁶, Bradley MacIntosh¹, Morris Freedman⁴, Stephen Strother⁹, Mario Masellis¹⁰, Sean Symons¹⁰, Robert Bartha⁹, Richard Swartz¹⁰, Sandra Black¹
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- 1510** **Isotropic diffusion MRI at high b-values reveals cerebellar changes in movement-disorder patients**
Chantal Tax¹, Derek Jones², Filip Szczepankiewicz^{3,4}, Markus Nilsson⁵, Kathryn Peall⁶
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- 1528** **High-resolution ex-vivo structural brainstem connectivity estimated via a conductance model**
Mohammad Mohammadi¹, Aina Frau-Pascual², Iman Aganj², Justine Beaujoin³, François Lechanoine⁴, Timothée Jacqueson⁵, Fabrice Poupon³, Cyril Poupon³, Christophe Destrieux¹, Frédéric Andersson¹
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- 1559*** **QSIPrep: A robust and unified workflow for preprocessing and reconstructing diffusion MRI**
Matthew Cieslak¹, Philip Cook¹, Thijs Dhollander², Fang-Cheng Yeh³, Eleftherios Garyfallidis⁴, Mark Elliott⁵, Valerie Sydnor¹, Ursula Tooley¹, Josiane Bourque¹, Xiaosong He¹, Will Foran³, Laura Cabral³, Beatriz Luna³, Adam Pines¹, David Roalf¹, Allyson Mackey¹, John Detre¹, Max Kelz¹, Jean Vettel⁶, Barry Giesbrecht⁷, Desmond Oathes¹, Danielle Bassett¹, Scott Grafton⁷, Theodore Satterthwaite¹
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- 1571** **Development of White Matter Structural Covariance Networks in Youth**
Josiane Bourque¹, Matthew Cieslak¹, Tinashe Tapera¹, Ruben Gur¹, Raquel Gur¹, Bart Larsen¹, David Roalf¹, Russell Shinohara², Aristeidis Sotiras³, Valerie Sydnor¹, Christos Davatzikos⁴, Theodore Satterthwaite¹
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- 1593** **Interconnected Effects of In-Scanner Head Motion and ADHD Diagnosis on White Matter Integrity**
Sabine Dziemian¹, Nicolas Langer², Zofia Barańczuk-Turska³
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- 1623** **Combining Dense Prediction and Semi-Supervised Learning for Arterial Segmentation**
Farnaz Orooji¹, Mehdi Zoghini¹, Mohammed Alaoui Mhamdi¹, Russell Butler¹
¹Bishop's University, Sherbrooke, QC

- 1636 An Open Framework for Producing and Analyzing Diffusion MRI Phantoms**
Farah Mushtaha¹, Tristan K Kuehn², Omar El-Deeb², Amanda Moehring², Corey Baron¹, Ali Khan²
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- 1652 Altered structural brain controllability in patients with psychosis**
Won Hee Lee¹, Sophia Frangou¹
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- 1660 A novel unsupervised deep learning based diffusion imaging marker of tumor extent**
Zahra RiahiSamanji¹, Jacob Antony Alappatt¹, Drew Parker¹, Abdol Aziz Ould Ismail¹, Ragini Verma¹
¹University of Pennsylvania, Philadelphia, PA
- 1663 On the predictive power of tractography for the cortical connectivity of the macaque brain**
Gabriel Girard^{1,2}, Roberto Caminiti³, Alexandra Battaglia-Mayer⁴, Etienne St-Onge⁵, Karen Ambrosen^{6,7}, Simon Eskildsen⁸, Kristine Krug^{9,10,11}, Tim Dyrby^{7,6}, Maxime Descoteaux⁵, Jean-Philippe Thiran^{2,1}, Giorgio Innocenti^{12,13,2}
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- 1664 Preterm Brain Network Efficiency Correlates with Early Motor Development and Diseases of Prematurity**
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- 1671 Surface integration for improved coverage in structural connectivity analysis**
Etienne St-Onge¹, Noor Al-Sharif², Gabriel Girard³, Maxime Descoteaux⁴
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- 1741 Finding critical language connections with multiple tractography algorithms: A new analytic approach**
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- 1757 Optimization of NODDI subcortical intrinsic parallel diffusivity across development**
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EEG/MEG Modeling and Analysis

- 1027 Electromagnetic Brain Imaging using Sparse Bayesian Learning – Noise Learning and Model Selection**
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- 1076 Reduction of Information Spreading in MEG Source Estimation Using a Structured Model**
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- 1135 Effects of Gamification on Brain-Computer Interface Training.**
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- 1136 Faded critical dynamics in adult moyamoya disease and its different phenotypes**
Yuzhu Li¹
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- 1152 EEG forward problem, global sensitivity to tissue conductivities**
Martin Grignard¹, Christophe Geuzaine¹, Christophe Phillips¹
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- 1160 Investigation of brain response during visual stimulation from intracranial EEG data**
Anna Pidnebesna¹, Kamil Vlcek², Pavel Sanda³, Jiri Hammer⁴, Petr Marusic⁴, Jaroslav Hlinka³
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- 1187 Identifying individuals from resting-state MEG**
Jason Da Silva Castanheira¹, Hector Orozco Perez¹, Bratislav Mistic¹, Sylvain Baillet¹
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- 1195 Noise learning in empirical Bayesian source reconstruction for electromagnetic brain imaging**
Chang Cai¹, Mithun Diwakar², Ali Hashemi³, Stefan Haufe⁴, Kensuke Sekihara⁵, Srikantan Nagarajan⁶
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- 1213 Extracting class- and trial- specific discriminative EEG activity using deep neural networks**
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- 1254 What goes around comes around: Decoding Feedback Representations in Ventral Visual Pathway**
Haider Al-Tahan¹, Nicky Bayat¹, Yalda Mohsenzadeh¹
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- 1299 Connectome harmonics track EEG network dynamics on a subsecond time scale**
Katharina Glomb¹, Joan Rue Queralt², David Pascucci³, Michael Defferard⁴, Sebastien Tourbier⁵, Margherita Carboni⁶, Maria Rubega⁷, Serge Vulliemoz⁸, Gijs Plomp⁹, Patric Hagmann¹⁰
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- 1322 A STATIS approach to linking brain and behaviour during naturalistic music listening**
Sarah Faber¹, Hervé Abdi², Zheng Wang³, Randy McIntosh⁴
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- 1386 Differences in Unimodal Sensory Processing vs. Cross-Sensory Processing via Time-Frequency Analysis**
David Dcruz-Baron¹, Mary Baker¹, Tanja Karp¹
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- 1390 In-phase tACS modulates neural activity, but does not improve response inhibition in older adults**
Jane Tan¹, Hakuei Fujiyama¹
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- 1421 Characterizing Spectral Dynamics during Seizure Onset and Propagation from intracranial EEG Signals**
Hyeon Jin Kim^{1,2}, Yunseo Choi¹, Hyang Woon Lee¹
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- 1423 The Development of Predictive Coding in Young Children: A Magnetoencephalography Study**
Hannah Rapaport¹, Robert Seymour¹, Wei He¹, Liz Pellicano¹, Paul Sowman¹
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- 1424* Incorporating quantitative EEG analysis into the MNI Open Science neuroinformatics ecosystem**
Jorge Bosch-Bayard^{1,2,3}, Christine Rogers¹, Eduardo Aubert³, Shawn Brown⁴, Gregory Kiar^{1,5}, Tristan Glatard^{5,1}, Lidice Galán-García³, Maria Bringas Vega^{3,2}, Trinidad Virues³, Samir Das¹, Cecile Madjar¹, Zia Mohades¹, Leigh MacIntyre¹, Alan Evans¹, Pedro Valdes-Sosa^{3,1,2}
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- 1429 Dynamic Brain Network Based on EEG Microstate During Sensory Gating in Schizophrenia**
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- 1443 Assessment of Magnetoencephalography Source Estimation Algorithms**
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- 1448 Spontaneous EEG dynamics form transient states of simultaneity establishing large-scale networks**
Martin Seeber¹, Christoph Michel¹
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- 1456 EEG Spectral Disparity of Breath Awareness and Body Scan among Novice Mindfulness Practitioners**
H. Y. Hydra Ng¹, Yu-Ting Cheng², Chia-Wei Li³, Chun-Hsiang Chuang⁴, Chih-Mao Huang⁵, Chia-Fen Hsu⁶, Yi-Ping Chao⁷, Feng-Ying Huang⁸, Changwei Wu⁹
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- 1468 Quantifying cycle-specific oscillatory waveform shapes**
Andrew Quinn¹, Vitor Lopes-dos-Santos¹, Norden Huang², Wei-Kuang Liang³, Chi-Hung Juan³, Jia-Rong Yeh³, David Dupret¹, Anna-Christina Nobre¹, Mark Woolrich¹
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- 1479 Alpha peak frequency changes along spatial gradients in oscillatory brain networks.**
Andrew Quinn¹, Sam Johnson², Gary Green², Mark Hymers³
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- 1489 Probability to Detect an N2pc ERP Component in Individual EEG Datasets**
Francesca Marturano¹, Sabrina Brigadoi¹, Mattia Doro¹, Roberto Dell'Acqua¹, Giovanni Sparacino¹
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- 1493 Modeling neurophysiological brain activity for individual subjects**
Shanna Kulik^{1,2,3}, Linda Douw^{1,2}, Edwin van Dellen⁴, Martijn Steenwijk^{1,3}, Jeroen Geurts^{1,3}, Cornelis Stam¹, Arjan Hillebrand¹, Menno Schoonheim^{1,3}, Prejaas Tewarie¹
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- 1495 Pursuing an alternative to ICA for improved removal of non-stationary contamination in EEG data**
Daniel Correa Tucunduva¹, Yan Jiang¹, Russel Butler¹
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- 1503 Automatic Quality Control of Electroencephalographic (EEG) Lead Field for big datasets**
Usama Riaz¹, Fuleah Abdul Razzaq¹, Arisoky Areces-Gonzalez¹, Deirel Paz-Linares¹, Sunpei Huang¹, Maria L. Bringas Vega¹, Eduardo Martinez², José Enrique Alvarez Iglesias², Pedro A. Valdés-Sosa¹
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- 1516 Spatiotemporal dynamics of motor-cognitive performance measured by EEG**
Martin Lamos¹, Martina Bočková¹, Petr Klimes², Josef Halánek², Pavel Jurák², Ivan Rektor¹
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- 1540 Using both the Amplitude and the Slope Increases the Power of Cluster Mass Tests in MEG/EEG**
Olivier Renaud¹, Jaromil Frossard¹, Sami Capderou¹
¹University of Geneva, Geneva, Switzerland
- 1542 Computational platform to study distributed delays in Neural Mass Models**
Anisleidy González Mitjans^{1,2}, Deirel Paz-Linares^{1,3}, Arisoky Areces-Gonzalez^{1,4}, María Bringas-Vega¹, Pedro A. Valdés-Sosa¹
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- 1548 MRI-DWI-MEEG pipeline for individualized insilico BigBrain like preparation**
Arisoky Areces Gonzalez^{1,2}, Deirel Paz-Linares^{3,4}, Sunpei Huang⁵, Ying Wang³, Usama Riaz⁵, Anisleidy González Mitjans^{3,6}, Eduardo Gonzalez Moreira⁷, Jorge Bosch-Bayard⁸, Pedro A. Valdés-Sosa^{5,4}
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- 1551 Spatially resolved time-frequency framework for the estimation of brain connectivity**
Ying Wang¹, Deirel Paz-Linares^{2,3}, Arisoky Areces-Gonzalez^{2,4}, Maria Bringas-Vega^{2,3}, Pedro Valdés-Sosa^{2,3}
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- 1578 Brain Synchrony Yields Insights Previously Undetectable By Traditional Methods in MZ and DZ Twins**
Peter Molfese¹, Emily Finn¹, Dennis Molfese², Victoria Molfese², Peter Bandettini¹
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- 1595 Fast oscillations localize the epileptogenic zone: a high-density EEG source imaging study**
Tamir Avigdor^{1,2}, Chifaou Abdallah³, Nicolas von Ellenrieder⁴, Annalisa Rubino⁵, Giorgio Lo Russo⁵, Lino Nobili^{6,7}, Birgit Frauscher¹, Christophe Grova^{3,2}
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- 1605 Mood Disorder Differences in Striatal to Anterior Cingulate Connectivity Measured with MEG**
Jessica Gilbert¹, Christina Wusinich¹, Allison Nugent¹, Carlos Zarate Jr.¹
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- 1609 Predictive regression modeling with MEG/EEG: from source power to signals and cognitive states**
David Sabbagh¹, Pierre Ablin¹, Gaël Varoquaux¹, Alexandre Gramfort¹, Denis-Alexander Engemann¹
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- 1627 Functional Connectivity Visualization with Virtual White Matter Fibers in Brainstorm**
Martin Cousineau¹, François Tadel², Sylvain Baillet¹
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- 1661 EEG-fMRI analysis of epileptic discharges guided by clustering of electrical source imaging.**
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- 1689 A Minimal model of brain activity based on graph Laplacian eigenmodes**
Ashish Raj¹, Xihe Xie², Chang Cai³, Srikantan Nagarajan⁴
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- 1692 Using Structural Connectivity to Reconstruct Brain Activation and Effective Connectivity**
Brahim Belaoucha¹, Theodore Papadopoulos¹
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- 1693 A Comparison of Dissimilarity Measures for Representational Similarity-based Fusion of fMRI and MEG**
Nicky Bayat¹, Haider Al-Tahan¹, Yalda Mohsenzadeh¹
¹The University of Western Ontario, London, Ontario
- 1711 Lag-dependent correlations between resting-state fMRI and EEG show distinct spatial patterns**
Yameng Gu¹, Xiao Liu¹
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- 1714** **Patterns in Structural and Functional Connectivity Measures in Autism During Executive Attention**
Mary Baker¹, Ronald Anderson¹, Michael O'Boyle¹
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- 1756** **Altered functional connectivity during balance perturbation task in Traumatic Brain Injury patients**
Vikram Shenoy Handiru¹, Didier Allexandre², Soha Saleh², Armand Hoxha², Guang Yue²
¹Dr., West Caldwell, NJ, ²Kessler Foundation, West Orange, NJ
- 1762** **Probing The Spatiotemporal Characteristics of Brain's Task-Discriminating Functional Networks**
Ali Haddad¹, Laleh Najafizadeh¹
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- 1764** **Changes in Brain Connectivity Induced by Gamma-Band Visual Stimulation**
Sang Su Kim¹, Yeseung Park², Kanghee Lee³, Jaehyeok Park⁴, Seunghyup Yoo⁴, Ki Woong Kim³, Do-Won Kim¹
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Exploratory Modeling and Artifact Removal

- 1117** **Transient Increases in Heart Rate during Resting-State fMRI and their Association to Peaks in DVARS**
Michalis Kassinopoulos¹, Alba Xifra-Porxas¹, Georgios Mitsis¹
¹McGill University, Montreal, QC
- 1128** **A novel digital reference object for DCE-MRI measurement of subtle blood-brain barrier leakage**
Jose Bernal¹, María Valdés-Hernández¹, Javier Escudero¹, Anna Heye¹, Paul Armitage², Stephen Makin³, Rhian Touyz³, Joanna Wardlaw¹, Michael Thrippleton¹
¹The University of Edinburgh, Edinburgh, Scotland, ²University of Sheffield, Sheffield, England, ³University of Glasgow, Glasgow, Scotland
- 1141** **Modelling effects of impaired neurovascular coupling on BOLD-based functional connectivity at rest**
Mario Archila-Meléndez¹, Christian Sorg¹, Christine Preibisch¹
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- 1172** **Resting-state fMRI noise regression in multi-site aging studies**
Norman Scheel¹, Jeffrey Keller², Ellen Binder³, Eric Vidoni⁴, Jeffrey Burns⁴, Binu Thomas⁵, Diana Kerwin⁶, Wanpen Vongpatanasin⁵, Munro Cullum⁵, Rong Zhang⁵, David Zhu¹
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- 1250** **Generative Adversarial Networks to Model Scanner Noise for Improving Multi-Site Data Harmonization**
Somosmita Mitra¹, Sumra Bari¹, Thomas Talavage¹, Christopher Brinton¹
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- 1490** **PaLOS index: a metric to detect removal of brain signals with artifact correction**
Shiang Hu¹, Jorge Bosch-Bayard², Maria Luisa Bringas¹, Pedro Valdes-Sosa¹
¹University of Electronic Science and Technology of China, Chengdu, China, ²Montreal Neurological Institute, McGill University, Montreal, Canada
- 1513** **Effects of resting-state fMRI denoising strategies on connectopic maps in single subjects**
Geoffrey Ngo¹, Ravi Menon²
¹Western University, London, Ontario, ²Robarts Research Institute, London, Ontario
- 1522** **A federated denoising autoencoder for brain mri denoising**
Sebastian Niehaus¹, Alberto Merola¹, Janis Reinelt¹
¹AICURA Medical GmbH, Berlin, Berlin
- 1552** **Simulation of spatially dependent physiological noise in BOLD fMRI data**
Martin Gajdoš¹, Michal Mikl¹, Marek Bartoň¹, Marie Nováková¹, Jaroslav Hlinka²
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- 1581** **Towards site-to-site harmonization of T1-weighted MRI**
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- 1607** **How does preprocessing impact recovery of individual information in early childhood fc-fMRI?**
Kirk Graff¹, Ryann Tansey¹, Amanda Ip¹, Christiane Rohr¹, Dennis Dimond¹, Deborah Dewey¹, Signe Bray¹
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- 1706** **FMRI Dynamic Phantom for Improved Detection of Resting-State Brain Networks**
Rajat Kumar¹, Liang Tan², Alan Kriegstein², Andrew Lithen¹, Jonathan Polimeni³, Helmut Strey¹, Lilianne Mujica Parodi¹
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- 1730** **ENIGMA-GAD: Comparison of a classical method with ComBat to address scanner variability**
Andre Zugman¹, Anita Harrewijn¹, Elise Cardinale¹, Gabrielle Freitag¹, Daniel Pine¹, Anderson Winkler¹
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fMRI Connectivity and Network Modeling

- 0996** **Improved fingerprinting using edge-centric functional connectivity**
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- 1000** **Physiological and Motion Signatures in Functional Connectivity and their Subject Discriminability**
Alba Xifra-Porxas¹, Michalis Kassinopoulos¹, Georgios Mitsis¹
¹McGill University, Montreal, QC
- 1001** **Graph Theory Analysis of Chronic Pain Patients Pre and Post Acceptance and Commitment Therapy**
Sarah Meier¹, Semra Aytur¹, Kimberly Ray², Donald Robin¹
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- 1002 Replicating Smith et al's (2015) positive-negative mode linking brain activity and subject measures**
Nikhil Goyal¹, Dustin Moraczewski¹, Peter Bandettini², Emily Finn², Adam Thomas¹
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- 1003 Reproducible neuromarkers of head motion**
Dardo Tomasi¹, Nora Volkow²
¹NIH, Bethesda, MD, ²NIDA, Bethesda, MD
- 1007 Identifying the Eigen-partition of Temporal Functional Brain Networks**
Huili Sun¹, Maoxiang Xiong¹, Yuanning Li², Shi Gu¹
¹University of Electronic Science and Technology of China, Chengdu, Sichuan, ²University of California, San Francisco, San Francisco, California
- 1008 Network-based atrophy modelling in the common epilepsies: a worldwide ENIGMA study**
Sara Larivière¹, Maria Eugenia Caligiuri², Antonio Gambardella², ENIGMA Epilepsy Working Group³, Raul Rodriguez-Cruces¹, Luis Concha⁴, Simon Keller⁵, Fernando Cendes⁶, Clarissa Yasuda⁶, Reetta Kälviäinen⁷, Graeme Jackson⁸, Magdalena Kowalczyk⁸, Mira Semmelroch⁸, Mariasavina Severino⁹, Pasquale Striano⁹, Domenico Tortora⁹, Sean Hatton¹⁰, Paul Thompson³, Andrea Bernasconi¹, Neda Bernasconi¹, Carrie McDonald¹¹, Angelo Labate², Boris Bernhardt¹
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- 1029 Functional connectome fingerprinting: Identifying individuals using refined brain connectivity**
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- 1031 Edge functional connectivity reveals overlapping community structure**
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- 1032 Ghost attractors in spontaneous brain activity**
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- 1072 Brain hierarchical organization is altered in epileptogenic malformations of cortical development**
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- 1075 Comparison between gradients and parcellations for functional connectivity prediction of behavior**
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- 1080 Attention and working memory evoke loss of higher-order network structure in OCD**
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- 1088 Hierarchical organization of local temporal dynamics across the human brain**
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- 1123 Brain functional connectivity patterns for understanding obesity**
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- 1131 Profiling functional connectome idiosyncrasy in typical and atypical development**
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- 1137 Aberrant dynamic brain state transitioning in patients with functional movement disorders**
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- 1140 Efficient network randomization using multiple edge swapping**
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- 1148 Detailed Organization of the Cerebellum Estimated Within the Individual**
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- 1162 Measuring the bias of draining veins and the vasculature on resting state measures of centrality**
Julia Huck¹, Anna-Thekla Jäger², Audrey Fan³, Sophia Grah^{1,2}, Uta Schneider², Arno Villringer^{2,4,5,6}, Christine Tardif⁷, Pierre-Louis Bazin^{8,2}, Claudine Gauthier^{1,9}, Christopher Steele^{1,2}
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- 1165 Connectome Predictive Modeling of Face-Name Associations in Mild Cognitive Impairment**
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- 1166*** **Hierarchical Modelling of Individual- and Population-Level Resting State Networks from Big fMRI Data**
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- 1173** **Cross-task flexibility of human cerebral cortex**
Luis Nieves¹, Richard Betzel¹
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- 1181** **Attractor dysfunction in fMRI dynamic connectivity related to nicotine abuse**
Victor Vergara¹, Vince Calhoun²
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- 1182** **The edge-centric representation of functional brain networks**
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- 1190** **Reproducibility of network measures for brain functional connectivity analyses**
Valentina Halas¹, Alessandra Griffa^{2,3,4}, Priska Zuber⁵, Laura Gaetano⁶, Anna Altermatt^{1,7}, Emanuel Geiter^{1,8}, Charidimos Tsagkas⁹, Manuel Huerbin¹, Katrin Parmar^{9,10,11}, Athina Papadopoulou⁸, Patric Hagmann², Ludwig Kappos⁸, Jens Wuerfel^{1,7}, Till Sprenger¹³, Stefano Magon^{1,14}
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- 1194** **Translatable Functional Connectivity Topology as Assessed Through Functional Gradients in Mice.**
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- 1198** **Translational fMRI detects similar network changes in mice and humans after stroke**
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- 1203** **Estimation of Dynamic Scale-Free Brain Connectivity Network from fMRI Time Series**
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- 1205** **Functional Connectivity Differences among Different Sleep Stages in White Matter**
Yang Yang¹, Shuqin Zhou¹, Jing Xu¹, Guangyuan Zou¹, Qihong Zou¹, Jia-Hong Gao¹
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- 1206** **Neural Mechanism of the Emotional and Cognitive Interference Processing in Test-anxious Individuals**
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- 1209** **The relationship between the ACC-DLPFC connectivity and test anxiety: A resting-state fMRI study**
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- 1219** **Abnormal Functional Connectivity of Ventral Anterior Insula in Military Veterans with Chronic Pain**
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- 1221** **Presurgical brain mapping of the language network in pediatric patients with epilepsy**
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- 1226** **Controllability of noise diffusion relates structure to function in the human connectome**
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Jung-Hoon Kim¹, Kun-Han Lu¹, Kuan Han¹, Minkyu Choi¹, Yizhen Zhang¹, Zhongming Liu¹
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- 1241 Association Between Adolescent Resting-State Connectivity and the Internalizing Symptom Dimension**
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- 1397* Cognitive information differentiates between connectivity and activity across the cortical hierarchy**
Takuya Ito¹, Luke Hearne², John Murray³, Michael Cole¹
¹Rutgers University, Newark, NJ, ²Rutgers University, New York, NY, ³Yale University, New Haven, CT
- 1412 Pre-operative epileptic network architecture constrains surgery-induced connectome reorganization**
Sara Lariviere¹, Yifei Weng², Jessica Royer¹, Bo-yong Park¹, Casey Paquola¹, Reinder Vos de Wael¹, Zhengge Wang³, Zhiqiang Zhang², Boris Bernhardt¹
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- 1427 An Integration of Edge-centric Functional Network Approaches with Whole-brain Predictive Modeling**
Anita Shankar¹, Ruchika Prakash¹
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- 1435 ALE and the problem of identifying subject-specific networks: Graph theoretic characterization**
Dimitri Falco¹, Asadur Chowdury², David Rosenberg³, Steven Bressler⁴, Vaibhav Diwadkar²
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- 1437 Variation in the strength of cortical areal boundaries relates to human cognition**
Ye Tian¹, Andrew Zalesky¹
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- 1442 Bipartite connectivity mapping (BCM)**
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- 1446* Whole-brain estimation of directed connectivity from fMRI data**
Stefan Frässle¹, Cao Tri Do¹, Lars Kasper^{1,2}, Zina Manjaly³, Klaas Pruessmann², Albert Powers⁴, Klaas Enno Stephan^{1,5}
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- 1453 Informing intrinsic effective connectivity during task fMRI using resting state DCM estimates**
Hannes Almgren¹, Maria Giulia Tullo², Frederik Van de Steen¹, Valentina Sulpizio³, Adeel Razi⁴, Gaspare Galati⁵, Daniele Marinazzo¹
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- 1459 Resting State fMRI Based Multilayer Network Configuration in Patients with Schizophrenia**
George Gifford¹, Nicolas Crossley², Matthew Kempton¹, Sarah Morgan³, Paola Dazzan⁴, Jonathan Young¹, Philip McGuire¹
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- 1460 Predicting selective manipulation of specific functional connections using local brain stimulation**
Leonardo Gollo¹
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- 1466 Linear Mapping of Cortico-Cortico Resting-State Functional Connectivity**
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- 1470 A functional localizer for large-scale brain network interaction**
Nils Kohn¹, Yingjie Shi¹, Milette Dufour¹, Christian Beckmann¹, Guillén Fernández²
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- 1498* Does global signal regression remove alpha power fluctuations? An EEG-fMRI study in humans at rest**
Alba Xifra-Porxas¹, Michalis Kassinopoulos¹, Prokopis Prokopiou¹, Marie-Hélène Boudrias¹, Georgios Mitsis¹
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- 1514 Seed-based resting state fMRI data analysis pipeline by using unsupervised machine learning**
Mingyi Li¹, Katherine Koenig¹, Jian Lin¹, Mark Lowe¹
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- 1524 Dynamic (bi)connectedness unravel differences in brain chonnectome due to Alzheimer's Disease**
*Maryam Ghanbari¹, Zhen Zhou¹, Dan Hu¹, Li-Ming Hsu¹, Han Zhang^{*1}, Dinggang Shen¹*
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- 1533 Delayed energy transport in fMRI peripheral subnetworks is linked to Autism severity**
Ai Wern Chung¹, P. Ellen Grant¹, Kiho Im¹
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- 1535* Topological variations in connectivity dynamics decode states of the brain**
Jacob Billings¹, Manish Sagar², Shella Keilholz³, Giovanni Petri⁴
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- 1537 Ketamine-induced anxious ego-dissolution correlates with FC reduction between PCC and insula**
Lena Danyeli^{1,2,3}, Meng Li^{1,3}, Zümürüt Şen^{1,3}, Martin Walter^{1,2,3,4}
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- 1538 The arousal system mediates age-related decline in functional segregation of cortical networks**
Tiago Guardia¹, Linda Geerligts², Kamen Tsvetanov³, Karen Campbell⁴
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- 1546 Intrinsic Versus Tasked–Evoked Network Architecture of Thalamocortical Functional Connectivity**
Marco Pipoly¹, Kai Hwang¹
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- 1547 Dynamic Network Analysis of Deep Brain Stimulation fMRI in Parkinson Patients**
Narges Chinichian^{1,2,3}, Pablo Reinhardt⁴, Friederike Irmen⁵, Johann Kruschwitz^{1,6}, Andreas Horn⁵, Andrea Kühn^{5,7}, Henrik Walter¹
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- 1550 Default Mode Network Alterations in Cerebral Small Vessel Disease: evidence from CADASIL**
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- 1556 Observation & Synthesis of Divergent Patterns of Maturation Across Scales of Functional Networks**
Adam Pines¹, Bart Larsen², Zaixu Cui¹, Azeez Adebimpe¹, Aaron Alexander-Bloch¹, Ruben Gur³, Raquel Gur³, Danielle Bassett¹, Theodore Satterthwaite¹
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- 1560 Reliability of resting state connectivity networks in individuals with elevated depression severity**
Kimberly Ray¹, Jason Shumake¹, Christopher Beevers¹, David Schnyer¹
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- 1572 Graph Based Functional Network Analysis in Focal Epilepsy Patients with Respect to Seizure Outcomes**
Mahdi Alizadeh¹, Umma Fatema¹, Caio Matias¹, Jennifer Pastorino², Jennifer Muller¹, Joseph Tracy³, Michael Sperling³, Feroze Mohamed¹, Ashwini Sharan¹, Chengyuan Wu¹
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- 1591 Lower amplitude BOLD signal peaks drive resting-state functional connectivity**
Prokopis Prokopiou¹, Michalis Kassinosopoulos¹, Alba Xifra-Porxas¹, Marie-Hélène Boudrias¹, Georgios Mitsis¹
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- 1594 Analyzing complexity in BOLD rs-fMRI at rest and task states using sample entropy**
Maysam Nezafati¹, Hisham Temmar¹, Shella Keilholz¹
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- 1596 Disconnected SMA and midcingulate in Functional movement disorders: a resting state fMRI study.**
Robert Jech^{1,2}, Karsten Mueller³, Filip Růžička^{4,2}, Matěj Slovák⁵, Zuzana Forejtová⁵, Gabriele Lohmann^{6,7}, Tereza Serranová⁵
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- 1604 Measurement of functional brain network connectivity in people with orthostatic tremor**
Connor Phipps¹, Diego Torres-Russotto², David Warren²
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- 1611 Independent Component Analysis of rs-fMRI to Predict Surgical Outcome in Temporal Lobe Epilepsy**
Caio Matias¹, Mahdi Alizadeh¹, Anthony Stefanelli¹, Victor Sabourin¹, Christopher Skidmore¹, Michael Sperling¹, Joseph Tracy¹, Ashwini Sharan¹, Chengyuan Wu¹
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- 1612 Developmental delay in the use of shared functional processes in the ADHD brain**
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- 1614 Effects of Functional Connectivity on ADHD Relevant Traits in Normal Developmental Cohort**
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- 1629 Increased Connectivity Between Limbic and Motor System After Five Bouts of Exercise with Motor Task**
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- 1632 An updated and extended atlas for corresponding brain activation during task and rest**
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- 1638 Reproducibility of Resting-State fMRI over Five Years: a Single-Subject Study**
David Zhu¹
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- 1641 Reliability of Brain Network Organization Across Scans, Sessions, Samples, and Methods**
Yu Tong¹, Aki Nikolaidis¹
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- 1644 Graph Theory Analysis on Resting State MRI to Elucidate Network Connectivity in Response to DBS**
Anthony Stefanelli¹, Victor Sabourin¹, Subhadra Acharya², Caio Matias¹, Tsao-Wei Liang¹, Ashwini Sharan¹, Chengyuan Wu¹
¹Thomas Jefferson University, Philadelphia, PA, ²Sidney Kimmel Medical College, Philadelphia, PA
- 1651 Functional Connectivity and Interregional BOLD Signal Variance across Large-scale Networks**
Giulia Baracchini¹, Laetitia Mwilambwe-Tshilobo¹, Manesh Girn¹, Roni Setton¹, Bratislav Mistic¹, Gary Turner², Nathan Spreng¹
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- 1653 Molecular Genetics of Small-World Brain Networks**
Sebastian Markett¹, Helena Braun¹, Philippe Jawinski¹
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- 1656 Brain-behaviour associations of children with typical development and autism spectrum disorder**
Taiane Coelho Ramos^{1,2}, Agoston Mihalik^{2,3}, Andre Fujita¹, Janaina Mourao-Miranda^{2,3}
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- 1667 Aberrant Limbic-Executive rather than Default Mode-Saliency System in Major Depressive Disorder**
Guoshi Li¹, Yujie Liu^{1,2}, Yanting Zheng^{1,2}, Ye Wu¹, Pew-Thian Yap¹, Shijun Qiu³, Han Zhang¹, Dinggang Shen^{1,4}
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- 1672 Cognitive state and catecholaminergic system modulates cortical information processing dynamics**
Gabriel Wainstein¹, Oliver Cliff¹, Mike Li², Dennis Hernaus³, Lianne Scholtens⁴, Eli Muller⁵, Brandon Munn⁶, Ben Fulcher⁷, Joseph Lizier⁸, James Shine⁹
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- 1673 Personalized In-silico Approach for Resting-State Functional Connectivity in Focal Epilepsy Patients**
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- 1674* The brainlife.io cloud-services for functional network neuroscience**
Joshua Faskowitz¹, Conner Victory², David Hunt¹, Franco Delogu², Soichi Hayashi¹, Richard Betzel¹, Franco Pestilli¹
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Shreyas Harita¹, John Griffiths¹
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- 1683* Consistent global propagations across cortical hierarchy in the electrophysiological and fMRI signal**
Yameng Gu¹, Xiao Liu¹
¹Pennsylvania State University, University Park, PA
- 1685 Relationship between functional connectivity and glucose metabolic rate assessed using PET/MRI**
Otto Muzik¹, Shahira Baajour¹, Vaibhav Diwadkar¹
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- 1687 Activation and brain network profiles during refractory periods of learning in schizophrenia**
Elias Samona¹, Asadur Chowdury¹, Jeffrey Stanley¹, Vaibhav Diwadkar¹
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- 1688 Neural Correlates of Stress & Resilience in Family Dementia Caregivers.**
Aava Jahan¹, Sergey Chernyak², Lisa Nickerson³, Cristina Cusin¹, David Mischoulon¹, Felipe Jain¹
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- 1695 Dynamic Resting State Functional Connectivity Analysis using the Network Diffusion Model**
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- 1696 Familial Environment Predicts Variations in Induced Functional Connectivity to Contextual Valence.**
Sonu Patel¹, Asadur Chowdury¹, Vaibhav Diwadkar¹, Paolo Brambilla², Marta Re³, Maria Nobile⁴
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- 1697 Three valued energy landscape analysis on a continuous multitask fMRI paradigm**
Takahiro Ezaki¹, Manish Sagar²
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- 1699 Mitigating effects of temporal filter of time-series for reliability of connectome calculations**
Robert Welsh¹, Martin Lindquist²
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- 1710 Innovative Long Short-Term Memory Architecture for Interpreting Dynamic Connectivity**
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- 1715 Dynamic network coupling associated with effort and fatigue in Traumatic Brain Injury**
Amy Ramage¹, Kimberly Ray², Hannah Franz¹, Donald Robin¹
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- 1716 Comparison of dynamic functional connectivity methods for characterizing brain alterations**
Eric Maltbie¹, Xiaodi Zhang¹, Amrit Kashyap¹, Shella Keilholz¹
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- 1717 Intelligence and academic performance: Is it all in your head?**
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- 1719 Functional Connectivity Accounts for Variability in Temporal Discounting Across Diagnostic Groups**
Jacob DeRosa¹, Yu Tong², Aki Nikolaidis¹, Michael Milham³
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- 1720 Modularity allows classification of human brain networks during music and speech perception**
Melia Bonomo¹, Christof Karmonik², Anthony Brandt¹, Jefferson Frazier³
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- 1721 Towards a large-scale comparative analysis of dynamic functional connectivity methods**
Thomas Bolton¹, Raphael Liegeois², Fabiano Baroni¹, Dimitri Van De Ville³
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- 1726 Connectome-based neurofeedback**
Dustin Scheinost¹, Tiffany Hsu², Emily Avery¹, Michelle Hampson³, R. Todd Constable¹, Marvin Chun¹, Monica Rosenberg⁴
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- 1732 Comparing Reliabilities Across Functional Connectivity Metrics**
Aki Nikolaidis¹, Yu Tong¹, Joshua Vogelstein², Michael Milham³
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- 1734* Enhancing Task fMRI Preprocessing via Whole-Brain Neural Modeling of Intrinsic Activity Dynamics**
Anxu Wang¹, Matthew Singh², Joset Etzel³, Todd Braver⁴
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- 1735 Subgroup Analysis of Young Healthy Adults with Resting State Functional Connectivity**
Kaiming Li¹, Xiaoping Hu¹
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- 1743 Temporal memory of resting-state fMRI time series activations are able to classify multiple sclerosis**
Amanda Simon¹, Keith Jamison¹, Ceren Tozlu², Elvisha Dhamala², Susan Gauthier³, Amy Kuceyeski¹
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- 1747 Influence of vestibular arousal on higher-order functional networks**
Felix Hoffstaedter¹, Maxine Ruehl², Simon Eickhoff¹, Peter Zu Eulenburg²
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- 1759 ME-fMRI connectivity associations with behavior using group and individualized parcellation schemes**
Roni Setton¹, Laetitia Mwilambwe Tshilobo¹, Giulia Baracchini¹, Manesh Girn¹, Amber Lockrow¹, Jian Li², Tian Ge³, Richard Leahy², Gary Turner⁴, Nathan Spreng¹
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- 1760 Functional network classification of obesity using Graph U-net in fMRI**
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- 1763 Difference in nucleus accumbens related functional connectivity across various psychiatric disorders**
Yoko Ishida¹, Yuko Nakamura², Shinsuke Koike²
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- 1765 Building Mesoscale Individualized Neurodynamic Models (MINDy) at High Spatial Resolution**
Matthew Singh¹, Anxu Wang², ShiNung Ching³, Todd Braver⁴
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- 1767 Capturing Dysconnectivity in Schizophrenia Using Resting-state Functional Magnetic Resonance Imaging**
Haleh Falakshahi¹, Hooman Rokham¹, Armin Iraj¹, Sergey Plis¹, Vince Calhoun¹
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- 1042 Finding Your Center: methods for better representative coordinates in AFNI, MRICROGL & Surfire**
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- 1077 Cortical thickness validation using a thickness phantom**
Christian Gaser¹, Robert Dahnke²
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- 1176 RBSN: Region-based Diffeomorphic Spatial Normalization via Landmark Matching**
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- 1228 Non-linear registration of 1µm Histology Sections into 3D 20µm BigBrain Space**
Mona Omidyeganeh¹, Claude Lepage¹, Konrad Wagstyl², Hannah Spitzer³, Timo Dickscheid⁴, Katrin Amunts⁵, Alan Evans⁶
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- 1239 FODF-based vs. tensor-based registration for spatial matching of fODFs and brain structure**
Xiaoxiao Qi¹, Yingjuan Wu¹, Mohammad Rakeen Niaz¹, Abdur Raquib Ridwan¹, Shengwei Zhang², Konstantinos Arfanakis^{1,2}
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- 1247 T1w and DTI spatial normalization in older adults: Multi-channel or Single-channel registration?**
Yingjuan Wu¹, Abdur Raquib Ridwan¹, Xiaoxiao Qi¹, Mohammad Rakeen Niaz¹, Konstantinos Arfanakis^{1,2}
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- 1261 Improving the Speed of Surface Registrations**
Francis Carter¹, Pierre-Louis Bazin², Christopher Steele¹
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- 1266 An Animal Pipeline for FMRI in AFNI – @animal_warper and afni_proc.py**
Daniel Glen¹, Adam Messinger¹, Richard Reynolds¹, Paul Taylor¹
¹NIMH, Bethesda, MD
- 1270* TIRL: Automated Non-Linear Registration of Stand-Alone Histological Sections to Whole-Brain MRI**
Istvan Huszar^{1,2}, Menuka Pallegage-Gamarallage², Sean Foxley³, Benjamin Tendler^{1,2}, Anna Leonte⁴, Marlies Hiemstra⁵, Jeroen Mollink^{5,1,2}, Adele Smart², Sarah Bangerter-Christensen⁶, Hannah Brooks², Martin Turner², Olaf Ansorge², Karla Miller^{1,2}, Mark Jenkinson^{1,2}
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- 1281 Correlation of gait disturbance and cortical thickness for idiopathic normal-pressure hydrocephalus**
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- 1320 Voxel Size, Shape, and Uncertainty in Volumetric Segmentation**
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- 1353 Impact of commonly used acquisition sequences on automated hippocampal subfield volume estimates**
Aurelie Bussy¹, Eric Plitman¹, Vanessa Valiquette¹, Christina Kazazian¹, Gabriel Devenyi¹, M Mallar Chakravarty¹
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- 1404 Quantitative Evaluations of Geometric Distortion Corrections in Surface-Based Analysis of 7T fMRI**
Tetsuya Yamamoto¹, Sho Sugawara^{1,2}, Yuki Hamano¹, Masaki Fukunaga¹, Norihiro Sadato¹
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- 1634 Template registration of spinal cord fMRI data using cerebrospinal fluid segmentation**
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- 1639 Comparison of the motor-hand area morphology in Great Apes**
Ophelie Foubet¹, Zhong Yi Sun², Alexia Stochino³, Yann Leprince⁴, William Hopkins⁵, Jean-François Mangin⁶
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- 1707 An automated, geometry-based method for the analysis of hippocampal thickness**
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- 1755 Modification of the CIVET Pipeline for Estimation of Subplate Thickness**
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- 1758 MRI guided sectioning and stitching of brain blocks for alignment of histology to MR images**
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- 0998 Behavioral Dictionary of Generalized Neural Mass Model**
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- 1005 Modeling Random Noise in fMRI with Wishart Distributions: Implications for Functional Connectivity**
Matthew Glasser¹, Chunhui Yang¹, Timothy Coalson², Chad Donahue¹, Yujie Hou³, Joonas Autio⁴, David Van Essen², Henry Kennedy³, Takuya Hayashi⁴, Christian Beckmann⁵, Steve Smith⁶
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- 1022 Magnetization Transfer Imaging with a Surface Cryogenic Coil**
Mila Urosevic¹, Daniel Gallino¹, Gabriel Devenyi^{1,2,3}, Christine Tardif⁴, Marius Tuznik⁴, Gabriel Desrosiers-Grégoire^{1,5}, Mallar Chakravarty^{1,2,5,3,6}
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- 1024 A Joint Causal Network Estimation Framework for fMRI Time Series**
Gemeng Zhang¹, Aiyang Zhang¹, ZhuoZhuo Tu², Biao Cai¹, Vince Calhoun³, Julia Stephen⁴, Tony Wilson⁵, Yu-Ping Wang¹
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- 1037 Spatial Confidence Sets for Standardized Effect Size Images**
Alexander Bowring¹, Fabian Telschow², Armin Schwartzman², Thomas Nichols³
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- 1045 Hierarchical Nonlinear Embedding of fMRI Time Series Reveals Brain's Dynamic Topological Structure**
Siyuan Gao¹, Gal Mishne², Dustin Scheinost¹
¹Yale University, New Haven, CT, ²University of California San Diego, San Diego, CA
- 1046* Brainiak Education: User-Friendly Tutorials for Advanced, Computationally-Intensive fMRI Analysis**
Manoj Kumar¹, Cameron Ellis², Qihong Lu¹, Hejia Zhang¹, Mihai Capota³, Theodore Willke³, Peter Ramadge¹, Nicholas Turk-Browne², Kenneth Norman¹
¹Princeton University, Princeton, NJ, ²Yale University, New Haven, CT, ³Intel Corporation, Hillsboro, OR
- 1048 Graph Neural Network Analysis of Resting-state fMRI**
Byung-Hoon Kim¹, Jong Chul Ye¹
¹Korea Advanced Institute of Science and Technology (KAIST), Yuseong-gu, Daejeon
- 1051 GANxEEG – Automatic Stimulus Adaptation for ERP Maximisation**
Pedro Ferreira da Costa^{1,2}, Rianne Haartsen², Emily H. J. Jones², Robert Leech¹
¹King's College London, London, England, ²Birkbeck College, University of London, London, England
- 1053 Glial glutamate regulation, critical determinant of whole brain physiology: a computational study**
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- 1058 Optimization study of a new computational model for brain lactate exchanges at rest**
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- 1059 Revealing brain network communities with empirical mode decomposition and k-modes clustering**
Lazaro Sanchez-Rodriguez^{1,2}, Yasser Iturria-Medina², Pauline Mouches¹, Roberto Sotero¹
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- 1073 Precise spatial normalization to the MNI space using cerebral artery segmentation**
Uk-Su Choi¹, Hirokazu Kawaguchi², Ikuhiro Kida¹
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- 1083 Tedana: Multi-echo software and communal resources**
Daniel Handwerker¹, Peter Bandettini¹, Katherine Bottenhorn², César Caballero-Gaudes³, Logan Dowdle⁴, Elizabeth Dupre⁵, Javier Gonzalez-Castillo¹, Angela Laird², John Lee¹, Ross Markello⁵, Stefano Moia³, Taylor Salo², Joshua Teves⁶, Eneko Uruñuela³, Maryam Vaziri-Pashkam¹, Kirstie Whitaker⁷
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- 1100 NeuroQuery: comprehensive meta-analysis of human brain mapping**
Jérôme Dockès¹, Russel Poldrack², Tal Yarkoni³, Fabian Suchanek⁴, Bertrand Thirion⁵, Gaël Varoquaux⁶
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- 1107 Capturing distributed brain effects related to behavior using the Bayesian polyvertex score**
Weiqi Zhao¹, Clare Palmer², Wes Thompson³, Terry Jernigan³, Anders Dale³, Chun Chieh Fan²
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- 1111* MyPLS 2.0 – Partial least squares analysis for multivariate brain-behavior associations**
Daniela Zöllner^{1,2,3}, Valeria Kebets⁴, Thomas Bolton^{1,2}, Dimitri Van De Ville^{1,2}
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- 1114 Entropy-based interactive exploration of brain dynamics at multiple scales during ongoing cognition**
Caleb Geniesse¹, Samir Chowdhury¹, Manish Sagar¹
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- 1116 Dynamics of topologically-characterized structures within fMRI signal**
Adam Regalski¹, Hassan Abdallah¹, Maria Berishaj¹, Mohammad Kang¹, Vaibhav Diwadkar¹, Andrew Salch¹
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- 1120 How to Improve the Functional Alignment of fMRI Data Using Spatial Brain Information?**
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- 1189 Rethinking measures of local shape complexity for neuroimaging applications**
Erin Walsh¹, Tianqi Zhang¹, Nicolas Cherbuin²
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- 1210 Layer-sensitive fMRI**
Gal Hershkovitz¹, Omri Tomer¹, Ittai Shamir¹, Daniel Barazany¹, Yaniv Assaf¹
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- 1215 Improved Cortical Surface Reconstruction and Thickness Estimation**
Robert Dahnke¹, Simon Eskildsen¹, Christian Gaser²
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- 1223 Data-driven event segmentation of brain activity reveals the temporal hierarchy of brain function**
Linda Geerligs¹, Marcel van Gerven¹, Karen Campbell², Umut Güçlü¹
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- 1235 Imputation of Missing Behavioral Measures in Connectome-based Predictive Modeling**
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- 1245 Low Amplitude Random Burst Sensing of Neuromodulators**
Amnah Eltahir^{1,2}, Jason White¹, Terry Lohrenz¹, Kenneth Kishida^{2,3,4,5}, Read Montague^{1,2,6,7}
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- 1246 Visualizing neuroimaging data from multiple research sites without requiring collocation**
Debbata K. Saha¹, Vince Calhoun², Yuhui Du³, Zening Fu⁴, Sandeep R. Panta⁵, Sergey Plis¹
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- 1257 Generative Modeling of Brain maps with Spatial Dependence**
Joshua Burt¹, Markus Helmer², Maxwell Shinn¹, Alan Anticevic², John Murray¹
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- 1258 Simultaneous missing data interpolation and slice time correction in rsfMRI using matrix completion**
Arvind Balachandrasekaran¹, Alexander Cohen¹, Ali Gholipour¹
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- 1267 Spine intervertebral disc labeling using a fully convolutional redundant counting model**
Lucas Rouhier¹, Joseph Paul Cohen², Francisco Perdigon Romero³, Julien Cohen-Adad^{1,4}
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- 1268 Novel brain shape asymmetry signatures for subject identification**
Yu-Chi Chen¹, Eugene McTavish¹, Chao Suo¹, Alex Fornito¹, Kevin Aquino¹
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- 1279* SimNIBS 4.0: Detailed Head Modeling for Transcranial Brain Stimulation and EEG**
Oula Puonti¹, Guilherme Saturnino¹, Kristoffer Madsen¹, Axel Thielscher²
¹Danish Research Centre for Magnetic Resonance, Hvidovre, Copenhagen, ²Copenhagen University Hospital Hvidovre, Copenhagen, Denmark
- 1282* VB_toolbox: A tool for investigating neural feature gradients in Python and MATLAB**
Claude Bajada^{1,2,3}, Lucas da Costa Campos^{2,4}, Svenja Caspers^{2,5,6}, Richard Muscat¹, Geoff Parker^{7,8,9}, Matthew Lambon Ralph¹⁰, Lauren Cloutman³, Nelson Trujillo-Barreto³
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- 1304 Graph diffusion on the structural connectome to identify aligned and liberal fMRI activity**
Maria Giulia Preti^{1,2}, Dimitri Van De Ville^{1,2}
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- 1324 Validating multi-echo fMRI analysis methods across a range of acquisitions**
Ramya Varadarajan¹, Daniel Handwerker¹, Peter Molfese¹, Javier Gonzalez-Castillo¹, Peter Bandettini¹
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- 1325 Improving deconvolution of fMRI signal with Sparse Paradigm Free Mapping using stability selection**
Eneko Uruñuela¹, Stephen Jones², Anna Crawford², Wanyong Shin², Sehong Oh², Mark Lowe², Cesar Caballero-Gaudes¹
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- 1335 Analyzing fMRI datasets by interpreting the decoding decisions of pre-trained deep learning models**
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- 1340 Confounder: A BIDS app for assessing the influence of experimental confounds in task-based GLM model**
Suzanne Witt¹, Kathryn Van Hedger¹, Olivia Walton Stanley¹, Ali Khan¹, Joern Diedrichsen¹
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- 1341 Fuzzy: An Ecosystem for Evaluating the Stability of Pipelines Through Monte Carlo Arithmetic**
Gregory Kiar¹, Ali Salari², Romke Hannema¹, Mayank Vadariya², Mathieu Dugre², Pierre Rioux¹, Pamela Douglas³, Shawn Brown⁴, Pablo de Oliveira Castro⁵, Eric Petit⁶, Alan Evans¹, Tristan Glatard²
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- 1342 Discovery of Image-Level Multi-Dimensional Patterns of Population Variability in Brain**
Weikang Gong¹, Christian Beckmann², Stephen Smith³
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- 1384 Streamlined Magnetic Resonance Fingerprinting: Whole-brain coverage with deep learning reconstruction**
Mahdi Khajehim^{1,2}, Thomas Christen³, Fred Tam⁴, Simon J. Graham^{1,4}, J. Jean Chen^{1,2}
¹University of Toronto, Toronto, Ontario, Canada, ²Rotman Research Institute, Toronto, Ontario, Canada, ³Grenoble Institute of Neurosciences, Grenoble, France, ⁴Sunnybrook Research Institute, Toronto, Ontario, Canada
- 1398* OpenNFT: open-source Python/Matlab framework for real-time fMRI neurofeedback and quality assessment**
Yury Koush¹
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- 1402 Recursive quality assessment and real-time head motion detection of real-time fMRI using OpenNFT**
Nikita Davydov^{1,2}, Evgeny Prilepin³, Tibor Auer⁴, Nicolas Gninenko⁵, Alexander Khramov^{1,2}, Dimitri Van De Ville⁶, Artem Nikonov^{1,2}, Yury Koush⁷
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- 1405 Group-Patch Based Classification for Predicting Imbalanced Neuron Spikes**
Mingli Zhang¹, Dongsheng Xiao², Timothy H. Murphy², Jean-Baptiste Poline³, Alan Evans⁴
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- 1411 Brain Structure-Function Relationships via Spectral Factorization and the Transfer Function**
James Henderson¹, Peter Robinson¹, Mukesh Dhamala²
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- 1419 Localizing Uni-directional Neural Pathways by MRI: A Theoretical Exploration**
Yi-An Chen¹, Wen-Yih Isaac Tseng^{1,2}
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- 1420 A multivariate approach to analyze connectivity matrices with individual-specific parcellation**
Ju-Chi Yu¹, Micaela Chan^{1,2}, Liang Han^{1,2}, Phillip Agres^{1,2}, Hervé Abdi¹
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- 1425 Spatially focused, dynamic fMRI graph signal processing to unravel novel relationships to behaviour**
Thomas Bolton¹, Maria Giulia Preti², Dimitri Van De Ville³
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- 1432 In Transient Spectral Peak Analysis Brain Functions Exhibit Distinct Profiles Disrupted by Disease**
Robyn Miller¹, Vince D. Calhoun¹
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- 1449 1D navigators reduce cervical spinal cord area mis-estimation in multi-echo GRE scans**
Daniel Papp¹, Alex Smith¹, Stuart Clare¹
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- 1463 The ARIBrain package: Flexible cluster inference of fMRI data with full family-wise error control**
Wouter Weeda¹, Xu Chen^{1,2}, Martha Van Kempen¹, Jonathan Rosenblatt³, Livio Finos⁴, Aldo Solari⁵, Jelle Goeman²
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- 1464 A powerful solution with full FWER control to the problem of sequential analyses of open datasets**
Wouter Weeda¹, Xu Chen^{1,2}, Jelle Goeman²
¹Leiden University, Leiden, Netherlands, ²Leiden University Medical Center, Leiden, Netherlands
- 1469 A Dual-projection MRI Data Denoising Method Based on ICA and Regression**
Yuxing Hao¹, Wei Zhao¹, Bokai Chen¹, Fengyu Cong¹, Huanjie Li¹
¹Dalian University of Technology, Dalian, Liaoning
- 1480 Enrichment of data analytics by whole-brain computational models**
Oleksandr Popovych^{1,2}, Thanos Manos^{1,2,3}, Sandra Diaz-Pier⁴, Felix Hoffstaedter^{1,2}, Jan Schreiber⁵, Simon B Eickhoff^{1,2}
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- 1501 Hippocampal Formation Under Resting-State Conditions**
Michelle Liou¹, Shen-Da Chang¹
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- 1502 A NPE-mutated method to strengthen outcomes of ICA on both individual and group level fMRI data**
Wei Zhao¹, Yuxing Hao¹, Bokai Chen¹, Huanjie Li¹, Fengyu Cong¹
¹Dalian University of Technology, Dalian, Liaoning

- 1512 Real-Time pRF Mapping using Gradient Descent on Hashed-Gaussian Tiles**
Salil Bhat¹, Michael Lührs^{1,2}, Mario Senden¹, Rainer Goebel^{1,2}
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²Department of Research and Development, Brain Innovation B.V, Maastricht, The Netherlands
- 1525 A Parcellation-Free Framework for Structural and Functional Connectivity Integration**
Martin Cole¹, Kyle Murray¹, Étienne St-Onge², Maxime Descoteaux², Jianhui Zhong¹, Giovanni Schifitto¹, Zhengwu Zhang¹
¹University of Rochester, Rochester, NY, ²Université de Sherbrooke, Sherbrooke, Quebec
- 1531 Mixed models improve precision and minimise false positives in vertex-wise analyses of grey-matter**
Baptiste Couvy-Duchesne^{1,2}, Futao Zhang³, Kathryn Kemper³, Julia Sidorenko³, Naomi Wray³, Peter Visscher³, Olivier Colliot⁴, Jian Yang³
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- 1534 Bringing spiral sampling efficiency to fMRI: VASO fMRI with SMS spiral read-out**
Denizhan Kurban¹, Laurentius Huber¹, Gilad Liberman², Sriranga Kashyap³, Dimo Ivanov⁴, Benedikt Poser⁵
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- 1536 FastSurfer – A fast and accurate deep learning based neuroimaging pipeline**
Leonie Henschel¹, Sailesh Conjeti¹, Santiago Estrada¹, Kersten Diers¹, Bruce Fischl^{2,3,4}, Martin Reuter^{1,2,3}
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- 1545 Estimation of smoothness and confidence regions for peak location using convolution random fields**
Samuel Davenport¹, Armin Schwartzman², Fabian Telschow³, Thomas Nichols¹
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- 1555 Characterization of Individual Variability for the Improvement of Reliability**
Jae Wook Cho¹, Annachiara Korchmaros¹, Joshua Vogelstein², Michael Milham³, Ting Xu¹
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- 1557 Inhibitory Response Neurotypes Differ in Cognitive Performance and Default Mode Network Cohesion**
Nicholas Allgaier¹, Max Owens¹, Sage Hahn¹, Bader Chaaran², Alexandra Potter¹, Hugh Garavan³
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- 1558 BLMM: Parallelized & Distributed Computing for Big Linear Mixed Models**
Thomas Maullin-Sapey¹, Thomas Nichols²
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- 1565 Haemodynamic Response Function Learning: a Semi-Blind Multivariate Deconvolution of the fMRI Signal**
Hamza Cherkaoui¹, Thomas Moreau², Abderrahim Halimi³, Claire Leroy⁴, Philippe Ciuciu¹
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- 1570 Simultaneous vasculature and multi-parametric mapping enables blood T1 measurements**
Vishaal Sumra¹, Sofia Chavez²
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- 1580 Group level supervised PCA and denoising of Blood Delay Maps**
Serdar Aslan¹, Blaise Frederick¹
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- 1582 Disentangling functional pathways for visual and auditory word processing: RSA analysis of MEG data**
Yulia Nurislamova¹, Yury Shtyrov², Mikhail Lebedev¹, Alexei Ossadtchi¹
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- 1587 Statistical Pitfalls in Brain Age Analyses**
Ellyn Butler¹, Andrew Chen¹, Kosha Ruparell², Tyler Moore¹, Fengqing Zhang³, Haochang Shou¹, Ruben Gur¹, Russell Shinohara¹
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- 1588 Valid cluster inference with harmonic mean p-value for neuroimaging data analysis**
Xu Chen¹, Wouter Weeda², Thomas Nichols³, Jonathan Rosenblatt⁴, Livio Finos⁵, Aldo Solari⁶, Jelle Goeman¹
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- 1599 Patch-based Tissue Classification in Infant Brain MRI using Two-Stage CNN**
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- 1610 The ARIBrain toolbox: a toolbox for cluster inference of neuroimaging data in SPM**
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- 1616 A Python Tool for Assessing Experimental Timing Efficiency and Sensitivity**
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- 1622 Reinforcement Learning the Heuristics of Hub Identification over Brain Networks**
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- 1635 Unbiased atlas construction for neonates via unsupervised learning**
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- 1643 Vertex-wise mixed modeling using QDEC**
Sander Lamballais¹, Mohammad Ikram¹, Meike Vernooij¹, Ryan Muetzel¹
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- 1648 Snowball ICA: A Model Order Free Independent Component Analysis Strategy for fMRI data**
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- 1649 Evaluation of the effect of SatPads on spinal cord functional MRI**
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- 1655 Statistical inference from persistent homology of fMRI signals.**
Hassan Abdallah¹, Adam Regalski¹, Maria Berishaj¹, Mohammad Kang¹, Vaibhav Diwadkar¹, Andrew Salch¹
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- 1679 FMRI based predictive eye estimation regression (PEER) in macaques during naturalistic viewing**
Brian Russ¹, Ryan Lim¹, Arnaud Falchier², Brent Butler¹, Kurt Masiello¹, Charles Schroeder^{3,1}, Michael Milham^{4,1}, Alexandre Franco^{5,1}
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- 1686* Assessing the utilities of resting-state functional gradients as a novel imaging biomarker**
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- 1724 Identifying Differences Between Expert and Novice Meditator Brain Scans via Multiview Embedding**
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- 1728 ANy-way Independent Component Analysis**
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- 1736 Optimal Experimental Design for Big Data: Applications in Brain Imaging**
Eric Bridgeford¹, Shangsi Wang¹, Zhi Yang², Zeyi Wang¹, Ting Xu³, Cameron Craddock³, Jayanta Dey¹, Gregory Kiar⁴, William Gray-Roncal¹, Carey Priebe¹, Brian Caffo¹, Michael Milham³, Xi-Nian Zuo^{2,5,6,7}, Joshua Vogelstein¹
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- 1740 Brain Age Prediction from Structural MRI using Deep Learning & Information-Theoretic Divergence**
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- 1761 3D Tortuosity of the central sulcus; applied to patients with Alzheimer's and control subjects**
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- 1766 Quantifying Normal on Apparent Diffusion Coefficient Maps for Generic Detection of Abnormalities**
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Motion Correction and Preprocessing

- 1127 Deep Convolutional Autoencoder for Reducing Motion Artifacts in Structural Brain MRI Scans**
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- 1159 Comparison of different strategies for regressing motion artifacts from fMRI data**
Shitong Xiang¹, Chao Xie¹, Tianye Jia¹, Wei Cheng¹, Jianfeng Feng¹
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- 1169 Test-Retest Reliability of Cortical Thickness and Structure Volume in Volumetric Navigator Sequences**
Eric Plitman^{1,2}, Aurélie Bussy^{1,2}, Vanessa Valiquette^{1,2}, Alyssa Salaciak², Natasha Rajah^{1,2}, Jamie Near^{1,2}, Gabriel Devenyi^{1,2}, Mallar Chakravarty^{1,2}
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- 1243 Motion artifacts of food-cue fMRI in states of hunger and satiety: Impact of age and clinical status**
Avery Van De Water^{1,2,3}, *Lauren Breithaupt*^{1,2}, *Kendra Becker*^{1,2}, *Kamryn Eddy*^{1,2}, *Madhusmita Misra*^{1,2}, *Elizabeth Lawson*^{1,2}, *Jennifer Thomas*^{1,2}, *Laura Holsen*^{3,2}
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- 1339 Removal of low-rank global signals in fMRI improves connectome-based prediction of individual traits**
*Kangjoo Lee*¹, *Xilin Shen*¹, *Dustin Scheinost*^{1,2}, *R. Todd Constable*^{1,3,4}
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- 1351 A Wavelet Noise Reduction Method for Improving Machine Learning Detection of Pediatric Epilepsy**
*Emmett Kennady*¹, *Ryan Nguyen*¹, *Matthew Smyth*², *Liang Zhu*¹, *Ludovic Pao*¹, *Shannon Swisher*¹, *Anish Mitra*³, *Rajan Patel*¹, *Jeremy Lankford*¹, *Gretchen Von Allmen*¹, *Michael Watkins*¹, *Michael Funke*¹, *Manish Shah*¹
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- 1369 Motion matters: An analysis of motion bias correction in diffusion MRI**
*Joshua Robinson*¹, *Vikas Vattipally*¹, *Stewart Mostofsky*¹, *Deana Crocetti*¹
¹Kennedy Krieger Institute, Baltimore, MD
- 1395 Artefact Reduction in Simultaneous EEG-fMRI: A systematic review of methods and contemporary usage**
Madeleine Bullock^{1,2}, *David Abbott*^{1,2,3}, *Graeme Jackson*^{1,2,3}
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- 1488 Assessment of fMRI Preprocessing Pipelines using Multiple Quality Control Metrics**
*Michalis Kassinopoulos*¹, *Georgios Mitsis*¹
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- 1509 ICA-based denoising strategies in highly motion correlated tasks with Multi Echo BOLD fMRI**
*Stefano Moia*¹, *Maite Termenon*², *Eneko Uruñuela*³, *Rachael Stickland*⁴, *Molly Bright*⁴, *César Caballero-Gaudes*³
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- 1521 Comparison of cortical thickness and area measures of 3T MPRAGE data at different resolutions**
*Joelle Sarlls*¹, *François Lalonde*², *Joellyn Stolinski*¹, *Maxim Zaitsev*³, *S. Lalith Talagala*¹
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- 1527 Improved estimates of BOLD correlation structure through simultaneous spatiotemporal denoising**
*David Montez*¹, *Finnegan Calabro*², *Dillan Newbold*³, *Andrew Van*⁴, *Beatriz Luna*², *Nico Dosenbach*⁵
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- 1617 The Virtual Brain and focal lesions – advancing processing for longitudinal multi-modal stroke data**
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- 1662 Evaluation of confound regression strategies for denoising in utero resting-state functional MRI**
*Athena Taymourtash*¹, *Ernst Schwartz*¹, *Karl-Heinz Nenning*¹, *Roxane Licandro*¹, *Mariana Diogo*¹, *Gregor Kasprian*², *Daniela Prayer*², *Georg Langs*¹
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- 1676 Comparison of AROMA and FIX in motion correction for multiband pediatric clinical neuroimaging**
Aditya Jayashankar^{1,2}, *Laura Harrison*^{1,2}, *Christiana Butera*^{1,2}, *Emily Kilroy*^{1,2}, *Jonas Kaplan*², *Anusha Hossain*^{1,2}, *Alexis Nalbach*^{1,2}, *Lisa Aziz-Zadeh*^{1,2}
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- 1705 A device for detecting head movements in a mock scanner, for screening and training subjects**
*Fadi Ayad*¹, *Anca Vochin*¹, *Amir Shmuel*¹
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- 1708 Leverage scrubbing: A data-driven PCA-based artifact detection method for fMRI**
*Damon Pham*¹, *Amanda Mejia*¹
¹Indiana University, Bloomington, IN
- 1745 Mock MRI training impact on 'scannability' in children with neurodevelopmental disorders**
*Anish Simhal*¹, *José Filho*¹, *Patricia Segura*¹, *Jessica Cloud*², *Francisco Castellanos*³, *Stan Colcombe*⁴, *Michael Milham*¹, *Adriana Di Martino*¹
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Multivariate Approaches

- 1023 Structural and Functional Brain Network Alterations in Major Depressive Disorder from Meta-Analysis**
*Jodie Gray*¹, *Jordi Manuella*², *Tommaso Costa*³, *Franco Cauda*³, *Larry Price*⁴, *Peter Fox*⁵
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- 1044 Convergent univariate and multivariate evidence for task-general fronto-parietal cognitive control**
*Rongxiang Tang*¹, *Josef Etzel*¹, *Alexander Kizhner*¹, *Michael Freund*¹, *Todd Braver*²
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- 1150 Longitudinal tracking of Alzheimer's disease enabled by multi-modal regression models**
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- 1151 Exploring the stability of canonical correlation analysis between imaging and non-imaging datasets**
Shaun Warrington¹, Markus Helmer², Jie Lisa Ji², Ali-Reza Mohammadi-Nejad^{1,3}, Alan Anticevic², John Murray², Stamatios Sotiropoulos^{1,3,4}
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- 1186 Permutation inference for CCA after deconfounding can lead to inflated error rates**
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- 1249 Removal of Scanner Effects in Covariance Improves Multivariate Pattern Analysis in Neuroimaging Data**
Andrew Chen¹, Joanne Beer¹, Nicholas Tustison², Philip Cook¹, Russell Shinohara³, Haochang Shou³
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- 1283 What make one's brain unique: how the brain correlate with demographics, environments and cognition**
Qingqing Yang¹, Meng Liang¹
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- 1290 Quantifying the Uncertainty in Multi-Voxel Pattern Analysis**
Jerome-Alexis Chevalier¹, Tuan-Binh Nguyen¹, Gaël Varoquaux¹, Joseph Salmon², Bertrand Thirion¹
¹Inria Saclay Ile-de-France, Palaiseau, Ile-de-France, ²University of Montpellier, Montpellier, Occitanie
- 1302 Dissociating semantic processing from executive control are linked to mental time travel**
Hao-Ting Wang¹, Nerissa Ho², Danilo Bzdock³, Boris Bernhardt⁴, Daniel Margulies⁵, Elizabeth Jefferies⁶, Jonathan Smallwood²
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- 1303 Interactive visualization of neural network relevance maps for assessing disease patterns in MRI**
Martin Dyrba¹, Arjun Pallath²
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- 1307 On discovery of brain-phenotype relationships: detection, estimation, and prediction**
Markus Helmer¹, Shaun Warrington², Jie Lisa Ji¹, Alan Anticevic¹, Stamatios Sotiropoulos^{2,3,4}, John Murray¹
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- 1314 Translating ENIGMA-Schizophrenia Big Data findings to the Individual: Regional Vulnerability Index**
Meghann Ryan¹, Fengmei Fan², Kathryn Hatch¹, Fengmei Fan², Neda Jahanshad³, Paul Thompson³, Theo Van Erp⁴, Jessica Turner⁵, Shuo Chen¹, Yunlong Tan², L. Elliot Hong¹, Peter Kochunov¹
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- 1355 Predicting Individual Face-selective Topography Using Naturalistic Stimuli**
Jiahui Guo¹, Ma Feilong¹, Matteo Visconti di Oleggio Castello², J. Swaroop Guntupalli³, Vassiki Chauhan¹, James Haxby¹, M. Ida Gobbin^{4,5}
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- 1371 Canonical correlation analysis of a functional connectivity normative model in ASD.**
Tristan Looden¹, Alberto Llera², Dorothea Floris³, Roselyne Chauvin³, Jan Buitelaar⁴, Christian Beckmann³
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- 1372 Genetic networks related to neural auditory paired stimulus response in psychosis: A B-SNIP study**
Shashwath Meda¹, Matthew Hudgens-Haney², David Parker³, Brett Clementz³, Matcheri Keshavan⁴, Elliot Gershon⁵, Carol Tamminga², Godfrey Pearlson⁶
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- 1382 Does functional alignment improve inter-subject decoding?**
Thomas Bazeille¹, Bertrand Thirion²
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- 1458 Analysing linear transformations between pairs of multivariate patterns in fMRI**
Alessio Basti¹, Marieke Mur², Nikolaus Kriegeskorte³, Vittorio Pizzella¹, Laura Marzetti¹, Olaf Hauk⁴
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- 1511 Altered BOLD variability development in very preterm-born young adolescents**
Lorena Freitas¹, Vanessa Siffredi¹, Maria Chiara Liverani², Thomas Bolton³, Cristina Borradori-Tolsa², Russia Ha-Vihn Leuchter², Dimitri Van De Ville³, Petra Hüppi²
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- 1562 Revealing trans-diagnostic patterns of reward system dysfunctions using cluster analysis**
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- 1573 Optimizing functional topographies of hyperalignment common model space**
Ma Feilong¹, James Haxby¹
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- 1615 White Matter Integrity Similarity Networks as a Novel Way to Investigate White Matter Microstructure**
Tobias Baumeister¹, Jane Wang¹, Martin McKeown²
¹The University of British Columbia, Vancouver, British Columbia, ²Pacific Parkinson's Research Center, University of British Columbia, Vancouver, British Columbia
- 1647 A hierarchical Bayesian approach to link brain imaging to behaviour in incomplete datasets**
Fabio Ferreira¹, Agoston Mihalik², John Ashburner³, Janaina Mourao-Miranda¹
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- 1670* BRAPH 2.0: A Graph Theory Software for the Analysis of Multilayer Brain Connectivity**
Giovanni Volpe¹, Mite Mijalkov², Joana Pereira³
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- 1733 A Joint Analysis of Multi-paradigm fMRI on Cognitive Abilities of Young Adult Females**
Yuntong Bai¹, Yun Gong¹, Yunjin Yao², Vince D. Calhoun³, Yu-Ping Wang¹
¹Tulane University, New Orleans, LA, ²Zhejiang University, Hangzhou, Zhejiang, ³Tri-Institutional Center for Translational Research in Neuroimaging and Data Science (TReNDS), Atlanta, GA
- 1746 Examining the latent structure of threat reactivity using a structural equation modeling approach**
Milena Radoman¹, Fikayo Akinbo¹, Yasmin Pina¹, Stephanie Gorka¹
¹University of Illinois at Chicago, Chicago, IL
- 1748 Confounds in predictive models: removing or controlling their effects**
Darya Chyzyk¹, Bertrand Thirion², Gael Varoquaux³
¹Inria, Saclay, Ile de France, ²Inria, Gif sur Yvette, ³McGill, Montreal, Quebec
- 1749 Structured Coupled Matrix-Tensor Factorization for HRF Estimation Using Simulated EEG-fMRI Data**
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¹McGill University, Montréal, Québec, ²McGill University, Montreal, Quebec
- 1754 Efficient large-scale Independent Vector Analysis using Self-Referenced IVA (SRIVA)**
Rogers Silva¹, Vince D. Calhoun¹
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PET Modeling and Analysis

- 1038 Relationship between brain distributions of tau and atrophy to brain regional connectivity**
Fatemeh Mohammadj¹, Jean-Paul Soucy^{2,3}, Pedro Rosa-Neto⁴, Tharick A. Pascoal⁴, Obai Bin Ka'b Ali^{2,5}, Melissa Savard⁴, Firoza Z. Lussier⁴, Min Su Kang⁴, Joseph Theriault⁴, Habib Benali¹
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- 1049* A High-Resolution In Vivo Atlas of the Human Brain's GABAA Receptor System**
Martin Nørgaard^{1,2}, Vincent Beliveau³, Melanie Ganz^{4,1}, Claus Svare¹, Lars Pinborg^{1,2}, Sune Keller⁵, Peter Jensen¹, Douglas Greve⁶, Gitte Knudsen^{1,2}
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- 1175 Estimating PET partial volume full-width-half-maximum directly from human data**
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- 1319 Fully Automated Cortical Surface-based PET Pipeline that Provides Personalized Quantification Report**
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- 1713 Estimation of the Centiloid cut-off values for amyloid positivity**
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Segmentation and Parcellation

- 1025 Spinal Cord Tumor Segmentation Using Multimodal Deep Learning Approach**
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- 1057* AxonDeepSeg: Automatic Myelin and Axon Segmentation Using Deep Learning**
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- 1071 Uncertainty estimation of white matter hyperintensity segmentation using a Bayesian 3D UNet**
Parisa Mojiri Forooshani¹, Emmanuel Edward Ntiri¹, Melissa Holmes¹, Sabrina Adamo¹, Joel Ramirez¹, Fuqiang Gao¹, Miracle Ozzoude¹, Christopher Scott¹, Dariush Dowlatshahi², Jane Lawrence-Dewar³, Donna Kwan⁴, Connie Marras⁵, Antony Lang⁵, Robert Bartha⁶, Stephen Strother⁷, Jean-claude Tardif⁸, Sean Symon⁹, Mario Masellis¹⁰, Rick Swartz¹⁰, Alan Moody⁹, Sandar Black^{1,10}, Maged Goubran¹
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- 1082 An Atlas of the Human Hypothalamus at Ultra-High Resolution using the BigBrain**
Sherri Lee Jones¹, Claude Lepage², Mona Omidyeganeh², Paule Toussaint², Lindsay Lewis², Louis Borgeat³, Philippe Massicotte³, Ayça Altinkaya², Tuong-Vi Nguyen⁴, Abbas Sadikot⁵, Alan Evans⁶, Jens Pruessner⁷
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- 1089 Quantification of white matter hyperintensities in a healthy population-based cohort**
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- 1090 Deep Convolutional Neural Network Approach Improves Hippocampal Segmentations in Stroke Population**
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- 1091 New evaluation criterion for functional brain parcellation methods using a multi-domain task battery**
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¹the University of Western Ontario, London, Ontario, ²University of California, Berkeley, Berkeley, CA
- 1092 Applying Deep Convolutional Neural Networks for Neonatal Brain Image Segmentation**
Yang Ding^{1,2}, Rolando Acosta^{3,2}, Vicente Enguix^{3,2}, Sabrina Suffren^{3,2}, Janosch Ortman⁴, David Luck^{3,2}, Jose Dolz⁵, Gregory Lodygensky^{3,2,6}
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- 1103 Segmentation of Diffuse White Matter Abnormality in Very Preterm Infants using Deep Learning**
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- 1129 Development of an automated processing pipeline for brain MRI-histology correlations**
Daniel Kor¹, Jeroen Mollink^{1,2}, Istvan Huszar¹, Amy Howard¹, Sean Foxley³, Menuka Pallegage-Gamarallage⁴, Adele Smart⁴, Olaf Ansorge⁴, Saad Jbabdi¹, Karla Miller¹
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- 1158 DeepACSON: automated segmentation of 3D electron microscopy images of white matter**
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- 1177 Combined Automated Hippocampal Segmentation**
Nalini Hazra¹, Evan Hare¹, Elizabeth Matsiyevskiy¹, Joshua Liu¹, Deydeep Kothapalli¹, Matthew Hapenny¹, Sid O'Bryant², Meredith Braskie^{1,3}
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- 1188 Mapping internal brainstem structures using MP2RAGE at 7T and 3T**
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- 1201 Comparison of multiple sclerosis (MS) lesions segmentation using quantitative or FLAIR MR images**
Nora Vandeleene¹, Emilie Lommers¹, Pierre Maquet¹, Christophe Phillips¹
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- 1222 Cross-species parcellation of the corpus callosum using joint embedding of connectivity blueprints**
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- 1232 A Nested U-Net Approach for Brain Tumour Segmentation**
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- 1236 3D Patchwise Tiramisu Net for Segmentation of Sub-millimetre Resolution 7T Brain Images**
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1237 Automatic segmentation of spinal MS lesions: How to generalize across MR contrasts?*Olivier Vincent¹, Charley Gros¹, Joseph Paul Cohen², Julien Cohen-Adad^{1,3}**¹NeuroPoly Lab, Institute of Biomedical Engineering, Polytechnique Montreal, Montréal, Québec, Canada, ²Mila, Université de Montréal, Montréal, Québec, Canada, ³Functional Neuroimaging Unit, CRIUGM, Université de Montréal, Montréal, Québec, Canada***1240 White Matter Changes on T1 versus T2 MRI: Overlap and Comparison of Four****Segmentation Algorithms***Elijah Rockers¹, Kelvin Wong¹, Quentin Funk¹, Jon Xue¹, Joseph Masdeu¹, Belen Pascual¹**¹Houston Methodist Research Institute, Houston, TX***1288 Semantic segmentation of tissues in rat brain MR images using a Deep Learning convolutional network***Ricardo Magalhães^{1,2}, Mariana Rodrigues³, David Barrière⁴, Ashley Novais³, Fawzi Boumezbeur⁵, Thérèse Jay⁶, Sébastien Mériaux⁴, Nuno Sousa⁷, Victor Alves⁸**¹NeuroSpin, Institut des Sciences du Vivant Frédéric Joliot, 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patterns***Matej Murgas¹, Gregor Gryglewski¹, Manfred Kloeb¹, Murray Reed¹, Rupert Lanzenberger¹**¹Department of Psychiatry and Psychotherapy, Medical University of Vienna, Austria, Vienna, Austria***1306 Hippocampal subfield volume estimations utilizing multispectral MR information within FreeSurfer***Rene Seiger¹, Fabian Hammerle¹, Godber Godbersen¹, Murray Reed¹, Paul Michenthaler¹, Benjamin Spurny¹, Patricia Handschuh¹, Manfred Kloeb¹, Jakob Unterholzner¹, Alim Basaran¹, Alexander Kautzky¹, Gregor Gryglewski¹, Christoph Kraus¹, Thomas Vanicek¹, Rupert Lanzenberger¹**¹Department of Psychiatry and Psychotherapy, Medical University of Vienna, Vienna, Austria***1326 Automated hippocampal unfolding for quantitative mapping, morphometry, and subfield definition***Jordan DeKraker¹, Stefan Köhler¹, Ali Khan¹**¹University of Western Ontario, London, Ontario***1331 Modeling Longitudinal Change in Brain Volumes: Manual and Automated Methods Compared***Andrew Bender¹, Nicole Jess¹, Dhaval Gandhi¹, Jamie Satow¹, Peng Yuan², Naftali Raz³**¹Michigan State University, East Lansing, MI, ²Ford Motor Company, Dearborn, MI, ³Wayne State University, Detroit, MI***1336 Effects of early surgical menopause on sleep, memory, and medial temporal lobe structure at midlife***Nicole Gervais¹, Claire Lauzon¹, Gina Nicoll¹, Elizabeth Baker-Sullivan¹, Alana Brown², Laura Gravelins², Anne Almey¹, Rebekah Reuben², Annie Duchesne³, Leanne Mendoza¹, Cheryl Grady⁴, Rosanna Olsen⁴, Gillian Einstein⁵**¹University of Toronto, Toronto, ON, ²University of Toronto, Toronto, Ontario, ³University of Northern British Columbia, Prince George, British Columbia, ⁴University of Toronto and Rotman Research Institute of Baycrest Health Sciences, Toronto, ON, ⁵University of Toronto, Rotman Research Institute of Baycrest Health Sciences, Linköping University, Toronto, Ontario***1354 Automatic Detection of Brain MRI Segmentation Errors Using Generative Adversarial Networks***Irene Brusini^{1,2}, Örjan Smedby¹, Eric Westman², Chunliang Wang¹**¹KTH Royal Institute of Technology, Stockholm, Sweden, ²Karolinska Institute, Stockholm, Sweden***1409 Movie fMRI reveals reproducible and subject-specific dynamic states of brain parcellation***Amal Boukhdhir¹, Yu Zhang¹, Max Mignotte², Julie Boyle³, Basile Pinsard⁴, Pierre Bellec⁵**¹CRIUGM/Udem, Montreal, Quebec, ²Udem/DIRO, Montreal, Quebec, ³Centre de recherche de l'Institut universitaire de gériatrie de Montréal, Montreal, Quebec, ⁴Centre de recherche de l'Institut universitaire de gériatrie de Montréal, Montreal, Quebec, ⁵Centre de recherche de l'institut de gériatrie de Montréal, Montréal, Québec***1451 Neonatal functional brain atlases using a two-level group-wise functional parcellation framework***Jingyue Zhang^{1,2,3}, Tengda Zhao^{1,2,3}, Xuhong Liao^{2,4}, Mingrui Xia^{1,2,3}, Yuehua Xu^{1,2,3}, Hao Huang^{5,6}, Yong He^{1,2,3}**¹State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China, ²Beijing Key Laboratory of Brain Imaging and Connectomics, Beijing Normal University, Beijing, China, ³IDG/McGovern Institute for Brain Research, Beijing Normal University, Beijing, China, ⁴School of Systems Science, Beijing Normal University, Beijing, China, ⁵Department of Radiology, Children's Hospital of Philadelphia, Philadelphia, PA, USA, ⁶Department of Radiology, University of Pennsylvania, Philadelphia, PA, USA***1471 Connectivity-based parcellation discloses the topographical organization of the globus pallidus***Salvatore Bertino¹, Gianpaolo Basile¹, Giuseppe Anastasi¹, Demetrio Milardi^{1,2}, Alberto Cacciola¹**¹Dept. of Biomedical, Dental Sciences and Morphological and Functional Images, University of Messina, Messina, Italy, ²Institute for Treatment and Research "IRCCS Centro Neurolesi Bonino-Pulejo", Messina, Italy***1492* Macapype: An open multi-software framework for non-human primate anatomical MRI processing***Bastien Cagna¹, David Meunier², Kep Kee Loh², Régis Trapeau², Julien 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1500 Relationship between Clinical Parameters and Corpus Callosum Volume in Multiple Sclerosis

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1507 A sub+cortical fMRI-based surface parcellation

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1574* WikiBS: a public wiki for segmenting high resolution brainstem images

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1600 Piriform Cortex Parcellation through Unfolding and Clustering of Laminal Features in the 3D BigBrain

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1613 Enriching the Human Connectome: von Economo atlas integrated into BigBrain & The Virtual Brain

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1621 Site-differences and inter-rater reliability of visual QC for Freesurfer parcellations

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1626 Generating age-specific gradient density and parcellation maps of functional connectivity in infants

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1631 Combining dense prediction and semi-supervised learning for venous segmentation

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1640 2D R2U-Net and Plane Aggregation for Fetal Cortical Plate segmentation

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1698 Evaluation of common brain atlases used in the a priori identification of functional networks

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Task-Independent and Resting-State Analysis

1055 Genetic Control over Cerebral Blood Flow and Resting State Regional Homogeneity Signal

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1061 Large-scale Morphological and Functional Network Efficiency: Cognitive and Emotional Intelligence

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- 1067 Detecting Altered Resting-State Functional Network Organization in PTSD with Asymptotical Surprise**
Marisa Ross¹, Josh Cisler¹
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- 1069 Heritability estimates on rsfMRI phenotypes using the ENIGMA analysis pipeline**
Bhim Adhikari¹, L. Elliot Hong¹, Neda Jahanshad², Paul Thompson², Peter Kochunov¹
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- 1104 Neuropeptide Y variation and functional connectivity of the salience network**
Katherine Warthen¹, Brian Mickey², Robert Welsh¹
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- 1105 Hierarchical organization of intrinsic temporal dynamics throughout the human brain**
Ryan Raut¹, Abraham Snyder², Marcus Raichle³
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- 1121 Complex Singular Value Decomposition for the Processing and Analysis of Resting State Imaging**
David Wack¹
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- 1134 Spectral signature and behavioral consequence of spontaneous fluctuations in pupil-linked arousal**
Ella Podvalny¹, Leana King¹, Biyu He¹
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- 1154 Weighted Permutation Entropy as a Measure of Signal Complexity in Resting-State fMRI**
Stephan Krohn^{1,2}, Nina von Schwandenflug^{1,2}, Amy Romanello^{1,2}, Carsten Finke^{1,2}
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- 1174 Confirmatory Investigation of Psychiatric and Neuropsychological Correlates of Default Mode Network**
Max Owens¹, De-Kang Yuan¹, Sage Hahn¹, Matthew Albaugh¹, Nicholas Allgaier¹, Bader Chaarani², Alexandra Potter¹, Hugh Garavan³
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- 1179 Estimation of Vigilance Fluctuations in Resting-state fMRI with a Predefined Template**
Maryam Falahpour¹, Yixiang Mao¹, Thomas Liu¹
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- 1231 ALFF response interaction with learning during feedback in individuals with MS and healthy controls.**
Angela Spirou¹, Rakibul Hafiz², Bharat Biswal², Joshua Sandry³, Ekaterina Dobryakova¹
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- 1234 Basic BOLD signal properties of HCP data and their influence on calculated metrics of complexity**
Shella Keilholz¹
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- 1238 A low-rank minimum norm template for estimation of vigilance fluctuations in resting-state fMRI**
Yixiang Mao¹, Maryam Falahpour¹, Thomas Liu¹
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- 1242 Functional Connectivity Patterns between Hippocampi and Language Cortex in Temporal Lobe Epilepsy**
Allison Whitten¹, Monica Jacobs¹, Dario Englot¹, Baxter Rogers¹, Victoria Morgan¹
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- 1278 Modulation of resting state functional networks by continuous stimulation**
Yul-Wan Sung¹, Seiji Ogawa²
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- 1330* Gastric-brain coupling predominates in primary and association sensory-motor regions**
Ignacio Rebollo^{1,2}, Catherine Tallon-Baudry³
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- 1347 Resting State Functional Connectivity in Binge Drinkers with and without Marijuana Use**
Tien Tong¹, Jatin Vaidya¹, John Kramer¹, Samuel Kuperman¹, Douglas Langbehn¹, Daniel O'Leary¹
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- 1348 Long time-scale organization of spontaneous brain activity as measured by resting-state fMRI**
Annie Zheng¹, David Montez¹, Nico Dosenbach¹
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- 1360 LSD attenuates the macroscale functional hierarchy of the brain**
Manesh Girm¹, Leor Roseman², Boris Bernhardt¹, Jonathan Smallwood³, Robert Leech⁴, Robin Carhart-Harris², Nathan Spreng¹
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- 1391 Representation of task FMRI using tools from graph signal processing**
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- 1413 Examining the association between fMRI brain entropy features and behavioral measures**
Shengchao Zhang¹, Baxter Rogers², Victoria Morgan², Catie Chang¹
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- 1418 Data driven approach to dynamic resting state functional connectivity in those at risk for PTSD**
Carissa Weis¹, Ashley Huggins¹, Jacklynn Fitzgerald², Tara Miskovich³, Kenneth Bennett¹, Elizabeth Parisi¹, Kate Webb¹, Terri deRoos-Cassini⁴, Christine Larson¹
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- 1428 Assessing variability in template-based fMRI prediction of vigilance fluctuations**
Sarah Goodale¹, Catie Chang¹
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- 1434 Age-Related Alterations in Alpha-Peak Parameters, 1/f Neuronal Noise and Their Relation to Cognition**
Elena Cesnaite¹, Tim Paul Steinfath¹, Mina Jamshidi Idaji^{1,2}, Tilman Stephan¹, Christian Sander^{3,4}, Tilman Hensch^{3,4}, Ulrich Hegerl⁵, Steffi Riedel-Heller^{6,4}, A. Veronica Witte^{1,4}, Arno Villringer^{1,7}, Vadim V. Nikulin^{1,8}
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- 1465 Naturally occurring sleep loss and amygdala functional connectivity following psychosocial stress**
Jonathan Nowak¹, Annika Dimitrov¹, Nicole Oei², Henrik Walter³, Mazda Adli³, Ilya Veer³
¹Charité – Universitätsmedizin Berlin, Germany, ²Department of Developmental Psychology, University of Amsterdam, Netherlands, ³Charité – Universitätsmedizin Berlin, Germany
- 1475 The impact of habitual coffee intake in stress and resting-state networks**
Maria Picó-Pérez¹, Madalena Esteves², Ricardo Magalhães², Pedro Silva Moreira², Mafalda Sousa², Rita Vieira², Teresa Castanho², Liliana Amorim², Pedro Morgado², Nuno Sousa³
¹Life and Health Sciences Research Institute (ICVS), Braga, Portugal, ²Life and Health Sciences Research Institute (ICVS), Braga, Braga, ³Life and Health Sciences Research Institute (ICVS), School of Medicine, University of Minho, Braga, Braga
- 1561 Cross validation based kNN derived mapping of voxels to blood vessel territories**
Serdar Aslan^{1,2}, Nicolette F. Schwarz^{1,2}, Blaise Frederic^{1,2}
¹Brain Imaging Center, McLean Hospital, Boston, MA, ²Department of Psychiatry, Harvard University Medical School, Boston, MA
- 1584 Local dynamics coherence in lateral temporal cortex during spontaneous attentional cycling**
Joaquín Herrero¹, Rodrigo Henríquez², Pablo Billeke³, Reinaldo Uribe¹, Cristian Cantillano¹, Pablo Fuentealba¹, Francisco Aboitiz⁴
¹Pontificia Universidad Católica de Chile, Santiago, RM, ²Pontificia Universidad Católica de Chile, Santiago, Región Metropolitana, ³UDD, Santiago, Santiago, ⁴Pontificia Universidad Católica de Chile, Santiago, Chile
- 1589 An Alternative to the Sliding Window: Validating Dynamicity in rs-fMRI with a Data-Driven Approach**
Marlena Duda¹, Danai Koutra¹, Chandra Sripada¹
¹University of Michigan, Ann Arbor, MI
- 1590 The Relationship Between Resting-State Brain Signal Variability and Dynamic Network Transitions**
Zachary Goodman¹, Sierra Bainter¹, Taylor Bolt¹, Lucina Uddin^{1,2}, Jason Nom¹
¹University of Miami, Coral Gables, FL, ²University of Miami Miller School of Medicine, Miami, FL
- 1598 EEG Resting-State Networks in Simultaneous fMRI-EEG Recordings: Comparison of Spatial Patterns**
Stanislav Jiříček^{1,2,3}, Jaroslav Hlinka^{1,3}, Vlastimil Koudelka³, David Tomeček³
¹Institute of Computer Science, The Czech Academy of Sciences, Prague, The Czech Republic, ²The Czech Technical University in Prague, Prague, The Czech Republic, ³The National Institute of Mental Health, Klecany, The Czech Republic

- 1628 Neonatal functional connectivity MRI preprocessing toolbox**
Vicente Enguix¹, Yang Ding², David Luck², Julien Cohen-Adad¹, Gregory Lodygensky²
¹Ecole Polytechnique, Montreal, QC, ²Canadian Neonatal Brain Platform, Montreal, QC
- 1659 Validating fMRI Entropy measures with Pharmacological Neuromodulation**
Kaundinya Gopinath¹, Robyn Miller², Eric Maltbie¹, Leonard Howell¹, Phillip Sun¹
¹Emory University, Atlanta, GA, ²Tri-Institutional Center for Translational Research in Neuroimaging and data Science (TReNDS), Atlanta, GA
- 1678 Frequency-domain Correlation within Cerebral Functional Systems in Rats**
Wen-Ju Pan¹, Vahid Khalilzad Sharghi¹, Eric Maltbie¹, Xiaodi Zhang¹, Nan Xu¹, Shella Keilholz¹
¹Emory University/Georgia Institute of Technology, Atlanta, GA
- 1680 Modulations of long-range temporal correlation in neuromagnetic brain activity across age and gender**
Ola Choukair¹, Tarek Lajnef², Etienne Combrisson³, Arthur Dehgan⁴, Karim Jerbi⁵
¹University of Montreal, Montreal, Quebec, ²Université de Montréal, Montréal, Qc, ³Lyon Neuroscience Research Center, Lyon, ⁴university of Montreal, Montreal, Qc, ⁵Université de Montréal, Montreal, Qc

Univariate Modeling

- 1153 Searching for replicable associations between cortical thickness and psychometric variables**
Shahzad Kharabian Masouleh¹, Simon Eickhoff², Sarah Genon³
¹Jülich Research Centre, Jülich, North Rhine-Westphalia, ²Research Center Juelich, Juelich, North Rhine-Westphalia, ³Jülich Research Centre, Jülich, Deutschland
- 1191* The BrainSuite Statistics Toolbox in R (bssr)**
Shantanu Joshi¹, Yeun Kim¹, Kayla Schroeder¹, Anand Joshi², Richard Leahy², David Shattuck³
¹UCLA, Los Angeles, CA, ²University of Southern California, Los Angeles, CA, ³University of California, Los Angeles, Los Angeles, CA
- 1217 Modelling Lesion Masks: Comparison of Classical, Bias-Adjusted and Bayesian Regression Methods**
Petya Kindalova¹, Michele Veldsman², Ioannis Kosmidis³, Thomas Nichols⁴
¹Department of Statistics, University of Oxford, Oxford, United Kingdom, ²Nuffield Department of Clinical Neurosciences, University of Oxford, Oxford, Oxford, ³Department of Statistics, University of Warwick, Coventry, United Kingdom, ⁴Oxford Big Data Institute, Nuffield Department of Population Health, University of Oxford, Oxford, United Kingdom
- 1349 Is rest really the best baseline for task-based fMRI studies?**
Suzanne Witt¹, Ladan Shahshahani¹, Joern Diedrichsen¹
¹University of Western Ontario, London, Ontario

Other Methods

- 1006 Myelination and Executive Function Deficits in Youth Born with Congenital Heart Disease**
Kaitlyn Easson¹, Guillaume Gilbert², Jean-Christophe Houde³, Athena Buckthought¹, Charles Rohlicek⁴, Christine Saint-Martin⁵, Maxime Descoteaux³, Sean Deoni⁶, Marie Brossard-Racine^{1,7}
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- 1030 Why de-face when you can re-face?**
Robert Cox¹
¹National Institute of Mental Health, Bethesda, MD
- 1098* E-COBIDAS: a webapp to improve neuroimaging methods and results reporting**
Remi Gau¹, Cassandra Gould van Praag², Sanu Ann Abraham³, David Moreau⁴, Tim van Mourik⁵, Zsuzsika Sjoerds⁶, Kristina Wiebels⁴, Satrajit Ghosh⁷, Thomas Nichols⁸
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- 1483 The sound of resting-state fMRI**
Thomas Bolton¹, Karin Bortolin², Julia Brügger³, Farnaz Delavari⁴, Valentin Gabeff², Lyell Gruneberg², Moez Maamer², Camille Mitchell², Hugo Powell², Charlotte Qin², Julien Rimok², Paula Sanchez Lopez², Giedre Stripeikyte¹, Emma Tolley², Raphael Liegeois⁵
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- 1544 Initial Polarization of a Dense Population of Pyramidal Neurons Subject to External Electric Field**
Sergey Makarov^{1,2}, Aapo Nummenmaa²
¹Worcester Polytechnic Institute, Worcester, MA, ²Harvard Medical School, Boston, MA

NEUROANATOMY, PHYSIOLOGY, METABOLISM AND NEUROTRANSMISSION

Anatomy and Functional Systems

- 1781 Gradients of intrinsic dynamics follow connectomic, anatomical, and microstructural hierarchies**
Daniel Lurie¹, Mark D'Esposito¹
¹University of California, Berkeley, Berkeley, CA
- 1788 Mapping callosal projections along the principal gradient of functional connection**
Patrick Friedrich^{1,2}, Stephanie Forkel^{2,1,3}, Michel Thiebaut de Schotten^{1,2}
¹BCBlab, Bordeaux, Aquitaine, ²Institut des Maladies Neurodégénératives, Bordeaux, France, ³King's College London, London, Greater London

- 1798 Individual Variation in Functional Topography of Association Networks in Youth**
Zaixu Cui¹, Hongming Li¹, Cedric Xia¹, Bart Larsen¹, Azeez Adebimpe¹, Graham Baum¹, Matthew Cieslak¹, Raquel Gur¹, Ruben Gur¹, Tyler Moore¹, Desmond Oathes¹, Aaron Alexander-Bloch¹, Armin Raznahan², David Roalf¹, Russell Shinohara¹, Daniel Wolf¹, Christos Davatzikos¹, Danielle Bassett¹, Damien Fair³, Yong Fan¹, Theodore Satterthwaite¹
¹University of Pennsylvania, Philadelphia, PA, ²NIMH, Bethesda, MD, ³Oregon Health and Science University, Portland, OR
- 1807 Integrative Imaging, Functional, Transcriptomic Analyses of Sex-Biased Brain Organization in Humans**
Siyuan Liu¹, Jakob Seidlitz¹, Jonathan Blumenthal¹, Liv Clasen¹, Armin Raznahan¹
¹Developmental Neurogenomics Unit, Human Genetics Branch, National Institute of Mental Health, Bethesda, MD
- 1808 Anchoring the human olfactory system to a functional gradient**
Alice Waymel^{1,2}, Patrick Friedrich^{1,2}, Stephanie Forkel^{1,2}, Michel Thiebaut de Schotten^{1,2}
¹BCBlab, Paris, France, ²GIN, Bordeaux, France
- 1810 Lesion Analysis for Recovery of Hemispatial Neglect in Stroke: Voxel-Based Lesion-Symptom Mapping**
Bo Mi Kwon¹, Nayeon Ko¹, Hyun Haeng Lee¹, Won-Jin Moon², Jongmin Lee¹
¹Department of Rehabilitation Medicine, Konkuk University Medical Center, Seoul, Korea, ²Department of Radiology, Konkuk University Medical Center, Seoul, Korea
- 1813 Eye movement control in the human oculomotor cerebellum**
Maxine Ruehl^{1,2}, Leoni Ophrey^{1,2}, Matthias Ert³, Peter Zu Eulenburg^{4,2}
¹Department of Neurology, LMU Munich, Munich, Germany, ²German Center for Vertigo and Balance Disorders – IFB, Munich, Germany, ³Department of Psychology, University of Bern, Bern, Switzerland, ⁴Department of Neuroradiology, LMU Munich, Munich, Germany
- 1814* Towards an Accurate Identification of Vascular Territories in the Human Brain**
Mykyta Smirnov^{1,2}, Barthélémy Serres³, Gaëlle Kerdiles⁴, Laurent Barantin¹, Vitalina Zhornyk², Igor Lima Maldonado^{1,4}, Christophe Destrieux^{1,4}
¹UMR 1253, iBrain, Université de Tours, Inserm, Tours, France, ²SU "UzhNU", Uzhhorod, Ukraine, ³ILIAD3, Université de Tours, Tours, France, ⁴CHRU de Tours, Tours, France
- 1816 Resting-state functional connectivity abnormalities associated with cerebellar mutism syndrome**
Stu McAfee¹, Ping Zou¹, Yian Guo¹, Yimei Li¹, Heather Conklin¹, Giles Robinson¹, Amar Gajjar¹, Raja Khan¹, Zoltan Patay¹, Matthew Scoggins¹
¹St. Jude Children's Research Hospital, Memphis, TN
- 1818 Handedness and Other Variables Associated with Human Brain Asymmetrical Skew**
Xiangzhen Kong¹, Merel Postema¹, Amaia Carrión-Castillo¹, Antonietta Pepe², Fabrice Crivello³, Marc Joliot³, Bernard Mazoyer³, Simon Fisher^{1,4}, Clyde Francks^{1,4}
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- 1822 Neural correlates and prediction of visual field deficits after selective amygdalahippocampectomy**
Bastian David¹, Jasmine Eberle², Daniel Delev³, Jennifer Gaubatz², Conrad Prillwitz², Jan Wagner², Bettina Wabbels⁴, Bernd Weber², Christian Elger², Rainer Surges², Theodor Rüber^{2,5,6}
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- 1825 Metabolic basis of activated and deactivated brain network nodes in fMRI paradigms**
Yury Koush¹, Robin de Graaf¹, Ron Kupers², Laurence Dricot³, Maurice Ptito⁴, Kevin Behar¹, Douglas Rothman¹, Fahmeed Hyder¹
¹Yale University, New Haven, CT, ²University of Copenhagen, Copenhagen, C, ³University of Louvain, Louvain, FB, ⁴University of Montreal, Montreal, Quebec
- 1826 Mapping Systematic Changes in Community Assignment Across Parcellation Resolutions**
Savannah Cookson¹, Mark D'Esposito²
¹UC Berkeley, Berkeley, CA, ²University of California, Berkeley, Berkeley, CA
- 1834 What receptor fingerprints reveal about macaque cingulate cortex organization**
Lucija Jankovic-Rapan¹, Karl Zilles², Sean Froudish-Walsh³, Nicola Palomero-Gallagher⁴
¹Research Centre Juelich, Juelich, NRW, ²Forschungszentrum Jülich INM1, Jülich, Jülich, ³New York University, New York, NY, ⁴Forschungszentrum Jülich INM1, Jülich, Germany
- 1835 Anesthetic modulation of sensory-evoked response in rat brain: the cerebral cortex vs. the thalamus**
Kwangyeol Baek¹, Chae Ri Park², Woo Hyun Shim³, Young Kim⁴
¹Massachusetts General Hospital, Boston, MA, ²Asan Medical Center, Seoul, South Korea, ³Asan Medical Center, Seoul, Seoul, ⁴Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Boston, MA
- 1844* BrainVR: A Virtual Reality System for Neurology Education**
Gonzalo Rojas¹, Jorge Fuentes¹, Carlos Montoya¹, Evelyng Faure¹, Maria de la Iglesia-Vaya²
¹Clinica las Condes, Santiago, RM, ²Join Unit FISABIO-CIPF, Valencia, Valencia
- 1852 Decreased functional connectivity in smoking contrast increased in drinking in the early visual area**
Zhuo Wan¹, Edmund Rolls², Wei Cheng³, Ruiqing Feng⁴, Jianfeng Feng³
¹University of Warwick, Coventry, UK, ²University of Warwick, Coventry, Warwickshire, ³Fudan University, Shanghai, Shanghai, ⁴The University of Warwick, Coventry, West Midland
- 1879 Cerebro-Cerebellar Resting-State Functional Connectivity Investigated in Macaque and Human**
Joonas Autio¹, David Van Essen², Takayuki Ose¹, Kantaro Nishigori³, Masahiro Ohno¹, Matthew Glasser², Takuya Hayashi¹
¹RIKEN Center for Biosystems Dynamics Research, Kobe, Japan, ²Washington University School of Medicine, St. Louis, USA, ³Sumitomo Dainippon Pharma Co., Ltd, Osaka, Japan

Cortical Anatomy and Brain Mapping

- 1769 Neuroanatomical Developmental Trajectories and Clinical Outcome in Autism Spectrum Disorder (ASD)**
Charlotte Pretzsch¹, Tim Schäfer², Caroline Mann², Anke Bletsch², Julian Tillmann¹, Afsheen Yousaf², Christine Freitag², Declan Murphy¹, Christine Ecker², LEAP Group EU AIMS³
¹King's College London, London, London, ²Goethe University Frankfurt, Frankfurt, Hesse, ³EU-AIMS Organization, London, London
- 1773 Longitudinal Parcellation of the Infant Cortex Using Multi-Modal Connectome Harmonics**
Hoyt Taylor¹, Sahar Ahmad¹, Ye Wu¹, Khoi Huynh¹, Zhen Zhou¹, Zhengwang Wu¹, Weili Lin¹, Li Wang¹, Gang Li¹, Han Zhang¹, Pew-Thian Yap¹, the UNC/UMN Baby Connectome Project Consortium¹
¹UNC-CH, Chapel Hill, NC
- 1778 Receptor-driven, multimodal mapping of cortical areas in the intraparietal sulcus of macaque monkey**
Meiqi Niu¹, Nicola Palomero-Gallagher¹, Lucija Jankovic-Rapan¹, Sean Froudish-Walsh², Karl Zilles¹
¹Forschungszentrum Jülich INM1, Jülich, Germany, ²Center for Neural Science, New York University, New York, USA
- 1784 Sex chromosome aneuploidy alters the relationship between cortical anatomy and cognitive functioning**
Allysa Warling¹, Ethan Whitman¹, Kathleen Wilson¹, Liv Clasen¹, Siyuan Liu¹, Jonathan Blumenthal¹, François Lalonde¹, Armin Raznahan¹
¹Developmental Neurogenomics Unit, Human Genetics Branch, National Institute of Mental Health, Bethesda, MD
- 1785* The Cortical Wiring Scheme of Hierarchical Information Processing**
Casey Paquola¹, Jakob Seidlitz², Oualid Benkarim¹, Jessica Royer¹, Petr Klimes¹, Richard Bethlehem³, Sara Lariviere¹, Reinder Vos de Wael¹, Jeffrey Hall¹, Birgit Frauscher¹, Jonathan Smallwood⁴, Boris Bernhardt¹
¹Montreal Neurological Institute, McGill University, Montreal, Quebec, ²National Institutes of Health, Kensington, MD, ³University of Cambridge, Cambridge, Cambridgeshire, ⁴University of York, York, North Yorkshire
- 1786 Parametric representation of sulcal and gyral curves**
Moo Chung¹, Shih-Gu Huang¹, Ilwoo Lyu²
¹University of Wisconsin, Madison, WI, ²Vanderbilt University, Nashville, TN
- 1790 Association between parental age, brain, and psychiatric and cognitive problems in children**
Jingnan Du¹, Edmund Rolls², Weikang Gong³, Miao Cao¹, Deniz Vatansever¹, Wei Cheng¹, Jianfeng Feng¹
¹Fudan University, Shanghai, China, ²University of Warwick, Coventry, UK, ³University of Oxford, Oxford, UK
- 1795* Cannabis Use During Adolescence Is Associated With Altered Cerebral Cortical Development**
Matthew Albaugh¹, Jonatan Ottino-Gonzalez¹, Amanda Sidwell¹, Claude Lepage², Anthony Juliano¹, Catherine Orr³, Max Owens¹, Bader Chaarani⁴, Lindsay Lewis², Alan Evans⁵, Deepak D'Souza⁶, Rajiv Radhakrishnan⁶, Alexandra Potter¹, Hugh Garavan⁷
¹University of Vermont, Burlington, VT, ²McGill University, Montreal, Quebec, ³Swinburne University of Technology, Melbourne, Victoria, ⁴Sadsa, Burlington, VT, ⁵McGill University, Montreal, Montreal, ⁶Yale University School of Medicine, West Haven, CT, ⁷The University of Vermont, Burlington, VT

- 1796 Harmonizing Entorhinal Boundaries of Disparate Atlases: Implications for Alzheimer's MRI Biomarkers**
Sue Kulason¹, Eileen Xu¹, Michael Miller¹
¹Johns Hopkins University, Baltimore, MD
- 1800 Lesion Locations Related with Recovery of Post-stroke Dysphagia**
Nayeon Ko¹, BoMi Kwon¹, Hyun Haeng Lee¹, Won-Jin Moon², Jongmin Lee¹
¹Department of Rehabilitation Medicine, Konkuk University Medical Center, Seoul, Korea, ²Department of Radiology, Konkuk University Medical Center, Seoul, Korea
- 1801 Neuroanatomical Signature of Nyaope Addiction-Implications for South African Drug Treatment Policy**
Nhanisi Ndlovu¹, Nirvana Morgan¹, Stella Malapile², William Daniels¹, Ugasvaree Subramaney¹, Martijn van den Heuvel³, Tanya Calvey¹
¹University of the Witwatersrand, Johannesburg, Gauteng, ²Nelson Mandela Children's Hospital, Johannesburg, Gauteng, ³VU Amsterdam, Amsterdam, Netherlands
- 1802 Structural covariance of thickness is organized along neurogenetic and neurodevelopmental axes**
Sofie Valk¹, Ting Xu², Daniel Margulies³, Shahrzad Kharabian Masouleh⁴, Casey Paquola⁵, Alexandros Goulas⁶, Peter Kochunov⁷, Jonathan Smallwood⁸, B.T. Thomas Yeo⁹, Boris Bernhardt¹⁰, Simon Eickhoff¹¹
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- 1804 Morphological and functional variability in central and subcentral motor regions of the human brain**
Nicole Eichert¹, Kate Watkins¹, Rogier Mars¹, Michael Petrides²
¹University of Oxford, Oxford, United Kingdom, ²McGill University, Montreal, Canada
- 1809 The Modular Organization of Heritability Across the Cortex**
Nadia Blostein¹, Sejal Patel², Gabriel Devenyi³, Raihaan Patel¹, M Mallar Chakravarty¹
¹McGill University, Montreal, Quebec, ²Centre for Addiction and Mental Health, Toronto, Ontario/Canada, ³Douglas University Mental Health Institute, McGill University, Verdun, Quebec
- 1811 A study on brain activation during the elbow exercise in the presence or absence of a weight**
MiHyun Choi¹, Jin-Ju Jung², Je-Hyeop Lee², Soon-Cheol Chung²
¹Konkuk University, Chungju, ChungChungbuk-do, ²Konkuk University, Chungju, Chungchungbuk-do
- 1815 Associations between birth weight and adult cortical structure in a large general population sample**
Heather Whalley¹, Emma Neilson¹, Xueyi Shen¹, Mathew Harris¹, Mark Adams¹, Simon Cox¹, James Boardman¹, Stephen Lawrie¹, Andrew McIntosh¹
¹University of Edinburgh, Edinburgh, Midlothian, UK
- 1819 The relationship between body mass index and cortical neurite distributions**
Koji Hatano^{1,2,3}, Nooshin Abbasi¹, Uku Vainik⁴, Takuya Hayashi², Takeshi Terao³, Alain Dagher¹
¹Montreal Neurological Institute, Montreal, Canada, ²RIKEN Center for Biosystems Dynamics Research, Kobe, Japan, ³Oita University Faculty of Medicine, Yufu, Japan, ⁴University of Tartu, Tartu, Estonia
- 1827 The impact of cortical realignment approaches on parcellated analyses in humans**
Erin Dickie¹, Ella Wiljer², Mathuvanathi Manogaran², Jerrold Jeyachandra², Laura Grennan², Aristotle Voineskos³
¹Centre for Addiction and Mental Health, University of Toronto, Toronto, Ontario, ²Centre for Addiction and Mental Health, Toronto, Ontario, ³Centre for Addiction and Mental Health, Toronto, Toronto
- 1828 3D digitalization of fresh brains by photogrammetry**
Carlos Rueda¹, Laura Jaramillo¹, Carlos Villegas¹
¹Universidad de Antioquia, Medellin, Antioquia
- 1837 Reliability of different longitudinal pipelines for the analysis of structural MR images**
Martin Gell¹, Elisabeth Wenger², Julian Karch², Nina Lisofsky², Maxi Becker^{2,3}, Oisin Butler², Martyna Lochstet², Johan Mårtensson^{4,2}, Ulman Lindenberger², Elisa Filevich^{1,5,2}, Simone Kühn^{2,3}
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- 1842 The links between precentral sulcus interruptions and language-associated area 55b**
Zhong Yi Sun¹, Clara Fischer², Antoine Grigis³, Denis Riviere⁴, Jean-François Mangin⁵
¹Neurospin, Gif-sur-Yvette, Ile de France, ²CEA-Neurospin, Gif-sur-Yvette, N/A, ³Neurospin, CEA, Gif-sur-Yvette, France, ⁴CEA, UNATI, Gif-sur-Yvette, N/A, ⁵CEA - NeuroSpin, Gif-sur-Yvette, Ile de France
- 1845 The orientation-dependence of stria of Gennari ex vivo in high-resolution MRI phase data**
Anna Blazejewska¹, Lucia Navarro De Lara¹, Berkin Bilgic¹, Divya Varadarajan¹, Andre van der Kouwe¹, Jean Augustinack¹, Bruce Fischl¹, Jonathan Polimeni^{1,2}
¹Athinoula A. Martinos Center for Biomedical Imaging, MGH/Harvard Medical School, Charlestown, MA, ²Division of Health Sciences and Technology, MIT, Cambridge, MA
- 1846 Preserved 'retinotopic' maps in occipital areas repurposed for language in bilateral anophthalmia**
Koen Haak¹, Holly Bridge², Christian Beckmann¹
¹Donders Institute, Nijmegen, Gelderland, ²University of Oxford, Oxford, Oxfordshire
- 1850 Agreement between Freesurfer and CAT12 Cortical Thickness in Children**
Cameron McKay¹, Marissa Laws¹, Mayesha Awal¹, Ryan Mannion¹, Emma Walsh¹, Julian Marable¹, Guinevere Eden¹
¹Georgetown University, Washington, DC
- 1854 Long-term impact of cerebellar mass resection on cognition and emotion: mixed methodology**
Claire Lunde^{1,2,3,4}, Christine Sieberg^{1,2,3,5}, Katie Silva¹, Nicole Ullrich^{6,7,8}, Peter Manley^{7,8}, Eric Moulton^{1,9}
¹Center for Pain and the Brain, Department of Anesthesiology, Critical Care and Pain Medicine, Boston, MA, ²Department of Psychiatry, Boston Children's Hospital, Boston, MA, ³Biobehavioral Pediatric Pain Lab, Boston Children's Hospital, Boston, MA, ⁴Nuffield Department of Women's and Reproductive Health, Medical Sciences Division, University of Oxford, Oxford, United Kingdom, ⁵Department of Psychiatry, Harvard Medical School, Boston, MA, ⁶Department of Neurology, Boston Children's Hospital, Harvard Medical School, Boston, MA, ⁷Department of Hematology/Oncology, Boston Children's Hospital, Harvard Medical School, Boston, MA, ⁸Dana-Farber/Boston Children's Cancer and Blood Disorders Center, Boston, MA, ⁹Department of Ophthalmology, Boston Children's Hospital, Harvard Medical School, Boston, MA
- 1857 Fine-grained level of cortical remapping depends on the level of nervous system injury**
Carmen Cirstea¹, In-Young Choi², Phil Lee²
¹University of Missouri, Columbia, MO, ²University of Kansas Medical Center, Kansas City, KS

- 1862 Multi-modal refinement of pial surfaces based on T1-MPRAGE and T2 images**
Viviana Siless¹, Bruce Fischl², Douglas Greve³
¹MGH/Harvard Medical School, Boston, MA, ²A.A. Martinos Center for Biomedical Imaging, Boston, MA, ³Massachusetts General Hospital, Charlestown, MA
- 1863 Dense mappings between cortical surfaces in Euarchontoglires using phylogenetic relationships.**
Ernst Schwartz¹, Katja Heuer², Nathan Jefferey³, Karl-Heinz Nenning¹, Romain Valabregue⁴, Marc Herbin⁵, Gregor Kasprian⁶, Roberto Toro^{7,8}, Georg Langs¹
¹CIR Lab, Department of Biomedical Imaging and Image-guided Therapy, Medical University Vienna, Vienna, Austria, ²Max Planck Institute for Human Cognitive and Brain Sciences, Naumburg, Germany, ³Department of Musculoskeletal Biology, Institute of Ageing and Chronic Disease, Univ. of Liverpool, Merseyside, United Kingdom, ⁴Institut du Cerveau et de la Moelle Épineuse, Sorbonne Universités, Paris, Île-de-France, ⁵Département Adaptations du Vivant, Équipe FUNEVOL, Muséum National d'Histoire Naturelle, Paris, Île-de-France, ⁶Department of Biomedical Imaging and Image-guided Therapy, Medical University Vienna, Vienna, Austria, ⁷Groupe de Neuroanatomie appliquée et théorique, Département de neuroscience, Institut Pasteur, Paris, Île-de-France, ⁸Center for research and interdisciplinarity (CRI), Université Paris Descartes, Paris, Île-de-France
- 1866 The morphological evolution of the primate brain revealed by alignment of the cortical sulci**
Yann Leprince¹, Alexia Stochino¹, Ophélie Foubet¹, William Hopkins², Jean-François Mangin¹
¹NeuroSpin, CEA, Université Paris-Saclay, Gif-sur-Yvette, France, ²University of Texas MD Anderson Cancer Center, Bastrop, TX
- 1874 Cortical Surface Metrics and Volumetrics at Term Predict Motor Development in Very Preterm Infants**
Matthew Bugada¹, Julia Kline¹, Venkata Sita Priyanka Illapani¹, Karen Harpster^{2,3}, Nehal Parikh^{1,4}
¹Perinatal Institute, Cincinnati Children's Hospital Medical Center, Cincinnati, OH, ²Department of Occupational and Physical Therapy, Cincinnati Children's Hospital Medical Center, Cincinnati, OH, ³Department of Rehabilitation, Exercise, and Nutrition Sciences, University of Cincinnati College of Medicine, Cincinnati, OH, ⁴Department of Pediatrics, University of Cincinnati College of Medicine, Cincinnati, OH
- 1875 Histologic Validation of Hippocampal Subregions in Ex Vivo MRI**
Nicole Pihlstrom¹, Emily Williams², Josue Rodriguez-Llamas², Matthew Frosch³, Andre van der Kouwe⁴, Bruce Fischl⁴, Jean Augustinack⁴
¹Massachusetts General Hospital and Vassar College, Charlestown, MA, ²Massachusetts General Hospital, Charlestown, MA, ³Massachusetts General Hospital/Harvard Medical School, Boston, MA, ⁴Massachusetts General Hospital/Harvard Medical School, Charlestown, MA
- 1877 NeuroLang: Representing Neuroanatomy with Sulcus-Specific Queries**
Antonia Machlouzarides-Shalit¹, Nikos Makris², Gaston Zanitti¹, Valentin Iovene¹, Guillaume Lemaitre¹, Guillaume Favelier¹, Demian Wassermann¹
¹Inria, Palaiseau, Ile-de-France, ²Massachusetts General Hospital, Boston, MA
- 1885 Correlation of Myelin Content and Neurite Density in the Early Developing Human Cortex**
Khoi Huynh^{1,2}, Sahar Ahmad², Ye Wu², Kim-Han Thung², Zhengwang Wu², Weili Lin^{2,1}, Li Wang², Gang Li², Pew-Thian Yap^{2,1}, the UNC/UMN Baby Connectome Project Consortium²
¹Biomedical Engineering Department, University of North Carolina, Chapel Hill, NC, ²Department of Radiology and BRIC, University of North Carolina, Chapel Hill, NC

Cortical Cyto- and Myeloarchitecture

- 1770 Ex vivo mapping of the cyto- and myeloarchitecture of the human cerebral cortex using UHF MRI**
Raïssa Yebga Hot^{1,2}, Alexandros Popov^{1,2}, Justine Beaujoin¹, Gaël Perez^{1,3}, Fabrice Poupon^{1,2}, Igor Lima Maldonado⁴, Jean-François Mangin^{1,2}, Christophe Destrieux⁴, Cyril Poupon^{1,2}
¹CEA - NeuroSpin, Gif-sur-Yvette, France, ²Université Paris-Saclay, Orsay, France, ³CentraleSupélec, Gif-sur-Yvette, France, ⁴Université de Tours, INSERM, Imaging and Brain laboratory (iBrain), UMR 1253, Tours, France
- 1791 Four new cytoarchitectonic areas surrounding the primary and early auditory cortex in human brains**
Daniel Zachlod¹, Britta Rütters², Hartmut Mohlberg³, Sebastian Bludau⁴, Robert Langner⁵, Karl Zilles⁶, Katrin Amunts⁷
¹INM-1, Juelich, Germany, ²C. & O.Vogt Institute for Brain Research, Düsseldorf, Germany, ³Research Center Juelich, Juelich, North Rhine Westfalia, ⁴Research Center Jülich, Jülich, Germany, ⁵Medical Faculty, Heinrich Heine University Düsseldorf, Düsseldorf, Northrhine-Westfalia, ⁶Forschungszentrum Jülich INM1, Jülich, Jülich, ⁷Research Centre Jülich, Jülich, North-Rhine Westphalia
- 1817 Assessing Quantitative MRI Techniques using Multimodal Comparisons**
Francis Carter¹, Alfred Anwander², Thomás Goucha², Helyne Adamson², Angela Friederici², Christopher Steele^{1,3}
¹Concordia University, Montreal, Quebec, ²Department of Neuropsychology, Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, ³Department of Neurology, Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany
- 1821 Cortical confluence: Cytoarchitectural mapping of the transition from iso to allocortex.**
Casey Paquola¹, Oualid Benkarim¹, Jordan DeKraker², Ali Khan², Neda Bernasconi³, Boris Bernhardt¹
¹Montreal Neurological Institute, McGill University, Montreal, Quebec, ²University of Western Ontario, London, Ontario, ³Neuroimaging of Epilepsy Laboratory, McConnell Brain Imaging Center, Montreal Neurological Institute, Montreal, Quebec
- 1831* Evolution of cortical myelination in chimpanzees**
Ilona Lipp¹, Evgeniya Kirilina^{1,2}, Carsten Jäger¹, Markus Morawski³, Anna Jauch¹, Kerrin Pine¹, Luke Edwards¹, Cornelius Eichner⁴, Alfred Anwander⁴, Angela Friederici⁴, Roman Wittig⁵, Catherine Crockford⁵, Nikolaus Weiskopf^{1,6}
¹Department of Neurophysics, Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, ²Center for Computational Neuroscience, Free University Berlin, Berlin, Germany, ³Paul Flechsig Institute of Brain Research, University of Leipzig, Germany, Leipzig, Germany, ⁴Department of Neuropsychology, Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, ⁵Department of Human Behavior, Ecology and Culture, MPI for Evolutionary Anthropology, Leipzig, Germany, ⁶Felix Bloch Institute for Solid State Physics, Faculty of Physics and Earth Sciences, Leipzig, Germany
- 1858 Cortical Atlas of the Domestic Canine Brain**
Philippa Johnson¹, Wen-Ming Luh², John Loftus¹, Kathleen Graham³, Andrew White³, Erica Barry⁴
¹Cornell University, Ithaca, NY, ²National Institute of Aging, Baltimore, MD, ³The University of Sydney, Sydney, NSW, ⁴Cornell University, Sacramento, CA
- 1865 Lamina-specific microstructural gradients reveal differentiated hierarchical organization**
Xindi Wang¹, Casey Paquola¹, Lindsay Lewis¹, Boris Bernhardt¹, Alan Evans¹
¹McGill University, Montreal, Québec

- 1871 In Vivo Myeloarchitectonic Abnormalities in Middle-Aged Adults with Autism Spectrum Disorder (ASD)**
Jiwandeep Kohli¹, Ian Martindale², Mikaela Kinnear³, Lisa Mash², Ian Shryock², Ruth Carper², Ralph-Axel Müller²
¹SDSU/UC San Diego Joint Doctoral Program in Clinical Psychology, San Diego, CA, ²San Diego State University, San Diego, CA, ³Autism Discovery Institute, Rady Children's Hospital, San Diego, CA
- 1883 Neuroimaging measures of cortical demyelination after mild traumatic brain injury in older adults**
Sean Mahoney¹, Nikhil Chaudhari¹, Andrei Irimia¹
¹University of Southern California, Los Angeles, CA

Microcircuitry and Modules

- 1793 Microanatomy of the Mouse Auditory Cortex – Structural Basis for Acoustic Communication Processing?**
Philip Ruthig^{1,2}, Alexandra John¹, Stefan Geyer², Marc Schönwiesner^{1,3}
¹University Leipzig, Leipzig, Germany, ²Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, ³University of Montreal, Montreal, Canada

Normal Development

- 1771 Volumetric Analysis of Cerebrospinal Fluid (CSF) as a Function of Age and Gender**
Ali Bourisly¹, Ali Shuaib¹, Abrar Hayat², Fatima Dashti², Lamia Alsarraf²
¹Kuwait University, Kuwait, Kuwait, ²Ibn Sina Hospital, Ministry of Health, Kuwait, Kuwait
- 1777 Testosterone-Cortisol Ratio Alters Top-Down Processes as a Function of Cortico-Amygdalar Development**
Jimin Lew¹, Sherri Jones¹, Marie-Pier Lecours¹, Isobel Orfi¹, Charlotte Little¹, Kelly Botteron², Simon Ducharme¹, James McCracken³, Tuong-Vi Nguyen⁴
¹McGill University, Montreal, Quebec, ²Washington University, St Louis, MO, ³University of California in Los Angeles, Los Angeles, CA, ⁴Research Institute of the McGill University Health Center, Montreal, Quebec
- 1779 Linked signatures of brain structure and function in young children predict pre-reading measures**
Kathryn Manning¹, Jess Reynolds¹, Dmitrii Paniukov¹, Deborah Dewey¹, Catherine Lebel²
¹University of Calgary, Calgary, Alberta, ²University of Calgary, Calgary, Alberta
- 1812 Development of Brain White Matter Functional Network in Typically Developing Children and Adolescent**
Xuan BU¹, Yingxue Gao¹, Kaili Liang¹, Hailong Li¹, Xinyu Hu¹, Bharat Biswal², Qiyong Gong¹, Xiaoqi Huang¹
¹Huaxi MR Research Center (HMRRRC), Department of Radiology, West China Hospital of Sichuan University, Chengdu, Sichuan, ²New Jersey Institute of Technology, Newark, NJ
- 1820 Cortical Thinning During Childhood and Adolescence, Gene Expression, and Psychiatric Disorders**
Nadine Parker¹, Yash Patel¹, Andrea Parolin Jackowski², Mario Pedro Pan², Giovanni Abrahão Salum³, Zdenka Pausova⁴, Tomas Paus⁵
¹Institute of Medical Sciences, University of Toronto, Toronto, Canada, Toronto, Ontario, ²Universidade Federal de São Paulo, São Paulo, São Paulo, ³Universidade Federal do Rio Grande do Sul, Porto Alegre, Rio Grande do Sul, ⁴The Hospital for Sick Children, University of Toronto, Toronto, Ontario/Canada, ⁵Bloorview Research Institute, Holland Bloorview Kids Rehabilitation, Toronto, Ontario/Canada

- 1855 Effect of regional variation in nonlinear scaling on voxelwise morphology of the human brain**
Timothy Kosciak¹
¹University of Iowa, Iowa City, IA
- 1870 DNAm Predicts Future Gray Matter Volume and Cognitive Performance in Normally Developing Children**
Jiayu Chen¹, Julia Stephen², Yu-Ping Wang³, Tony Wilson⁴, Jingyu Liu⁵, Vince D. Calhoun¹
¹Tri-Institutional Center for Translational Research in Neuroimaging and Data Science (TReNDS), Atlanta, GA, ²The Mind Research Network, Albuquerque, NM, ³Tulane University, New Orleans, LA, ⁴University of Nebraska Medical Center, Omaha, NE, ⁵Georgia State University, Atlanta, GA

Subcortical Structures

- 1768 Multimodal high-resolution mapping of subcortical regions with MAP-MRI and histology**
Kadharbatcha Saleem^{1,2}, Alexandru Avram^{1,2}, Frank Ye³, Cecil Chern-Chyi Yen⁴, Michal Komlos^{1,2}, Peter Basser^{1,2}
¹Center for Neuroscience and Regenerative Medicine (CNRM), Henry M Jackson Foundation (HJF), Rockville, MD, ²SQITS, Eunice Kennedy Shriver NICHD, NIH, Bethesda, MD, ³Neurophysiology Imaging Facility, NIMH/NINDS, NIH, Bethesda, MD, ⁴Lab of Functional and Molecular Imaging, NINDS, NIH, Bethesda, MD
- 1775 Parcellation of the human basal forebrain based on diffusion-weighted structural connectivity data**
Sudesna Chakraborty¹, Taylor Schmitz¹, Ali Khan¹
¹University of Western Ontario, London, Ontario
- 1782 Multi-contrast Anatomical Subcortical Structures Parcellation**
Pierre-Louis Bazin¹, Anneke Alkemade¹, Birte Forstmann¹
¹Universiteit van Amsterdam, Amsterdam, North Holland
- 1783 The effect of a physical activity intervention on the anterior hippocampus of young adolescents**
Thomas Wassenaar¹, Piorgiorgio Salvan², Nicholas Beale³, Catherine Wheatley⁴, Claire Sexton¹, Helen Dawes³, Heidi Johansen-Berg¹
¹University of Oxford, Oxford, Oxfordshire, ²University of Oxford, Oxford, United Kingdom, ³Brookes University, Oxford, Oxfordshire, ⁴University of Oxford, Oxford, OH
- 1789 Cytoarchitectonic Mapping of the ventral striatum and pallidum in ten human postmortem brains**
Andrea Brandstetter¹, Hartmut Mohlberg¹, Katrin Amunts¹
¹Research Center Juelich, Juelich, North-Rhine Westphalia
- 1792 The multimodal 7 Tesla submillimeter Amsterdam Ultra-high field adult lifespan database (AHEAD)**
Anneke Alkemade¹, Martijn Mulder², Josephine Groot¹, Bethany Isaacs¹, Nikita Van Berendonk¹, Nicky Lute¹, Scott Isherwood¹, Pierre-Louis Bazin¹, Birte Forstmann¹
¹ICMN Research Unit, University of Amsterdam, Amsterdam, The Netherlands, ²Psychology and Social Sciences, University of Utrecht, Utrecht, The Netherlands
- 1824 The effects of diffusion signal modeling and segmentation approaches on subthalamic parcellation**
Gianpaolo Basile¹, Salvatore Bertino¹, Joshua Faskowitz², Giuseppe Anastasi¹, Demetrio Milardi^{1,3}, Alberto Cacciola¹
¹Dept. of Biomedical, Dental Sciences and Morphological and Functional Images, University of Messina, Messina, Italy, ²Dept. of Psychological and Brain Sciences, Indiana University, Bloomington, IN, ³Institute for Treatment and Research "IRRCs Centro Neurolesi Bonino-Pulejo", Messina, Italy
- 1836 Measuring Biological Gradients along the Human Dorsal Striatum in vivo using Quantitative MRI**
Elior Droni¹, Shir Filo¹, Aviv Mezer¹
¹The Hebrew University of Jerusalem, Jerusalem, Israel

- 1853 Somatovisual processing in the deep layers of the human superior colliculus**
Kevin Sitek¹, Qureshi Asma¹, Francesko Molla², Gisela Hagberg², Jung Hwan Kim¹, Klaus Scheffler³, Marc Himmelbach⁴, David Ress¹
¹Baylor College of Medicine, Houston, TX, ²Max Planck Institute for Biological Cybernetics, Tübingen, Tübingen, ³Max Planck Institute for Biological Cybernetics, Tuebingen, Baden Württemberg, ⁴University of Tuebingen, Tübingen, Tübingen
- 1856 Direct visualization and characterization of the human zona incerta and surrounding fiber tracts**
Jonathan Lau¹, Yiming Xiao², Greydon Gilmore³, Keith MacDougall¹, Andrew Parrent¹, Catherine Currie¹, Terry Peters¹, Ali Khan⁴
¹Western University, London, Ontario, ²Robarts Research Institute, Western University, London, Ontario, ³Western University, London, ON, ⁴University of Western Ontario, London, Ontario
- 1859 Mapping the human subcortical auditory system with 3T quantitative MRI**
Kevin Sitek¹, Satrajit Ghosh²
¹Baylor College of Medicine, Houston, TX, ²MIT, Cambridge, MA
- 1867 Morphological Heterogeneity of the Human Nucleus Accumbens: Characterising the Core and Shell**
Eugene McTavish¹, Chao Suo¹, Jeggan Tiego¹, Yann Chye¹, Yu-Chi Chen¹, Kevin Aquino¹, Rebecca Segrave¹, Mark Bellgrove¹, Alex Fornito¹, Mürat Yucel¹
¹Turner Institute for Brain and Mental Health, Monash University, Melbourne, Victoria
- 1878 Cerebellar contribution to cognitive processing**
Ladan Shahshahani¹, Joern Diedrichsen²
¹University of Western Ontario, London, Ontario, ²the University of Western Ontario, London, Western Ontario
- 1881 Linking vestibular function and sub-cortical volume changes in a longitudinal study of aging adults**
Dominic Padova¹, J. Tilak Ratnanather², Yuri Agrawal¹
¹Department of Otolaryngology–Head and Neck Surgery, Johns Hopkins University School of Medicine, Baltimore, MD, ²Center for Imaging Science, Department of Biomedical Engineering, The Johns Hopkins University, Baltimore, MD
- 1882 Comparative behavioral and task fMRI in Focal Hand Dystonia during increasingly complex motor task**
Noreen Bukhari-Parlakturk¹, Andrew Michael¹, Mariusz Derezinski-Choo¹, James Voyvodic¹, Simon Davis¹, Nicole Calakos¹
¹Duke University, Durham, NC
- 1886 Characterization of the hippocampal formation using diffusion-weighted imaging**
Mohamed Yousif¹, Jordan DeKraker^{1,2}, Ali Khan^{1,2}, Roy Haast^{1,2}
¹University of Western Ontario, London, Ontario, ²Robarts Research Institute, London, Ontario
- 1772 Tissue properties of visual white matter pathways in glaucoma**
Shumpei Ogawa¹, Hiromasa Takemura^{2,3}, Hiroshi Horiguchi¹, Atsushi Miyazaki⁴, Kenji Matsumoto⁴, Yoichiro Masuda¹, Keiji Yoshikawa^{5,6}, Tadashi Nakano¹
¹The Jikei University School of Medicine, Minato-ku, Tokyo, ²Center for Information and Neural Networks (CiNet), NICT, Suita, Osaka, ³Graduate School of Frontier Biosciences, Osaka University, Suita, Osaka, ⁴Tamagawa University, Machida, Tokyo, ⁵Yoshikawa Eye Clinic, Machida, Tokyo, ⁶The Jikei University School of Medicine, Minato-ku, Tokyo
- 1774 Tract-specific microstructural anomaly detection using autoencoders for single subject analysis**
Maxime Chamberland¹, Sila Genc¹, Erika Raven¹, Chantal Tax¹, Gred Parker¹, Adam Cunningham², Joanne Doherty^{1,2}, Marianne van den Bree², Derek Jones¹
¹Cardiff University Brain Research Imaging Centre, Cardiff, UK, ²MRC Centre for Neuropsychiatric Genetics and Genomics, Cardiff, UK
- 1776 New insights into the anatomy, connectivity and functions of the middle longitudinal fasciculus**
Francesco Latini¹, Gianluca Trevisi², Markus Fahlström¹, Malin Jemstedt¹, Åsa Alberius Munkhammar¹, Maria Zetterling¹, Göran Hesselager¹, Mats Ryttefors¹
¹Uppsala University, Uppsala, Sweden, ²Ospedale Santo Spirito, Neurosurgical Unit, Pescara, Italy
- 1780 Towards identifying reliable short-ranged, “U”-shaped structural connectivity**
Jason Kai¹, Ali Khan¹
¹University of Western Ontario, London, Canada
- 1787 Cross-species connectivity blueprint gradients uncover multiscale human temporal lobe adaptations**
Guilherme Blazquez Freches¹, Koen Haak¹, Katherine Bryant², Alberto Llera¹, Saad Jbabdi², Christian Beckmann^{1,2}, Rogier Mars^{2,1}
¹Donders Institute for Brain, Cognition and Behaviour, Nijmegen, Netherlands, ²Nuffield Department of Clinical Neurosciences (FMRIB), Oxford, United Kingdom
- 1794 Classifyer: a linear classifier of single streamlines for white matter bundle segmentation**
Emanuele Olivetti^{1,2}, Daniel Bullock³, Pietro Astolfi^{1,2,4}, Soichi Hayashi³, Luca Zigioto⁵, Luciano Annicchiarico⁵, Francesco Corsini⁵, Alessandro De Benedictis⁶, Silvio Sarubbo⁵, Franco Pestilli⁷, Paolo Avesani^{1,2}, Giulia Bertó^{1,2}
¹Neuroinformatics Lab, Fondazione Bruno Kessler, Trento, Italy, ²Center for Mind and Brain Sciences (CIMeC), University of Trento, Trento, Italy, ³Department of Psychological and Brain Sciences, Indiana University, Bloomington, IN, USA, ⁴PAVIS, Italian Institute of Technology (IIT), Genova, Italy, ⁵Division of Neurosurgery, Structural and Functional Connectivity Lab, S. Chiara Hospital, Trento, Italy, ⁶Neurosurgery Unit, Bambino Gesù Children’s Hospital, IRCCS, Rome, Italy, ⁷Indiana University, Bloomington, IN, USA
- 1799 Microstructural changes in the reward system are associated with post-stroke depression**
Lena Oestreich¹, Paul Wright², Michael O’Sullivan¹
¹The University of Queensland, Brisbane, Australia, ²King’s College London, London, UK
- 1803 Probing myelination of distinct fibres within the same voxel using myelin-weighted tractography**
Simona Schiavi^{1,2}, Po-Jui Lu^{3,4}, Matthias Weigel^{3,4,5}, Derek K. Jones^{6,7,8}, Ludwig Kappos^{3,4}, Cristina Granziera^{3,4}, Alessandro Daducci¹
¹Department of Computer Science, University of Verona, Verona, Italy, ²DINOGLI, University of Genoa, Genoa, Italy, ³Neurologic Clinic and Policlinic, Clinical Research and Biomedical Engineer, University Hospital, Basel, Switzerland, ⁴ThINK Department of Medicine and Biomedical Engineering, University Hospital Basel and University of Basel, Basel, Switzerland, ⁵Radiological Physics, Department of Radiology, University Hospital Basel and University of Basel, Basel, Switzerland, ⁶Cardiff University Brain Research Imaging Centre, Cardiff, United Kingdom, ⁷Neuroscience and Mental Health Research Institute, Cardiff University, Cardiff, United Kingdom, ⁸Mary MacKillop Institute for Health Research, Australian Catholic University, Melbourne, Australia
- 1805 Is Posterior Subthalamic Area Important for Fiber Tracking of Dentato-Rubro-Thalamic Tract?**
Anupa Ambili Vijayakumari¹, Drew Parker¹, Ronald L Wolf¹, Jacob Antony Alappatt¹, Andrew I Yang¹, Ashwin Ramayya¹, Ragini Verma¹
¹University of Pennsylvania, Philadelphia, PA

White Matter Anatomy, Fiber Pathways and Connectivity

1806* Investigating the axon-diameter based human brain connectome using MRI*Hila Gast¹, Yaniv Assaf¹*¹Tel Aviv University, Tel Aviv, Israel**1823** Precision DTI Imaging Reveals Incomplete Adult Hemispherotomy*Nicole Seider¹, Jarod Roland², Matthew Smyth¹, Andrew Van¹, David Montez¹, Catherine Hoyt¹, Jacqueline Hampton¹, Kristen Scheidter¹, Deanna Greene¹, Joshua Shimony¹, Nico Dosenbach³*¹Washington University in St Louis, St Louis, MO, ²University of California, San Francisco, CA, ³Washington University in St Louis, St. Louis, MO**1829** Groupwise Tractogram Filtering via Iterative Message Passing and Pruning*Yihao Xia¹, Yonggang Shi¹*¹University of Southern California, Neuroimaging and Informatics Institute, Los Angeles, CA**1830** Allometric length scaling of the corpus callosum with increasing brain size*Liyuan Yang¹, Chenxi Zhao¹, Yirong Xiong¹, Gaolang Gong¹*¹Beijing Normal University, Beijing, China**1832** A reproducible set of rules for clinical tractography*Louis-Marie Terrier^{1,2}, Frédéric Andersson¹, Laurent Barantin¹, Helen Cléry¹, Ilyess Zemmoura^{1,2}, Christophe Destrieux^{1,2}*¹UMR 1253, iBrain, Université de Tours, Inserm, Tours, France, ²CHRU de Tours, Tours, France**1833** Relation between U-fibers configuration, sulcus shape and hand functional activation in the central*Miguel Guevara¹, Zhong Yi Sun¹, Denis Riviere², Jean-François Mangin³*¹Neurospin, Gif-sur-Yvette, Ile de France, ²CEA, UNATI, Gif-sur-Yvette, N/A, ³CEA - NeuroSpin, Gif-sur-Yvette, Ile de France**1838** ENIGMA-DTI: mapping white matter deficits in cross-diagnostic psychiatric research*Peter Kochunov¹, L. Elliot Hong¹, Emily Dennis^{2,3,4,5}, Rajendra Morey⁶, David Tate^{2,5}, Elisabeth Wilde^{2,5}, Mark Logue^{7,8,9,10}, Sinead Kelly^{3,11}, Gary Donohoe¹², Pauline Favre^{13,14}, Josselin Houenou^{13,14,15,16}, Christopher Ching³, Laurena Holleran¹², Ole Andreassen^{17,18}, Laura van Velzen^{19,20}, Lianne Schmaal^{20,19}, Julio Villalon-Reina³, Carrie Bearden^{21,22}, Fabrizio Piras²³, Gianfranco Spalletta^{23,24}, Odile van den Heuvel²⁵, Dick Veltman²⁵, Dan Stein²⁶, Meghann Ryan¹, Yunlong Tan²⁷, Theo Van Erp^{28,29}, Jessica Turner³⁰, Elizabeth Haddad³, Talia Nir³, David Glahn^{31,32}, Paul Thompson³, Neda Jahanshad³*¹Maryland Psychiatric Research Center, Catonsville, MD, ²Department of Neurology, University of Utah School of Medicine, Salt Lake City, UT, ³USC Mark and Mary Stevens Neuroimaging & Informatics Institute, Keck School of Medicine of USC, Marina del Rey, CA, ⁴Psychiatry Neuroimaging Laboratory, Brigham & Women's Hospital, Boston, MA, ⁵George E. Wahlen VA, Salt Lake City, UT, ⁶Brain Imaging and Analysis Center, Duke University, Durham, NC, ⁷VA Boston Healthcare System, National Center for PTSD, Boston, MA, ⁸Boston University School of Medicine, Department of Psychiatry, Boston, MA, ⁹Boston University School of Medicine, Biomedical Genetics, Boston, MA, ¹⁰Boston University School of Public Health, Department of Biostatistics, Boston, MA, ¹¹Harvard Medical School, Boston, MA, ¹²Centre for Neuroimaging and Cognitive Genomics (NICOG), Clinical Neuroimaging Laboratory, NCBES, Galway, Ireland, ¹³Neurospin, CEA, Université Paris-Saclay, Gif-sur-Yvette, Gif-sur-Yvette, ¹⁴INSERM Unit U955, Team 15, "Translational Psychiatry", Créteil, France, ¹⁵Assistance Publique-Hôpitaux de Paris (AP-HP), CHU Mondor, Psychiatry Department, Créteil, France, ¹⁶Faculté de Médecine, Université Paris Est Créteil, Créteil, France, ¹⁷Norwegian Centre for Mental Disorders Research (NORMENT), Division of Mental Health and Addictio, Oslo, Norway, ¹⁸Norwegian Centre for Mental Disorders Research, Institute of Clinical Medicine, University of Oslo, Oslo, Norway, ¹⁹Centre for Youth Mental Health, The University of Melbourne, Melbourne, Australia, ²⁰Orygen, The National Centre of Excellence in Youth Mental Health, Parkville, Australia, ²¹Semel Institute for Neuroscience and Human Behavior, UCLA, Los Angeles, CA, ²²Department of Psychology, University of California at Los Angeles, Los Angeles, CA, ²³Laboratory of Neuropsychiatry, Dept. Clinical and Behavioral Neurology, IRCCS Santa Lucia Foundation, Rome, Italy, ²⁴Division of Neuropsychiatry, Menninger Department of Psychiatry and Behavioral Sciences, Baylor College of Medicine, Houston, TX, ²⁵Amsterdam UMC, Amsterdam, Netherlands, ²⁶SA MRC Unit on Risk & Resilience in Mental Disorders, University of Cape Town, Cape Town, South Africa, ²⁷Beijing Huilongguan Hospital, Peking University Huilongguan Clinical Medical School, Beijing, P.R. China, ²⁸Clinical Translational Neuroscience Laboratory, Dept of Psychiatry, University of California Irvine, Irvine, CA, ²⁹Center for the Neurobiology of Learning and Memory, University of California Irvine, Irvine, CA, ³⁰Georgia State University, Atlanta, GA, ³¹Department of Psychiatry, Boston Children's Hospital and Harvard Medical School, Boston, MA, ³²Olin Neuropsychiatric Research Center, Hartford Hospital, Hartford, CT**1839** Lateralization of major fasciculi in the human lineage*Katherine Bryant¹, Nicole Eichert¹, Longchuan Li², Rogier Mars³*¹University of Oxford, Oxford, United Kingdom, ²Marcus Autism Center, Atlanta, GA, ³Nuffield Department of Clinical Neurosciences (FMRIB), Oxford, Oxford**1841** Analysis of fiber characteristics in the isthmus of the corpus callosum: Aboitiz et al. revisited*Maria Morozova^{1,2}, Henriette Rusch², Carsten Jäger¹, Alfred Anwander³, Siawoosh Mohammadi^{4,1}, Stefan Geyer¹, Nikolaus Weiskopf^{1,5}, Markus Morawski²*¹Department of Neurophysics, Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, ²Paul Flechsig Institute of Brain Research, University of Leipzig, Leipzig, Germany, ³Department of Neuropsychology, Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, ⁴University Medical Center Hamburg-Eppendorf, Hamburg, Germany, ⁵Felix Bloch Institute for Solid State Physics, Faculty of Physics and Earth Sciences, University of Leipzig, Leipzig, Germany

- 1843 The Latent Network Geometry of The Brain: Toward Geometrical Markers in Brain Network Science?**
Alberto Cacciola¹, Alessandro Muscoloni², Vaibhav Narula², Alessandro Calamuneri³, Salvatore Nigro⁴, Emeran Mayer⁵, Jennifer Labus⁵, Giuseppe Anastasi¹, Aldo Quattrone⁴, Liang Zhan⁶, Anand Kumar⁷, Alex Leow⁸, Olusola Ajilore⁸, Angelo Quartarone¹, Demetrio Milardi^{1,3}, Carlo Cannistraci²
¹Dept. of Biomedical, Dental Sciences and Morphological and Functional Images, University of Messina, Messina, Italy, ²Biomedical Cybernetics Group, Biotechnology Center (BIOTEC), Technische Universität Dresden, Dresden, Germany, ³IRCCS Centro Neurolesi "Bonino Pulejo", Messina, Italy, ⁴Institute of Bioimaging and Molecular Physiology, National Research Council, Catanzaro, Italy, ⁵G. Oppenheimer Center for Neurobiology of Stress and Resilience, UCLA, Los Angeles, CA, ⁶University of Wisconsin-Stout, Menomonie, WI, ⁷University of Illinois, Chicago, IL, ⁸University of Illinois at Chicago, Chicago, IL
- 1847 Diffusion MRI-based assessments of corticospinal tract integrity in stroke patients**
Jord Vink¹, Sjors Heuberger², Eline van Lieshout³, Anne Visser³, Bart van der Worp³, Rick Dijkhuizen³
¹University Medical Center Utrecht, Utrecht, Nederland, ²Utrecht University, Utrecht, Utrecht, ³University Medical Center Utrecht, Utrecht, Utrecht
- 1849 Mapping Pontocerebellar Connectivity with Diffusion MRI**
Paul-Noel Rousseau¹, M Mallar Chakravarty², Christopher Steele¹
¹Concordia University, Montreal, Quebec, ²McGill University, Montreal, Quebec
- 1851 Variability in the genetic bases of brain white matter microstructure**
Rowena Chin¹, Kevin Anderson¹, Anastasia Yendiki², Avram Holmes^{1,3}
¹Yale University, Department of Psychology, New Haven, CT, ²Harvard Medical School and Massachusetts General Hospital, Charlestown, MA, ³Yale University, Department of Psychiatry, New Haven, CT
- 1861 Bridging the Gap: From Neuroanatomical Literature to Probabilistic Tractography**
Guillermo Gallardo¹, Demian Wassermann², Angela Friederici¹, Alfred Anwander¹
¹Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, ²Parietal team, INRIA Saclay Île-de-France., Paris, France
- 1864 White Matter Segmentation Education (WiMSE): An interactive guide to white matter segmentation**
Daniel Bullock¹, Soichi Hayashi¹, Franco Pestilli¹
¹Department of Psychological and Brain Sciences, Indiana University, Bloomington, IN
- 1868 What can go wrong in clinical g-ratio weighted imaging? – The error when omitting B1+ correction**
Tim Emmenegger^{1,2}, Gergely David¹, Isabel Ellerbrock³, Patrick Freund^{1,4,5}, Siawoosh Mohammadi^{2,5}
¹Spinal Cord Injury Center Balgrist, University Hospital of Zurich, Zurich, Switzerland, ²Department of Systems Neuroscience, University Medical Center Hamburg-Eppendorf, Hamburg, Germany, ³Department of Clinical Neuroscience, Karolinska Institutet, Stockholm, Sweden, ⁴Wellcome Trust Centre for Neuroimaging, UCL Institute of Neurology, London, United Kingdom, ⁵Department of Neurophysics, Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany
- 1872 Examining the similarity of pseudo disconnection methods to in-vivo chronic post-stroke data**
Ajay Halai¹, Matthew Lambon Ralph¹
¹MRC Cognition and Brain Sciences Unit, Cambridge, Cambridgeshire
- 1873 Relationship Between Brain Structural Connectivity and Balance Deficits in Individuals with TBI**
Alaleh Alivar^{1,2}, Soha Saleh^{1,2}, Didier Allexandre^{1,2}, Michael Glassen¹, Armand Hoxha¹, Guang Yue^{1,2}
¹Kessler Foundation, West Orange, NJ, ²Rutgers University, Newark, NJ

- 1876 Medial forebrain bundle structure is linked to human impulsivity**
Kelly MacNiven¹, Josiah Leong², Brian Knutson¹
¹Stanford University, Stanford, CA, ²Indiana University, Bloomington, IN
- 1880 White Matter Tract Atlases of the Baby Brain**
Ye Wu¹, Yoonmi Hong¹, Sahar Ahmad¹, Weili Lin¹, Pew-Thian Yap¹, the UNC/UMN Baby Connectome Project Consortium¹
¹University of North Carolina, Chapel Hill, Chapel Hill, NC
- 1884 Correlation of priors-assisted Meyer's loop tractography with post-surgical visual field deficit**
Dmitri Shastin¹, Sanchita Bhatia¹, Chantal Tax¹, Greg Parker¹, Stefan Schwartz¹, Khalid Hamandi¹, William Gray¹, Derek Jones¹, Maxime Chamberland¹
¹Cardiff University Brain Research Imaging Centre, Cardiff, United Kingdom
- 1887 Inter-operator variability of tractography-derived measures in corticospinal tract**
Richard Agajanian¹, Averi Barrett¹, Rachel Custer¹, Yin He¹, Tasfiya Islam¹, Matthew Lahey¹, Cooper Larson¹, Omeed Mahrouyan¹, Clarissa Morales¹, Jovicarole Raya¹, Nooralhoda Sadeghi¹, Nien-Chu Shih¹, Matthew Thurston¹, Amaryllis Tsiknia¹, Xin Wang¹, Kay Jann¹, Ryan Cabeen², Farshid Sepehrband³
¹USC, Los Angeles, CA, ²USC LONI, Los Angeles, CA, ³University of Southern California, Los Angeles, CA

Neuroanatomy Other

- 1797 Prefronto-thalamic tract injury and cognitive outcome according to EVD location in stroke patients**
Min Son Kim¹, Sung Ho Jang², Jong Hoon Kim³, Hyeok Gyu Kwon⁴
¹Yeungnam university medical center, Daegu, Korea, Republic of, ²Yeungnam University medical center, Daegu, AK, ³Yeungnam university medical center, Daegu, AK, ⁴Eulji University, Gyeonggi, AK
- 1848* Time-of-Flight-MRA-Derived-Probabilistic-Map of Each Major Cerebral Artery**
Samantha Cote¹, Jean-Francois Lepage¹, Kevin Whittingstall²
¹Université de Sherbrooke, Sherbrooke, Quebec, ²Université de Sherbrooke, Sherbrooke, QC
- 1860 A generative model for primate brain shapes**
Katja Heuer¹, Marian Kleineberg², Russell Dinnage³, Chet Sherwood⁴, Ernst Schwartz⁵, Georg Langs⁶, Romain Valabregue⁷, Mathieu Santin⁷, Marc Herbin⁸, Roberto Toro⁹
¹Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Deutschland, ²Center for research and interdisciplinarity (CRI), Paris, France, ³Institute for Applied Ecology, University of Canberra, Canberra, Australian Capital Territory, ⁴The George Washington University, Washington, DC, ⁵Medical University Vienna, Vienna, Austria, ⁶Medical University of Vienna, Vienna, Vienna, ⁷ICM - Brain and Spine Institute, Paris, Ile de France, ⁸Département Adaptations du Vivant, Muséum National d'Histoire Naturelle, Paris, Île-de-France, ⁹Institut Pasteur, Paris, Île-de-France
- 1869 BrainFS: An Online System for the Analysis of Brain Volumetry**
Gonzalo Rojas¹, Joaquim Montell², Evelyng Faure¹, José Molina-Mateo³, Maria de la Iglesia-Vayá², Marcelo Gálvez¹
¹Clinica las Condes, Santiago, RM, ²Join Unit FISABIO-CIPF, Valencia, Valencia, ³Universitat Politècnica de València, Valencia, Valencia

NEUROINFORMATICS AND DATA SHARING

Brain Atlases

- 1888 An MSM surface registration pipeline to bridge atlases across the MNI and the FS/HCP worlds**
Lindsay Lewis¹, Claude Lepage¹, Matt Glasser², Timothy Coalson², David Van Essen², Alan Evans¹
¹McGill University, Montreal, Quebec, ²Washington University in St. Louis, St. Louis, MO
- 1889 An Age-Specific Atlas for Delineation of White Matter Pathways in Children Aged 6-8 Years**
Arthur Spencer¹, Jonathan Brooks¹, Hollie Byrne¹, Richard Lee-Kelland¹, Ela Chakkarapani¹
¹University of Bristol, Bristol, UK
- 1890 An MRI-Derived Neuroanatomical Atlas of the Fischer 344 Rat Brain**
Dana Goerzen¹, Caitlin Fowler², Gabriel Devenyi², Jurgen Germann³, Dan Madularu⁴, Mallar Chakravarty², Jamie Near²
¹Department of Neuroscience, McGill University, Montreal, Canada, ²Centre d'Imagerie Cérébrale, McGill University, Montreal, Canada, ³University Health Network, Toronto, Canada, ⁴Centre for Translational Neuroimaging, Northeastern University, Boston, USA
- 1893 The MNI-NOEL50 submillimetric whole-brain MRI template**
Niels Alexander Foit¹, Benoit Caldaïrou¹, Vladimir Fonov², Fatemeh Fadaie¹, Seok-Jun Hong¹, Louis Collins², Andrea Bernasconi¹, Neda Bernasconi¹
¹Neuroimaging of Epilepsy Laboratory, McConnell Brain Imaging Center, Montreal Neurological Institute, Montreal, Quebec, ²McConnell Brain Imaging Center, Montreal Neurological Institute, Montreal, Quebec
- 1899* Original to digital: microstructural and functional brain atlases in common MRI space**
Rory Pijnenburg¹, Simone Dunn¹, Lianne Scholtens¹, Martijn van den Heuvel¹
¹VU Amsterdam, Amsterdam, Netherlands
- 1904 The construction of an Iranian brain MRI template**
Foroogh-sadat Razavi-ghahfarokhi¹, Minoosakhti², Seyed Amir Hossein Batouli³
¹Neuroimaging and Analysis Group, Research Center for Molecular and Cellular Imaging, Tehran, Iran, Islamic Republic of, ²Institute for Cognitive Science Studies, Tehran, Iran, Islamic Republic of, ³Tehran University of Medical Sciences, Tehran, Iran, Islamic Republic of
- 1906 JuGEx – bridging the scales between gene expression and cytoarchitecture**
Sebastian Bludau¹, Thomas Mühleisen^{1,2,3}, Peter Pieperhoff¹, Pia Berger³, Nina Unger³, Magdalena Wojtasik³, Dominique Hilger¹, Sven Cichon^{1,4,2}, Timo Dickscheid¹, Katrin Amunts^{1,3}
¹Research Centre Jülich, Jülich, Germany, ²University of Basel, Basel, Switzerland, ³Heinrich-Heine-University, Düsseldorf, Germany, ⁴University Hospital Basel, Basel, Switzerland
- 1916 Influence of the population differences on the construction of cortical surface atlases**
Guoyuan Yang¹, Jelena Bozek², Meizhen Han¹, Jia-Hong Gao¹
¹Center for MRI Research, Peking University, Beijing, China, ²Faculty of Electrical Engineering and Computing, University of Zagreb, Zagreb, Croatia
- 1922 Linking Multimodal Parcellation 1.0 of Human Connectome Project to MNI Coordinates**
Tetsuya Yamamoto¹, Masaki Fukunaga¹, Norihiro Sadato¹
¹National Institute for Physiological Sciences, Okazaki, Japan
- 1923 Construction of Chinese anatomical connectivity-based parcellation**
Meizhen Han¹, Guoyuan Yang¹, Hai Li¹, Lang Qin¹, Jia-Hong Gao¹
¹Center for MRI Research, Peking University, Beijing, China
- 1924 Validating the use of individual-level structural prior matching in neonatal functional neuroimaging**
Liam Collins-Jones¹, Tomoki Arichi², Tanya Poppe², Addison Billing¹, Jiaxin Xiao², Sabrina Brigadoi³, Jeremy Hebden¹, Clare Elwell¹, Robert Cooper¹
¹University College London, London, UK, ²King's College London, London, UK, ³University of Padova, Padova, Italy
- 1926 JuBrain Atlas with GapMaps—a full probabilistic cytoarchitectonic atlas of the human cerebral cortex**
Hartmut Mohlberg¹, Katrin Amunts^{1,2}
¹Research Center Jülich, Germany, ²C. and O. Vogt Institute for Brain Research, Heinrich-Heine-University Düsseldorf, Germany
- 1937* Segregation of functional territories in individual brains**
Ana Luísa Pinho¹, Bertrand Thirion²
¹Inria Saclay-Île-de-France, Gif-sur-Yvette, France, ²Inria, Gif sur Yvette
- 1943 Towards a dataset of 20 ultra-high resolution neurotransmitter receptor human atlases**
Thomas Funck¹, Nicola Palomero-Gallagher², Konrad Wagstyl³, Mona Omidyeganeh¹, Claude Lepage¹, Paule Toussaint¹, Alexander Thiel⁴, Karl Zilles⁵, Alan Evans⁶
¹McGill University, Montreal, Quebec, ²Forschungszentrum Jülich INM1, Jülich, Germany, ³University College London, London, London, ⁴Jewish General Hospital and McGill University, Montreal, Quebec, ⁵Forschungszentrum Jülich INM1, Jülich, Jülich, ⁶McGill University, Montreal, Montreal
- 1946 Anatomical Organization of Human Mediodorsal Thalamus and its Extra-thalamic connections**
Kaixin Li¹, Lingzhong Fan^{2,3,4}, Wen Li^{2,3,4}, Weiyang Shi^{2,3,4}, Tianzi Jiang^{2,3,4,5,6}, Bo You¹
¹Harbin University of Science and Technology, Harbin, China, ²Brainnetome Center, Institute of Automation, Chinese Academy of Sciences, Beijing, China, ³National Laboratory of Pattern Recognition, Institute of Automation, Chinese Academy of Sciences, Beijing, China, ⁴University of Chinese Academy of Sciences, Beijing, China, ⁵School of Life Science and Technology, University of Electronic Science and Technology of China, Chengdu, China, ⁶The Queensland Brain Institute, University of Queensland, Brisbane, Australia
- 1947 An individual-specific parcellation of human cerebral cortex with subcortical references**
Liang Ma^{1,2,3}, Lingzhong Fan^{2,3,4,5}, Luqi Cheng^{2,6}, Hantian Zhang^{2,3}, Tianzi Jiang^{1,2,3,5,6,7}
¹School of Artificial Intelligence, University of Chinese Academy of Sciences, Beijing, China, ²Brainnetome Center, Institute of Automation, Chinese Academy of Sciences, Beijing, China, ³National Laboratory of Pattern Recognition, Institute of Automation, Chinese Academy of Sciences, Beijing, China, ⁴School of Future Technology, University of Chinese Academy of Sciences, Beijing, China, ⁵CAS Center for Excellence in Brain Science and Intelligence Technology, Institute of Automation, Chinese Academy of Sciences, Beijing, China, ⁶University of Electronic Science and Technology of China, Chengdu, China, ⁷The Queensland Brain Institute, University of Queensland, QLD, Australia
- 1948 Parcellation and Modularity of the Macaque Frontal Pole**
bin he¹, Long Cao¹, Xiaoluan Xia¹, Lingzhong Fan¹, Bo You², Tianzi Jiang¹
¹Institute of Automation, Chinese Academy of Sciences, Beijing, Beijing, ²Harbin University of Science and Technology, Harbin, Heilongjiang
- 1952 The HBP human brain atlas – a modular reference framework spanning scales and modalities**
Timo Dickscheid¹, Jean-François Mangin², Yann Leprince², Dirk Pleiter¹, Thomas Lippert¹, Jan Bjaalie³, Katrin Amunts¹
¹Forschungszentrum Jülich, Jülich, North Rhine-Westphalia, ²CEA - NeuroSpin, Gif-sur-Yvette, Ile de France, ³Institute of Basic Medical Sciences, Oslo, Norway

1953 Chimpanzee High-Resolution Minimum Deformation Average and Application To Aging and Sex Differences

Gabriel Devenyi^{1,2}, *Chet Sherwood*³, *William Hopkins*⁴, *Armin Raznahan*⁵, *M Mallar Chakravarty*²
¹Douglas University Mental Health Institute, McGill University, Verdun, QC, ²McGill University, Montreal, QC, ³The George Washington University, Washington, DC, ⁴University of Texas MD Anderson Cancer Center, Bastrop, TX, ⁵NIMH, Bethesda, MD

1955 A quantitative and connectomic atlas of a Parkinson's disease cohort at 7-Tesla

*Yiming Xiao*¹, *Jonathan Lau*¹, *Ali Khan*¹, *Terry Peters*¹
¹Western University, London, Ontario

1968 An Open Science Approach to Manual Neuroanatomical Labeling

Richard Rushmore^{1,2,3}, *Kyle Sunderland*⁴, *Andras Lasso*⁴, *Elizabeth Rizzoni*¹, *Brynn Vessey*¹, *Marek Kubicki*^{5,1,3}, *Nikos Makris*^{3,1,5,2}, *Sylvain Bouix*^{5,1}
¹Brigham and Women's Hospital, Boston, MA, ²Boston University School of Medicine, Boston, MA, ³Massachusetts General Hospital, Boston, MA, ⁴Queens University, Kingston, Ontario, ⁵Harvard Medical School, Boston, MA

1975 A multiscale probabilistic atlas of the human white matter

*Yasser Alemán-Gómez*¹, *Alessandra Griffa*², *Jean-Christophe Houde*³, *Emeline Mullier*⁴, *Maxime Descoteaux*⁵, *Patric Hagmann*⁶
¹Departments of Psychiatry and Radiology, Lausanne University Hospital (CHUV), Lausanne, Switzerland, ²Geneva University Hospital and Ecole Polytechnique Federale de Lausanne (EPFL), Geneva, Switzerland, ³Sherbrooke Connectivity Imaging Laboratory, Université de Sherbrooke, Sherbrooke, Quebec, ⁴Department of Radiology, Lausanne University Hospital (CHUV) and University of Lausanne (UNIL), Lausanne, Vaud, ⁵Université de Sherbrooke, Sherbrooke, Quebec, ⁶Department of Radiology, Lausanne University Hospital (CHUV), Lausanne, Vaud, Switzerland

1981 An online atlas collection for the human cerebellum

*Jörn Diedrichsen*¹, *Da Zhi*¹, *Maedbh King*², *Carlos Hernandez-Castillo*³, *Richard Ivry*²
¹Western University, London, Ontario, ²University of California, Berkeley, Berkeley, CA, ³University of Western Ontario, London, Ontario

Databasing and Data Sharing

1894 Identifying data sharing and data reuse in full-text NIMH-funded papers

*Travis Riddle*¹, *Francisco Pereira*¹, *Adam Thomas*¹
¹National Institute of Mental Health, Bethesda, MD

1895 BIDS Derivatives – Standardization of Processing Results in Brain Imaging

*Christopher Markiewicz*¹, *Vince Calhoun*², *Erin Dickie*³, *Eugene Duff*⁴, *Elizabeth Dupre*⁵, *Oscar Esteban*¹, *Franklin Feingold*¹, *Satrajit Ghosh*⁶, *Yaroslav Halchenko*⁷, *Michael Harms*⁸, *Peer Herholz*⁹, *Maarten Mennes*¹⁰, *Martin Nørgaard*¹¹, *Robert Oostenveld*¹², *Cyril Pernet*¹³, *Franco Pestilli*¹⁴, *Russell Poldrack*¹, *Ariel Rokem*¹⁵, *Robert Smith*¹⁶, *Tal Yarkoni*¹⁷, *Krzysztof Gorgolewski*¹
¹Stanford University, Stanford, CA, ²Georgia State/Georgia Tech/Emory, Atlanta, GA, ³Centre for Addiction and Mental Health, University of Toronto, Toronto, Ontario, ⁴University of Oxford, Oxford, Oxfordshire, ⁵McGill University, Montreal, QC, ⁶MIT, Cambridge, MA, ⁷Dartmouth College, Hanover, NH, ⁸Washington University in St Louis, Saint Louis, MO, ⁹Montréal Neurological Institute, McGill University, Montréal, Québec, ¹⁰Donders Institute for Brain, Cognition and Behaviour, Radboud University, Nijmegen, Netherlands, ¹¹Neurobiology Research Unit, University of Copenhagen, Copenhagen, Denmark, ¹²Radboud University, Nijmegen, Netherlands, ¹³The University of Edinburgh, Edinburgh, Scotland, ¹⁴Indiana University, Bloomington, IN, ¹⁵The University of Washington eScience Institute, Seattle, WA, ¹⁶The Florey Institute of Neuroscience and Mental Health, Melbourne, Victoria, ¹⁷University of Texas at Austin, Austin, TX

1896 Management and Quality Control of Large-Scale Neuroimaging Datasets: Developments from the BBRC

*Greg Operto*¹, *Jordi Huguet*¹, *Carles Falcon*¹, *David Fusté*¹, *Jose L Molinuevo*¹, *Juan D Gispert*¹
¹BarcelonaBeta Brain Research Center, Barcelona, Barcelona

1897 A Large-scale Neuroimage Analysis using Keypoint Signatures : UK Biobank

*Laurent Chauvin*¹, *Sukesh Adiga V*¹, *Jose Dolz*¹, *Herve Lombaert*¹, *Matthew Toews*¹
¹École de Technologie Supérieure, Montreal, Quebec

1898 Introducing MICs: An open dataset for Microstructure-Informed Connectomics in health and epilepsy

*Jessica Royer*¹, *Shahin Tavakoli*¹, *Qionglin Li*¹, *Alexander Lowe*², *Sara Lariviere*¹, *Reinder Vos de Wael*¹, *Casey Paquola*¹, *Oualid Benkarim*¹, *Bo-yong Park*¹, *Raul Rodriguez-Cruces*¹, *Birgit Frauscher*¹, *Boris Bernhardt*¹
¹Montreal Neurological Institute, McGill University, Montreal, Quebec, Canada, ²UCL, London, UK

1907 A standard for the organization of quantitative MRI data: BIDS extension proposal 001

*Gilles de Hollander*¹, *Agah Karakuzu*², *Stefan Appelhoff*³, *Tibor Auer*⁴, *Mathieu Boudreau*⁵, *Franklin Feingold*⁶, *Ali Khan*⁷, *Alberto Lazari*⁸, *Christophe Phillips*⁹, *Nikola Stikov*², *Kirstie Whitaker*¹⁰
¹University of Zurich, Zurich, Switzerland, ²Polytechnique Montreal, Montreal, Québec, ³Center for Adaptive Rationality, Max Planck Institute for Human Development, Berlin, Germany, ⁴University of Surrey, Guildford, Surrey, ⁵Montreal Heart Institute, Montreal, Quebec, ⁶Stanford University, Stanford, CA, ⁷University of Western Ontario, London, Ontario, ⁸Wellcome Centre for Integrative Neuroimaging, FMRIB, Oxford, UK, ⁹University of Liege, Liège, Belgium, ¹⁰The Alan Turing Institute, London, United Kingdom

1908 Fully Synthetic Neuroimaging Data for Replication and Exploration

*Kenneth Vaden*¹, *Mulugeta Gebregziabher*¹, *Mark Eckert*¹
¹Medical University of South Carolina, Charleston, SC

1909 Comparison of MRI Defacing Software Across Multiple Cohorts

*Athena Theyers*¹, *Stephen Arnott*¹, *Mojdeh Zamyadi*¹, *Mark O'Reilly*², *Robert Bartha*³, *Sean Symons*⁴, *Glenda MacQueen*⁵, *Stefanie Hassel*⁶, *Jason Lerch*⁷, *Evdokia Anagnostou*⁸, *Stephen Strother*¹
¹Rotman Research Institute, Toronto, Ontario, ²Ontario Brain Institute, Toronto, Ontario, ³Department of Medical Biophysics, Robarts Research Institute, Western University, London, Ontario, ⁴Sunnybrook Health Sciences Centre, Toronto, Ontario, ⁵The Mathison Centre for Mental Health Research & Education, Calgary, Alberta, ⁶Department of Psychiatry, Cumming School of Medicine, Calgary, Alberta, ⁷Mouse Imaging Centre, Hospital for Sick Children, Toronto, Ontario, ⁸Holland Bloorview Kids Rehabilitation Hospital, Toronto, Ontario

1912 Towards personalized connectome models of drug-resistant childhood epilepsy

*Sara Lariviere*¹, *Danny Kim*², *Andrea Bernasconi*¹, *Mary Connolly*², *Dewi Schrader*², *Boris Bernhardt*¹
¹McConnell Brain Imaging Center, Montreal Neurological Institute, McGill University, Montreal, QC, ²BC Children's Hospital, Department of Pediatrics, University of British Columbia, Vancouver, BC

- 1914 The DataLad Handbook: A user-focused and workflow-based addition to standard software documentation**
Adina Wagner¹, Laura Waite¹, Alexander Waite¹, Niels Reuter^{1,2}, Benjamin Poldrack¹, Jean-Baptiste Poline³, Tobias Kadelka¹, Christopher Markiewicz⁴, Peter Vavra⁵, Lya Paas Oliveros^{1,2}, Peer Herholz⁶, Lisa Mochalski^{1,2}, Lisa Wiersch¹, Nevena Kraljevic^{1,2}, Marisa Heckner^{1,2}, Pattarawat Chormai⁷, Yaroslav Halchenko⁸, Michael Hanke^{1,2}
¹Institute of Neuroscience and Medicine (INM-7), Forschungszentrum Jülich, Jülich, Germany, ²Institute of Systems Neuroscience, Medical Faculty, Heinrich Heine University Düsseldorf, Düsseldorf, Germany, ³McGill University, Montreal, QC, ⁴Stanford University, Stanford, NH, ⁵Department of Biological Psychology, Otto von Guericke University Magdeburg, Magdeburg, Germany, ⁶McGill University, Montréal, Quebec, ⁷Max Planck School of Cognition, Leipzig, Germany, ⁸Dartmouth College, Hanover, NH
- 1919 C-BIGR Clinical-Biological Imaging and Genetic Repository: MNI platform to accelerate open science**
Krishna Chatpar^{1,2,3}, Henri Rabalais¹, Samir Das¹, Rida Abou-Haidar¹, Melanie Legault¹, Zaliqa Rosli¹, Marie-Noëlle Boivin², Mahdiah Tabatabaei², Sonia Lai Wing Sun⁴, Christine Rogers¹, Jason Karamchandani^{2,5}, Alan Evans¹
¹McGill Centre for Integrative Neuroscience, Montreal, Canada, ²C-BIGR, Montreal Neurological Institute, Montreal, Canada, ³Tanenbaum Open Science Institute, Montreal Neurological Institute, McGill University, Montreal, Canada, ⁴Clinical Research Unit, Montreal Neurological Institute, McGill University, Montreal, Canada, ⁵Department of Neuropathology, Montreal Neurological Institute, McGill University, Montreal, Canada
- 1921 Brain/MINDS Beyond project – Harmonized Brain MRI Protocols and Preprocessing in Travelling Subjects**
Shinsuke Koike¹, Tomoyuki Okada², Masaki Fukunaga³, Hiroki Togo⁴, Atsushi Miyazaki⁵, Toshihiko Aso⁶, Takayuki Ose⁶, Akiko Uematsu¹, Michiko Asano¹, Kentaro Morita¹, Naohiro Okada¹, Tetsuya Matsuda⁵, Norihiro Sadato³, Yasumasa Okamoto⁷, Saori Tanaka⁸, Takashi Hanakawa⁴, Kiyoto Kasai¹, Mitsuo Kawato⁹, Matthew Glasser¹⁰, Takuya Hayashi⁶
¹The University of Tokyo, Tokyo, Tokyo, ²Kyoto University, Kyoto, Kyoto, ³National Institute for Physiological Sciences, Okazaki, Aichi, ⁴National Center of Neurology and Psychiatry, Kodaira, Tokyo, ⁵Tamagawa University, Machida, Tokyo, ⁶RIKEN Center for Biosystems Dynamics Research, Kobe, Hyogo, ⁷Hiroshima University, Hiroshima, Hiroshima, ⁸ATR, Seika, Kyoto, ⁹ATR - Computational Neuroscience Laboratories, Kyoto, Japan, ¹⁰Washington University, Saint Louis, MO
- 1931 Building a Rare Disease Database for a Natural History Study of 4H Leukodystrophy**
Aaron Spahr¹, Zaliqa Rosli², Melanie Legault², Cecile Madjar², Marie-Lou St-Jean¹, Cassandra Lucia¹, Samir Das³, Genevieve Bernard¹
¹Department of Neurology and Neurosurgery, Pediatrics, and Human Genetics, McGill University, Montreal, Quebec, ²McGill Centre for Integrative Neuroscience, Montreal, Quebec, ³Department of Neurology and Neurosurgery, Pediatrics, and Human Genetics, McGill University, Montreal, Québec
- 1936 R-BIDS, a DICOM conversion and BIDS data structuring workflow developed in R**
Niklas Wulms¹, Sven Eppe², Benedikt Sundermann³, Klaus Berger¹, Heike Minnerup¹
¹Institute of Epidemiology and Social Medicine, Münster, NRW, ²Landeskrebsregister NRW gGmbH, Bochum, NRW, ³Institute of Clinical Radiology, University Hospital Münster, Münster, NRW
- 1938 Boosting Multi-site fMRI Analysis Using Privacy-preserving Federated Learning**
Xiaoxiao Li¹, Yufeng Gu², Nicha Dvornek¹, James Duncan¹
¹Yale University, New Haven, CT, ²Zhejiang University, Hangzhou, Zhejiang
- 1939 The Courtois project on neuronal modelling – first data release**
Julie Boyle¹, Basile Pinsard², Amal Boukhdhir³, Sylvie Belleville^{2,4}, Simona Brambatti^{2,4}, Jen-I Chen², Julien Cohen-Adad⁵, André Cyr², Adrian Fuente^{2,4}, Pierre Rainville^{6,7}, Pierre Bellec^{8,4}
¹Centre de recherche de l'Institut universitaire de gériatrie de Montréal, Montreal, Quebec, ²Centre de recherche de l'Institut universitaire de gériatrie de Montréal., Montreal, Quebec, ³CRIUGM/ Udem, Montreal, Quebec, ⁴Université de Montréal, Montreal, Canada, ⁵NeuroPoly Lab, Institute of Biomedical Engineering, Polytechnique Montreal, Montreal, Quebec, ⁶University of Montreal, Montreal, Quebec, ⁷Centre de recherche de l'Institut universitaire de gériatrie de Montréal., Montreal, Canada, ⁸Centre de recherche de l'institut de gériatrie de Montréal, Montréal, Québec
- 1940 MNE-BIDS: Standardizing archiving and analysis of electrophysiology data with MNE**
Stefan Appelhoff¹, Matthew Sanderson², Teon Brooks³, Marijn Vliet⁴, Romain Quentin⁵, Chris Holdgraf⁶, Maximilien Chaumon⁷, Ezequiel Mikulan⁸, Kambiz Tavabi⁹, Richard Höchenberger¹⁰, Dominik Welke¹¹, Clemens Brunner¹², Alexander Rockhill¹³, Eric Larson⁹, Alexandre Gramfort¹⁴, Mainak Jas¹⁵
¹Center for Adaptive Rationality, Max Planck Institute for Human Development, Berlin, Germany, ²Macquarie University, Sydney, Australia, ³Mozilla, New York, USA, ⁴Aalto University, Espoo, Finland, ⁵National Institute of Neurological Disorders and Stroke, Bethesda, USA, ⁶UC Berkeley, Berkeley, USA, ⁷Institut du cerveau et de la moelle épinière (ICM), Paris, France, ⁸University of Milan, Milan, Italy, ⁹University of Washington, Seattle, USA, ¹⁰Institute of Neuroscience and Medicine (INM-3), Jülich, Germany, ¹¹Max-Planck-Institute for Empirical Aesthetics, Frankfurt, Germany, ¹²University of Graz, Graz, Austria, ¹³University of Oregon, Eugene, USA, ¹⁴INRIA, Paris, France, ¹⁵AA Martinos Center for Biomedical Imaging, Charlestown, USA
- 1941 A system for automatic BIDS conversion from the Siemens console in Flywheel**
Timothy Verstynen¹, John Pyles¹, Can Akgun², Thad Brown², Kaleb Fischer², Jeff Yager²
¹Carnegie Mellon University, Pittsburgh, PA, ²Flywheel Exchange, LLC, Minneapolis, MN
- 1942 ADMetaboMine Database: published metabolite measures in brain and biofluids in Alzheimer's disease**
Anuradha Surendra¹, Sabrina Loudjani², Miroslava Cuperlovic-Culf¹, AmanPreet Badhwar²
¹National Research Council Canada, Ottawa, Ontario, ²CRIUGM, University of Montreal, Montreal, Quebec
- 1949 Aiding computational modeling in Alzheimer's research: publishing simulation-ready ADNI derivatives**
Roopa Pai^{1,2,3}, Paul Triebkorn^{1,2}, Petra Ritter^{1,2,3}
¹Charité – Universitätsmedizin Berlin, Berlin, Germany, ²Berlin Institute of Health, Berlin, Germany, ³Bernstein Center for Computational Neuroscience, Berlin, Germany
- 1950 Scalable Bayesian Model for Harmonising Neuroimaging Features in Multi-site Longitudinal Studies**
Habib Ganjgahi¹, Thomas Nichols¹
¹University of Oxford, Oxford, United Kingdom
- 1954 IBC dataset extension, second release of high-resolution fMRI data for cognitive mapping**
Ana Luísa Pinho¹, Juan Jesús Torre², Bertrand Thirion³
¹Inria Saclay-Île-de-France, Gif-sur-Yvette, France, ²Inria Saclay-Île-de-France, Gif-sur-Yvette, Essone, ³inria, Gif sur Yvette

1956* Physiopy/phys2bids: BIDS formatting of physiological recordings

The phys2bids contributors Physiopy¹, Daniel Alcalá², Apoorva Ayyagari³, Molly Bright³, César Caballero-Gaudes⁴, Vicente Ferrer Gallardo⁵, Soichi Hayashi⁶, Ross Markello⁷, Stefano Moia⁸, Rachael Stickland³, Eneko Uruñuela⁴, Kristina Zvolanek³

¹See all-contributors table, Fig. 1, A, ²Basque Center on Cognition, Brain and Language, Donostia, Gipuzkoa, ³Northwestern University, Chicago, IL, ⁴Basque Center on Cognition, Brain and Language, Donostia - San Sebastián, Gipuzkoa, ⁵Basque Center on Cognition Brain and Language, San Sebastian, Guipuzcoa, ⁶Department of Psychological and Brain Sciences, Indiana University, Bloomington, IN, ⁷McGill University, Montreal, Quebec, ⁸Basque Center on Cognition, Brain and Language, Donostia, Guipúzcoa

1966* EzBIDS: The open cloud service for automated, validated DICOM to BIDS conversion

Daniel Levitas¹, Soichi Hayashi¹, Franco Pestilli¹

¹Department of Psychological and Brain Sciences, Indiana University, Bloomington, IN

1973 NIDM-Terms: A Community-Driven Controlled Vocabulary for Brain Initiative Imaging Experiments

David Keator¹, Karl Helmer², Theo Van Erp³, Nazek Queder¹, Jean-Baptiste Poline⁴, Satrajit Ghosh⁵, I. Burak Ozyurt⁶, Jeffrey Grethe⁷

¹University of California, Irvine, Irvine, CA, ²Massachusetts General Hospital Harvard University, Boston, MA, ³University of California Irvine, Irvine, CA, ⁴McGill University, Montreal, QC, ⁵MIT, Cambridge, MA, ⁶University of California, San Diego, San Diego, CA, ⁷UCSD, San Diego, CA

1980 Probabilistic Programming for Bridging the Gap Between Cognitive Science and Statistical Modeling

Valentin Iovene¹, Demian Wassermann¹

¹Université Paris-Saclay, Inria, CEA, Palaiseau, Ile-de-France

1984 OmniiBIDS: Automatic Conversion of Structured NIfTI Datasets to BIDS

Alexandre Hutton¹, Jean-Baptiste Poline²

¹McGill University, Montreal, Quebec, ²McGill University, Montréal, Quebec

1985 A Multidimensional Imaging and Neurocognitive Dataset for the Assessment of Dementia

Dan Peterson¹, Jason Webster¹, Annika Noreen¹, Franklin Faust¹, Robin Stillwell¹, Christina Caso¹, Kimiko Domoto-Reilly¹, Kristoffer Rhoads¹, Carolyn Parsey¹, Michael Persenaire¹, Tung Le¹, Thomas Grabowski¹

¹University of Washington, Seattle, WA

Workflows

1891 A clinical research software prototype with diffusion MRI tractography for glioma surgery planning

Daniel Krahulec¹, Frank Thiele², Ahmed Radwan³, Fabian Wenzel⁴, Stefan Sunaert³, Maarten Versluis¹, Kim van de Ven¹, Marcel Breeuwer^{1,5}

¹MR R&D Clinical Science, Philips Healthcare, Best, The Netherlands, ²Philips GmbH Innovative Technologies, Aachen, Germany, ³Department of Imaging & Pathology, Translational MRI, KU Leuven, Leuven, Belgium, ⁴Philips GmbH Innovative Technologies, Hamburg, Germany, ⁵Department of Biomedical Engineering – Medical Image Analysis, Eindhoven University of Technology, Eindhoven, The Netherlands

1892* Connectome Mapper 3: a software pipeline for multi-scale connectome mapping of multimodal MR data

Sebastien Tourbier¹, Yasser Alemán-Gómez¹, Emeline Mullier¹, Alessandra Griffa², Meritxell Bach Cuadra³, Patric Hagmann¹

¹Connectomics Lab, Centre Hospitalier Universitaire Vaudois (CHUV) and University of Lausanne (UNIL), Lausanne, Vaud, ²Medical Image Processing Lab (MIPLAB), Ecole Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Vaud, ³Centre D'Imagerie BioMédicale (CIBM), University of Lausanne (UNIL), Lausanne, Vaud

1900* Nighres: a python toolbox for high-resolution neuroimaging

Pierre-Louis Bazin¹, Julia Huntenburg², Julia Huck³, Leevi Kerkela⁴, Hoang Dung Do³, Tristan Glatard³, Christopher Steele³

¹Universiteit van Amsterdam, Amsterdam, North Holland, ²Systems Neuroscience Lab, Champalimaud Research, Lisbon, ³Concordia University, Montreal, Quebec, ⁴UCL Great Ormond Street Institute of Child Health, University College London, London

1901 BrainSpace: a toolbox for the analysis of macroscale gradients in neuroimaging and connectomics data

Reinder Vos de Wael¹, Oualid Benkarim¹, Casey Paquola¹, Sara Lariviere¹, Jessica Royer¹, Shahin Tavakoli¹, Ting Xu², Seok-Jun Hong², Georg Langs³, Sofie Valk⁴, Bratislav Mistic¹, Michael Milham², Daniel Margulies⁵, Jonathan Smallwood⁶, Boris Bernhardt¹

¹McGill University, Montreal, Quebec, ²The Child Mind Institute, New York, NY, ³Medical University of Vienna, Vienna, Vienna, ⁴Heinrich Heine University, Düsseldorf, North Rhine-Westphalia, ⁵CNRS, Paris, Ile de France, ⁶University of York, York, North Yorkshire

1910* BrainSuite Diffusion Pipeline (BDP): Processing tools for diffusion-MRI

Divya Varadarajan¹, Chitresh Bhushan², Clio Gonzalez Zacarias³, Soyounng Choi³, Yijun Liu³, Anand Joshi³, David Shattuck⁴, Justin Haldar³, Richard Leahy³

¹Athinoula A. Martinos Center for Biomedical Imaging, Harvard, Boston, MA, ²General Electric Research, Niskayuna, NY, ³University of Southern California, Los Angeles, CA, ⁴University of California, Los Angeles, Los Angeles, CA

1911 Variability in the analysis of a single functional neuroimaging dataset by many teams

Rotem Botvinik-Nezer^{1,2}, Felix Holzmeister³, Colin Camerer⁴, Anna Dreber^{5,3}, Jürgen Huber³, Magnus Johannesson⁵, Michael Kirchner³, Thomas Nichols⁶, Russell Poldrack⁷, Tom Schonberg¹

¹Tel Aviv University, Tel Aviv, Israel, ²Dartmouth College, Hanover, NH, USA, ³University of Innsbruck, Innsbruck, Austria, ⁴California Institute of Technology, Pasadena, CA, USA, ⁵Stockholm School of Economics, Stockholm, Sweden, ⁶University of Oxford, Oxford, United Kingdom, ⁷Stanford University, Stanford, CA, USA

1913* DPABISurf V1.3: An Updated Surface-Based Resting-State fMRI Data Analysis Toolbox

Chao-Gan Yan¹, Xin-Di Wang², Bin Lu³, Zhi-Kai Chang³

¹Institute of Psychology, Chinese Academy of Sciences, Beijing, China, ²McGill Centre for Integrative Neuroscience, Montreal Neurological Institute, McGill University, Montréal, QC, ³Institute of Psychology, Chinese Academy of Sciences, Beijing, Beijing

1918* Framework for performing multi-subject analysis in electrophysiology within the BIDS format

Aude Jegou¹, Samuel Medina Villalon^{1,2}, Bruno Colombet¹, Aurélie Ponz¹, Anthony Boyer³, Fabrice Bartolomei^{2,1}, Olivier David^{3,1}, Nicolas Roehri¹, Christian Bénar¹

¹Aix Marseille University, Inserm, Institut de Neurosciences des Systèmes, Marseille, France, ²APHM, Timone Hospital, Clinical Neurophysiology, Marseille, France, ³Grenoble Alpes University, Inserm, U1216, CHU Grenoble Alpes, Grenoble Institut Neurosciences, Grenoble, France

- 1920*** **Clinica**
Alexandre Routier¹, Arnaud Marcoux¹, Mauricio Diaz Melo², Jorge Samper-González¹, Adam Wild¹, Alexis Guyot¹, Junhao Wen¹, Elina Thibeau-Sutre¹, Simona Bottani¹, Stanley Durrleman¹, Ninon Burgos¹, Olivier Colliot¹
¹ARAMIS Lab, ICM, Inserm U1127, CNRS UMR 7225, Sorbonne University, Inria, Paris, France, ²Inria Paris, SED, Paris, France
- 1925** **A model implementation of a scalable data storage for scientific computing with DataLad**
Benjamin Poldrack¹, Adina Wagner¹, Alexander Waite¹, Laura Waite¹, Michael Hanke^{1,2}
¹Institute of Neuroscience and Medicine: Brain and Behavior (INM-7), Research Center Jülich, Jülich, Germany, ²Institute of Systems Neuroscience, Heinrich Heine University, Düsseldorf, Germany
- 1927*** **Methodological variability and vibration effects in transcriptomic processing pipelines**
Ross Markello¹, Bratislav Misic²
¹McGill University, Montreal, Quebec, ²McGill University, Montreal, QC
- 1929** **The rsHRF toolbox (v2.2): Additional features and analyses, and extended user documentation**
Sofie Van Den Bossche¹, Guorong Wu², Nigel Colenbier¹, Daniele Marinazzo¹
¹Department of Data Analysis, Faculty of Psychology and Pedagogical Sciences, Ghent University, Ghent, Belgium, ²Key Laboratory of Cognition and Personality, Faculty of Psychology, Southwest University, Chongqing, China
- 1930** **Development, implementation, and QA/QC of a reproducible fMRI analysis pipeline for the DMCC project**
Joset Etzel¹, Mitch Jeffers¹, Nicholas Bloom¹, Todd Braver¹
¹Washington University in St. Louis, Saint Louis, MO
- 1933** **New Open Science features in the CBRAIN Platform**
Natacha Beck¹, Pierre Rioux², Gregory Kiar², Shawn Brown³, Candice Czech¹, Serge Boroday¹, Xavier Lecours-Boucher¹, Darcy Quesnel¹, Christine Rogers⁴, Najmeh Khalili-Mahani¹, Reza Adalat¹, Tristan Glatard⁵, Samir Das⁶, Alan Evans⁷
¹McGill University, Montréal, Québec, ²McGill University, Montreal, Quebec, ³Pittsburgh Super Computing Centre, Pittsburgh, PA, ⁴Montreal Neurological Institute, McGill University, Montreal, QC, ⁵Concordia University, Montreal, Quebec, ⁶McGill, Montreal, Québec, ⁷McGill University, Montreal, Montreal
- 1945** **Exploring Self-Generated Thought During Resting-State Imaging with Natural Language Processing**
Huixian Li¹, Bin Lu², Xiao Chen², Francisco Castellanos³, Chao-Gan Yan⁴
¹Institute of Psychology, Beijing, Beijing, ²Institute of Psychology, Chinese Academy of Sciences, Beijing, Beijing, ³Nathan Kline Institute for Psychiatric Research, New York, NY, ⁴Institute of Psychology, Chinese Academy of Sciences, Beijing, China
- 1957*** **Semi-Automatic SEEG Localization and Interactive Neuroimage Visualization in Epilepsy Patients**
Adam Li¹, Chester Huynh¹, Christopher Coogan², Joon Kang², Nathan Crone², Zachary Fitzgerald³, Jorge Gonzalez-Martinez⁴, Sridevi Sarma¹
¹Johns Hopkins University, Baltimore, MD, ²Johns Hopkins Hospital, Baltimore, MD, ³Cleveland Clinic, Cleveland, OH, ⁴University of Pittsburgh Medical Center, Pittsburgh, PA
- 1960** **NiPreps: enabling the division of labor in neuroimaging beyond fMRIPrep**
Oscar Esteban¹, Jessey Wright¹, Christopher Markiewicz¹, William Hedley Thompson², Mathias Goncalves³, Rastko Ciric¹, Ross Blair¹, Franklin Feingold¹, Ariel Rokem⁴, Satrajit Ghosh⁵, Russell Poldrack¹
¹Stanford University, Stanford, CA, ²Karolinska Institutet, Stockholm, CA, ³Stanford University, Boston, MA, ⁴The University of Washington eScience Institute, Seattle, WA, ⁵MIT, Cambridge, MA
- 1961*** **fMRIPrep: extending the scanner to produce ready-for-analysis fMRI data**
Mathias Goncalves¹, Christopher Markiewicz¹, Karolina Finc², Russell Poldrack¹, Oscar Esteban¹
¹Stanford University, Stanford, CA, ²Nicolaus Copernicus University in Toruń, Toruń, Kuyavian-Pomeranian
- 1962** **ChRIS: An Opensource Software Platform for Containerized Neuro-Imaging Research**
Rudolph Pienaar^{1,2}, Jorge Bernal¹, Gideon Pinto¹, P. Ellen Grant^{1,2}
¹Boston Children's Hospital, Boston, MA, ²Harvard Medical School, Boston, MA
- 1963** **The ABCD Brain Analysis Tool**
Philip Nguyen¹, Alexandra Potter¹, Hugh Garavan², Bader Chaarani¹
¹University of Vermont, Burlington, VT, ²The University of Vermont, Burlington, VT
- 1964** **An Automated Data Management Infrastructure for Multi-site Clinical MRI Studies**
Gabrielle Herman¹, Dawn Smith¹, Erin Dickie^{1,2}, Michael Joseph¹, Jerrold Jeyachandra¹, Kevin Witczak¹, Navona Calarco¹, Tom Wright¹, Joseph Viviano¹, Jon Pipitone¹, Mathuvanathi Manogaran¹, Dawson Overton¹, Aristotle Voineskos^{1,2}
¹Centre for Addiction and Mental Health, Toronto, Ontario, ²University of Toronto, Toronto, Ontario
- 1965*** **Cloud-Oriented NeuroImaging with BrainForge: Auto Group ICA, Managed Study Integration, and Beyond**
Bradley Baker¹, Eric Verner¹, Vince Calhoun², Helen Petropoulos¹, Rajikha Raja¹, Jill Fries¹, Sandeep Panta³, Ravi Kalyanam¹, Margaret King³
¹Tri-Institutional Center for Translational Research in Neuroimaging and Data Science (TReNDS), Atlanta, GA, ²Georgia State/Georgia Tech/Emory, Atlanta, GA, ³Mind Research Network, Albuquerque, NM
- 1967*** **PyNets: Reproducible Ensemble Graph Analysis of Functional and Structural Connectomes**
Derek PIsner¹, Ryan Hammonds²
¹University of Texas at Austin, Austin, TX, ²University of Texas at Dallas, Dallas, TX
- 1969** **Niflows: making neuroimaging tools and analyses FAIR**
Dorota Jarecka¹, Christopher Markiewicz², Mathias Goncalves², Jakub Kaczmarzyk³, John Lee⁴, Satrajit Ghosh¹
¹MIT, Cambridge, MA, ²Stanford University, Stanford, CA, ³Stony Brook University School of Medicine, Stony Brook, NY, ⁴National Institute of Mental Health, Bethesda, MD
- 1977** **A Unified, End-to-End Pipeline Solution for Human and Nonhuman Functional Connectomics**
Hecheng Jin¹, Steve Giavasis¹, Xinhui Li¹, Anibal Sólón², Lei Ai¹, Alexandre Franco^{1,3}, Xindi Wang⁴, Alessandro Gozzi⁵, Marco Pagani⁵, Andrew Fox⁶, Adam Messinger⁷, Shella Keilholz⁸, Brian Russ³, Ting Xu¹, Cameron Craddock⁹, Michael Milham¹
¹Child Mind Institute, New York, NY, ²University of Texas at Austin, Austin, TX, ³Nathan Kline Institute, Orangeburg, NY, ⁴Montreal Neurological Institute (MNI), Montreal, Quebec, ⁵Istituto Italiano di Tecnologia, Rovereto, Italy, ⁶California National Primate Research Center, University of California, Davis, Davis, CA, ⁷NIMH, Bethesda, MD, ⁸Emory University / Georgia Institute of Technology, Atlanta, GA, ⁹The University of Texas at Austin Dell Medical School, Austin, TX
- 1979** **Evaluating and Improving Cross-Pipeline Reproducibility in Functional Connectomics: A Case Study**
Xinhui Li¹, Steve Giavasis¹, Hecheng Jin¹, Lei Ai¹, Anibal Sólón², Azeez Adebimpe³, Alexandre Franco¹, Russell Poldrack⁴, Joshua Vogelstein⁵, Ting Xu¹, Theodore Satterthwaite³, Cameron Craddock⁶, Michael Milham¹
¹Child Mind Institute, New York, NY, ²University of Texas at Austin, Austin, TX, ³University of Pennsylvania, Philadelphia, PA, ⁴Stanford University, Stanford, CA, ⁵Johns Hopkins University, Baltimore, MD, ⁶The University of Texas at Austin Dell Medical School, Austin, TX

Informatics Other

- 1902 NeuroLibre : A cloud-based and curated repository for Jupyter Notebooks in neuroscience**
Loïc Tetreil¹, Mathieu Boudreau², Elizabeth Dupre³, Agah Karakuzu², Félix-Antoine Fortin⁴, Jean-Baptiste Poline³, Samir Das³, Pierre Bellec¹, Nikola Stikov²
¹Centre de recherche de l'institut de gériatrie de Montréal, Montreal, QC, ²Polytechnique Montreal, Montreal, QC, ³McGill University, Montreal, QC, ⁴Calcul Quebec, Montreal, QC
- 1903 Analytic variability in fMRI: Multivariate and meta-analytic approaches to the problem and solution**
Kendra Oudyk¹, Alexandre Pérez¹, Peer Herholz¹, Jean-Baptiste Poline¹
¹Montréal Neurological Institute, McGill University, Montréal, Québec
- 1905 Data Visualization for Query by Image Using Modern Javascript**
David Olsen¹, Ciprian Ionita¹, Robert Miletich¹, David Wack¹
¹University at Buffalo, SUNY, Buffalo, NY
- 1915 GAMBIA: an integrative platform for annotation of gene transcription-neuroimaging associations**
Yongbin Wei¹, Siemon de Lange¹, Rory Pijnenburg¹, Dirk Jan Ardesch¹, Lianne Scholtens¹, Danielle Posthuma¹, Martijn van den Heuvel¹
¹VU Amsterdam, Amsterdam, the Netherlands
- 1917 EEG-based brain age gap estimation and its relation to pathology detection**
Lukas Gemein¹, Robin Schirrmeyer², Tonio Ball³
¹Neuromedical AI Lab, University Medical Center Freiburg, Freiburg, Baden-Württemberg, ²University Freiburg, Freiburg, Baden-Württemberg, ³University Medical Center Freiburg, Freiburg, Baden-Württemberg
- 1928* Mapping Cross-Scale Brain Data Using Inter-Atlas Connectivity Transformation (IntACT)**
Gleb Bezgin¹, Randy McIntosh², Alan Evans³
¹Montreal Neurological Institute, Montreal, Quebec, ²University of Toronto, Toronto, Ontario, ³McGill University, Montreal, Montreal
- 1932* NiMARE: A Neuroimaging Meta-Analysis Research Environment**
Taylor Salo¹, Tal Yarkoni², Katherine Bottenhorn¹, Thomas Nichols³, Krzysztof Gorgolewski⁴, Michael Riedel¹, James Kent⁵, Enrico Glerean⁶, Murat Bilgel⁷, Jesse Wright⁸, Puck Reeders¹, Dylan Nielson⁹, Julio Yanes¹⁰, Alexandre Pérez¹¹, Matthew Sutherland¹, Angela Laird¹
¹Florida International University, Miami, FL, ²University of Texas at Austin, Austin, TX, ³University of Oxford, Oxford, United Kingdom, ⁴Google, Mountain View, CA, ⁵University of Iowa, Iowa City, IA, ⁶Aalto University, Espoo, Espoo, Finland, ⁷National Institute on Aging, Bethesda, MD, ⁸Stanford University, Stanford, CA, ⁹NIMH/NIH, Bethesda, MD, ¹⁰Auburn University, Auburn, AL, ¹¹McGill University, Montreal, Quebec
- 1934 Corpus Callosum length and area measurements, an open source software for ultrasound and MR images**
Elisenda Bonet-Carne^{1,2}, Mara Dominguez³, Elena Monterde¹, Miriam Pérez Cruz¹, Elisenda Eixarch^{1,2,4}, Eduard Gratacos^{1,2,4}
¹BCNatal Fetal Medicine Research Center (Hospital Clínic and Hospital Sant Joan de Déu), Barcelona, Spain, ²Institut d'Investigacions Biomediques August Pi i Sunyer (IDIBAPS), Barcelona, Spain, ³Transmural Biotech S.L., Barcelona, Spain, ⁴Center for Biomedical Research on Rare Diseases (CIBER-ER), Madrid, Spain
- 1935 AFIDs Validator: Web App for Quality Control of Anatomical Fiducials and Teaching Neuroanatomy**
Patrick Park¹, Jason Kai¹, Tristan Kuehn¹, Olivia Walton Stanley¹, Greydon Gilmore¹, Jak Loree-Spacek², Geetika Gupta¹, Kayla Ferko¹, Farah Mushtaha¹, Terry Peters¹, Ali Khan^{1,3}, Jonathan Lau^{1,3}
¹Western University, London, Ontario, Canada, ²University of Calgary, Calgary, Alberta, Canada, ³Co-senior author, London, Ontario, Canada
- 1944* NS+: A new meta-analysis tool to extend the utility of NeuroSynth**
Meng Du¹, Matthew Lieberman¹
¹University of California, Los Angeles, Los Angeles, CA
- 1951 NIH Funded NITRC's Triad of Services: Software, Data, Compute (Come visit us in Booth 26)**
Nina Preuss¹, David Kennedy², Christian Haselgrove³
¹Preuss Enterprises, Green Cove Springs, FL, ²University of Massachusetts Medical School, Boston, MA, ³University of Massachusetts, Worcester, Worcester, MA
- 1958* MNI SISCOM: An Open-Source Tool for Subtraction Ictal Single-photon emission CT Coregistered to MRI**
Jeremy Moreau¹, Christine Saint-Martin², Sylvain Baillet³, Roy Dudley²
¹Montreal Neurological Institute / Montreal Children's Hospital, McGill University, Montreal, Canada, ²Montreal Children's Hospital, McGill University, Montreal, Canada, ³Montreal Neurological Institute, McGill University, Montreal, Canada
- 1959* Neuroscout: a web-based platform for flexible re-analysis of naturalistic fMRI datasets**
Alejandro de la Vega¹, Ross Blair², Christopher Markiewicz², Roberta Rocca¹, Michael Hanke³, Tal Yarkoni¹
¹University of Texas at Austin, Austin, TX, ²Stanford University, Stanford, CA, ³Institute of Neuroscience and Medicine (INM-7: Brain and Behaviour), Research Center Jülich, Jülich, Germany
- 1970 The BigBrain Project web platform as a pedagogical tool: Teaching and learning strategies**
Paule Toussaint¹, Derek Lo¹, Claude Lepage¹, Lindsay Lewis¹, Susanne Wenzel², Timo Dickscheid³, Katrin Amunts⁴, Alan Evans⁵
¹McGill University, Montreal, Quebec, ²Forschungszentrum Jülich, Jülich, ³Forschungszentrum Jülich, Jülich, Germany, ⁴Research Centre Jülich, Jülich, North-Rhine Westphalia, ⁵McGill University, Montreal, Montreal

1971* Nilearn and Nistats: Machine learning and statistics for fMRI in Python

Jérôme Dockès¹, Kshitij Chawla², Alexandre Abraham³, Thomas Bazeille⁴, Moritz Boos⁵, Salma Bougacha⁶, Danilo Bzdok⁷, Jerome-Alexis Chevalier⁸, Kamalaker Dad⁹, Gilles de Hollander¹⁰, Céline Delettre¹¹, Elizabeth DuPre², Daniel Gale¹², Krzysztof Gorgolewski¹³, Alexandre Gramfort¹⁴, Antoine Grigis¹⁵, Roberto Guidotti¹⁶, Ryan Hammonds¹⁷, Andrés Hoyos-Idrobo¹⁸, Julia Huntenburg¹⁹, Gregory Kiar⁷, Eric Larson²⁰, Guillaume Lemaitre²¹, Franziskus Liem²², Christopher Markiewicz²³, Tuan-Binh Nguyen⁸, Ana Luísa Pinho²⁴, Derek Pisner²⁵, Mehdi Rahim²⁶, Paula Sanz-Leon²⁷, Sylvain Takerkart²⁸, Bertrand Thirion²⁹, Jacob Vogt³⁰, Johannes Wiesner³¹, Gaël Varoquaux³²
¹INRIA, Palaiseau, Saclay, ²INRIA Saclay, Palaiseau, Ile de France, ³Dataiku, Bazemont, France, ⁴INRIA-Saclay, Palaiseau, Ile de France, ⁵University of Oldenburg, Oldenburg, Niedersachsen, ⁶École supérieure d'ingénieurs Léonard-de-Vinci, Courbevoie, Courbevoie, ⁷McGill University, Montreal, Quebec, ⁸Inria Saclay Ile-de-France, Palaiseau, Ile-de-France, ⁹INRIA, Paris, Ile de France, ¹⁰University of Zurich, Zurich, Switzerland, Zurich, Switzerland, ¹¹Institut Pasteur, Paris, Ile de France, ¹²Queen's University, Kingston, Ontario, ¹³Google, Mountain View, CA, ¹⁴INRIA, Paris, n/a, ¹⁵Neurospin, CEA, Gif-sur-Yvette, France, ¹⁶University "G. D'Annunzio" of Chieti-Pescara, Chieti, CH, ¹⁷University of Texas at Dallas, Dallas, TX, ¹⁸Rakuten Institute of Technology, Paris, Ile de France, ¹⁹Champalimaud Research, Lisbon, Portugal, ²⁰University of Washington, Seattle, WA, ²¹Inria, Palaiseau, Ile-de-France, ²²University of Zurich, Zurich, Zurich, ²³Stanford University, Stanford, CA, ²⁴Inria Saclay-Ile-de-France, Gif-sur-Yvette, France, ²⁵University of Texas at Austin, Austin, TX, ²⁶Air Liquide, Les Loges en Josas, Yvelines, ²⁷QIMR Berghofer, Brisbane, Australia, ²⁸CNRS - Aix Marseille Université, Marseille, France, ²⁹inria, Gif sur Yvette, ³⁰McGill University, Montreal, QC, ³¹Uniklinik Köln, Köln, Cologne, ³²INRIA, Saclay, Ile de France

1972 A guide for using neuroimaging meta-analysis techniques and their variability.

Alexandre Pérez¹, Kendra Oudyk¹, Elizabeth Dupre¹, Taylor Salo², Angela Laird², Jean-Baptiste Poline¹
¹McGill University, Montreal, QC, ²Florida International University, Miami, FL

1974 Constructing a Community-Driven, Structured Vocabulary for Describing Neuroscience Experiments

Karl Helmer¹, Satrajit Ghosh², Jeffrey Grethe³, Camille Maumet⁴, I. Burak Ozyurt⁵, Jean-Baptiste Poline⁶, Theo Van Erp⁷, David Keator⁸
¹Massachusetts General Hospital Harvard University, Charlestown, MA, ²MIT, Cambridge, MA, ³UCSD, San Diego, CA, ⁴Inria, Univ Rennes, CNRS, Inserm, Rennes, France, ⁵University of California, San Diego, San Diego, CA, ⁶McGill University, Montreal, QC, ⁷University of California Irvine, Irvine, CA, ⁸University of California, Irvine, Irvine, CA

1976 Re-Executability Assessment of the Recent Autism Literature

David Kennedy¹, Christian Haselgrove², Steve Hodge¹, Leah Honor¹, Jean Frazier¹
¹University of Massachusetts Medical School, Worcester, MA, ²University of Massachusetts, Worcester, Worcester, MA

1978 Fmralign-tutorials: A series of online tutorials for introducing functional alignment

Elizabeth DuPre¹, Jean-Baptiste Poline²
¹McGill University, Montreal, Quebec, ²McGill University, Montreal, QC

1982 Visualization of Very Large Volumetric Images in Virtual Reality

David Shattuck¹
¹UCLA, Los Angeles, CA

1983 The NeuroHub project : vision, components and timeline

Xavier Lecours-Boucher¹, Shawn Brown², Serge Boroday¹, Samir Das³, Alexandre Hutton⁴, Giulia Ippoliti⁴, Diana Le⁴, Melanie Legault⁵, Emmet O'Brien⁴, Liam Ocallaghan⁴, Darcy Quesnel¹, Pierre Rioux⁴, Jennifer Tremblay⁴, Ksenia Zaytseva⁴, Jean-Baptiste Poline⁶
¹McGill University, Montréal, Québec, ²Pittsburgh Super Computing Centre, Pittsburgh, PA, ³McGill, Montreal, Québec, ⁴McGill University, Montreal, Quebec, ⁵McGill Centre for Integrative Neuroscience, Montreal, Quebec, ⁶McGill University, Montreal, QC

NOVEL IMAGING ACQUISITION METHODS

Anatomical MRI

1994 Everybody Moves: Quantifying Sharpness in Motion Corrected T1-Maps at 7T

Pierre-Louis Bazin¹, Hannah Nijse², Anneke Alkemade¹, Wietske van der Zwaag³, Frans Vos², Birte Forstmann¹, Matthán Caan⁴
¹Integrative Model-based Cognitive Neuroscience research unit, Universiteit van Amsterdam, Amsterdam, Netherlands, ²Department of Imaging Physics, Delft University of Technology, Delft, Netherlands, ³Spinoza Centre for Neuroimaging, Amsterdam, Netherlands, ⁴Department of Biomedical Engineering & Physics, Amsterdam UMC, Amsterdam, Netherlands

1996 Childhood trauma, schizotypy and subcortical grey matter volume: An ENIGMA mega-analysis

Yann Quidé^{1,2}, Emiliana Tonini^{1,2}, Dominik Grotegerd³, Udo Dannlowski³, Tilo Kircher⁴, Axel Krug⁴, Igor Nenadic⁴, Tina Meller⁴, Bernhard Baune³, Pamela DeRosse⁵, Ashley Moyett⁵, Lukasz Smigielski⁶, Wulf Rössler⁶, Mathilde Antoniadou⁷, Theo Van Erp⁸, Paul Thompson⁹, André Aleman¹⁰, Gemma Modinos¹¹, Melissa Green^{1,2}
¹School of Psychiatry, UNSW Sydney, Sydney, New South Wales, Australia, ²Neuroscience Research Australia, Randwick, New South Wales, Australia, ³University of Münster, Münster, North Rhine-Westphalia, ⁴University of Marburg, Marburg, Marburg-Biedenkopf, ⁵Zucker Hillside Hospital, Glen Oaks, NY, ⁶University of Zurich, Zurich, Zurich, ⁷Department of Psychiatry, Icahn School of Medicine at Mount Sinai, New York, NY, ⁸University of California Irvine, Irvine, CA, ⁹University of Southern California, Los Angeles, CA, ¹⁰Department of Neuroscience, University Medical Center Groningen, Groningen, Groningen, ¹¹King's College London, London, London

2000 Long-term changes in the structure of the brain after TBI sustained in adolescence

Carola Tuerk¹, Fanny Dégeilh², Cathy Catroppa^{3,4}, Vicki Anderson^{3,4}, Miriam Beauchamp^{1,5}
¹Department of Psychology, University of Montreal, Montreal, Quebec, Canada, ²Department of Child and Adolescent Psychiatry, Ludwig-Maximilian-University, Munich, Germany, ³Murdoch Children's Research Institute, Melbourne, Victoria, Australia, ⁴University of Melbourne, Melbourne, Victoria, Australia, ⁵CHU Sainte-Justine Research Center, Montreal, Quebec, Canada

2008* A Bayesian normative model to estimate multi-scanner effects in structural neuroimaging data

Johanna Bayer^{1,2}, Richard Dinga^{3,4}, Akhil Kottaram², Andre Marquand^{3,4}, Lianne Schmaal^{2,1}
¹The University of Melbourne, Melbourne, Victoria, Australia, ²Orygen Youth Health, Melbourne, Victoria, Australia, ³Donders Institute for Brain, Cognition and Behaviour, Nijmegen, Netherlands, ⁴Radboud University, Nijmegen, Netherlands

2024 Exploring the locus coeruleus with high-field MRI

Andrew Reid¹, Maddie Groom¹, Olivier Mougín¹, Paul Morgan¹, Robert Dineen¹, Christopher Madan¹, Charlotte Askey¹, Mark Eckert², Penny Gowland¹
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- 2052 7T in-vivo MRI at 350µm iso. res. using multi echo T2* imaging with flow artifact mitigation**
Omer Faruk Gulban¹, Laurentius Huber¹, Benedikt Poser¹, Kendrick Kay², Martin Havlicek¹, Federico De Martino¹, Dimo Ivanov¹
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- 2055 Behind brain structural alteration patterns. Can clustering reveal organizational principles?**
Jordi Manuello¹, Lorenzo Mancuso², Linda Ficco², Donato Liloia², Andrea Nani², Tommaso Costa², Sergio Duca², Franco Cauda²
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- 2067 Vertex-wise structural covariance in functionally-derived brain networks in schizophrenia**
Katie Lavigne¹, Carolina Makowski², Lindsay Lewis¹, Martin Lepage³, Alan Evans⁴
¹McGill University, Montreal, Quebec, ²University of California San Diego, La Jolla, CA, ³Douglas Mental Health University Institute, McGill University, Montreal, Quebec, ⁴McGill University, Montreal, Montreal
- 2068 Morphological signatures of human spatial memory**
Shahin Tavakoli¹, Qionglin Li¹, Sara Larivière¹, Reinder Vos de Wael¹, Benoit Caldaïrou², Andrea Bernasconi², Neda Bernasconi², Tom Hartley³, Elizabeth Jefferies³, Jonathan Smallwood³, Boris Bernhardt¹
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- 2073 Fully transparent qMRLab pipelines to quantify brain microstructure: From scanner to publication**
Agah Karakuzu^{1,2}, Mathieu Boudreau³, Julien Cohen-Adad^{1,4}, Nikola Stikov^{1,2}
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- 2083 Subregion-specific Insular Morphological Changes across Mental Disorders**
Jie Tang¹
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- 2107 Large-scale body-brain mapping reveals distinct gray matter profiles linked to body morphology**
Tiril Gurholt¹, Tobias Kaufmann¹, Nils Eiel Steen¹, Lars Westlye^{1,2}, Ole Andreassen¹
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- 2108 A standardized protocol for reliable quality control of brain registration in function MRI studies**
Yassine Benhajali¹, AmanPreet Badhwar², Helen Spiers³, Sebastian Urchs⁴, Jonathan Armoza⁵, Thomas Ong⁶, Daniel Pérusse⁷, Pierre Bellec⁸
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- 2109 Assessing the Impact of Prospective Motion Correction on the Reliability of Structural Imaging**
Lei Ai¹, Cameron Craddock², Nim Tottenham³, Jonathan Dyke⁴, Stan Colcombe⁵, Michael Milham^{1,5}, Alexandre Franco^{1,5,6}
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- 2112 General principles of gene dosage effects on brain structure**
Claudia Modenato¹, Kuldeep Kumar², Clara Moreau², Catherine Schramm², Guillaume Huguet², Sandra Martin-Brevet³, Aurélie Pain⁴, Anne Maillard⁴, Sonia Richetin⁴, Borja Rodriguez-Herreros⁴, Lester Melie-Garcia⁵, Ana Dos Santos Silva⁶, Marianne Van Den Bree⁶, David Linden⁶, Carrie Bearden⁷, Danilo Bzdok⁸, Sarah Lippe⁹, Mallar Chakravarty⁸, Bogdan Draganski¹⁰, Sébastien Jacquemont¹¹
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- 2113 Cervical Spinal Cord Atrophy Above Level of Asymptomatic Degenerative Cervical Cord Compression**
Jan Valošek^{1,2}, Petr Bednařík^{3,4}, Tomáš Horák^{3,5}, Magda Horáková⁵, Alena Svátková^{3,6}, René Labounek^{1,7}, Petr Hlušík¹, Josef Bednařík^{3,5}
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- 2117 Low CD4 nadir linked to widespread cortical thinning in adults with HIV**
Shiva Hassanzadeh-Behbahani¹, Kyle Shattuck¹, Margarita Bronshteyn¹, Matthew Dawson², Monica Diaz², Princy Kumar¹, David Moore², Ronald Ellis², Xiong Jiang¹
¹Georgetown University, Washington, DC, ²University of California, San Diego, La Jolla, CA
- 2157 Assessment of vNav prospective motion correction in the HCP Aging study**
Robert Frost¹, M. Dylan Tisdall², Malte Hoffmann¹, Bruce Fischl¹, David H. Salat¹, Andre van der Kouwe¹
¹A. A. Martinos Center for Biomedical Imaging, Harvard Medical School, Massachusetts General Hospital, Boston, MA, ²Department of Radiology, Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA
- 2159 Brain Laterality Revealed on 6000+ Subjects and Varied across Lifespan**
Na Luo¹, Jing Sui², Thomas P. Deramus³, Vince Calhoun⁴
¹Chinese Academy of Sciences, Beijing, Beijing, ²Brainnetome Center and National Laboratory of Pattern Recognition, Institute of Automation, Beijing, Beijing, ³Georgia State University, Atlanta, GA, ⁴Georgia State/Georgia Tech/Emory, Atlanta, GA
- 2160 Masking out the Dura Mater in MRI: improving brain segmentation**
Giovana Cover¹, Reza Farivar¹
¹McGill University, Montréal, Quebec
- 2163 Reduced Hippocampal Volume Following a First-Episode of Psychosis and Association with Verbal Memory**
Agnes Belkacem¹, Katie Lavigne¹, Carolina Makowski², Mallar Chakravarty¹, Ridha Joobar², Ashok Malla³, Jai Shah⁴, Martin Lepage⁵
¹McGill University, Montreal, Quebec, ²McGill University, Montreal, QC, ³Douglas University Institute, Montreal, QC, ⁴The Douglas Research Centre, Montreal, Quebec, ⁵Douglas Mental Health University Institute, McGill University, Montreal, Quebec
- 2164 Shared and distinct structural plasticity following unilateral brain damage**
Yijun Chen¹, Yaya Jiang¹, Xiangyu Kong¹, Gaolang Gong¹
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- 2166 Altered structural network of default-mode areas related to autistic symptoms in youths with autism.**
Wei Ting Ko¹, Susan Gau², Yu-chieh Chen³
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BOLD fMRI

- 1988 Disrupted effective connectivity within the default mode network in major depressive disorder**
Yun Wang¹, Yuan Zhou²
¹Beijing Anding Hospital, Capital Medical University, Beijing, Beijing, ²Institute of Psychology, Chinese Academy of Sciences, Beijing, Beijing
- 1989* Brain Function in the Pre-Adolescent Brain: Results from the ABCD Study.**
Bader Chaarani¹, Nicholas Allgaier¹, Sage Hahn¹, Shana Adise¹, Max Owens¹, De Kang Yuan¹, Hannah Loso¹, Alex Ivanciu¹, Scott Mackey¹, Jennifer Laurent¹, Alexandra Potter¹, Hugh Garavan¹
¹University of Vermont, Burlington, VT
- 1990 Predictors of fMRI Neurofeedback regulation in ADHD**
Sheut-Ling Lam¹, Marion Criaud¹, Analucia Alegria¹, Gareth Barker², Vincent Giampietro², Katya Rubia¹
¹Department of Child & Adolescent Psychiatry, King's College London, London, United Kingdom, ²Department of Neuroimaging, King's College London, London, United Kingdom
- 1995 Effects of menopausal estrogen loss on the functional brain activity underlying associative memory**
Alana Brown¹, Anne Almey¹, Nicole Gervais¹, Annie Duchesne², Laura Gravelins¹, Rebekah Reuben¹, Elizabeth Baker-Sullivan¹, Jenny Rieck³, Giulia Baracchini⁴, William Foulkes⁴, Wendy Meschino⁵, Cheryl Grady⁶, Gillian Einstein⁶
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- 1998 Mapping directional functional connectivity across brain-wide networks with layer-specific CBV-fMR**
Laurentius Huber¹, Emily Finn², Denizhan Kurban¹, Sean Marrett², Arman Khojandi², Rainer Goebel³, Peter Bandettini², Benedikt Poser¹
¹MR-Methods group, CN, MBIC, FPN, Uni Maastricht, Maastricht, The Netherlands, ²NIMH, Bethesda, USA, ³CN, MBIC, FPN, Uni Maastricht, Maastricht, The Netherlands
- 2011 The Interaction Between COMT Genotype, Tolcapone and Stress on Working Memory Related Brain Activity**
Marieke Martens^{1,2,3}, Elizabeth Tunbridge^{1,2}, Paul Harrison^{1,2,3}
¹Department of Psychiatry, University of Oxford, Oxford, United Kingdom, ²Oxford Health NHS Foundation Trust, Oxford, United Kingdom, ³Wellcome Centre for Integrative Neuroimaging, University of Oxford, Oxford, United Kingdom
- 2017 The reliability of multiple parameters in fMRI changed by timescale in high sample individual**
Xiaolin Yang¹, Yidan Qiu¹, Qunjun Liang¹, Haishan Yuan¹, Qing Qi¹, Lunxiong Li², Fengguang Xia², Ruiwang Huang¹
¹Center for Study of Applied Psychology, School of Psychology, South China Normal University, Guangzh, Guangdong, China, ²Institute for Brain Research and Rehabilitation, South China Normal University, Guangzhou, China, Guangdong, China

- 2021 Associations between glutamate and resting state functional connectivity in Cannabis users.**
Canek Llera-Magord¹, Enrique Chiu-Han¹, Diego Ramírez-González¹, Sarael Alcauter¹
¹Universidad Nacional Autónoma de México, Querétaro, México.
- 2022 Silent fMRI of auditory and motor functions using coherence-resolved Looping Star**
Nikou Damestani¹, Ana Beatriz Solana², Owen O'Daly¹, David Lythgoe¹, Steven Williams¹, Brice Fernandez³, Florian Wiesinger², Fernando Zelaya¹
¹King's College London, London, United Kingdom, ²GE Healthcare, Munich, Germany, ³GE Healthcare, Paris, France
- 2023 Impact of sex on weight-loss and brain function in obese patients at 6-month post-surgery**
Jia Wang¹, Guanya Li¹, Yang Hu¹, Wenchao Zhang¹, Yang He¹, Yongzhan Nie², Gene-Jack Wang³, Yi Zhang¹
¹Center for Brain Imaging, School of Life Science and Technology, Xidian University, Xi'an, Shaanxi 710126, China, ²State Key Laboratory of Cancer Biology, National Clinical Research Center for Digestive Diseases and Xijing Hospital of Digestive Diseases, Fourth Military Medical University, Xi'an, Shaanxi 710032, China, ³Laboratory of Neuroimaging, National Institute on Alcohol Abuse and Alcoholism, Bethesda, MD20892, USA
- 2026 Abnormal propagated activity of the precuneus in disorders of consciousness**
Yu Guo¹, Bolin Cao¹, Mingxian Zhang¹, Yidan Qiu¹, Qing Qi¹, Qiuyou Xie², Ronghao Yu³, Ruiwang Huang¹
¹Center for the Study of Applied Psychology, School of Psychology, South China Normal University, Guangzhou, China, ²Department of rehabilitation medicine, Zhujiang Hospital, Southern Medical University, Guangzhou, China, ³Centre for Hyperbaric Oxygen and Neurorehabilitation, Lihuaqiao Hospital, Guangzhou, China
- 2027 Neural response to attentional state modulation is sensitive to development and trait inattention**
Sufang Li¹, Xiaozhen You^{1,2}, Chandan Vaidya^{1,2}
¹Department of Psychology, Georgetown University, Washington, DC, ²Children's Research Institute, Children's National Hospital, Washington, DC
- 2033 Global Signal in Deep Anesthesia**
Ho-Ching Yang¹, Jun Zhang², Zirui Huang³, Yunjie Tong¹
¹Weldon School of Biomedical Engineering, Purdue University, West Lafayette, IN, USA, ²Department of Anesthesiology, Huashan Hospital, Fudan University, Shanghai, People's Republic of China, ³Center for Consciousness Science, Department of Anesthesiology, University of Michigan, Ann Arbor, MI, USA
- 2038 Time-resolved fast neural decoding independent of variation in hemodynamic response latency**
Yoichi Miyawaki^{1,2,3}, Daniel Handwerker³, Javier Gonzalez-Castillo³, Laurentius Huber^{4,3}, Arman Khojandi³, Yuhui Chai³, Peter Bandettini³
¹The University of Electro-Communications, Tokyo, Japan, ²JST PRESTO, Tokyo, Japan, ³National Institute of Mental Health, Bethesda, MD, ⁴Maastricht University, Maastricht, Netherlands

- 2041 Aberrant functional connectivity of amygdala subregions in individuals with high anxiety trait**
Chanyu Wang¹, Lingfang Ning¹, Tatia Lee^{2,3,4}, Chichen Zhang⁵, Xiaoyuan Zhang^{1,6}, Ruiwang Huang⁷, Ruibin Zhang^{1,6}
¹Department of Psychology, School of Public Health, Southern Medical University, Guangzhou, China, ²State Key Laboratory of Brain and Cognitive Sciences, The University of Hong Kong, Hongkong, China, ³Laboratory of Neuropsychology, The University of HongKong, Hongkong, China, ⁴Center for Brain Science and Brain-Inspired Intelligence, Guangdong-Hong Kong-Macao Greater Bay Area, Guangzhou, China, ⁵School of Health Management, Southern Medical University, Guangzhou, Guangdong Province, China, ⁶Department of Psychiatry, Zhujiang Hospital, Southern Medical University, Guangzhou, China, ⁷School of Psychology, South China Normal University, Guangzhou, China
- 2043 Abnormal Intrinsic Functional Architecture in Drug-free Patients with Major Depressive Disorder**
Jian Cui¹, Yun Wang¹, Yuan Zhou², Gang Wang¹
¹Beijing Anding Hospital, Beijing, Beijing, ²Institute of Psychology, Chinese Academy of Sciences, Beijing, Beijing
- 2044 Cognitive/Neural Compensatory Mechanisms in Schizophrenia: Reaction Times-Brain Activity Correlates**
Ansam Elshikh¹, Angus Macdonald²
¹University of Minnesota / The British University of Egypt, Al Shorouk City, NM, ²University of Minnesota, Minneapolis, MN
- 2045 Assessment of brain functional connectivity alterations in heavy smoker using resting-state fMRI**
Huang Shih-Yu¹, Ho Ming-Chou^{2,3}, Weng Jun-Cheng^{1,4,5}
¹Department of Medical Imaging and Radiological Sciences, Chang Gung University, Taoyuan, Taiwan, ²Department of Psychology, Chung Shan Medical University, Taichung, Taiwan, ³Clinical Psychological Room, Chung Shan Medical University Hospital, Taichung, Taiwan, ⁴Medical Imaging Research Center, Institute for Radiological Research, Chang Gung University and Chang Gung Memorial Hospital at Linkou, Taoyuan, Taiwan, ⁵Department of Psychiatry, Chang Gung Memorial Hospital, Chiayi, Taiwan
- 2046 Effects of acupuncture on cue-induced brain activations and alcohol cravings: A functional MRI study**
Mi Young Lee¹, Bon Wook Goo²
¹Department of Physical Therapy, College of Biomedical Science, Daegu Haany University, Gyeongsan-si, Gyeongsangbuk-do, Republic of Korea, ²Department of Biomedical Science, Graduate School, Daegu Haany University, Gyeongsan-si, Gyeongsangbuk-do, Republic of Korea
- 2047 Bariatric surgery-induced changes in gut microbiota associated with resting brain activity**
Ganggang Lv¹, Guanya Li¹, Yang Hu¹, Wenchao Zhang¹, Jia Wang¹, Yang He¹, Zhida Zhang¹, Yongzhan Nie², Yi Zhang¹
¹Center for Brain Imaging, School of Life Science and Technology, Xidian University, Xi'an, Shaanxi, China, ²State Key Laboratory of Cancer Biology, National Clinical Research Center for Digestive Diseases and Xijing Hospital of Digestive Diseases, Fourth Military Medical University, Xi'an, Shaanxi, China
- 2048 Artificial scotoma size estimation on high-resolution 7T retinotopy data**
David Linhardt¹, Maximilian Pawloff², Allan Hummer¹, Markus Ritter², Michael Woletz³, Ursula Schmidt-Erfurth⁴, Christian Windischberger⁵
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- 2050 Gender difference of the depressive symptoms reduction during college life**
Zengjian Wang¹, Bin Wan², Ming Liu¹, Jing Zhou³
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- 2051 More FMRI QC in AFNI: updates for afni_proc.py's automatic HTML review**
Paul Taylor¹, Daniel Glen², Richard Reynolds²
¹NIH, Bethesda, MD, ²NIMH, Bethesda, MD
- 2054 The Role of Emotion Processing Areas in Children's Face Perception Network**
Isabell Debus¹, Franziska Elise Hildesheim¹, Roman Kessler¹, Ina Thome¹, Kristin Marie Zimmermann¹, Olaf Steinsträter¹, Jens Sommer¹, Inge Kamp-Becker¹, Rudolf Stark², Andreas Jansen¹
¹Philipps-University, Marburg, Hessen, ²Justus-Liebig-University Gießen, Gießen, Hessen
- 2058 Maintaining context and temporal information during sequence execution**
Danesh Shahnazian¹, Ruth Krebs², Mehdi Senoussi², Tom Verguts², Clay Holroyd²
¹University of Ghent, Ghent, East Flanders, ²University of Ghent, Ghent, Oost Vlaanders
- 2063 Influence of GRAPPA pre-scan methods on temporal SNR of rapid GE-EPI measurements at 9.4 Tesla**
Edyta Leks^{1,2,3}, Jonas Bause², Rahel Heule², Philipp Ehses⁴, Wolfgang Grodd², Klaus Scheffler^{1,2}
¹Department of Biomedical Magnetic Resonance, University of Tuebingen, Tuebingen, Germany, ²Max Planck Institute for Biological Cybernetics, Tuebingen, Germany, ³International Max Planck Research School for Cognitive and Systems Neuroscience, Tuebingen, Germany, ⁴German Center for Neurodegenerative Diseases (DZNE), Bonn, Germany
- 2070 Context-Sensitive Models of Naturalistic Stimuli Reveal Unique Patterns of Brain Activity**
Chandler Richards¹, Emily Finn², Peter Molfese¹, Peter Bandettini¹
¹National Institute of Mental Health, Bethesda, MD, ²National Institute of Health, Bethesda, MD
- 2081 A Connectivity-Based Real-Time fMRI Neurofeedback Targeting the Rumination**
Aki Tsuchiyagaito^{1,2}, Masaya Misaki¹, Jared Smith¹, Martin Paulus¹, Jerzy Bodurka^{1,3}
¹Laureate Institute for Brain Research, Tulsa, OK, ²Japan Society for the Promotion of Science, Tokyo, Japan, ³Stephenson School of Biomedical Engineering, University of Oklahoma, Norman, OK
- 2082 Cortical Depth-Dependent Function Analysis in the Native EPI Space Based on BISEPI at 7T**
Guoxiang Liu^{1,2}, Adnan Shah^{1,2}, Takashi Ueguchi^{1,2}
¹CiNet, NICT, Osaka, Japan, ²Graduate School of Frontier Biosciences, Osaka University, Osaka, Japan

- 2088 Automated slice-specific z-shimming for fMRI of the human spinal cord**
Merve Kaptan¹, Johanna Vannesjö², Toralf Mildner¹, Nikolaus Weiskopf^{3,4}, Jürgen Finsterbusch⁵, Falk Eippert¹
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- 2089 Changes of homotopic functional connectivity after unilateral stroke**
Yaya Jiang¹, Yijun Chen¹, Gaolang Gong¹
¹Beijing Normal University, Beijing
- 2091 Reduced neural satiety responses in women affected by obesity**
Susanna Gobbi¹, Susanna Weber¹, Gwendolyn Graf², Daria Hinz¹, Nori Geary³, Loredana Asarian⁴, Brigitte Leeners², Todd Hare¹, Philippe Tobler¹
¹University of Zurich, Zurich Center for Neuroeconomics, Zurich, Switzerland, ²University Hospital Zurich, Dept. of Reproductive Endocrinology, Zurich, Switzerland, ³Weill Cornell Medical College, Department of Psychiatry (retired), New York, NY, ⁴University of Vermont, Department of Medicine, Burlington, VT
- 2092 Frequency-specific regional homogeneity alterations in Tourette syndrome**
Xiaolong Li^{1,2,3}, Jue wang^{1,2,3}, Yufeng Zang^{1,2,3}, Yuting Lou⁴, Ye Wang⁴, Jianhua Feng⁴
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- 2097 Cybersickness in Virtual Reality is Correlated to the Attenuated Activation of the Insular Cortex**
Shanshan Chen¹, Dongdong Weng^{1,2}, Ruiying Shen¹, Xinhui Wu³
¹School of Optics and Photonics, Beijing Institute of Technology, Beijing, China, ²AICFVE of Beijing Film Academy, Beijing, China, ³Department of Radiology, the 7th Medical Center of PLA General Hospital, Beijing, China
- 2098 Alterations in functional connectivity dynamics reveal distinct state-wise signatures in anti-NMDARE**
Nina von Schwanenflug¹, Stephan Krohn², Josephine Heine¹, Harald Prüss¹, Friedemann Paul¹, Carsten Finke²
¹Charité - Universitätsmedizin Berlin, Berlin, Germany, ²Charité-Universitätsmedizin Berlin, Berlin, Berlin
- 2100 Pupillometry tracks cognitive load and salience network activity in a working memory fMRI task**
Julia Fietz^{1,2}, Dorothee Poehlchen^{1,2}, Florian Binder^{1,2}, BeCOME working group^{1,3}, Michael Czisch³, Philipp Saemann³, Victor Spooemaker¹
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- 2104 Attention modulation of sensory responses in non-corresponding primary sensory cortices**
Sijia Wang¹, Qian Su¹, Li Hu², Meng Liang¹
¹Tianjin Medical University, Tianjin, China, ²Key Laboratory of Mental Health, Institute of Psychology, Chinese Academy of Sciences, Beijing, China
- 2110 Layered fMRI of prediction error related activity in early auditory cortices**
Jakob Heinzle¹, Lars Kasper¹, Katharina Wellstein¹, Johanna Bayer², Frederike Petzschner³, Ines Pereira³, Matthias Müller-Schrader³, Maria Engel⁴, Klaas Pruessmann⁴, Klaas Enno Stephan¹
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- 2121 Multi-echo EPI of Human Fear Conditioning: Advanced Analysis Using ME-ICA based Denoising**
Brice Fernandez¹, Laura Leuchs², Philipp Saemann², Michael Czisch², Victor Spooemaker²
¹GE Healthcare, Buc, France, ²Max Planck Institute of Psychiatry, Munich, Germany
- 2130 Multi-perfusion Information to Assess the Impact of Sub-concussive on High School Football Players**
Jinxia Yao¹, Ho-Ching Yang¹, James Wang¹, Zhenhu Liang^{2,1}, Nicole Vike³, Taylor Lee³, Joseph Rispoli¹, Eric Nauman^{4,1}, Thomas Talavage^{1,5}, Yunjie Tong¹
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- 2132 Associations of different forms of childhood maltreatment and reward processing**
Karina Blair¹, Sahil Bajaj¹, James Blair¹
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- 2133 Studying the Dynamic Pattern of Low Frequency Oscillation in RS-fMRI Data Using a Carpetplot**
Jinxia Yao¹, Bradley Fitzgerald¹, Caleb Clark¹, Thomas Talavage¹, Blaise Frederick², Yunjie Tong¹
¹Purdue University, West Lafayette, IN, ²McLean Hospital/Harvard Medical School, Belmont, MA
- 2140 Humans exploit movements rather than endpoints in action segmentation: a computer vision model test**
Jennifer Pomp¹, Minija Tamosiunaite², Florentin Wörgötter², Ricarda Schubotz¹
¹University of Muenster, Muenster, NRW, ²University of Goettingen, Goettingen, Lower Saxony
- 2141* On Visualization and Interpretation of Complex Connectomic Results**
Javid Dadashkarimi¹, Stephanie Noble¹, Abigail Greene¹, R Todd Constable¹, Xenophon Papademetris¹, Dustin Scheinost¹
¹Yale University, New Haven, CT
- 2144 Highly Purified Cannabidiol (CBD) affects Working Memory Performance in Epilepsy**
Tyler Gaston¹, Jane Allendorfer², Sangeeta Nair¹, E. Martina Bebin¹, Leslie Grayson³, J. Thomas Houston⁴, Jerzy Szaflarski¹
¹University of Alabama at Birmingham, Birmingham, AL, ²UAB, Birmingham, AL, ³University of Alabama at Birmingham, Birmingham, AL, ⁴University of Alabama at Birmingham, Birmingham, AK
- 2146 Language System Response Predicts Heavy Vapers' Reaction to Anti-Vaping PSAs: Preliminary Findings**
Jiaying Liu¹, Erin Jones¹, Lawrence Sweet¹
¹University of Georgia, Athens, GA
- 2147 The Neural Correlates of Alcohol Demand in Individuals with Alcohol Use Disorder**
Sabrina Syan¹, James MacKillop¹, Lawrence Sweet², Shannon McNally², Michael Amlung¹, Tegan Hargreaves¹
¹McMaster University, Hamilton, Ontario, ²University of Georgia, Athens, GA

2156 Decoding Faces in a Movie Using fMRI: A Comparison of Two Approaches*Lucia Jajcay^{1,2,3}, David Tomeček^{2,3}, Anna Pidnebesna^{1,2,3}, Jaroslav Hlinka^{1,2}**¹Institute of Computer Science of the Czech Academy of Sciences, Prague, Czech Republic, ²National Institute of Mental Health, Klecany, Czech Republic, ³Faculty of Electrical Engineering, Czech Technical University, Prague, Czech Republic***2161 Functional connectivity of the visual cortex regions with positive and negative BOLD response***Hengda He¹, Qolamreza Razlighi²**¹Columbia University, New York, NY, ²Weill Cornell Medicine, New York, NY***2167 Sex differences in the neural response to acute psychosocial stress***Leandra Kuhn¹, Hannes Noack², Lisa Wagels¹, Vanessa Nieratschker², Ute Habel³, Birgit Derntl⁴**¹Department of Psychiatry, Psychotherapy and Psychosomatics, RWTH Aachen University, Aachen, Germany, ²Department of Psychiatry and Psychotherapy, Medical School, University of Tübingen, Tübingen, Germany, ³Department of Psychiatry, Psychotherapy, and Psychosomatics, RWTH Aachen University, Aachen, Germany, ⁴Department of Psychiatry and Psychotherapy, Medical School, University of Tübingen, Tübingen, Germany***2168 Sub-Millimeter Spiral fMRI***Lars Kasper^{1,2}, Maria Engel², Jakob Heinze¹, Matthias Müller-Schrader¹, Jonas Reber², Thomas Schmid², Christoph Barmet², Bertram Wilm², Klaas Enno Stephan¹, Klaas Pruessmann²**¹Translational Neuromodeling Unit, University of Zurich & ETH Zurich, Zurich, Switzerland, ²Institute for Biomedical Engineering, ETH Zurich and University of Zurich, Zurich, Switzerland***2170 Identification and Removal of Simultaneous Slice Artifacts in Multiband fMRI***John Williams¹, Jared Van Snellenberg¹**¹Renaissance School of Medicine at Stony Brook University, Stony Brook, NY*

Diffusion MRI

1997 Advantage of diffusion MRI with simultaneous multi-slice readout-segmented EPI in tractography*Hirosama Takemura^{1,2}, Wei Liu³, Hideto Kuribayashi⁴, Ikuhiro Kida^{1,2}**¹Center for Information and Neural Networks (CiNet), NICT, Suita, Osaka, ²Graduate School of Frontier Biosciences, Osaka University, Suita, Osaka, Japan, ³Siemens Shenzhen Magnetic Resonance Ltd., Shenzhen, Guangdong, ⁴Siemens Healthcare K.K., Tokyo, Tokyo***2002 Accelerated MRI acquisitions for combined diffusometry and T2- or T2*-relaxometry***Steven Baete^{1,2}, Zidan Yu^{1,2}, Gregory Lemberskiy^{1,2}, Tiejun Zhao³, Ying-Chia Lin^{1,2}, Dan Iosifescu^{4,5}, Jelle Veraart^{1,2}**¹Center for Advanced Imaging Innovation and Research (CAI2R), NYU School of Medicine, New York, NY, USA, ²Center for Biomedical Imaging, Dept. of Radiology, NYU School of Medicine, New York, NY, USA, ³Siemens Medical Solutions, New York, NY, USA, ⁴Dept. of Psychiatry, NYU School of Medicine, New York, NY, USA, ⁵Clinical Research Division, Nathan Kline Institute for Psychiatric Research, Orangeburg, NY, USA***2004 Fast EPI geometry correction: application to functional and diffusion MRI***Maarten Versluis¹, Giuseppe Valvano¹**¹Philips Healthcare, Best, NB***2018 Neural connectivity of the precuneus in the human brain: a diffusion tensor tractography study***Sung Ho Jang¹, Yousung Seo², Minkyung Cho²**¹College of Medicine, Yeungnam University, Daegu, Daegu, ²Yeungnam Univ. Hospital, Daegu***2039 Diffusion Kurtosis Imaging Detects Hypertension-Related Alterations in Brain Microstructure***Thomas Welton¹, Sarah Hellewell¹, Nadia Lahoud¹, Stuart Grieve¹**¹University of Sydney, Sydney, NSW***2057 Effect of dMRI data quality on diffusion measures in children***Nabin Koirala¹, Meaghan Perdue¹, Elena Grigorenko², Nicole Landi¹**¹Haskins Laboratories, New Haven, CT, ²University of Houston, Houston, TX***2069 Glymphatic system activity declines with age in older but not in younger individuals***Rodolphe Nenert¹, Jane Allendorfer¹, Adam Goodman¹, Jerzy Szaflarski¹**¹University of Alabama at Birmingham, Birmingham, AL***2074 Do Cognitively Healthy APOE e2 and e4 Carriers Differ in White Matter Microstructure?***Colleen Lacey¹, Jake Gjerdalen¹, Chantel Mayo¹, Jodie Gawryluk¹**¹University of Victoria, Victoria, British Columbia***2095 Effects of prenatal stress on the amygdala using diffusion tensor imaging***Niloofer Hashempour¹, Jetro Tuulari¹, Harri Merisaari², Jani Saunavaara³, Riitta Parkkola⁴, Tuire Lähdesmäki⁵, Satu Lehtola⁶, Maria Keskinen⁶, John D. Lewis⁷, Noora Scheinin⁶, Linnea Karlsson⁶, Hasse Karlsson⁶**¹FinnBrain Birth Cohort Study, University of Turku, Turku, Finland, ²Department of Biomedical Engineering, Case Western Reserve University, Cleveland, OH, ³Department of Medical Physics, Turku University Hospital, Turku, Finland, ⁴Department of Radiology, Turku University Hospital, University of Turku, Turku, Finland, ⁵Department of Pediatric Neurology, Turku University Hospital, University of Turku, Turku, Finland, ⁶FinnBrain, University of Turku, Turku, Finland, ⁷Montreal Neurological Institute, McGill University, Montreal, Montreal***2103 Denoising diffusion-weighted magnetic resonance data using convolutional neural networks***Sophia Vinci-Booher¹, Bradley Caron¹, Jian Wang¹, Sharlene Newman¹, Franco Pestilli¹, Hu Cheng¹**¹Indiana University, Bloomington, IN***2105 Prolactin and the Injured Brain: A Longitudinal Diffusion Tensor Imaging Case Study.***Emma Strawderman¹, Alejandra Rodriguez², Ricky Hoang², Sam Haber³, Benjamin Chernoff⁴, Colleen Schneider², Ismat Shafiq⁵, Zoe Williams⁶, G. Edward Vates³, Bradford Mahon^{4,3}, David Paul³**¹Department of Brain and Cognitive Sciences, University of Rochester, Rochester, NY, ²University of Rochester School of Medicine and Dentistry, Rochester, NY, ³Department of Neurosurgery, University of Rochester Medical Center, Rochester, NY, ⁴Department of Psychology, Carnegie Mellon University, Pittsburgh, PA, ⁵Department of Endocrinology, University of Rochester Medical Center, Rochester, NY, ⁶Department of Ophthalmology, University of Rochester Medical Center, Rochester, NY*

- 2128 White Matter Abnormalities in Military Traumatic Brain Injury: Results from ENIGMA Brain Injury**
Heather Bouchard^{1,2}, Delin Sun^{1,2}, Emily Dennis^{3,4,5,6}, Seth Disner^{7,8}, Jeremy Elman^{9,10}, Annelise Silva¹¹, Carmen Velez^{3,4}, Mary Newsome^{12,13}, Nicholas Davenport^{7,8}, Andrei Irimia^{14,15}, Maya Troyanskaya^{12,13}, Scott Sponheim^{7,8}, Randall Scheibel^{12,13}, Benjamin Wade^{16,17}, Carol Franz^{9,10}, William Kremen^{9,10,18}, Michale Coleman¹¹, Wright Williams^{13,19}, Harvey Levin^{12,13}, Elbert Geuze^{20,21}, Inga Koerte¹¹, Maheen Adamson^{22,23}, Raul Coimbra²⁴, Gerald Grant²⁵, Lori Shutter²⁶, Mark George²⁷, Ross Zafonte²⁸, Thomas McAllister²⁹, Martha Shenton¹¹, Murray Stein^{30,9}, Elisabeth Wilde^{31,4,5}, David Tate^{31,4}, Paul Thompson^{32,33}, Aristeidis Sotiras³⁴, Rajendra Morey^{1,2}
¹Duke-UNC Brain Imaging and Analysis Center, Duke University, Durham, NC, ²Mid-Atlantic MIRECC, Durham VA Medical Center, Durham, NC, ³Department of Neurology, University of Utah, Salt Lake City, UT, ⁴George E. Wahlen Veterans Affairs Medical Center, Salt Lake City, UT, ⁵Imaging Genetics Center, Stevens Neuroimaging & Informatics Institute, Keck School of Medicine of USC, Marina del Rey, CA, ⁶Department of Radiology, Stanford University, Stanford, CA, ⁷Minneapolis VA Health Care System, Minneapolis, MN, ⁸Department of Psychiatry, University of Minnesota Medical School, Minneapolis, MN, ⁹Department of Psychiatry, University of California San Diego, San Diego, CA, ¹⁰Center for Behavior Genetics of Aging, University of California San Diego, San Diego, CA, ¹¹Psychiatry Neuroimaging Laboratory, Brigham & Women's Hospital, Boston, MA, ¹²H. Ben Taub Department of Physical Medicine and Rehabilitation, Baylor College of Medicine, Houston, TX, ¹³Michael E. DeBakey Veterans Affairs Medical Center, Houston, TX, ¹⁴Leonard Davis School of Gerontology, University of Southern California, Los Angeles, CA, ¹⁵Department of Biomedical Engineering, Viterbi School of Engineering, University of Southern California, Los Angeles, CA, ¹⁶University of Missouri St. Louis, St. Louis, MO, ¹⁷Ahmanson-Lovelace Brain Mapping Center, Department of Neurology, UCLA, Los Angeles, CA, ¹⁸Center of Excellence for Stress and Mental Health, VA San Diego Healthcare System, San Diego, CA, ¹⁹Menninger Department of Psychiatry and Behavioral Sciences, Baylor College of Medicine, Houston, TX, ²⁰University Medical Center Utrecht, Utrecht, Utrecht, ²¹Brain Research and Innovation Centre, Ministry of Defence, Utrecht, Netherlands, ²²Defense and Veterans Brain Injury Center, VA Palo Alto, Palo Alto, CA, ²³Neurosurgery, Stanford School of Medicine, Stanford, CA, ²⁴Department of Surgery, University of California San Diego, La Jolla, CA, ²⁵Stanford University Medical Center, Palo Alto, CA, ²⁶University of Pittsburgh School of Medicine, Pittsburgh, PA, ²⁷Medical University of South Carolina, Ralph H. Johnson VA Medical Center, Charleston, SC, ²⁸Spaulding Rehabilitation Hospital, Massachusetts General Hospital, Brigham and Women's Hospital, Boston, MA, ²⁹Geisel School of Medicine at Dartmouth, Hanover, NH, ³⁰Department of Family Medicine and Public Health, University of California San Diego, La Jolla, CA, ³¹Department of Neurology, University of Utah School of Medicine, Salt Lake City, UT, ³²Imaging Genetics Center, Keck School of Medicine, University of Southern California, Marina del Rey, CA, ³³Departments of Neurology, Pediatrics, Psychiatry, Radiology, Engineering, and Ophthalmology, USC, Los Angeles, CA, ³⁴Department of Radiology and Institute for Informatics, Washington University St. Louis, St. Louis, MO
- 2129 Microstructural Stages of Cortex Thinning in Psychotic Spectrum Disorders**
Faye McKenna¹, Yu Veronica Sui¹, Hillary Bertisch¹, Donald Goff², Mariana Lazar²
¹New York University School of Medicine, New York, NY, ²New York University Langone Medical Center, New York, NY
- 2131* Prospective Data Harmonization for Multi-site Diffusion MRI Data Analysis**
Suheyba Cetin-Karayumak¹, Marek Kubicki¹, Yogesh Rath¹
¹Harvard Medical School, Boston, MA
- 2134 Microstructural Alterations Correlate with Exposure to High Magnitude Head Impact in Youth Football**
Weihong Yuan¹, Jed Diesfuss¹, Kim Barber Foss¹, Jonathan Dudley¹, Christopher DiCesare¹, Danielle Reddington¹, Wen Zhong¹, Katharine Nissen¹, Jessica Shafer¹, James Leach¹, Scott Bonnette¹, Kelsey Logan¹, Jeffery Epstein¹, Joseph Clark², Mekibib Altaye¹, Greg Myer¹
¹Cincinnati Children's Hospital Medical Center, Cincinnati, OH, ²University of Cincinnati, Cincinnati, OH

- 2135 Microstructural Alterations of Superior Longitudinal and Arcuate Fasciculi in Chronic Schizophrenia**
Ruoyu Wang¹, Yu Veronica Sui¹, Faye McKenna¹, Laura Miles¹, Mariana Lazar²
¹New York University School of Medicine, New York, NY, ²New York University Langone Medical Center, New York, NY
- 2136 Fiber tracking framework for estimating rotationally-invariant with paired-ODF spatial correlations**
Ying-Chia Lin¹, Steven Baete¹, Xiuyuan Wang¹, Fernando Boada¹
¹NYU School of Medicine, New York, NY
- 2138 Selective Impact of Maternal Childhood Maltreatment on Different White Matter Pathways**
Banu Ahtam¹, Ai Wern Chung¹, Sommer Jaber¹, Juan Perez¹, Michaela Sisitsky¹, Jennifer Khoury², Borjan Gagoski¹, Yangming Ou¹, Julianna Standish¹, Josephine Wilson¹, Michelle Enlow¹, Karlen Lyons-Ruth²
¹Boston Children's Hospital, Harvard Medical School, Boston, MA, ²Cambridge Hospital, Harvard Medical School, Cambridge, MA
- 2158 Multi-diffusion and multi-T2 weighted Monte-Carlo simulations.**
Jonathan Rafael-Patino¹, Gabriel Girard^{2,1}, Elda Fisch-Gomez^{3,1}, David Romascano⁴, Thomas Yu¹, Marco Pizzolato¹, Alonso Ramirez-Manzanares⁵, Erick Canales Rodríguez⁶, Jean-Philippe Thiran^{1,2}
¹École Polytechnique Fédérale de Lausanne, Lausanne, Switzerland, ²Radiology Department, Centre Hospitalier Universitaire Vaudois, University of Lausanne, Lausanne, Switzerland, ³MGH/MIT/HMS Athinoula A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Har, Charlestown, MA, ⁴CHUV, Lausanne, Switzerland, ⁵Centro de Investigación en Matemáticas(CIMAT), Guanajuato, Guanajuato, ⁶FIDMAG Research Foundation, CIBERSAaM, Barcelona, Spain
- 2171 Mapping out cortical topography of the mid-sagittal corpus callosum**
Yirong Xiong¹, Chenxi Zhao², Liyuan Yang³, Gaolang Gong²
¹BNU, Beijing, China, ²Beijing Normal University, Beijing, China, ³Beijing Normal University, Beijing, AK

EEG

- 1991 RT-NET: a software package for neural activity estimation from high-density EEG recordings**
Roberto Guarnieri¹, Mingqi Zhao¹, Gaia Amaranta Taberna¹, Marco Ganzetti², Stephan Patrick Swinnen^{1,3}, Dante Mantini^{1,4}
¹KU Leuven, Leuven, Belgium, ²Roche Pharmaceutical Research and Early Development, Basel, Switzerland, ³Leuven Brain Institute, KU Leuven, Leuven, Belgium, ⁴IRCCS San Camillo Hospital, Venice, Italy
- 1993 Preoperative Language Mapping Using High-Density Scalp EEG: A Pilot Study**
James Surgenor¹, Zachary Leeds², Yinchen Song^{3,4}
¹Kimball Union Academy, Meriden, NH, ²Colgate University, Hamilton, NY, ³Department of Neurology, Dartmouth-Hitchcock Medical Center, Lebanon, NH, ⁴Geisel School of Medicine, Dartmouth College, Hanover, NH
- 2006 Intracranial EEG atlas of human sleep**
Nicolas von Ellenrieder¹, Jean Gotman², Rina Zelmann³, Christine Rogers⁴, Dang Nguyen⁵, Philippe Kahane⁶, François Dubeau⁷, Birgit Frauscher⁸
¹Montreal Neurological Institute, McGill University, Montreal, Quebec, ²McGill University, Montreal, Quebec, ³Massachusetts General Hospital and Harvard Medical School, Boston, MA, ⁴McGill, Montreal, QC, ⁵Centre hospitalier de l'Université de Montréal, Montreal, Quebec, ⁶Universidad de Grenoble, Grenoble, Grenoble, ⁷Montreal Neurological Institute and Hospital, Montreal, Quebec, ⁸Montreal Neurological Institute, Montreal, Quebec

- 2013 The relationship between motor ability and cognitive control.**
Marta Topor¹, Philip Dean¹, Hayley Leonard¹, Bertram Opitz¹
¹University of Surrey, Guildford, Surrey
- 2078 An ERP study of Fz during 3-back task : Comparison of Birth experience**
JinJu Jung¹, YeJin Kim¹, je-hyeop Lee¹, MiHyun Choi¹, Soon-Cheol Chung¹, HyunJun Kim¹
¹Konkuk University, Chungju, Chungcheungbuk-do
- 2079 Comparison of ERP between Pure EEG and Simultaneous EEG-fMRI Recordings in Sustained Attention Task**
Yu-Ting Cheng¹, Chia-Fen Hsu², H. Y. Hydra Ng³, Chia-Wei Li⁴, Chun-Hsiang Chuang⁵, Chih-Mao Huang⁶, Yi-Ping Chao⁷, Changwei Wu³
¹Graduate Institute of Mind Brain and Consciousness, Taipei Medical University, Taipei City, Taipei City, ²Department of Occupational Therapy, Chang Gung University, Taoyuan City, Taiwan, ³Graduate Institute of Mind Brain and Consciousness, Taipei Medical University, Taipei City, Taiwan, ⁴Department of Radiology, Wan Fang Hospital, Taipei Medical University, Taipei City, Taiwan, ⁵Department of Computer Science and Engineering, National Taiwan Ocean University, Keelung City, Taiwan, ⁶Department of Biological Science and Technology, National Chiao Tung University, Hsinchu City, Taiwan, ⁷Department of Medical Mechatronics, Chang Gung University, Taoyuan City, Taiwan
- 2080 Subjective Evaluation and EEG Analysis of Electrical Stimulation at Various Frequencies and Intensities**
Je-Hyeop Lee¹, Jin-Ju Jung¹, Hyung-Sik Kim¹, MiHyun Choi¹, Soon-Cheol Chung¹
¹Konkuk University, Chungju, Chungcheungbuk-do
- 2090 Altered effective cortical network in post-traumatic stress disorder during cognitive processing**
Miseon Shim¹, Seung-Hwan Lee², Han-Jeong Hwang¹
¹Dept. of Medical IT Convergence Engineering, Kumoh National Institute of Technology, Gumi, Gyeongbuk, ²Department of Psychiatry, Ilsan Paik, Inje University, Goyang-si, Gyeonggi-do
- 2094 Working memory training changes contralateral delay activity**
Yang Li^{1,2}, Jun Li³
¹Beijing Normal University, Beijing, Beijing, ²Beijing Normal University, Beijing, China, ³State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, Beijing
- 2099 Cortical neurodynamics and aging effects of inhibitory control for saccadic eye movements**
Martyna Plomecka¹, Marius Troendle¹, Zofia Barańczuk-Turska¹, Christian Pfeiffer¹, Nicolas Langer¹
¹University of Zurich, Zurich, Switzerland
- 2101 Dopaminergic intervention affects hierarchical inference and its temporal dynamics**
Andreea Diaconescu¹, Christoph Mathys², Lars Kasper³, Katharina Wellstein³, Sara Tomiello³, Lilian Weber³, Klaas Enno Stephan³
¹CAMH, Toronto, Ontario, ²Scuola Internazionale Superiore di Studi Avanzati (SISSA), Trieste, Trieste, ³Translational Neuromodeling Unit, University of Zurich & ETH Zurich, Zurich, Zurich
- 2116 Impact of Early Childhood Malnutrition on Adult Brain Function: ERP Results during a Go-No-Go Task**
Kassandra Roger¹, Phetsamone Vannasing¹, Julie Tremblay¹, Maria L. Bringas Vega², Cyralene Bryce³, Arielle Rabinowitz⁴, Pedro A. Valdés-Sosa², Janina Galler⁵, Anne Gallagher¹
¹LION Lab, Sainte-Justine University Hospital Research Centre, University of Montreal, Montreal, Quebec, ²University of Electronics Science and Technology of China, Chengdu, Sichuan, ³Barbados Nutrition Study, Bridgetown, Saint Michael, ⁴Department of Neurology and Neurosurgery, McGill University, Montreal, Quebec, ⁵Division of Pediatric Gastroenterology and Nutrition, MassGeneral Hospital for Children, Boston, MA

- 2162 Quantitative EEG measures for Neurological Prognostication in Patients with Post-Cardiac Arrest**
Jung Hwa Lee¹, Sue Hyun Lee², Chaewon Kang³, Sora An⁴, Yoonkyung Chang², Seung-Ah Lee², Eun-Hye Lee², Yunseo Choi⁵, Sol-Ah Kim⁶, Hyeon Jin Kim⁷, Hyang Woon Lee⁸
¹Ewha Womans University Mokdong Hospital, Seoul, Seoul, ²Departments of Neurology and Medical Science, Ewha Womans University Mokdong Hospital, Seoul, Seoul, ³Ewha womans university, Yongin-si, Gyeonggi-do, ⁴Ewha Womans University, Seoul, Korea, Republic of, ⁵Ewha Womans University, Seoul, Seoul, ⁶Ewha womans university, Seoul, Seoul, ⁷Ewha Womans University School of Medicine, Boston, MA, ⁸Ewha Womans University School of Medicine and Ewha Medical Research Institute, Seoul, AK

MEG

- 1992 Investigation of the major depression connectome at resting state using MEG: a preliminary study**
Yuichi Takei¹, Yutaka Kato^{2,3}, Minami Tagawa^{3,4}, Tomohiro Suto⁴, Masakazu Sunaga³, Kazuyuki Fujihara⁵, Noriko Sakurai³, Masato Fukuda⁶
¹Department of Psychiatry and Neuroscience, Gunma University Graduate School of Medicine, Maebashi, Gunma, ²Tsutsuji Mental Hospital, Tatebayashi, Gunma-Prefecture, Japan, ³Department of Psychiatry and Neuroscience, Graduate School of Medicine, Gunma University, Maebashi, Gunma, Japan, ⁴Gunma Prefectural Psychiatric Medical Center, Maebashi, Iseaki, Japan, ⁵Department of Genetic and Behavioral Neuroscience, Gunma University Graduate School of Medicine, Maebashi, Gunma, Japan, ⁶Department of Psychiatry and Neuroscience, Gunma University Graduate School of Medicine, Maebashi, Gunma, Japan
- 1999 Functional brain network organization predicts cognitive decline in multiple sclerosis**
Ilse Nauta¹, Shanna Kulik¹, Lucas Breed¹, Anand Eijlers¹, Eva Strijbis¹, Dirk Bertens², Prejaas Tewarie¹, Arjan Hillebrand¹, Cornelis Stam¹, Linda Douw¹, Jeroen Geurts¹, Bernard Uitdehaag¹, Brigit de Jong¹, Menno Schoonheim¹
¹Amsterdam UMC, Vrije Universiteit Amsterdam, Amsterdam, Noord-Holland, ²Radboud University, Nijmegen, Gelderland
- 2020 A robust processing pipeline for source estimation to MEG spikes**
Li Zheng¹, Pan Liao², Linlin Zhu¹, Jia-Hong Gao¹
¹Peking University, Beijing, China, ²Beijing Intelligent Brain Cloud Inc, Beijing, China
- 2028 How cerebral cortex protects itself from interictal spikes: the alpha/beta inhibition hypothesis**
Giovanni Pellegrino^{1,2}, Christophe Grova³, Eliane Kobayashi⁴
¹IRCCS San Camillo Hospital, Venice, Venice, ²Montreal Neurological Institute and Hospital, McGill University, Montreal, Canada, ³Physics dept., Concordia University, Montreal, Quebec, ⁴Montreal Neurological Institute and Hospital, McGill University, Montreal, Quebec
- 2029 Time-Varying Source Reconstruction (tvSR)**
Ryan Timms¹, Andrew Quinn¹, Alexander Skates¹, Steve Smith¹, Mark Woolrich¹
¹University of Oxford, Oxford, Oxfordshire
- 2037 MEG Imaging reveals disrupted directional information flow in epilepsy**
Kiwamu Kudo¹, Hirofumi Morise¹, Kamalini Ranasinghe², Danielle Mizuiri³, Abhishek Bhutada³, Jessie Chen³, Anne Findlay³, Heidi Kirsch³, Srikantan Nagarajan³
¹Medical Imaging Research Department, Ricoh Company, Ltd., Kanazawa, Japan, ²Memory and Aging center, Department of Neurology, University of California San Francisco, San Francisco, CA, ³Department of Radiology and Biomedical Imaging, University of California San Francisco, San Francisco, CA

- 2064 Postoperative oscillatory brain activity as an add-on prognostic marker in diffuse glioma**
Vera Belgers¹, Tianne Numan¹, Shanna Kulik¹, Arjan Hillebrand¹, Philip de Witt Hamer¹, Jeroen Geurts¹, Jaap Reijneveld¹, Pieter Wesseling¹, Martin Klein¹, Jolanda Derks¹, Linda Douw¹
¹Amsterdam UMC, Vrije Universiteit Amsterdam, Amsterdam, Noord-Holland
- 2115 Optimizing Portable Magnetoencephalography for Children with Soft Shielding and Virtual Sensors**
Jing Xiang¹, Ellen Maue², Yanan Hu³, Fawen Zhang⁴, Vishal Shah⁵, Yang Jiang⁶
¹Cincinnati Children's Hospital Medical Center, Mason, OH, ²Cincinnati Children's Hospital Medical Center, Cincinnati, OH, ³Johannes Gutenberg-Universität, Mainz, Mainz, ⁴University of Cincinnati, Cincinnati, OH, ⁵Quspin, Louisville, CO, ⁶University of Kentucky, Lexington, KY
- 2139 Distinct effects of amyloid-beta and tau deposition on neural synchrony in Alzheimer's disease**
Kamalini Ranasinghe¹, Jungho Cha², Leonardo Iaccarino², Leighton Hinkley³, Alexander Beagle², Julie Pham², William Jagust⁴, Bruce Miller⁵, Katherine Rankin², Gil Rabinovici⁶, Keith Vossel², Srikantan Nagarajan³
¹University of California, San Francisco, San Francisco, CA, ²UCSF, San Francisco, CA, ³Department of Radiology and Biomedical Imaging, University of California San Francisco, San Francisco, CA, ⁴UC Berkeley, Berkeley, CA, ⁵Memory and Aging Center, Department of Neurology, University of California San Francisco, San Francisco, CA, ⁶University of California, San Francisco, CA
- 2165 Automatic Co-registration for On-scalp MEG**
Wenyu Gu¹, Xingyu Ru², Dongxu Li¹, Kaiyan He¹, Jingwei Sheng³, Jiahong Gao⁴
¹Peking University, Beijing, Beijing, ²Peking University, Beijing, Beijing, ³Center for MRI Research, Academy for Advanced Interdisciplinary Studies, Peking University, Beijing, Beijing, ⁴Center for MRI Research, Academy for Advanced Interdisciplinary Studies, Peking University, Beijing

MR Spectroscopy

- 2001* Dynamically Acquired 1H MRS for Detection of 13C Labeled Cerebral Glucose Metabolism In-vivo**
Masoumeh Dehghani^{1,2}, Pedro Rosa-Neto^{3,4}, Pierre Etienne⁵, Steven Zhang⁶, Chathura Kumaragama⁷, Jamie Near^{1,2}
¹Centre d'Imagerie Cérébrale, Douglas Mental Health University, Montreal, Quebec, Canada, ²Dept of Psychiatry, McGill University, Montreal, Quebec, Canada, ³Translational Neuroimaging Laboratory, Douglas Research Institute, Montreal, Quebec, Canada, ⁴Dept of Neurology and Neurosurgery, McGill University, Montreal, Quebec, Canada, ⁵Clinical Research Division, Montreal, Quebec, Canada, ⁶Dept of Neuroscience, McGill University, Montreal, Quebec, Canada, ⁷Dept of Radiology and Biomedical Imaging, Yale University, New Haven, CT, US
- 2010 A Preliminary MRS Analysis of Effects of Olanzapine vs. Placebo in Remitted Psychotic Depression**
Hideaki Tani¹, Iska Moxon-Emre¹, Natalie Forde¹, Nicholas Neufeld¹, Kathleen Bingham², Ellen Whyte³, Barnett Meyers⁴, George Alexopoulos⁴, Matthew Hoptman⁵, Anthony Rothschild⁶, Hiroyuki Uchida⁷, Alastair Flint⁸, Benoit Mulsant¹, Aristotle Voineskos¹
¹Centre for Addiction and Mental Health, Toronto, ON, ²University Health Network Centre for Mental Health, Toronto, ON, ³Western Psychiatric Institute and Clinic, Department of Psychiatry, University of Pittsburgh School, Pittsburgh, PA, ⁴Weill Medical College of Cornell University and New York Presbyterian Hospital, White Plains, NY, ⁵Nathan S. Kline Institute for Psychiatric Research, Orangeburg, NJ, ⁶University of Massachusetts Medical School and UMass Memorial Health Care, Worcester, MA, ⁷Department of Neuropsychiatry, Keio University School of Medicine, Tokyo, Tokyo, ⁸UHN - Toronto General Hospital, Toronto, ON

- 2035 Reproducibility of in vivo Cortical GABA & Glx with MEGA-PRESS: Comparing 8 & 32 Channel Head Coils**
Peter Truong¹, Napapon Sailasuta¹, Sofia Chavez²
¹Centre for Addiction and Mental Health, Toronto, Ontario, ²Centre for Addiction and Mental Health (CAMH), Toronto, ON
- 2056* Simultaneous mapping of T2* and major neurotransmitters using MRSI at 3T**
Fatimah Almomen¹, Pingyu Xia¹, Xiaopeng Zhou¹, Mark Chiew², Adam Steel³, Albert Thomas⁴, Ulrike Dydak¹, Uzay Emir¹
¹Purdue University, West Lafayette, IN, ²Oxford University, Oxford, Oxford, ³Dartmouth College, Hanover, NH, ⁴David Geffen School of Medicine at UCLA, Los Angeles, CA
- 2075 Metabolic profile of the Heschl's Gyrus in Schizophrenia Spectrum Disorders**
Pradeep Kumar Gupta¹, Hilary Bertisch², Oded Gonen¹, Donald Goff³, Mariana Lazar¹
¹Center for Biomedical Imaging, Department of Radiology, New York University School of Medicine, New York, NY, ²Department of Rehabilitation Medicine, New York University School of Medicine, New York, NY, ³Department of Psychiatry, New York University School of Medicine, New York, NY
- 2124* Osprey: Open-Source Processing, Reconstruction & Estimation of Magnetic Resonance Spectroscopy Data**
Georg Oeltzschner^{1,2}, Helge Zöllner^{1,2}, Richard Edden^{1,2}
¹Russell H. Morgan Department of Radiology and Radiological Science, Johns Hopkins University, Baltimore, MD, ²F. M. Kirby Research Center for Functional Brain Imaging, Kennedy Krieger Institute, Baltimore, MD
- 2126 Test-retest reproducibility of brain temperature derivations using echoplanar spectroscopic imaging**
Ayushe Sharma¹, Rodolphe Nenert¹, Christina Mueller¹, Andrew Maudsley², Jarred Younger¹, Jerzy Szaflarski¹
¹University of Alabama at Birmingham, Birmingham, AL, ²University of Miami, Miami, FL
- 2148 Essential tremor and dystonic tremor: an MR Spectroscopy study**
Patrick Bédard¹, Pattamon Panyakaew², Jan Willem van der Veen³, Mark Hallett¹, Silvina Horovitz¹
¹Human Motor Control Section, MNB, NINDS, NIH, Bethesda, MD, ²Chulalongkorn University and King Chulalongkorn Memorial Hospital, Bangkok, Bangkok, ³MRS core, NIMH, NIH, Bethesda, MD

Multi-Modal Imaging

- 2003 Enhanced regional functional connectivity indicates seizure onset zone**
Jianpo Su¹, Nicolás Ellenrieder², Hui Shen¹, Dewen Hu¹, Jean Gotman²
¹National University of Defense Technology, Changsha, Hunan, ²McGill University, Montreal, Quebec
- 2007 Automated Pipeline for EEG Artifact Reduction (APPEAR) Recorded during fMRI**
Kaylee Henry^{1,2}, Ahmad Mayeli^{1,3}, Chung ki Wong¹, Obada Al Zoubi¹, Evan White¹, Qingfei Luo¹, Vadim Zotev¹, Hazem Refai³, Jerzy Bodurka^{1,4}, Tulsa 1000 Investigators¹
¹Laureate Institute for Brain Research, Tulsa, OK, ²Department of Biomedical Engineering, University of Arkansas, Fayetteville, AR, ³Electrical and Computer Engineering, University of Oklahoma, Tulsa, OK, ⁴Stephenson School of Biomedical Engineering, University of Oklahoma, Tulsa, OK

- 2012** **Macroscale and Microcircuit Dissociation of Focal and Generalized Human Epilepsies**
Yifei Weng¹, Sara Lariviere², Lorenzo Caciagli³, Reinder Vos de Wael⁴, Raul Cruces⁵, Qiang Xu⁶, Neda Bernasconi⁷, Andrea Bernasconi⁷, B.T. Thomas Yeo⁸, Guangming Lu⁶, Zhiqiang Zhang⁶, Boris Bernhardt⁹
¹Nanjing University, Nanjing, Jiangsu Province, ²McGill University, Montreal, QC, ³University of Pennsylvania, Philadelphia, PA, ⁴Montreal Neurological Institute, Montréal, Quebec, ⁵Montreal Neurological Institute, Montreal, QC, ⁶Jinling Hospital, Nanjing, Jiangsu Province, ⁷Neuroimaging of Epilepsy Laboratory, McConnell Brain Imaging Center, Montreal Neurological Institute, Montreal, Quebec, ⁸National University of Singapore, Singapore, South West, ⁹McGill University, Montreal, Quebec
- 2031** **Repeatability and reproducibility of quantitative synthetic MRI across vendors and field strengths.**
Gabriel Mangeat^{1,2}, Russell Ouellette^{2,3}, Michael Platten^{2,3,4}, Sven Petersson⁵, Hadrien Van Loo⁵, Atef Badji^{1,6}, Nikola Stikov^{1,7}, Julien Cohen-Adad^{1,8}, Tobias Granberg^{2,3}
¹NeuroPoly Lab, Institute of Biomedical Engineering, Polytechnique Montreal, Montreal, Quebec, ²Department of Clinical Neuroscience, Karolinska Institutet, Stockholm, Sweden, ³Division of Neuroradiology, Department of Radiology, Karolinska University Hospital, Stockholm, Sweden, ⁴School of Engineering Sciences in Chemistry, Biochemistry and Health, Royal Institute of Technology, Stockholm, Sweden, ⁵Medical Radiation Physics and Nuclear Medicine, Karolinska University Hospital, Stockholm, Sweden, ⁶Division of Clinical Geriatrics, Department of Neurobiology, Care Sciences and Society, KI, Stockholm, Sweden, ⁷Montreal Heart Institute, Montreal, Canada, ⁸Functional Neuroimaging Unit, CRIUGM, Université de Montréal, Montreal, Canada
- 2032** **Towards a resource for harmonisation of structural, diffusion and functional MRI across scanners**
Asante Ntata¹, Olivier Mougini², Matteo Bastiani¹, Fidel Alfaro Almagro³, Jon Campbell³, Paul Morgan^{4,1}, Mark Jenkinson^{3,5}, Stamatios Sotiropoulos^{1,3,6}
¹Sir Peter Mansfield Imaging Centre, School of Medicine, University of Nottingham, Nottingham, UK, ²Sir Peter Mansfield Imaging Centre, School of Physics, University of Nottingham, Nottingham, UK, ³Wellcome Centre for Integrative Neuroimaging (WIN - FMRI), University of Oxford, Oxford, UK, ⁴Medical Physics & Engineering, Nottingham University Hospitals NHS Trust, Nottingham, UK, ⁵Australian Institute for Machine Learning, University of Adelaide, Adelaide, Australia, ⁶National Institute for Health Research (NIHR) Nottingham Biomedical Research Centre, Queens Medical Centre, Nottingham, UK
- 2034** **A pipeline for MEG/fMRI co-processing to examine dynamic brain activity during associative learning**
Sangeeta Nair¹, Yingying Wang², Jerzy Szaflarski¹
¹University of Alabama at Birmingham, Birmingham, AL, ²University of Nebraska-Lincoln, Lincoln, NE
- 2042** **Community-level Environmental Burden Tracks Individual Variability in Brain Morphology**
Meghan Collins¹, Kevin Anderson¹, Valeria Kebets^{2,3}, B.T. Thomas Yeo^{2,4,5,6}, Avram Holmes^{7,6}
¹Yale University, New Haven, CT, ²National University of Singapore, Singapore, ³Department of Radiology and Medical Informatics, University of Geneva, Geneva, Switzerland, ⁴Graduate School for Integrative Sciences and Engineering, National University of Singapore, Singapore, ⁵Centre for Cognitive Neuroscience, Duke-NUS Medical School, Singapore, ⁶Athinoula A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Charlestown, MA, ⁷Yale University Department of Psychology, New Haven, CT
- 2049** **Evolution of structural-functional coupling in clinically isolated syndrome**
Ismail Koubiyir¹, Pierre Besson², Mathilde Deloire³, Julie Charre-Morin³, Aurore Saubusse³, Thomas Tourdias¹, Bruno Brochet¹, Aurélie Ruet¹
¹Neurocentre Magendie - INSERM U1215, Bordeaux, France, ²Department of Radiology, Northwestern University, Feinberg School of Medicine, Chicago, IL, ³CHU de Bordeaux, Bordeaux, France
- 2053** **Investigate Brain Structure and Functional Variation of Heavy Cannabis Use with Multimodal MRI data**
Huanjie Li¹, Sergey Chernyak², Fengyu Cong¹, Lisa Nickerson³
¹Dalian University of Technology, Dalian, Liaoning, ²McLean Hospital, Belmont, MA, ³Harvard, Boston, MA
- 2065** **Signal preservation during EEG-fMRI: BCG artifact residuals bias EEG-informed fMRI results**
Jonathan Gallego-Rudolf¹, Maria Corsi-Cabrera²
¹Instituto de Neurobiología, UNAM, Mexico City, Mexico, ²Faculty of Psychology, UNAM, Mexico City, Mexico City
- 2066** **Neuritic Architecture Relates to Functional Brain Activity**
Christin Schifani¹, Colin Hawco¹, Arash Nazeri², Aristotle Voineskos¹
¹Centre for Addiction and Mental Health, Toronto, ON, ²Mallinckrodt Institute of Radiology, Saint Louis, MO
- 2076** **Parallel ICA patterns of white matter lesions and cortical atrophy predicted progression in early MS**
Muthuraman Muthuraman¹, Vinzenz Fleischer², Julia Kroth², Dumitru Ciolac², Angela Radetz², Nabin Koirala², Gabriel Gonzalez-Escamilla², Sven Meuth³, Sergiu Groppa²
¹Johannes Gutenberg University, Mainz, Rheinland pfalz, ²Johannes Gutenberg University, Mainz, Rheinland Pfalz, ³University of Munster, Munster, North Rhine-Westphalia
- 2077** **Thinking about integrating fMRI with dMRI tractography?: we help you think**
Julien Jarret¹, Arnaud Boré², Christophe Bedetti², Simona Brambati¹
¹Université de Montréal, Montréal, Québec, ²Centre de recherche de l'Institut universitaire de gériatrie de Montréal, Montréal, Québec
- 2084** **Classification of Schizophrenia using Multimodal MRI and Machine Learning.**
Wasana Ediri Arachchi¹, Yanmin Peng¹, Minghui Hua¹, Meng Liang¹
¹Tianjin Medical University, Tianjin, China
- 2114*** **Quantitative, multimodal cell and fiber mapping in full primate brain sections**
Roxana Kooijmans^{1,2}, Markus Axer², Eric Upschulte², Timo Dickscheid², Martin Schober², David Gräßel², Philipp Schlömer², Karl Zilles², Pieter Roelfsema¹, Katrin Amunts²
¹Netherlands Institute for Neuroscience, Amsterdam, Noord Holland, ²Institute for Neuroscience and Medicine (INM-1), FZ-Jülich, Jülich, Nordrhein-Westfalen
- 2149** **Simultaneous PET-fMRI links drug-induced dopamine release to subjective 'high'**
Peter Manza¹, Dardo Tomas², Ehsan Shokri Kojori¹, Kai Yuan¹, Gene-Jack Wang³, Nora Volkow⁴
¹NIH, Bethesda, MD, ²NIH, Bethesda, MD, ³Laboratory of Neuroimaging, National Institute on Alcohol Abuse and Alcoholism, Bethesda, Maryland, ⁴NIDA, Bethesda, MD
- 2151** **Multi-parametric physiologic MRI to diagnosis of Neuroinflammation in multiple sclerosis**
Mohammad Ali Oghanian¹, Mohammad Hosain Harirchian¹, Asieh Fatemidokht²
¹Tehran University of Medical Sciences, Tehran, Iran, Islamic Republic of, ²Tehran University of Medical Sciences, Tehran, Tehran
- 2152** **EEG Microstates Temporal Dynamics Associations with fMRI Signals**
Obada Al Zoubi¹, Masaya Misaki¹, Vadim Zotev¹, Ahmad Mayeli¹, Tulsa 1000 Investigators¹, Hazem Refai², Martin Paulus¹, Jerzy Bodurka¹
¹Laureate Institute for Brain Research, Tulsa, OK, ²Electrical and Computer Engineering, University of Oklahoma, Tulsa, OK

2153* Cross-modal synchronization of intracranial EEG and fMRI during natural movie viewingTiankang Xie¹, Jin Hyun Cheong¹, Amanda Brandt¹, Krzysztof Bujarski², Luke Chang¹¹Dartmouth College, Hanover, NH, ²Dartmouth-Hitchcock Medical Center, Lebanon, NH**2169** Integrated Multimodal MRI of Cerebral Blood Flow and Brain structure in Adolescent Bipolar DisorderKody Kennedy¹, Anahit Grigorian², Nicholas Luciw², Bradley MacIntosh², Benjamin IGoldstein Goldstein³¹University of Toronto, Toronto, AZ, ²University of Toronto, Toronto, ON, ³Department of Psychiatry, University of Toronto, Toronto, Ontario

NIRS

1986 Altered cerebral language networks in children with temporal or frontal lobe epilepsyAlejandra Hüsser¹, Phetsamone Vannasing², Julie Tremblay³, Philippe Major⁴, Anne Lortie⁵, Paola Diadori⁵, Bradley Osterman⁵, Elsa Rossignol⁵, Cassandra Roger⁶, Laurie Décarie-Labbé³, Anne Gallagher⁷¹Université de Montréal, Montreal, Québec, ²Sainte-Justine University Hospital Center, Montréal, Québec, ³Université de Montréal, Montréal, Québec, ⁴CHU Sainte-Justine, Montreal, Québec, ⁵CHU Sainte-Justine, Montréal, Québec, ⁶University of Montreal, Montréal, Québec, ⁷Université de Montréal, Montreal, Quebec**1987** Impact of different pre-processing routines for infant fNIRS dataJessica Gemignani^{1,2}, Judit Gervain^{1,2,3}¹Integrative Neuroscience and Cognition Center, Université Paris Descartes, Paris, France, ²Integrative Neuroscience and Cognition Center, CNRS, Paris, France, ³Università di Padova, Padua, Italy**2009*** LIONirs toolbox design for fNIRS data analysis.Julie Tremblay^{1,2}, Eduardo Martínez-Montes³, Alejandra Hüsser^{1,2}, Laura Caron-Desrochers^{1,2}, Phetsamone Vannasing^{1,2}, Anne Gallagher^{1,2}¹Université de Montréal, Montreal, Canada, ²CHU Sainte-Justine, Montreal, Canada, ³Cuban Center for Neuroscience, Havana, Cuba**2015** Wireless fNIRS system compared to gold standard for detection of upper-extremity movementChris Friesen¹, Tony Ingram¹, Michael Lawrence¹, Chris Holland², Heather Neyedli³, Shaun Boe¹¹Dalhousie University, Halifax, Nova Scotia, ²Dalhousie University, Halifax, Nova Scotia, ³University of Oxford/ Dalhousie University, Oxford, Oxford**2036** Shedding lights on the neurocognitive effects of a visit to the Fine Arts Museum.Emma Dupuy^{1,2}, Catia Lecchino^{2,3}, Elaine De Guise^{3,4}, Arnaud Saj³, Olivier Beauchet⁵, Thomas Vincent^{6,2,7}, Louis Bherer^{6,2,7}¹Département de médecine, Université de Montréal, Canada, Montreal, Canada, ²Centre de recherche, Institut de cardiologie de Montréal, Montreal, Canada, ³Département de psychologie, Université de Montréal, Montreal, Canada, ⁴CRIR—IURDPM, CIUSSS du Centre-Sud-de-l'Île-de-Montréal, Montreal, Canada, ⁵Centre of Excellence on Longevity, Université McGill, Montreal, Canada, ⁶Département de médecine, Université de Montréal, Montreal, Canada, ⁷Centre de recherche, Institut universitaire de gériatrie de Montréal, Montreal, Canada**2061*** The NIRS Brain AnalyzIR ToolboxHendrik Santosa¹, Xuetong Zhai¹, Theodore Huppert¹¹University of Pittsburgh, Pittsburgh, PA**2062** Concurrent fNIRS-MEG and fNIRS-EEG-fMRI Analyses by Multi-Way Partially Least SquaresHendrik Santosa¹, Theodore Huppert¹¹University of Pittsburgh, Pittsburgh, PA**2102** Can survivors of stroke use neuroimaging at home? Usability testing of a wireless fNIRS device.Tony Ingram¹, Chris Friesen¹, Michael Lawrence¹, Shaun Boe¹¹Dalhousie University, Halifax, Nova Scotia**2111** An event-related fNIRS study in the lower and the higher-grader elementary schoolersJongkwan Choi¹, Jae-Myoung Kim¹, Yune Sang Lee², Do-Joon Yi³, Soyong Eom⁴¹Optical Brain Electronics Laboratory, Seoul, Seoul, ²The Ohio State University, Columbus, OH, ³Yonsei University, Seoul, Seoul, ⁴Yonsei University College of Medicine, Seoul, Seoul**2120** Cerebral NIRS monitoring in relation to neurological exam at term-equivalent age in preterm infantsGabriel Cote Corriveau¹, Olivia Beaulieu², Rasheda Chowdhury³, Marie-Michèle Gagnon⁴, Melanie Gagnon⁴, Marie-Noëlle Simard⁵, Thuy Mai Luu¹, Mathieu Dehaes⁶¹CHU Sainte-Justine, University of Montreal, Montreal, Quebec, ²University of Montreal, Montreal, Quebec, ³CHU Sainte-Justine affiliated with University of Montreal, Montreal, Quebec, ⁴CHU Sainte-Justine, Montreal, Quebec, ⁵CHU Sainte-Justine University of Montreal, Montreal, Quebec, ⁶CHU Sainte-Justine Research Center, University of Montreal, Montreal, Quebec**2125** Hb State-Flux Measures Yield Disease-Sensitive Michaelis-Menten Type BehaviorsRandall Barbour¹, Harry Graber¹, San-Lian Barbour²¹SUNY Downstate Medical Center, Brooklyn, NY, ²Photon Migration Technologies, Corp., Brooklyn, NY**2127** Brain Pulsatility Is Higher In Older Adults With Coronary Artery Disease: A Functional NIRS StudyHanieh Mohammadi^{1,2}, Thomas Vincent³, Ke Peng^{4,5}, Anil Nigam³, Mathieu Gayda³, Sarah Fraser⁶, Yves Joannette^{7,2}, Frédéric Lesage^{8,3}, Louis Bherer^{3,9,2}¹Laboratory of Optical and Molecular Imaging, Biomedical Engineering Institute, Polytechnic Montreal, Montreal, Quebec, Canada, ²Research Center, Institut Universitaire de Geriatrie de Montreal, Montreal, Quebec, Canada, ³Montreal Heart Institute, Montreal, Quebec, Canada, ⁴Center for Pain and the Brain, Boston Children's Hospital and Harvard Medical School, Boston, MA, USA, ⁵Research Center, University of Montreal Health Centre, Montreal, Quebec, Canada, ⁶Interdisciplinary School of Health Sciences, Faculty of Health Sciences, University of Ottawa, Ottawa, Ontario, Canada, ⁷Faculty of Medicine, University of Montreal, Montreal, Quebec, Canada, ⁸Polytechnic Montreal, Montreal, Quebec, Canada, ⁹Department of Medicine, University of Montreal, Montreal, Quebec, Canada**2142** FNIRS analysis using General Linear Model (GLM) after reconstruction along the cortical surfaceEdouard Delaire¹, Zhengchen Cai¹, Thomas Vincent², Jean-Marc Lina³, Christophe Grova^{1,4,5}¹Multimodal Functional Imaging Lab, PERFORM Centre, Department of Physics, Concordia University, Montréal, Quebec, ²Montreal Heart Institute, Montréal, Quebec, ³Department of Electrical Engineering, Ecole de Technologie Supérieure, Montréal, Quebec, ⁴Neurology and Neurosurgery Dpt, Montreal Neurological Institute, McGill University, Montréal, Quebec, ⁵Multimodal Functional Imaging Lab, Biomedical Engineering Department, McGill University, Montréal, Quebec**2145** An fNIRS protocol for the study of numeracy in women with Turner syndromeJoseph Baker¹, Allan L. Reiss¹¹Stanford University, Stanford, CA**2150** Hemodynamic response to epileptic discharges during whole night simultaneous EEG-NIRS recordingsChifaou Abdallah¹, Zhengchen Cai², Edouard Delaire², Amanda Spilkin², Hugo Keraudran², Thien-Thanh Dang-Vu^{3,4}, Eliane Kobayashi⁵, Christophe Grova^{2,1,5,3}¹Biomedical Engineering, McGill University, Montreal, QC, Canada, ²Department of Physics, Concordia University, Montreal, QC, Canada, ³PERFORM Center, Concordia University, Montreal, QC, Canada, ⁴Centre de recherche de l'Institut Universitaire de gériatrie de Montréal, Montreal, QC, Canada, ⁵Montreal Neurological Institute and Hospital, McGill University, Montreal, QC, Canada

2154 Hemodynamic correlates of changes in neuronal excitability: a simultaneous TMS and NIRS study
Zhengchen Cai¹, Giovanni Pellegrino², Amanda Spilkin³, Alexis Machado⁴, Thomas Vincent⁵, Chifaou Abdallah⁴, Jean-Marc Lina⁶, Christophe Grova³

¹Multimodal Functional Imaging Lab, Department of Physics and PERFORM Centre, Concordia University, Montreal, Quebec, ²IRCCS San Camillo Hospital, Venice, Venice, ³Multimodal Functional Imaging Lab, Department of Physics and PERFORM Centre, Concordia University, Montreal, QC, ⁴Neurology and Neurosurgery Dpt, Montreal Neurological Institute, McGill University, Montreal, QC, ⁵Centre de médecine préventive et d'activité physique, Montreal Heart Institute, Montreal, QC, ⁶Department of Electrical Engineering, Ecole de Technologie Supérieure, Montreal, QC

2155 fNIRS Measurement of Cortical Activity in Young and Older Adults during Gait & Dual-Task Assignment

Amanda Spilkin¹, Zhengchen Cai², Chifaou Abdallah³, Rachel Downey¹, Karen Li⁴, Christophe Grova⁵
¹Concordia University, Montreal, Quebec, ²Multimodal Functional Imaging Lab, Department of Physics and PERFORM Centre, Concordia University, Montreal, Quebec, ³McGill University, Montreal, Quebec, ⁴PERFORM Centre, Concordia University, Montreal, Quebec, ⁵ Multimodal Functional Imaging Lab, PERFORM Centre, Department of Physics, Concordia University, Montréal, Quebec

Non-BOLD fMRI

2005* Short Echo-Time fMRI using Magnetization Transfer Contrast

Jenni Schulz¹, Zahra Fazal¹, Riccardo Metere¹, José Marques¹, David G. Norris^{1,2}
¹Donders Institute, Radboud University, Nijmegen, Netherlands, ²Erwin L. Hahn Institute for Magnetic Resonance Imaging, University Duisburg-Essen, Essen, Germany

2014 Layer-dependent BOLD/VAPER fMRI signal fluctuations show distinct cortical depth profiles

Arman Khojandi¹, Yuhui Chai², Daniel Handwerker¹, Linqing Li³, Laurentius Huber⁴, Peter Bandettini¹
¹National Institute of Mental Health, Bethesda, MD, ²National Institute of Mental Health, Bethesda, MD, ³National Institute of Mental Health, Bethesda, VA, ⁴Maastricht University, Maastricht, Limburg

2040 Monte Carlo simulation of VASO fMRI from real microvascular angiograms of the mouse cortex

Élie Genois^{1,2}, Louis Gagnon^{1,2}, Michèle Desjardins^{1,2}
¹Université Laval, Québec, Québec, ²Centre de recherche du CHU de Québec - Université Laval, Québec, Canada

2118 Rotated Stack of Spirals 3D RARE for Single-shot ASL Acquisition and Resting-State Analyses

Fanny Munsch¹, Manuel Taso¹, Li Zhao², Marc Lebel³, Arnaud Guidon⁴, John Detre⁵, David Alsop¹
¹Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA, ²Children's National Medical Center, Washington, DC, ³Global MR Applications and Workflow, GE Healthcare, Calgary, AB, ⁴Global MR applications and workflow, GE Healthcare, Boston, MA, ⁵University of Pennsylvania, Philadelphia, PA

2119 Development of a Non-invasive Functional Arterial MRI Sequence of the Posterior Cerebral Artery

Marco Caceres¹, Kevin Whittingstall², Guillaume Gilbert³
¹Université de Sherbrooke, Sherbrooke, Québec, ²Université de Sherbrooke, Sherbrooke, QC, ³MR Clinical Science, Philips Healthcare, Markham, Ontario

Polarized light imaging (PLI)

2093 Determination and Visualization of Nerve Fiber Orientation Uncertainty in 3D Polarized Light Imaging

Nicole Schuber¹, Daniel Schmitz¹, Marius Nolden¹, Katrin Amunts^{1,2}, Markus Axer¹
¹Institute of Neuroscience and Medicine (INM-1), Research Centre Jülich, Jülich, Germany, ²C. and O. Vogt Institute for Brain Research, Heinrich-Heine University Düsseldorf, Düsseldorf, Germany

Imaging Methods Other

2016 Relationship between apathy and the prefrontocaudate tract injury in patients with mTBI

Sung Ho Jang¹, Yousung Seo², Eunbi Choi³
¹College of Medicine, Yeungnam University, Daegu, Daegu, ²Yeungnam Univ. Hospital, DAEGU, ³Yeungnam Univ. Hospital, Daegu, .

2019 MR Facility Quality Assurance: A publicly available protocol

John Pyles¹, Timothy Verstynen¹, Joerg Magerkurth², Nikolaus Weiskopf³, Xavier Golay⁴, Ben Inglis⁵
¹BRIDGE Center, Dept. of Psych. and CMNI, Carnegie Mellon University, Pittsburgh, PA, USA, ²Birkbeck-UCL Centre for Neuroimaging, University College London, London, UK, ³Dept. of Neurophysics, Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, ⁴Institute of Neurology, University College London, Gold Standard Phantoms, London, UK, ⁵Henry H. Wheeler, Jr. Brain Imaging Center, University of California, Berkeley, CA, USA

2025* Fast, quantitative myelin maps: Macromolecular pool fraction (MPF) using an optimized protocol

Kimberly Desmond¹, Tobias Wood², Sofia Chavez¹
¹Centre for Addiction and Mental Health (CAMH), Toronto, Ontario, Canada, ²King's College, London, United Kingdom

2030 Reproducibility Assessment of Neuromelanin-Sensitive MRI Protocols for ROI and Voxelwise Analyses

Kenneth Wengler¹, Xiang He², Anissa Abi-Dargham², Guillermo Horga¹
¹Columbia University, New York, NY, ²Stony Brook University, Stony Brook, NY

2059 Regulating subliminal neural activity in the fusiform face area: an fMRI-based neurofeedback study

Lucas Peek¹, Patrik Vuilleumier¹
¹University of Geneva, Geneva, Geneva

2060 Real-Time Z-Shimming for Magnetic Resonance Imaging of the Spinal Cord

Eva Alonso-Ortiz¹, Cyril Tous², Ryan Topfer¹, Julien Cohen-Adad¹
¹NeuroPoly Lab, Ecole Polytechnique, Montreal, Quebec, ²Université de Montréal, Montreal, Quebec

2071 Dissimilarity of Functional Connectivity Reflects Effect of Participant's Motion in fMRI Study

Lejian Huang¹, Lili Yang², Bo Wu², Linyu Fan², Shishi Huang², Andrew Vigotsky¹, Marwan Baliki³, Zhihan Yan², A. Vania Apkarian¹
¹Northwestern University, Chicago, IL, ²Wenzhou Medical University, Wenzhou, Zhejiang, ³Shirley Ryan AbilityLab, Chicago, IL

2085 Post-traumatic fatigue due to injury of the lower ventral ARAS in mild TBI

Sung Ho Jang¹, Mi Young Lee², Young Hyeon Kwon³
¹College of Medicine, Yeungnam University, Daegu, Daegu, ²Daegu Haany University, Gyeongsang, North Gyeongsang Province, ³Yeungnam University Hospital, Daegu, Daegu

2086 The neural networks between the medial PFC and the PCC and precuneus in the human brain: a DTT study

Sung Ho Jang¹, Jeong Pyo Seo², Min Kyeong Cho³
¹College of Medicine, Yeungnam University, Daegu, ²Dankook University, Daegu, ³College of Medicine, Yeungnam University, Daegu

2087 Attention impairment due to injury of the ventrolateral prefrontal cortex in patients with mild TBI

Sung Ho Jang¹, Han Do Lee², Eun Bi Choi³
¹College of Medicine, Yeungnam University, Daegu, Daegu, ²Ulsan University of Science and Technology, Ulsan, Ulsan, ³Department of Physical Medicine and Rehabilitation, College of Medicine, Yeungnam University, Daegu, Daegu

2096 Open and silent brain scanner for MRI and neuromagnetic measurements

Koos Zevenhoven¹, Iiro Lehto¹, Marko Havu¹, Antti Mäkinen¹, Petteri Laine², Juho Luomahaara³, Mikko Kiviranta³, Risto Ilmoniemi¹

¹Aalto University, Aalto, Finland, ²MEGIN Oy, Helsinki, Finland, ³VTT, Espoo, Finland

2106 Assessment of cortical gray matter myelin with quantitative inhomogeneous magnetization transfer

Fanny Munsch¹, Gopal Varma¹, Manuel Taso¹, Shahamat Tauhid², Olivier Girard³, Guillaume Duhamel³, Rohit Bakshi², David Alsop¹

¹Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA, ²Brigham and Women's Hospital, Harvard Medical School, Boston, MA, ³Aix Marseille Univ, CNRS, Marseille, PACA

2122 Calibrated fMRI Sensitive to NMDA-Receptor Antagonist Ketamine Effects on Metabolism

Naomi Driesen¹, Peter Herman², Margaret Rowland¹, Garth Thompson³, Maolin Qiu², George He⁴, Peter Morgan⁵, Andrea Diaz-Stansky⁵, Sarah Fineberg⁵, Daniel Barron⁵, Lars Helgeson⁶, Robert Chow⁶, Ralitza Gueorguieva⁷, Teo-Carlo Straun⁸, John Krystal¹, Fahmeed Hyder²

¹Yale Dept. of Psychiatry, New Haven, CT, ²Yale Dept. of Radiology and Biomedical Engineering, New Haven, CT, ³iHuman Institute, Shanghai Tech University, Shanghai, Pudong, ⁴Yale Dept. of Psychology, New Haven, CT, ⁵Connecticut Mental Health Center, Yale Dept. of Psychiatry, New Haven, CT, ⁶Yale Dept. of Anesthesiology, New Haven, CT, ⁷Yale School of Public Health Dept. of Biostatistics, New Haven, CT, ⁸Straun Health and Wellness, New Haven, CT

2123 Multi-Voxel Spectroscopic Imaging at Rest and Task: GABA and Glutamate Across Human Motor Cortices

Jacob Levenstein¹, Justin Andrushko², William Clarke³, Catharina Zich³, Adam Steel⁴, Uzay Emir⁵, Peter Bandettini⁶, Charlotte Stagg³

¹NIH / University of Oxford, Bethesda, MD, ²University of Saskatchewan, Saskatoon, SK, ³University of Oxford, Oxford, Oxfordshire, ⁴Dartmouth College, Hanover, NH, ⁵Purdue University, West Lafayette, IN, ⁶National Institute of Mental Health, Bethesda, MD

2137 128 Channel Receive-Only Radio-Frequency Coil Design for High Resolution Brain Imaging

William Mathieu¹, Guangxing Li¹, Charbel Matta², Reza Farivar²

¹Research Institute of the McGill University Health Centre, Montréal, Québec, ²McGill University, Montréal, Québec

PERCEPTION, ATTENTION AND MOTOR BEHAVIOR

Attention: Auditory/Tactile/Motor

2200 Left-hemispheric network lateralization of alpha oscillations supports selective listening behavior

Mohsen Alavash¹, Sarah Tune¹, Jonas Obleser¹

¹University of Lübeck, Lübeck, Germany

2203 Can Brain Activity Predict Manual Dexterity Improvement after Surgery in Cervical Myelopathy?

Alicia Cronin¹, Sarah Detombe², Pat Doyle-Pettypiece², Sukhvinder Kalsi-Ryan^{3,4}, Mark Speechley¹, Neil Dugga², Robert Bartha¹

¹University of Western Ontario, London, Canada, ²London Health Sciences Centre, London, Canada, ³KITE Research Institute;TRI/UHN, Toronto, Canada, ⁴University of Toronto, Toronto, Canada

2275 The gating of primary somatosensory oscillations is dependent on directed attention

Alex Wiesman¹, Tony Wilson¹

¹University of Nebraska Medical Center, Omaha, NE

Attention: Visual

2201 Cingulate cortex Zone II plays critical role in attentional system

Riho Nakajima¹, Masashi Kinoshita¹, Hirokazu Okita², Mitsutoshi Nakada¹

¹Kanazawa University, Kanazawa, Japan, ²Kanazawa University Hospital, Kanazawa, Japan

2207 Functional connectivity dynamics capture attentional state dynamics

Monica Rosenberg¹, Dustin Scheinost², Abigail Greene², Emily Avery², Young Hye Kwon², Emily Finn³, Ramachandran Ramani⁴, Maolin Qiu², R. Todd Constable², Marvin Chun²

¹University of Chicago, Chicago, IL, ²Yale University, New Haven, CT, ³National Institute of Health, Bethesda, MD, ⁴University of Florida College of Medicine, Gainesville, FL

2212 The role of the viewpoint in the attentional guidance by memory: an fMRI study

Ilenia Salsano^{1,2}, Valerio Santangelo^{2,3}, Gabriella Antonucci⁴, Emiliano Macaluso^{2,5}

¹PhD Program in Behavioral Neuroscience, Sapienza University of Rome, Rome, Italy, ²Neuroimaging Laboratory, Santa Lucia Foundation IRCCS, Rome, Italy, ³Department of Philosophy, Social Sciences & Education, University of Perugia, Perugia, Italy, ⁴Department of Psychology, Sapienza University of Rome, Rome, Italy, ⁵ImpAct Team, Lyon Neuroscience Research Center, Lyon, France

2259 Consecutive High Influence of Saliency Network Connectivity on Reaction Time over 30 Days

Yu-Lun Su¹, Hong-Yi Wu², Po-Yi Chen², Chi-Yun Liu¹, Ai-Ling Hsu, PhD², Yi-Ping Chao³, Timothy J. Lane PhD¹, Changwei Wu¹

¹Taipei Medical University, Taipei, ²National Taiwan University, Taipei, ³Chang Gung University, Taoyuan City, Taoyuan City

2266 Visual saliency and stimulus relevance: effects on posterior and middle intraparietal sulcus

Tarik Jamouille¹, Jolien Schaevebeke¹, Qian Ran¹, Patrick Dupont¹, Rik Vandenberghe¹

¹Laboratory for Cognitive Neurology, Department of Neurosciences, KU Leuven, Leuven, Belgium

2278 Parasympathetic Arousal-Related Activity Associated With Attention During Cognitive Task Performance

Anita Barber¹, Majnu John¹, Pamela DeRosse¹, Michael Birnbaum¹, Todd Lencz¹, Anil Malhotra²

¹Zucker Hillside Hospital, Glen Oaks, NY, ²Zucker Hillside Hospital, Queens, NY

2283 Decoding the distribution of attention in the visual cortex

Armien Lanssens¹, Ronald Peeters², Hans Op de Beeck¹, Celine Gillebert¹

¹Department of Brain and Cognition, KU Leuven, Leuven, Vlaams-Brabant, ²Department of Radiology, University Hospitals Leuven; Department of Imaging & Pathology, KU Leuven, Leuven, Belgium

2292 Acute Depletion of Dopamine Precursors: Brain Functional Connectivity and Attentional Bias Effects

Amanda Elton¹, Monica Faulkner¹, Donita Robinson¹, Charlotte Boettiger¹

¹UNC Chapel Hill, Chapel Hill, NC

2297 A multivariate game theory – based analysis of line bisection anatomical correlates

Monica Toba¹, Melissa Zavaglia², Caroline Malherbe², Tristan Moreau³, Federica Rastelli³, Anna Kaglik³, Romain Valabregue⁴, Pascale Pradat-Diehl⁵, Claus Hilgetag⁶, Antoni Valero-Cabré⁷

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Chemical Senses: Olfaction, Taste

- 2187*** **Early processing of odor valence in the human olfactory bulb**
Behzad Iravani¹, Artin Arshamina¹, Johan Lundström^{1,2,3}
¹Karolinska Institutet, Stockholm, Sweden, ²Monell Chemical Sense Center, Philadelphia, PA, ³Stockholm University Brian Imaging Center, Stockholm, Sweden
- 2210** **Alterations of brain grey matter and olfactory bulb volumes in early blind individuals**
Christine Chouinard-Leclaire¹, Simona Manescu¹, Johannes Frasnelli², Franco Lepore¹
¹Université de Montréal, Montreal, Québec, ²Université du Québec à Trois-Rivières, Trois-Rivières, Québec
- 2247** **Using functional near-infrared spectroscopy to examine orbitofrontal cortex (OFC) response to sweet**
Eunice Chen¹, Michael McCloskey¹, Melanie French¹, Tess Wilde², Theodore Huppert³
¹Temple University, Philadelphia, PA, ²Swarthmore College, Swarthmore, PA, ³University of Pittsburgh, Pittsburgh, PA
- 2281** **Functional connectivity impairment of the olfactory-trigeminal network in Parkinson's disease.**
Cécilia Tremblay^{1,2}, Behzad Iravani², Émilie Lafontaine¹, Florian Fischmeister³, Jason Steffener⁴, Johan Lundström², Johannes Frasnelli^{1,5}
¹Université du Québec à Trois-Rivières, Trois-Rivières, Québec, Canada, ²Karolinska Institutet, Stockholm, Sweden, ³University of Graz, Graz, Vienna, ⁴University of Ottawa, Ottawa, Ontario, ⁵Sacré-Coeur Hospital of Montreal, Montreal, Canada

Consciousness and Awareness

- 2185*** **Reconfiguration of network hubs under anesthesia may predict recovery of consciousness**
Catherine Duclos^{1,2}, Danielle Nadin^{1,2}, Yacine Mahdid^{1,2}, Alexander Rokos^{1,2}, Mohamed Badawy^{1,2}, Justin Létourneau^{1,2}, Caroline Arbour^{3,4}, Gilles Plourde^{1,2}, Stefanie Blain-Moraes^{1,2}
¹McGill University, Montreal, Quebec, Canada, ²McGill University Health Centre, Montreal, Quebec, Canada, ³Université de Montreal, Montreal, Quebec, Canada, ⁴Centre intégré de santé et de services sociaux du Nord-de-l'Île-de-Montréal, Montreal, Quebec, Canada
- 2195*** **Connectome Harmonic Signatures of Consciousness in Anaesthesia and Disorders of Consciousness**
Andrea Luppi¹, Jakub Vohryzek^{2,3}, Selen Atasoy^{2,3}, Pedro Mediano¹, Michael Craig¹, Ioannis Pappas^{4,1}, Ram Adapa¹, Paola Finioia¹, Guy Williams¹, Judith Allanson¹, John Pickard¹, David Menon¹, Morten Kringelbach^{2,3}, Emmanuel Stamatakis¹
¹University of Cambridge, Cambridge, United Kingdom, ²University of Oxford, Oxford, United Kingdom, ³Aarhus University, Aarhus, Denmark, ⁴University of California - Berkeley, Berkeley, CA
- 2198** **Is interoceptive attention during breath-counting meditation reflected in functional connectivity?**
Shoko Yamamoto¹, Tomoyuki Hiroyasu¹, Satoru Hiwa¹
¹Department of Biomedical Sciences and informatics, Doshisha University, Kyoutanabe, Kyoto, Japan
- 2216** **Insula as the cortical gate of consciousness: a task fMRI study in propofol-induced unresponsiveness**
Zirui Huang¹, Anthony Hudetz¹
¹Department of Anesthesiology and Center for Consciousness Science, University of Michigan, Ann Arbor, MI

- 2227** **Microstructural Profiles of Thalamocortical Connection in Patients with Disorder of Consciousness**
Weihao Zheng¹, Xufei Tan², Yi Zhang¹, Benyan Luo², Dan Wu¹
¹Zhejiang University, Hangzhou, Zhe Jiang, ²The First Affiliated Hospital of Zhejiang University, Hangzhou, Zhe Jiang
- 2253** **Weak Connections in Functional Brain Networks Improve Classification of Consciousness States.**
Yacine Mahdid¹, Catherine Duclos², Stefanie Blain-Moraes³, Kathleen Berkun¹, Matthew Brookes⁴, Jason Da Silva Castanheira⁵, Lucrezia Liuzzi⁶, George Mashour⁷
¹McGill, Montréal, Quebec, ²Montreal General Hospital, Montreal, Quebec, ³McGill University, Montreal, Quebec, ⁴University of Nottingham, Nottingham, UK, ⁵McGill University, Montreal, Quebec, ⁶Sir Peter Mansfield Imaging Center, Nottingham, Nottinghamshire, ⁷Center for Consciousness Science and Department of Anesthesiology University of Michigan Medical Sch, Ann Arbor, MI
- 2282** **Temporal Windows for Selective Integration on Internal and External Information in Conscious Brain**
Minkyung Kim^{1,2}, Hyoung-Kyu Kim^{1,2}, Zirui Huang^{1,2}, UnCheol Lee^{1,2}
¹University of Michigan Medical School, Ann Arbor, MI, ²Center for Consciousness Science, University of Michigan, Ann Arbor, MI
- 2289*** **Predicting depth of sedation from latent structure in whole-brain cortical networks**
Corson Areshenkoff¹, Joseph Nashed², Matthew Hutchison³, Melina Hutchison⁴, Ravi Menon⁵, Stefan Everling⁵, Jason Gallivan²
¹Queens University, Kingston, Ontario, ²Queen's University, Kingston, Ontario, ³Biogen Inc., Cambridge, MA, ⁴Massachusetts Eye and Ear Infirmary, Boston, MA, ⁵Robarts Research Institute, London, Ontario
- 2291** **A Novel Template-based ICA Approach Reveals Psilocybin-Induced Changes in Thalamic Connectivity**
Andrew Gaddis¹, Mary Beth Nebel², Amanda Mejia³, Stewart Mostofsky², Roland Griffiths^{1,4}, Frederick Barrett^{1,4}
¹Johns Hopkins University School of Medicine, Department of Psychiatry and Behavioral Sciences, Baltimore, MD, ²Kennedy Krieger Institute, Baltimore, MD, ³Indiana University, Bloomington, IN, ⁴Center for Psychedelic and Consciousness Research, Johns Hopkins University, Baltimore, MD
- 2307** **Topographic Brain Network Properties Predict Emergence from Disorders of Consciousness**
Danielle Nadin^{1,2}, Catherine Duclos^{2,1}, Yacine Mahdid^{1,2}, Alexander Rokos^{1,2}, Mohamed Badawy^{1,3}, Justin Létourneau^{1,3}, Caroline Arbour^{4,5}, Gilles Plourde^{1,3}, Stefanie Blain-Moraes^{1,2}
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- 2310** **Tractography investigation in acute TBI patients using automatic bundle reconstruction**
Chiara Maffei¹, Yelena Bodien², Bram Diamond^{1,3}, Anastasia Yendiki¹, Brian Edlow^{3,1}, Samuel Snider³
¹Athinoula A. Martinos Center, Massachusetts General Hospital and Harvard Medical School, Charlestown, MA, ²Center for Neurotechnology and Neurorecovery Department of Neurology, Massachusetts General Hospital, Boston, MA, ³Center for Neurotechnology and Neurorecovery Department of Neurology, Massachusetts General Hospital, Boston, MA
- 2314** **Network Principles of Various Induction and Recovery during General Anesthesia**
Hyoungkyu Kim¹, Minkyung Kim², UnCheol Lee¹
¹University of Michigan, Ann Arbor, MI, ²University of Michigan Medical School, Ann Arbor, MI

Perception: Auditory/ Vestibular

- 2172 Altered FC of the thalamus in tinnitus patients is correlated with symptom alleviation after therapy**
Han Lv¹, Zhenchang Wang¹, Qian Chen¹, Shusheng Gong¹
¹Beijing Friendship Hospital, Capital Medical University, Beijing, CA
- 2182 EEG correlates of experimentally induced auditory illusions**
Maryam Faramarzi Yazd¹, André Aleman², Branislava Ćurčić-Blake³, Christoph Herrmann⁴
¹University of Oldenburg (Carl von Ossietzky Universität Oldenburg), Oldenburg, Germany,
²Department of Neuroscience, University Medical Center Groningen, Groningen, Groningen,
³University Medical Center Groningen, Groningen, Groningen, ⁴University of Oldenburg, Oldenburg, Oldenburg
- 2218 Structural plasticity of the vestibular system in ischemic pontomedullary stroke – A VBM study**
Julian Conrad¹, Marco Duering², Peter Zu Eulenburg², Marianne Dieterich²
¹LMU Munich, Munich, Germany, ²LMU Munich, Munich, Bavaria
- 2231 Processing sound in sleep: exploring periodicity encoding across brain states using MEG.**
Hugo Jourde¹, Alix Noly-Gandon², Keelin Greenlaw¹, Emily Coffey¹
¹Concordia University, Montréal, Québec, ²McGill University, Montréal, Québec
- 2246 Plasticity with cochlear implant use in children deaf in one ear**
Hyo-Jeong Lee^{1,2}, Daniel Smieja³, Melissa Polonenko³, Sharon Cushing⁴, Blake Papsin⁵, Karen Gordon⁶
¹Hallym University College of Medicine, Anyang-si, Gyeonggi-do, Republic of Korea, ²Archie's Cochlear Implant Laboratory, Hospital for Sick Children, University of Toronto, Toronto, ON, Canada,
³Archie's Cochlear Implant Laboratory, Hospital for Sick Children, University of Toronto, Toronto, ON, Canada,
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⁵Department of Otolaryngology - Head and Neck Surgery, University of Toronto, Toronto, ON, Canada,
⁶The Hospital for Sick Children, Toronto, ON, Canada
- 2265 Voice patches in macaques and humans: an anatomo-functional and representational comparison**
Régis Trapeau¹, Clementine Bodin¹, Bastien Cagna¹, Julien Sein¹, Bruno Nazarian¹, Melina Cordeau¹, Olivier Coulon¹, Pascal Belin¹
¹Institut des Neurosciences de la Timone, CNRS & Aix-Marseille Université, Marseille, France
- 2276 Improvement of speech-in-noise perception by audio to tactile sensory substitution**
Katarzyna Ciesla^{1,2}, Tomasz Wolak², Artur Lorens², Henryk Skarzynski², Amir Amedi¹
¹Brain Imaging Center, Baruch Ivcher School of Psychology, IDC, Herzliya, Israel, ²World Hearing Center, Institute of Physiology and Pathology of Hearing, Warsaw, Poland

Perception: Multisensory and Crossmodal

- 2188 Functional Brain Reorganization Following Spaceflight: A Resting-state fMRI Study**
Heather McGregor¹, Nichole Gadd², Igor Kofman², Yiri De Dios², Patricia Reuter-Lorenz³, Scott Wood⁴, Ajitkumar Mulavara², Jacob Bloomberg⁴, Rachael Seidler¹
¹University of Florida, Gainesville, FL, ²KBR, Houston, TX, ³University of Michigan, Ann Arbor, MI,
⁴NASA Johnson Space Center, Houston, TX
- 2196 Exploring Effects of Visual Based Activities Using DTI and Resting State Imaging**
Audrey Wack¹, Ferdinand Schweser², Konstantinos Slavakis², Kathleen McNeerney³, Sarah Muldoon², Cheryl McGranor², Erin Kelly⁴, Robert Miletich², David Wack²
¹Boston University, Boston, MA, ²University at Buffalo, SUNY, Buffalo, NY, ³Buffalo State College, SUNY, Buffalo, NY, ⁴Canon Medical Systems USA, Inc., Tustin, CA

- 2205 Electrophysiological Correlates of Audiovisual Binding in Simultaneity Perception**
Phillip Johnston^{1,2}, Claude Alain^{1,2}, Anthony Randal McIntosh^{1,2}
¹University of Toronto, Toronto, Canada, ²Rotman Research Institute, Toronto, Canada
- 2215 Distinct sensory representations in amodal networks: Topographic maps representing haptic numerosity**
Shir Hofstetter¹, Yuxuan Cai¹, Ben Harvey², Serge Dumoulin¹
¹Spinoza Centre for Neuroimaging, Amsterdam, Netherlands, ²Utrecht University, Utrecht, Netherlands
- 2220* Decoding texture from audio-haptic sources: an fMRI study**
Caroline Landelle¹, Jeanne Caron-Guyon², Bruno Nazarian³, Jean-Luc Anton³, Julien Sein³, Michel Amberg⁴, Frederic Giraud⁴, Jeremy Danna⁵, Anne Kavounoudias⁶
¹McConnell Brain Imaging Center, Montréal, Quebec, ²Aix-Marseille university, Marseille, Entrer un choix ci-dessous, ³Aix-Marseille Université, Institut de Neurosciences de la Timone, Marseille, NA, ⁴Université Lille, Lille, NA, ⁵Aix-Marseille University, Marseille, NA, ⁶Aix-Marseille University, Marseille, FM
- 2221 Investigation of image and sound processing of the human brain using multisensory stimuli**
Minyoung Jung¹, Wang-Won Lee¹, Niv Lustig¹, Min-Seok Choi¹, Jong-Hwan Lee¹
¹Korea University, Seoul, Republic of Korea
- 2222 Investigation of Multimodality from Unimodal Classification Using Deep Neural Network: Image & Text**
Juhyeon Lee¹, Changha Lee¹, Hyun-Chul Kim¹, Jinsu Kim¹, Sungman Jo¹, Minyoung Jung¹, Jong-Hwan Lee¹
¹Korea University, Seoul, Republic of Korea
- 2235 Brain Networks Influencing Obstacle Avoidance in Congenitally Blind Participants**
Daniel-Robert Chebat¹, Fabien Schneider², Maurice Ptito³
¹Ariel University, Ariel, Israel, ²University of Lyon, Neuroradiology Unit, University Hospital of Saint Etienne, Saint-Etienne, St-Etienne, ³University of Montreal, Montreal, Quebec
- 2248 Did I Just See What I Heard? – Audiovisual Integration During a Music-in-Noise Task Using fMRI**
Sebastian Dresbach¹, Peer Herholz², Robert Zatorre³, Emily Coffey⁴
¹Maastricht University, Maastricht, Limburg, ²Montréal Neurological Institute, McGill University, Montréal, Québec, ³Montreal Neurological Institute, Montreal, Québec, ⁴Concordia University, Montréal, Québec
- 2255 Naturalistic stimulation in sensory-deprived individuals reveals different reorganization mechanisms**
Francesca Setti¹, Giacomo Handjaras¹, Matteo Diano², Valentina Bruno², Carla Tinti², Pietro Pietrini¹, Francesca Garbarini², Andrea Leo¹, Emiliano Ricciardi¹
¹IMT School for Advanced Studies Lucca, Lucca, LU, ²Department of Psychology, University of Turin, Turin, TO
- 2257 Voxel-wise modelling demonstrates sound envelope representation in primary visual cortex**
Alice Martinelli¹, Giacomo Handjaras¹, Monica Betta¹, Andrea Leo¹, Luca Cecchetti¹, Pietro Pietrini¹, Emiliano Ricciardi¹, Davide Bottari¹
¹IMT School for Advanced Studies, Lucca, Lucca
- 2260 Theta-band oscillations in temporal cortex drive perception in naturalistic audiovisual speech**
Raphaël Thézé¹, Mehdi Gadir¹, Louis Albert², Antoine Provost², Anne-Lise Giraud¹, Pierre Mégevand^{1,3}
¹Université de Genève, Genève, Switzerland, ²Fondation Campus Biotech Genève, Genève, Switzerland, ³Hôpitaux Universitaires de Genève, Genève, Switzerland

Perception: Pain and Visceral

- 2274*** **How the onset of blindness affects the interplay between crossmodal and intramodal plasticity**
Stefania Mattioni^{1,2}, Mohamed Rezk¹, Ceren Battal^{1,2}, Jyothirmayi Vadlamudi¹, Olivier Collignon^{1,2}
¹UCLouvain, Louvain-la-Neuve, Belgium, ²Cimec, Trento, Italy
- 2173** **Alterations in Internetwork Functional Connectivity among Patients with Chronic Migraine**
Kirill Markin¹, Dmitriy Tarumov², Artem Trufanov³, Daria Frunza³
¹S.M. Kirov Military Medical Academy, Saint-Petersburg, Russian Federation, ²S.M. Kirov Military Medical Academy, Saint-Petersburg, Russian Federation, ³S.M. Kirov Military Medical Academy, Saint-Petersburg, Saint-Petersburg
- 2176** **Dynamic causal modelling of the reduced habituation of laser evoked potentials in migraine**
lege Bassez¹, Katia Ricci², Eleonora Vecchio², Marianna Delussi², Frederik Van de Steen¹, Marina de Tommaso², Daniele Marinazzo¹
¹Department of Data Analysis, Ghent University, Ghent, Belgium, ²Applied Neurophysiology and Pain Unit, SMBNOS Department, Bari Aldo Moro University, Bari, Italy
- 2186** **Neuropsychological models of breathlessness**
Sarah Finnegan¹, Olivia Faulk², Catherine Harmer¹, Mari Herigstad³, Najib Rahman⁴, Andrea Reinecke¹, Kyle Pattinson⁵
¹University of Oxford, Oxford, Oxfordshire, ²Translational Neuromodeling Unit, Institute for Biomedical Engineering, University of Zurich and ETH, Zurich, Switzerland, ³Department of Biosciences and Chemistry, Sheffield Hallam University, Sheffield, Sheffield, ⁴Nuffield Department of Medicine, University of Oxford, Oxford, Oxfordshire, ⁵University of Oxford - Nuffield Dept. of Clinical Neurosciences, Oxford, England
- 2193** **Resting State and DTI Imaging of Chronic Pain Disability.**
David Corey¹, Robert Miletich², David Wack²
¹Brain Scan Diagnostics, Toronto, Ontario, ²University at Buffalo, SUNY, Buffalo, NY
- 2204** **The neural representation of pain in value-based decision-making.**
Michel-Pierre Coll¹, Hocine Slimani¹, Sienna Sangra¹, Pierre Rainville², Mathieu Roy¹
¹McGill University, Montreal, Quebec, ²University of Montreal, Montreal, Quebec
- 2211** **Augmented Nociceptive Processing Accompanies Greater Pain Sensitivity in Adolescents: an fMRI Study**
Han Tong^{1,2}, Thomas Maloney¹, Michael Payne¹, Susmita Kashikar-Zuck¹, Robert Coghill¹, Marina Lopez-Sola¹
¹Cincinnati Children's Hospital Medical Center, Cincinnati, United States, ²University of Cincinnati, Cincinnati, United States
- 2217** **Brainstem and cingulate texture abnormalities in medically-refractory trigeminal neuralgia patients**
Hayden Danyluk^{1,2}, Abdullah Ishaque^{3,4}, Sanjay Kalra^{5,4}, Tejas Sankar²
¹Division of Surgical Research, Department of Surgery, University of Alberta, Edmonton, Canada, ²Division of Neurosurgery, Department of Surgery, University of Alberta, Edmonton, Canada, ³Faculty of Medicine and Dentistry, University of Alberta, Edmonton, Canada, ⁴Neuroscience and Mental Health Institute, University of Alberta, Edmonton, Canada, ⁵Division of Neurology, Department of Medicine, University of Alberta, Edmonton, Canada
- 2226** **Mega-analysis categorically shows acute pain intensity representation is distributed.**
Bogdan Petre¹, Lauren Atlas², Stephan Geuter³, Marieke Jempa⁴, Leonie Koban⁵, Marina Lopez-Sola⁶, Anjali Krishnan⁷, Mathieu Roy⁸, Choong-Wan Woo⁹, Tor Wager¹
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- 2233** **Brain white matter predicts the risk of transition to chronic pain across sites**
Paul Geha^{1,2}, Arslan Farooqi³
¹Department of Psychiatry in University of Rochester, Rochester, NY, ²Yale University, New Haven, CT, ³Department of Engineering, Rochester, NY
- 2234** **Multi-modal Cerebral Biomarkers of Chronic Low Back Pain**
Bidhan Lamichhane¹, Dinal Jayasekera¹, Tyler Frank¹, Justin Zhang¹, Derayvia Grimes¹, Ammar Hawasli¹
¹Washington University in Saint Louis, Saint Louis, MO
- 2236** **Cortical and subcortical delineation of nociceptive and vestibular domains**
Judita Huber^{1,2}, Maxine Rueh³, Virginia Flanagan^{1,2,4}, Peter Zu Eulenburg^{1,5}
¹Graduate School of Systemic Neurosciences, LMU Munich, Planegg-Martinsried, Germany, ²Research Training Grant 2175, LMU Munich, Planegg-Martinsried, Germany, ³Department of Neurology, LMU Munich, Munich, Germany, ⁴German Center for Vertigo and Balance Disorders, LMU Munich, Munich, Germany, ⁵Institute for Neuroradiology, LMU Munich, Munich, Germany
- 2237** **Whole CNS imaging of pain modulation: from spinal cord to brain**
Valeria Oliva¹, Rosalyn Moran², Anthony Pickering¹, Jonathan Brooks¹
¹University of Bristol, Bristol, United Kingdom, ²King's College London, London, United Kingdom
- 2238** **Temporal understanding of neural mechanisms in pain prediction and perception**
Suhwan Gim^{1,2}, Choong-Wan Woo^{1,2}
¹Sungkyunkwan University, Suwon, Korea, Republic of, ²Center for Neuroscience Imaging Research, Institute for Basic Science, Suwon, Korea, Republic of
- 2239** **Brain Measures of Offset Analgesia using Functional Near-Infrared Spectroscopy**
Hendrik Santosa¹, Benedict Alter², Ajay Wasan², Theodore Huppert¹
¹University of Pittsburgh, Pittsburgh, PA, ²University of Pittsburgh Medical Center, Pittsburgh, PA
- 2240** **Cortical gray matter volume predicts pain relief following radiosurgery for trigeminal neuralgia**
Peter Shih-Ping Hung¹, Alborz Noorani¹, Mojgan Hodaie¹
¹University of Toronto, Toronto, Canada
- 2241** **Spatio-temporal dynamic of pain perception modulated by mindfulness intervention: An EEG study**
Emilia Iannilli¹, Jonathan McKinley¹, Maria Hancu¹, Ilknur Telkes¹, Marisa DiMarzio¹, Michael Gillogly¹, Lucian Williams¹, Stefana Stan¹, Julie Pilitsis¹
¹Albany Medical College, Albany, NY
- 2242** **Pain relief reverses hippocampal abnormalities in trigeminal neuralgia**
Alborz Noorani¹, Peter Shih-Ping Hung¹, Jia Y. Zhang², Mojgan Hodaie¹
¹University of Toronto, Toronto, Ontario, ²Schulich School of Medicine and Dentistry, London, Ontario

- 2244 The Structure and Function of the Nucleus Accumbens is a Potential Biomarker of Chronic Pain**
Meena M. Makary^{1,2,3}, Pablo Polosecki⁴, Guillermo Cecchi⁵, Ivan DeAraujo⁶, Daniel Barron⁷, R. Todd Constable⁷, Peter Whang⁷, Donna Thomas⁸, Hani Mowafi⁹, Dana Small⁷, Paul Geha¹⁰
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- 2250 Structural pathways traversing the splenium play a role in pain perception**
Guillermo Aristi¹, Christopher O'Grady¹, Manyoel Lim¹, Amita Goyal¹, Steven Beyed¹, Chris Bowen¹, Javeria Hashmi¹
¹Dalhousie University, Halifax, Nova Scotia
- 2251 Symptoms of Havana Syndrome are linked with alterations in white matter microstructure.**
Guillermo Aristi¹, Chris Bowen¹, Margaux Ross¹, Cynthia Cailkin¹, Alon Friedman¹, Javeria Hashmi¹
¹Dalhousie University, Halifax, Nova Scotia
- 2254 Individual variability of regional multivariate patterns in pain prediction**
Lada Kohoutova¹, Tor Wager², Choong-Wan Woo³
¹Sungkyunkwan University, Suwon, Gyeonggi-do, ²Dartmouth College, Hanover, NH, ³Center for Neuroscience Imaging Research, Institute for Basic Science, Suwon, Gyeonggi-do
- 2256 Chronic pain is not associated with accelerated structural brain aging**
Peter Sörös¹, Carsten Bantel¹
¹University of Oldenburg, Oldenburg, Germany
- 2267 Individual Patterns of Functional Connectivity in Chronic Back Pain and Chronic Migraine**
Astrid Mayr¹, Anne Stankewitz¹, Vasudev Devulapally¹, Pauline Jahn¹, Andreas Straube¹, Enrico Schulz¹
¹Ludwig-Maximilians-Universität München, München, Bavaria
- 2268 Neurobiological Evidence of Pain Vulnerability in Children**
Chelsea Kaplan¹, Andrew Schrepf¹, Ishtiaq Mawla¹, Eric Ichesco¹, Kevin Boehnke¹, Tony Larkin¹, Saige Rutherford¹, Alexandre Tsodikov¹, David Williams¹, Afton Hassett¹, Daniel Clauw¹, Steven Harte¹, Richard Harris¹
¹University of Michigan, Ann Arbor, MI
- 2269 Cortical thickness mediates the association between pain and sleep in older adults**
Soamy Montesino Goicolea¹, Pedro Valdes-Hernandez¹, Joseph Riley III¹, Roger Fillingim¹, Adam Woods¹, Ronald Cohen¹, Eric Porges¹, Yenisel Cruz-Almeida¹
¹University of Florida, Gainesville, FL
- 2277 Neural foundations of chronic pain: An ALE meta-analysis of regional brain activation**
Noah Waller¹, Semra Aytur¹, Kimberly Ray², Donald Robin¹
¹University of New Hampshire, Durham, NH, ²Department of Psychology, University of Texas, Austin, TX
- 2287 Effect size and reliability of the Neurological Pain Signature**
Xiaochun Han¹, Lauren Atlas², Luke Chang¹, Leonie Koban³, Elizabeth Reynolds Losin⁴, Mathieu Roy⁵, Choong-Wan Woo⁶, Tor Wager¹
¹Dartmouth College, Hanover, NH, ²NIH, Bethesda, MD, ³Insead Fontainebleau & ICM Paris, Paris, Île-de-France, ⁴University of Miami, Miami, FL, ⁵McGill University, Montreal, Quebec, ⁶Center for Neuroscience Imaging Research, Institute for Basic Science, Suwon, Gyeonggi-do

- 2293 Functional connectivity between the amygdala and pain-related brain regions in youth with FAPD**
Natoshia Cunningham¹, Hadas Nahman-Averbuch², Gregory Lee², Christopher King², Robert Coghill³
¹Michigan State University, Grand Rapids, MI, ²Cincinnati Children's Hospital Medical Center, Cincinnati, OH, ³Cincinnati Children's Hospital, Cincinnati, OH
- 2294 Distinct Brain Oscillatory Patterns during Conditioned Pain Modulation in Chronic Pain**
Hyerang Jin¹, Bart Wltjes², Mathieu Roy³, Sylvain Baillet¹, Cecile de Vos²
¹McConnell Brain Imaging Centre, Montreal Neurological Institute, McGill University, Montreal, Canada, ²Erasmus University Medical Centre, Rotterdam, The Netherlands, ³Department of Psychology, McGill University, Montreal, Canada
- 2295 Facilitated Cortical Nociceptive-Evoked Responses in Subjects With Extensive Sensorimotor Training**
Anna Zamorano¹, Federico Arguissain¹, Boris Kleber², Peter Vuust², Herta Flor³, Thomas Graven-Nielsen¹
¹Center for Neuroplasticity and Pain, Department of Health Science and Technology, Aalborg University, Denmark, ²Center for Music in the Brain, Dept. Aarhus University & The Royal Academy of Music Aarhus/Aalborg, Aarhus University, Denmark, ³Department of Cognitive and Clinical Neuroscience, Central Institute of Mental Health, Mannheim, Germany
- 2308 Age-related changes in pain processing and resting state functional connectivity**
Pedro Valdes-Hernandez¹, Soamy Montesino Goicolea¹, Roger Fillingim¹, Joseph Riley III¹, Adam Woods¹, Ronald Cohen¹, Eric Porges¹, Yenisel Cruz-Almeida¹
¹University of Florida, Gainesville, FL

Perception: Tactile/Somatosensory

- 2178 Reproducibility of corticokinematic coherence in EEG**
Harri Piitulainen¹, Mathieu Bourguignon², Mia Illman³, Veikko Jousmäki⁴
¹Faculty of Sport and Health Sciences, University of Jyväskylä, Jyväskylä, ²Laboratoire de Cartographie fonctionnelle du Cerveau, Université libre de Bruxelles, Brussels, ³Department of Neuroscience and Biomedical Engineering, Aalto University School of Science, Espoo, ⁴Aalto Neuroimaging, Aalto University, Espoo
- 2192 Whole brain mapping of somatosensory responses in the common marmoset**
Justine Clery¹, Yuki Hori¹, David Schaeffer¹, Kyle Gilbert¹, Joseph Gati¹, Ravi Menon¹, Stefan Everling¹
¹Robarts Research Institute, London, Ontario
- 2197 Shared response modelling of somatosensory digit representations using 7T fMRI**
Oliver Contier^{1,2}, Esther Kühn³, Michael Hanke^{2,4}
¹Max Planck School of Cognition, Leipzig, Germany, ²Institute of Neuroscience and Medicine: Brain and Behavior (INM-7), Research Center Jülich, Jülich, Germany, ³Institute of Cognitive Neurology & Dementia Research, Otto-von-Guericke University, Magdeburg, Germany, ⁴Institute of Systems Neuroscience, Heinrich Heine University, Düsseldorf, Germany
- 2228 Hand & face somatotopy shown by MRI-safe vibrotactile stimulation with new soft pneumatic actuators**
Sanne Kikkert¹, Harshal Sonar², Jamie Paik², Nicole Wenderoth¹
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2288 The Comparison of LLL and Electrical Stimulation Induced Brain Activations: a rodent fMRI study
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Perception: Visual

2174 Retinotopic cortical mapping as an objective functional monitoring tool of macular therapy
 Allan Hummer¹, Markus Ritter², David Linhardt¹, Anna Ledolter², Michael Woletz¹, Maximilian Pawloff²,
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**2175 Parcel-based eigenvector centrality reveals configuration of cerebral network during movie-
 watching**
 Akitoshi Ogawa¹
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**2177 Binocular Rivalry Dominance & Suppression Preferentially Rely on Dorsal & Ventral
 Stream Connections**
 Elizabeth Bock¹, Sylvain Baillet², Jeremy Fesi¹, Janine Mendola¹
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2180* Investigating Neurophysiological Sources of Multimodal Neuroimaging in Humans
 Fatemeh Ebrahimi^{1,2,3}, Morteza Mahdiani^{4,1}, Seyed-Mahdi Khaligh-Razavi¹
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2181 Investigating the laminar profile of predictive signalling in human V1 with 7T fMRI
 Chantal Miller¹, Alice Hickling¹, Joost Haarsma¹, Liliana Galindo¹, Colleen Rollins¹, Catarina Rua²,
 Christopher Rodgers^{2,3}, Floris de Lange⁴, Peter Kok⁵, Jane Garrison¹, Graham Murray¹
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2183 Neural activity in extensive cortical and subcortical networks supports visual object recognition
 Max Levinson¹, Ella Podvalny¹, Steven Baete¹, Biyu He¹
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2184 Neurochemical Changes in Retinal Degeneration
 Aislin Sheldon¹, Jasleen Jolly^{2,3,1}, I. Betina Ip¹, Ivan Alvarez¹, Sophie Templer¹, Adam Steel⁴, William
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2190 Progression of visual pathway white matter degeneration in glaucoma
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2191 Representational distinction of numbers, letters, and novel characters in the “number form area”
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**2199 Animacy of perspective-taking objects modulates neural representations of mentally
 rotated objects**
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2202 Do Unsupervised Deep Neural Networks Model Neural Activity Patterns in Visual Brain Areas?
 Anna Truzzi¹, Rhodri Cusack¹
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2232 Experimental achromatopsia treatment reveals the extent of cortical recovery in adulthood
 Ayelet McKyton¹, Eyal Banin¹, Netta Levin¹
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**2258 Face and body emotion perception across development and associated white
 matter microstructure**
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2261 FMRI reveals anterior V1 activation in a retinitis pigmentosa patient
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2270 Involvement of magnocellular and parvocellular pathways in reading and visual recognition
 Pedro Paz-Alonso¹, Garikoitz Lerma-Usabiaga¹, Maddi Ibarbia¹
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2271 Depth-cue invariance as a fundamental principle of visual object recognition
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2273 A bilateral model of congenital prosopagnosia – connectivity between FFA and ATL
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 Andreas Jansen¹
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- 2279 Anticipatory responses to cross-category predictive cues: fMRI on face and place sensitive areas**
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- 2284 Neuroimaging data from multiple sources in PRoNTo v3.0: spatiotemporal patterns of face processing**
Isabel David^{1,2}, Jessica Schrouff¹, Tong Wu^{1,3}, Konstantinos Tsirlis¹, Gilles Pourtois⁴, Christophe Phillips⁵, Janaina Mourao-Miranda¹
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- 2285 Predicting conscious perception in patients with striate cortex lesions: A MEG study**
Vanessa Hadid¹, Annalisa Pascarella², Tarek Lajnef¹, Michèle MacLean¹, Dang K. Nguyen³, Karim Jerbi¹, Franco Lepore¹
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- 2286 Rhythmic sampling of visual features in the brain during object recognition**
Laurent Caplette¹, Karim Jerbi¹, Frédéric Gosselin¹
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- 2290 Population receptive fields in V1 are altered in glaucoma**
Melissa Wright¹, Krish Singh¹, Simon Rushton¹, D. Samuel Schwarzkopf², James Morgan¹, Slawomir Kusmia¹, Tony Redmond¹
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- 2298* Genetic influence is linked to cortical morphology in category-selective areas of visual cortex**
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- 2299 Ultra-High Field fMRI Reveals Top-Down Modulations to Identical Visual Input in High-Level Cortices**
Logan Dowdle¹, Geoffrey Ghose¹, Kamil Ugurbil¹, Essa Yacoub¹, Luca Vizioli¹
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- 2301 Shared experience drives non-uniform prototypical spatial signals**
Angela Zhang¹, Sebastien Proulx¹, Yiran Chen¹, Reza Farivar¹
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- 2304 Recurrent Neural Pathways in Motion and Shape Visual Perception: a TMS Study**
Nataliia Zhozhikashvili¹
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- 2306 Visual cortex activation in subjects with artificially impaired vision: a model of optic neuritis**
Pavel Hok¹, Jan Kremláček², Tereza Svrčinová¹, František Odstrčil³, Irena Šínová⁴, Martina Rybáriková⁴, Anna Arkhipova¹, Ivona Korčáková⁵, Jan Valošek⁵, Jan Mareš¹, Petr Hluštík¹, Petr Kaňovský¹, Martin Šín⁴
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- 2309* The brainlife.io cloud services for human visual-field mapping & population receptive field estimate**
David Hunt¹, Bradley Caron², Steven O'Riley¹, Soichi Hayashi³, Franco Pestilli¹
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- 2312 N170 as a brain representation for generic real-world visual expertise: a review and meta-analysis**
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- 2313 Differential roles of the two face networks in processing identity and social information**
Rui Dai¹, Sheng He²
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- 2315 Reconstruction of continuous motion direction from fMRI data**
Riccardo Barbieri¹, Felix Töpfer^{1,2}, Joram Soch^{1,3}, Carsten Bogler^{1,3}, John-Dylan Haynes^{1,3,4,5,6,2,7,8}
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Sleep and Wakefulness

- 2179 BOLD & Physiological Correlates of Microsleeps and Awakening**
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- 2189 A daytime nap benefits spatial and motor skills but a night of sleep enhances cognitive strategies**
Nicholas van den Berg¹, Balmeet Toor², Alyssa Pozzobon³, Julia Al-Kuwatli¹, Laura Ray⁴, Stuart Fogel⁵
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- 2206 Toward a Complete Taxonomy of Resting State Networks Across Wakefulness and Sleep**
Evan Houldin¹, Zhuo Fang², Laura Ray³, Adrian Owen⁴, Stuart Fogel⁵
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2208* Non-REM Sleep Network Connectivity Represents an Altered, Not a Reduced State of Consciousness

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2213 Alterations in overnight changes of Glutamate+Glutamine levels in children and adolescents with ADHD

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2214 Shared genetic etiology between sleep duration, behavior, and cortical thickness

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2225 Extracting Beat Information in Sleeping Brain

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2229 Concurrent fMRI-EEG to study maintenance of wakefulness in healthy and sleep-prone subjects

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2243* The impact of sleep deprivation on cortical functional integration and cognition.

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2245 Exploring how auditory stimulation during sleep affects brain activity using MEG

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2249 Altered Cognitive Control Activations After Moderate Sleep Loss

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2262 Increased Default-Mode Network Connectivity with Fatigue and Sleepiness Following a Brain Injury

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2263 Dynamic functional maps capture new features of information integration and consciousness in sleep

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2264 Continuous enhancement of default mode network activity during deep sleep

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2280 EEG and behavioural correlates of mild sleep deprivation and vigilance

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2296 EEG scaling properties in individuals with high vs low dream recall: A machine learning study

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2302 The relationship between cognitive ability and BOLD activation across sleep-wake states.

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2303 Towards a characterization of the loss of wakefulness using a time varying connectivity approach

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2305 A sequence of activity across thalamic nuclei occurs at arousal from NREM sleep

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2311 Slow wave sleep is associated with structural markers of brain health

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Perception and Attention Other

2194 Changes in resting-state functional connectivity by cognitive fatigue

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2209 Electroacupuncture alters insular cortex functional connectivity in obesity patients during food-cue

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2219 Cortical processing of interoceptive prediction errors using inspiratory resistive loads

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2223 Functional Connectivity of Amygdala in a Simple and Short Picture Viewing Task

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2224 Connectivity Dynamics of the Right Anterior Insula Revealed by fMRI-constrained EEG Source Analysis

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PHYSIOLOGY, METABOLISM AND NEUROTRANSMISSION

Cerebral Metabolism and Hemodynamics

2316 Quantification of Brain Oxygen Extraction Fraction (OEF) Using QSM and a Hyperoxic Challenge

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2317 Modified resting state fMRI protocol for improved denoising and assessment of vascular function

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2320 Whole Brain Aerobic Glycolysis Indices Measured with MRI and 18FDG PET: Preliminary Validation

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2321 Effect of vascular oxygen heterogeneity on the BOLD fMRI signal : a simulation study

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2325 How to Best Model the fMRI Carbon Dioxide Response Function: A Comparison of Three Methods

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2326 Regional and depth-dependence variations of cortical blood-flow assessed with high-resolution ASL

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2327 Non-linear characteristics of the negative blood oxygen-level dependent response in human brain

Jung Hwan Kim¹, Amanda Taylor¹, Natasha Del La Rosa¹, David Ress¹

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2328* Metabolic basis of human brain network nodes in resting-states of eyes-closed and eyes-open

Yury Koush¹, Robin de Graaf¹, Peter Herman¹, Douglas Rothman¹, Fahmeed Hyder¹

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2332 Multi-session CVR variability within functional networks

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- 2334 Interaction between Electroencephalographic and Cerebral Metabolic Activity in Neonatal Asphyxia**
Rasheda Chowdhury¹, Zamzam Mahdi¹, Beatrice Desnous¹, Bohdana Marandyuk², Imen Benhmida², Guylaine Aubé², Elana Pinchetsky¹, Ala Birca¹, Mathieu Dehaes¹
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- 2335 Study of the connector hubs metabolism within dual intertwined architecture in healthy controls**
Fatemeh Razavipour¹, Kangjoo Lee^{2,3}, Stephane Blinder¹, Jean-Paul Soucy³, Stephan Grimault¹, Habib Benali^{4,1}, Claudine J Gauthier^{1,5}, Christophe Grova^{1,3}
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- 2337 Cerebral perfusion is related to blood pressure recovery after exercise in healthy older adults**
Brittany Intzandt¹, Tudor Vrinceanu², Fatemeh Razavipour³, Kristell Pothier⁴, Karen Li³, Anil Nigam⁵, TTM Vu⁶, Nicolas Berryman⁷, Louis Bherer⁵, Claudine Gauthier³
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- 2338 The role of glutamate in the cerebral blood flow response to poikilocapnic hypoxemic hypoxia**
Martyn Ezra¹, Kyle Pattinson¹
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- 2339 Hemodynamic changes of common EEG patterns in critically ill patients: a pilot EEG-fNIRS study**
Ali Kassab¹, Denahin Toffa¹, Manon Robert¹, Frédéric Lesage², Ke Peng¹, Dang K. Nguyen¹
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- 2342 Changes in Brain Hemodynamics and Metabolism in Preterm Infants Born at 29-36 Weeks of Gestation**
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- 2322 BOLD signal-based perfusion lag mapping in monkey brain**
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- 2331* Cortical silencing results in paradoxical fMRI over-connectivity**
Carola Canella¹, Federico Rocchi¹, Shahryar Noei¹, Daniel Gutierrez-Barragan¹, Ludovico Coletta¹, Alberto Galbusera¹, Marco Paganini¹, Massimo Pasqualetti², Giuliano Iurilli¹, Stefano Panzeri¹, Alessandro Gozzi¹
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- 2333 Irregular heart rhythms unmask cardiac modulation of BOLD signal from respiratory influences**
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- 2341 Dexmedetomidine, used for studying neurovascular coupling, induces seizures in rats but not in mice.**
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- 2323 The role of serotonin in the dynamics of reversal learning: a drift-diffusion learning model**
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- 2324 Unravelling the effects of methylphenidate on the dopaminergic and noradrenergic functional circuits**
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- 2330 Psilocybin induces drug-level dependent disruption of resting-state network functional connectivity**
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- 2318 A physiologically-based computational model to study brain lactate exchanges**
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- 2319 OT downregulates rewarding of novel metaphorical compliments in ovulation via dACC-OFC connectivity**
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- 2336 Compact co-alignment of cortical spatiotemporal spontaneous events and evoked responses**
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- 2340 The influence of biofeedback on cardiac regulation and prefrontal functional connectivity at rest**
Andy Schumann¹, Feliberto De la Cruz², Stefanie Köhler¹, Lisa Brotte³, Karl-Jürgen Bär²
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