## GLOBAL BRAIN CONSORTIUM

Montreal Neurological Institute de Grandpré Communications Centre

9-10 May 2019

#### Welcome Messages



Alan Evans, Co-Chair Global Brain Consortium



Pedro Valdes-Sosa, Co-Chair Global Brain Consortium

On behalf of our entire Steering Committee, it is a pleasure to welcome you all to the inaugural meeting of the Global Brain Consortium (GBC). Numerous workshops in recent years on the topic prove that there is considerable appetite for the creation of transnational neuroscience networks that will allow us to tackle some of biggest questions in neuroscience. Recent advances in information technology to mediate data-sharing, dedicated support from funders, and a burgeoning culture of Open Science offer new hope for meaningful scientific engagement on an international scale. However, bringing scientists across the globe together

to work collectively has been difficult - for a variety of technical, logistical, ethical and sociopolitical reasons. We must work together – scientists, technology developers and funders - to devise the strategies

that can make this happen. This is why we have come together here today.

Finding a place to begin that provides an opportunity for us to have a scientific focus, tackle major technological challenges and enhance global impact is a delicate balancing act. Modern neuroscience has a considerable arsenal of theoretical, modelling and neuroimaging technologies, but many of these devices are not readily available in Lower- and Middle-Income Countries (LMIC). Fortunately, access to an array of digital and neuro-technologies, enhanced in recent years thanks to the investment of the Big Brain initiatives, may allow us to cross this critical divide. This in turn will open collaborative opportunities for neuroscientists and clinicians in LMIC who have been somewhat marginalized from previous efforts in global collaboration. This was the focus of a first meeting of international Brain Projects with the World Health Organization in Geneva in 2016, regarding health care to underserved populations around the world. The GBC Steering Committee now seeks to level the playing field by creating an ecosystem where we can learn from each other.

We have elected to begin this venture with EEG, a technique that allows us to study dynamic brain states in consciousness, sleep, anesthesia, and across multiple brain disorders. EEG has exquisite temporal resolution in quantifying brain states, and is broadly used internationally. We believe it is an excellent use case that will lay the groundwork for a new global neuroscience collaborative ecosystem - tackling complex issues of international best practices and data-sharing, fostering global precision mental health and reducing the global burden of brain disorders. Our current efforts are based upon and considerably expand the Canada-Cuba-China collaboration that has received support from the Quebec, Cuban, and Chinese governments. It has initiated the construction, within the framework of Canadian Open Neuroscience Platform (CONP), of an accessible neuroinformatics platform that not only includes EEG but also is conceived to make possible full engagement from all countries regardless of their economic setting.

We are deeply grateful to the Ludmer Foundation and the Healthy Brains for Healthy Lives initiative at McGill University for their support for this inaugural GBC workshop and the vision of a global neuroscience network.



Irving Ludmer, Founder Ludmer Centre for Neuroinformatics and Mental Health

On behalf of the Ludmer Centre, welcome. Today represents a dream come true---a global consortium cooperatively researching neurodegenerative and mental illnesses.

Several years ago I asked the then Dean of Medicine if McGill University, my alma mater, was studying the matter of consciousness. He replied, "No, but if we start by fixing and modernizing our psychiatry training centre, maybe we can recruit scientists to fulfill our needs." We turned what looked like a prison into a modern facility. But there remained much more to be done.

The next step was to build a consortium of the Douglas Mental Health Hospital, The Montreal Neurological Institute and the Lady Davis Institute of the Jewish General Hospital into a multidisciplinary research centre for neurodegenerative and mental health studies.

About a year later, contracts were signed and The Ludmer Centre was born. Then came Alan Evans' "Canada Cuba China" cooperative and a Canada-wide cooperative. Now with a global consortium, I'm confident we'll see even further progress in the understanding of the universe within, the functioning of matter and energy into consciousness and cures.

Thank you for your participation.

## Thursday 9 May 2019

08:00 – 08:30	Registration and Light Breakfast—Helen Penfield Atrium
08:30 – 08:45	<b>Welcoming Remarks</b> David Eidelman, Irving Ludmer, Alan Evans, Pedro Valdes-Sosa
08:45 – 10:30	Session 1a: Introductions – de Grandpré Communications Centre
08:45 – 08:55	Blitz #1: Steering Committee Self-introductions (1 minute) Alan Evans, Pedro Valdes-Sosa, Jan Bjaalie (representing Katrin Amunts), Gary Egan, Greg Farber, Maryann Martone, Jean-Baptiste Poline, Jane Roskams, Dirk Smit (representing Paul Thompson)
08:55 – 09:10	GBC Vision and Goals Alan Evans, Pedro Valdes-Sosa, GBC Steering Committee
	<b>Mission</b> - Address the challenges that need to be overcome to drive large scale multi- national collaborative studies in support of Global Precision Brain Health.
	<b>Vision</b> - Build pathways for collaborative experimental standards, and FAIR data-sharing and analysis of multi-modal imaging data, starting with EEG.
	<b>Focus areas</b> - Accelerate our understanding of the spatiotemporal dynamics of brain states using techniques to integrate genetic, brain imaging & behavioral data.
	<b>Outcomes</b> - stratified brain disorder governance and management approaches to support sustainable health care systems in a wide range of economic settings.
09:10 – 09:20	Blitz #2: National, International and Multilateral Representatives (1 minute) Stephanie Albin, Naomi Azrieli, Michelle Cruickshank, Tarun Dua, David Eidelman, Danielle Kemmer, Irving Ludmer, Mira Puri, Shekar Saxena, Andrew Welchman
09:20 – 09:35	World Health Organization: Past Efforts in Brain Health and Future Expectations
09:35 – 09:55	International and Multilateral Research Support for Brain Health Initiatives
09:55 – 10:25	<b>Blitz #3: National and International Workshop Invitees (1 minute)</b> Faranak Farzan, Karim Jerbi, Ravi Menon, Marco Prado, Jafri Abdullah, Mathew Abrams, Claudio Babiloni, Maria Luisa Bringas-Vega, Andrew Dykstra, Janina Galler, Wojtek Goscinski, Christophe Grova, Steven Hillyard, Sunpei Huang, Helena Ledmyr, Scott Makeig, Jean-Francois Mangin, Aina Puce, Franco Pestilli, Jorge Riera, Petra Ritter, Kamil Uludag, Mitchell Valdes-Sosa, Arno Villringer, Rigel Wang, Dezhong Yao, Robert Zatorre
10:25 – 10:45	Coffee—Helen Penfield Atrium

## Thursday 9 May 2019, Continued

#### 10:45 – 12:15 Session 1b: Plenary Discussion, Pre-Breakout, 15 minutes per topic

#### **Co-moderators: Alan Evans & Naser Muja**

- Data-sharing infrastructure, governance for EEG
- Studying dynamic brain states with EEG
- Clinical research opportunities with EEG
- Clinical care translation using EEG
- Other technologies (e.g. cell phones, wearables)
- 12:15 13:00 Lunch Buffet Helen Penfield Atrium
- 13:00 14:30 Session 2: Breakout Sessions

#### Data-sharing infrastructures, data governance for EEG

Breakout Room: deGrandpre, left side Co-moderators: Maryann Martone & Mathew Abrams What data-sharing infrastructures are available ? What best practices do we need (interoperability) ? What data governance challenges do we face ?

#### Studying dynamic brain states with EEG

Breakout Room: Penfield 174A Co-moderators: Pedro Valdes-Sosa & Jorge Riera What new directions are emerging in EEG-based basic brain research ?

#### **Clinical research opportunities with EEG**

Breakout Room: BT100 Co-moderators: Aina Puce & Dirk Smit

What research opportunities exist that require international cooperation ?

#### **Clinical care translation using EEG**

Breakout Room: deGrandpre, right side Co-moderators: Mitchell Valdes-Sosa & Claudio Babiloni What health care opportunities exist that require international cooperation ? How can we best engage with existing international entities (e.g. WHO) ?

#### Role of funders in advancing global brain collaborations

Breakout Room: NW201 Moderator: Jane Roskams

## Thursday 9 May 2019, Continued

- 14:30 15:30 Networking–Helen Penfield Atrium. Refreshments will be served.
- 15:30 17:00 Breakout Session Reports and Discussion de Grandpré Communications Centre
- 17:00 17:30 Progress Review Alan Evans and Pedro Valdes-Sosa
- 18:00 21:00 **Dinner** 
  - Le Pois Penche, 1230 Boulevard Maisonneuve West, Montreal H3G 1M2

## Friday 10 May 2019

08:30 - 09:00	Light Breakfast—Helen Penfield Atrium
09:00 – 12:00	Session 3: Knowledge Sharing and Mobilization (Plenary)
09:00 – 09:40	Data-sharing Co-moderators: Jean-Baptiste Poline & Wojtek Goscinski
09:40 – 10:20	Governance in Global Health Research Consortia: Lessons Learned Co-moderators: Bartha Knoppers & Janina Galler
10:20 – 10:40	Coffee—Helen Penfield Atrium
10:40 – 11:20	Building Capacity for Global Precision Mental Health Co-moderators: Gary Egan & Tarun Dua
11:20 – 12:00	International Engagement & Funding Co-moderators: Jane Roskams & Greg Farber
12:00 – 13:00	Lunch Buffet and Closing Remarks by Pedro Valdes-Sosa—Helen Penfield Atrium
13:00 – 14:00	Session 4: Summary Discussion
	Action Items and Implementation Plan Co-moderators: Gary Egan & Maryann Martone
	Closing Remarks Alan Evans

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Partners

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Maryann Martone UCSD

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Jean-Baptiste Poline McGill University

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Katrin Amunts Julich

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Alan Evans McGill University

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Jane Roskams UBC

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Pedro Valdes-Sosa CNEURO

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Bartha Knoppers McGill University

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Paul Thompson USC

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Greg Farber NIH

Plenary Workshop

Leadership

- 40-50 international invitees •
- 7 breakout sessions
- Research priorities, standards, and best practices •
- Knowledge translation and use

**Outcomes** 

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Capacity

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Professional Development

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Precision **Brain Health** 

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#### **Attendee Biographies**

![](_page_6_Picture_1.jpeg)

Abdullah, Jafri brainsciences@gmail.com MD, PhD. Chairman Brain Behaviour Cluster, School of Medical Sciences, Universiti Sains Malaysia Health Campus, Kota Bahru Malaysia

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Albin, Stephanie salbin@kavlifoundation.org Science Program Officer at The Kavli Foundation

Amadou Diogo, Barry barryhafia@gmail.com Université du Québec à Montréal Montréal, Canada. Department of Mathematics

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#### Babiloni, Claudio claudio.babiloni@uniroma1.it

PhD. Associate Professor of Physiology at the Department of Physiology and Pharmacology "V. Erspamer", Sapienza University of Rome, Italy. Co-Chair of Special Interest Group on EEG/MEG brain connectivity of International Federation of Clinical Neurophysiology (IFCN). Communication Chair of Electrophysiology.

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**Richard Brière** richard.briere@frq.gouv.qc.ca Scientific coordinator. Fonds de recherche du Quebec

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### Birdsall Abrams. Mathew

mathew.abrams@incf.org PhD, MPH, Deputy Director, Science and Training, INCF Secretary, Neuroinformatics Congress Program Committee Secretary, Council for Training, Science and Infrastructure Secretariat representative, Training and Education Committee Project manager, KnowledgeSpace

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Bjaalie, Jan G.

j.g.bjaalie@medisin.uio.no

Professor, MD, PhD, Institute of Basic Medical Sciences, University of Oslo. Interests: Neuroinformatics: from ontologies to cyberinfrastructure for data management and sharing; Brain architecture: next generation digital brain atlasing; Wiring patterns of the brain / brain connectivity; Maps transformations in sensory systems of the brain.

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## Bosch Bayard, Jorge oldgandalf@gmail.com

Computer Scientist. PhD in Medical Sciences. He was appointed Senior Researcher at the Cuban Neuroscience Center, Professor at the Center for Neurobiology of UNAM, Mexico. Currently Research Assistant at the McGill Centre for Integrative Neuroscience. Montreal Neurological Institute. McGill University, Montreal, Canada. Developer of methods for EEG

analysis for source localization and connectivity. Also developed Quantitative EEG normative studies, the development of measures of deviations from normality and the discovery of biomarkers for neurodevelopmental disorders.

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## Bowtell, Richard

#### Richard.Bowtell@nottingham.ac.uk

Professor of Physics and Director of the Sir Peter Mansfield Imaging Centre at the University of Nottingham. His research is focused on the development and application of new techniques and hardware for biomedical imaging, particularly magnetic resonance

imaging. He has worked to develop improved methods and apparatus for EEG-fMRI and in recent years has been involved in the development of a wearable magnetoencephalography system, which is based on an array of optically pumped magnetometers. Richard is a Fellow of the International Society of Magnetic Resonance in Medicine and of the UK's Institute of Physics and is currently President of the European Society of Magnetic Resonance in Medicine and Biology.

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#### Bringas, Maria L.

#### maria.bringas@neuroinformatics-collaboratory.org

PhD. Professor of Neuroinformatics. Ex-officio Head of Department of Neuropsychology, International Center for Neurological Restauration, Cuba. The Clinical Hospital of Chengdu Brain Institute MOE Key Lab for Neuroinformation, Coordinator of the Joint China-Cuba Lab

for Translational Research in Neurotechnology UESTC, Chengdu, Sichuan. Professor of Neuropsychology. Cuban Neuroscience Center. La Habana, Cuba. Interest in EEG source analysis to guide effectiveness of interventions in neuro-restoration.

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#### Brown, Shawn stbrown@mcin.ca

Associate Director of Research Software Development at the McGill Centre of Integrative Neuroscience at the McGill Neurological Institute and is an expert on high-performance computing and computational simulation. He has over 25 years of experience in developing

software to support the use of high-performance computing for research in areas such as chemistry, bioinformatics, and public health. In addition to managing the CBRAIN software development, his research interests are in how agent-based modeling and other computational techniques can be used to provide decision support in public health and chronic disease. Prior, he was the Director of Public Health Applications at the Pittsburgh Supercomputing Center, Assistant Professor of Biostatistics at the University of Pittsburgh Graduate School of Public Health, and Research Associate at Q-Chem, Inc. He received his PhD from the University of Georgia in 2001 in Theoretical Chemistry and has authored over 100 peer-reviewed publications.

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#### Cruickshank, Michelle

michelle.cruickshank@grandchallenges.ca

Michelle Cruickshank is a Program Officer with Grand Challenges Canada. Michelle is responsible for the Saving Brains portfolio, leading impact investments in innovations to improve early brain and child development globally.

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#### <u>Das, Samir</u>

samirdas99@gmail.com

Project Manager & Software Developer ACE Labs, McConnell Brain Imaging Centre, Montreal Neurological Institute

#### Doyle, Andrew

#### andrew.doyle@mcgill.ca

Software developer/researcher at the McGill Centre for Integrative Neuroscience at the Montreal Neurological Institute building tools for neuroscience research with artificial intelligence methods. (Source: <u>http://crocodoyle.ca/</u>)

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#### Dua, Tarun duat@who.int

Programme Manager, Department of Mental Health and Substance Abuse, World Health Organization. Lead on brain health and interested in public health aspects of neurological disorders.

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#### Dyke, Stephanie

#### stephanie.dyke@mcgill.ca

PhD. Data governance and ethics research at the Montreal Neurological Institute and McGill Centre for Integrative Neuroscience. Her research experience spans biochemistry, science communication, bioethics and science policy. She has worked for a national bioethics advisory council, the Irish Council for Bioethics (2005-08), as policy adviser at the Welcome

Trust Sanger Institute (2008-13), and at the Francis Crick Institute (2013-14). Stephanie joined McGill University in 2014, where she has been conducting ethics and policy research focusing on data sharing policy with large international collaborations, such as the Global Alliance for Genomics and Health (GA4GH) and the International Human Epigenome Consortium (IHEC). In 2018, joined the Neuro and McGill Centre for Integrative Neuroscience (MCIN) to focus on ethics and policy in the neurosciences and its Open Science plans. Co-chair of the GA4GH Researcher Identities Task Team which aims to streamline researcher access to data.

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## Dykstra, Andrew

#### adykstra@miami.edu

Assistant Professor, Department of Biomedical Engineering, University of Miami, Coral Gables, Florida, USA. Neural dynamics of auditory perception and cognition (particularly conscious perception and working memory). Characterization of EEG "micro-states". Application of EEG and other physiological measures towards improving brain health.

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## Egan, Gary

#### gary.egan@monash.edu

Co-Chair, Australian Brain Alliance; Director, Australian Research Centre for Integrative Brain Function; Director, Monash Biomedical Imaging; Deputy Chairperson, International Neuroinformatics Co-ordinating Facility. Research interests: multi-modality brain imaging methods; neuroimaging applications in healthy brain ageing & neurodegenerative diseases; and novel radioisotopes and precision radiopharmaceuticals for molecular imaging.

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Escribe, Celia celia.escribe@polytechnique.edu Research Assistant - McGill University

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#### Evans, Alan alan.evans@mcgill.ca

James McGill Professor of Neurology and Neurosurgery, Psychiatry and Biomedical Engineering at McGill University since 2009, and a researcher in the McConnell Brain Imaging Centre (BIC) of the Montreal Neurological Institute. He is co-director of the Ludmer Centre for Neuroinformatics and Mental Health and is Principal Investigator of CBRAIN, a

pan-Canadian project to integrate Canadian brain research with the Compute Canada high-performance computing grid. He is the sole Canadian participant in the \$1.1 billion European Human Brain Project and is a co-principal investigator of the Big Brain project. He is Scientific Director of McGill's \$84 million CFREF project, "Healthy Brains for Healthy Lives."

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#### Farber, Greg

Farzan, Faranak

FarberG@mail.nih.gov

Director, Office of Technology Development and Coordination 6001 Executive Boulevard, Room 7162, MSC 9640 301-435-0778

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#### faranak.farzan@sfu.ca

Chair in Technology Innovations for Youth Addiction Recovery and Mental Health, Professor in School of Mechatronics Systems Engineering, EEG lead of Canadian Biomarker Integration Network in Depression, Founder and Director of eBrain

Laboratory, Director of embedded neurotechnology research laboratory in multi-site long-term addiction recovery program, John Volken Academy. Interests focused on development, utilization, and translation of multi-modal neurotechnology, involving EEG, combined with computational methodologies, toward advancing treatments and diagnoses for neuropsychiatric disorders. Interested in discussing practicalities of validating and translating EEG research outcomes, to make a meaningful change in the community and current clinical practice.

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#### Galler, Janina janina.galler@gmail.com

Professor of Psychiatry at Harvard Medical School, and Psychiatrist in the Chester M. Pierce MD Division of Global Psychiatry at Massachusetts General Hospital. She cofounded the 45-year Barbados Nutrition Study in the Lesser Antilles, in the Americas, with

the late Sir Dr. Frank C. Ramsey, who was knighted for their joint efforts in eliminating malnutrition from Barbados. Dr. Galler has served as Director of this study since 1973. The Barbados Nutrition Study is a unique longitudinal study that has shown how the intergenerational legacy of poverty and disadvantage results from early childhood malnutrition and associated childhood adversities. A new facet of her research is its focus on epigenetics, or changes in gene expression that occur without changes in the structure of DNA. This new work explores potentially reversible mechanisms that explain how early malnutrition alters behavior and health over the life span and across generations.

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#### <u>Goscinski, Wojtek</u> wojtek.goscinski@monash.edu

PhD, Coordinator of MASSIVE, a national high-performance data processing and analytics facility at Monash University Australia. Associate Director at the Monash eResearch Centre, a role in which he leads teams to develop and implement digital strategies to nurture and underpin next-generation research. He is the Chair of the International

Neuroinformatics Coordinating Facility (INCF) Infrastructure Sub Committee, and a member of the INCF Council for Training, Science and Infrastructure.

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### Grova, Christophe

#### christophe.grova@concordia.ca

PhD. Associate Professor, Physics Dept. and PERFORM Centre, Concordia University. Chair of PERFORM Applied Bio-Imaging Committee (ABC), Canada

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#### Hillyard, Steven shillyard@ucsd.edu

PhD. Distinguished Professor Emeritus, Department of Neurosciences, University of California, San Diego. USA

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#### Huang, Sunpei (Les) huangsunpei@std.uestc.edu.cn

Master Student. IT Support Manager, Joint China-Cuba Lab for Translational Research in Neurotechnology, University of Electronic Science and Technology of China. Interest in the high-performance computing and its application in neuroscience with emphasis on neuroimaging.

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#### Jerbi, Karim

#### karim.jerbi.udem@gmail.com

Professor Canada Research Chair in Systems Neuroscience and Cognitive Brain Imaging. Head of the Computational and Cognitive Neuroscience Lab (CoCo Lab) at the Department of Psychology of the University of Montreal. Co-director of the magnetoencephalography (MEG) imaging facility at the University of Montreal and associate director of the Unité de

Neuroimagerie Fonctionnelle (UNF) at the Centre de recherche de l'Institut universitaire de gériatrie de Montréal (CRIUGM).

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#### Knoppers, Bartha Maria bartha.knoppers@mcgill.ca

PhD (Comparative Medical Law)

Full Professor, Canada Research Chair in Law and Medicine and Director of the Centre of Genomics and Policy of the Faculty of Medicine at McGill University. She is Chair of the Ethics and Governance Committee of the International Cancer Genome Consortium (2009-

2017), as well as the Ethics Advisory Panel of WADA (2015-). She is Co-Chair of the Regulatory and Ethics Workstream of the Global Alliance for Genomics and Health (2013-). In 2015-2016, she was a member of the Drafting Group for the Recommendation of the OECD Council on <u>Health Data Governance</u> and gave The Galton Lecture in November 2017. She holds four Doctorates *Honoris Causa* and is a *Fellow* of the American Association for the Advancement of Science (AAAS), the Hastings Center (bioethics), the Canadian Academy Health Sciences (CAHS) and the Royal Society of Canada. She is also an *Officer* of the Order of Canada and of Quebec and was awarded the 2019 Henry G. Friesen International Prize in Health Research.

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#### Ledmyr, Helena

#### helena.ledmyr@incf.org

Deputy Director & Head of Development and Communications at INCF (International Neuroinformatics Coordinating Facility).

relationships between Neuroinformatics research and industry, improving scientific publishing.

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#### Makeig, Scott smakeig@ucsd.edu

Director and Research Scientist, Swartz Center for Computational Neuroscience, Institute for Neural Computation, University of California San Diego. Co-PI of the EEGLAB software project.

https://sccn.ucsd.edu/eeglab

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#### Mangin, Jean-Francois jfmangin@gmail.com

Director of UNATI data analysis laboratory in Neurospin, the Ultra High Field MRI center of the CEA; Director of CATI, the French multicenter neuroimaging platform (http://catineuroimaging.com); Deputy of Katrin Amunts in the European Human Brain Project.

Interested in the aggregation of multiple large neuroimaging datasets, the variability of the cortical folding patterns and U-fiber bundles.

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#### Martone, Maryann maryann@ncmir.ucsd.edu

Received her BA from Wellesley College in Biological Psychology and Ancient Greek and her Ph.D. in Neuroscience from the University of California, San Diego. She is a professor Emerita at UCSD, but still maintains an active laboratory and currently serves as the Chair of the University of California Academic Senate Committee on Academic Computing and

Communications. She started her career as a neuroanatomist, specializing in light and electron microscopy, but her main research for the past 15 years focused on informatics for neuroscience, i.e., neuroinformatics. She led the Neuroscience Information Framework (NIF), a national project to establish a uniform resource description framework for neuroscience, and the NIDDK Information Network (dknet), a portal for connecting researchers in digestive, kidney and metabolic disease to data, tools, and materials. She just completed 5 years as Editor-in-Chief of Brain and Behavior, an open access journal, and has just launched a new journal as Editor in Chief, NeuroCommons, with BMC. Dr. Martone is past President of FORCE11, an organization dedicated to advancing scholarly communication and e-scholarship. She completed two years as the chair of the Council on Training, Science and Infrastructure for the International Neuroinformatics Coordinating Facility and is now the chair of the Governing Board. Since retiring, she served as the Director of Biological Sciences for Hypothesis, a technology non-profit developing an open annotation layer for the web (2015-2018) and founded SciCrunch, a technology start up based on technologies developed by NIF and dkNET.

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#### Menon, Ravi rmenon@robarts.ca

Muja, Naser

Professor and Canada Research Chair in Functional and Molecular Imaging Research Areas: Development and application of magnetic resonance imaging (MRI) and spectroscopy (MRS) techniques, functional magnetic resonance imaging (fMRI), design of

sophisticated Radio Frequency hardware to better utilize these ultra-high field magnets.

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#### nasermuja.phd@gmail.com

Executive Director of the Canadian Open Neuroscience Platform Executive Director of the Global Brain Consortium

Naser holds a Master of Business Administration from the John Molson School of Business at Concordia University as well as a Doctor of Philosophy in Neuroscience from the Stritch School of Medicine, at the Loyola University of Chicago. Naser is engaged in identifying solutions for human health issues that take place on a global stage where access to care, cost of care, sustainability, and government regulations are major considerations. In particular, health care continues to transform through ongoing advances in clinical research, technology, and engineering. Moreover, recent trends in wearable technologies, big data, telemedicine, mobile health, and personalized medicine are testing the limits of patient privacy and ethics. The Global Brain Consortium will help facilitate and accelerate the integration of neuroscience and technological advancements into policies and public awareness activities aimed towards reducing the human and socio-economic burden of psychiatric and neurological illnesses, and improving the mental health, guality of life, and productivity of people around the world.

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#### Pestilli, Franco frakkopesto@gmail.com

Assistant Professor in Psychological and Brain Sciences at Indiana University Bloomington, USA. He is also associated with the Indiana University programs in Cognitive Science and Neuroscience and holds adjunct positions at the Indiana University School of Optometry, Department of Computer Science and Intelligent Systems Engineering.

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#### Poline, Jean-Baptiste jbpoline@gmail.com

Is an Associate Professor in the Department of Neurology and Neurosurgery at McGill; the co-Chair of the NeuroHub and Chair of the Technical Steering Committee for the Canadian Open Neuroscience Platform (CONP) at the Montreal Neurological Institute & Hospital (the

NEURO); and a Primary Investigator at the Ludmer Centre for Neuroinformatics & Mental Health.

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#### Prado, Marco mprado@robarts.ca

Robarts Research Institute, Department of Physiology and Pharmacology/Department of Anatomy & Cell Biology and the Brain and Mind Institute, University of Western Ontario.

Puce, Aina ainapuce@gmail.com Eleanor Cox Riggs Professor, Psychological and Brain Sciences, Indiana University

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Ramos Moreno, Cristina <u>ecounsellor@embacubacanada.net</u> Economic and Commercial Counsellor, Embassy of the Republic of Cuba in Canada

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#### <u>Riera, Jorge</u> irieradi@fiu.edu

PhD. Neuronal Mass Dynamic Lab, Department of Biomedical Engineering, Graduate Program Director, Florida International University.

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### Ritter, Petra

#### petra.ritter@charite.de

Full Professor. Chair of the Section for Brain Simulation, Dept. Neurology, Charité, University Medicine Berlin. Leader of the H2020 VirtualBrainCloud consortium and of the Human Brain Project Codesign project 'The Virtual Brain' and co-lead of The Virtual Brain open source simulation platform. Interest in integrating multimodal neuroimaging through

brain network modeling and model based clinical decision support.

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#### Rogers, Christine rogers@bic.mni.mcgill.ca

McGill University, Montreal Neurological Institute, Department Member. Project manager and developer, data management in autism research. Consultant in neuroscience research data management and databasing, LORIS data systems.

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#### Roskams, Jane

#### jane.roskams@gmail.com

Is a neuroscientist at the University of British Columbia (UBC) with a joint appointment in Neurosurgery at the University of Washington. She is professor at the Centre for Brain Health at UBC, and directed their laboratory of neural regeneration and brain repair, before winding down her wet lab in 2014-15 to become Executive Director of the Allen Institute for

Brain Science. After leading Strategy and Alliances for the Allen institute and consulting with the Bill and Melinda Gates Foundation on early childhood brain development, she has become known in the fields of neuroinformatics, public-private partnerships, and Open Data Sharing.

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#### Roy, Yannick

yannick.roy@umontreal.ca

President and Co-Founder. NeuroTechX, BCI Montréal, École de technologie supérieure (ÉTS)

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#### Saxena, Shekar ssaxena@hsph.harvard.edu

Professor of the Practice of Global Mental Health, Harvard T H Chan School of Public Health, one of the editors of Lancet Commission on Global Mental Health and Sustainable Development.

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#### Smit, Dirk

#### d.j.smit@aumc.nl / d.j.smit@amc.uva.nl

Dr. Smit holds an MA in cognitive psychology and PhD in biological psychology. Current appointment is assistant professor of electrophysiology and genetics at the department of psychiatry of the Amsterdam UMC. Leader of the electrophysiology lab of the department.

Founder and leader of the ENIGMA-EEG working group. Member of the Psychiatric Genetics Consortium OCD-TS workgroup. Interests are the implementation of deep and machine learning techniques for prediction of health outcomes and diagnostics in neurology, genetics underlying brain disorders, with specific focus on OCD and misophonia, and the expression of genetic liability in the brain.

![](_page_13_Picture_5.jpeg)

## Uludag, Kamil kamil.uludag@maastrichtuniversity.nl

PhD. Senior Scientist at the University Health Network, Toronto, Canada & 7 Tesla MRI lead at the Institute of Basic Science, Suwon, Korea.

![](_page_13_Picture_8.jpeg)

#### Valdes-Sosa, Mitchell J. mitchell@cneuro.edu.cu

MD, PhD, General Director of the Cuban Neuroscience Center, Emeritus Member of the Cuban Academy of Sciences, Scientific Coordinator of the National Cuban Program for Brain Dysfunctions. Expert in cognitive neuroscience and the application of

neurotechnology to modify population health as exemplified in the programs for detection of hearing loss and learning disability operative in Cuba and other countries for decades—with measurable impact on health indicators.

![](_page_13_Picture_12.jpeg)

#### Valdes-Sosa, Pedro

pedro.valdes@neuroinformatics-collaboratory.org

Founder vice-director of the Cuban Neuroscience Center, Director of the Joint China-Cuba Lab for Translational Research in Neurotechnology UESTC, Chengdu, Sichuan; 1000 Talent Professor of China, Coordinator of the Cuban Human Brain Mapping Project,

Emeritus member of the Cuban Academy of Sciences, Adjunct Professor of Mathematics and Statistics at McGill University. Member Scientific Advisory Board, OHBM and HBHL. Cuban delegate to the International Brain Initiative. Expert in Neuroimaging especially EEG with an interest in international cooperation toward Global Precision Brain Health.

![](_page_13_Picture_17.jpeg)

#### Villringer, Arno villringer@cbs.mpg.de

Director at Max Planck Institute for Human Cognitive and Brain Sciences & Dept. of Cognitive Neurology at Leipzig University. Speaker of national Max Planck School of Cognition, coordinator of German Competence Net Stroke, board of directors of collaborative research center on 'obesity mechanisms'. Interest in mind-brain-body

interactions in risk factors (obesity, hypertension) leading to stroke & dementia. Multimodal imaging (sMRI, fMRI, DWI, EEG, NIRS), metabolic, cognitive assessment. Cohort studies.

![](_page_13_Picture_21.jpeg)

#### Wang, Ying (Rigel)

rigel.wang@neuroinformatics-collaboratory.org

Master's Student, Joint China-Cuba Lab for Translational Research in Neurotechnology, University of Electronic Science and Technology of China.

#### Yao, Dezhong

![](_page_14_Picture_1.jpeg)

dvao@uestc.edu.cn

Professor at University of Electronic Science and Technology of China; Director of the International Joint Research Center for Neuroinformation, Ministry of Science and Technology of China; the Chinese Coordinator of the Canada-China-Cuba (CCC-axis) Brain Project; Interest in multimodal neuroimaging with emphasis on neurophysics of EEG and its application.

![](_page_14_Picture_5.jpeg)

Zhang, Ting ting.zhang3@mail.mcgill.ca

#### Alphabetical List of Meeting Participants

Jafri Abdullah Stephanie Albin Naomi Azrieli Claudio Babiloni Mathew Birdsall Abrams Jan Bjaalie Jorge Bosch Bayard **Richard Bowtell Richard Briere** Maria Luisa Bringas Vega Shawn Brown Joanne Clark Michelle Cruickshank Samir Das James Dejardins Barry Amadou Diogo Andrew Doyle Tarun Dua Stephanie Dyke Andrew Dykstra Gary Egan David Eidelman Celia Escribe

Alan Evans Greg Farber Faranak Farzan Janina Galler Woitek Goscinski Jean Gotman Christophe Grova Steven Hillyard Sunpei Huang Karim Jerbi Bartha Knoppers Danielle Kemmer Helena Ledmvr Sarah Lippe Irving Ludmer Scott Makeig Jean-Francois Mangin Marvann Martone Ravi Menon Naser Muia Kieran O'Donnell Franco Pestilli Jean-Baptiste Poline

Marco Prado Aina Puce Mira Puri Christina Ramos Morena Jorge Riera Petra Ritter Christine Rogers Jane Roskams Yannick Rov Shekar Saxena Dirk Smit Adrian Thorogood Kamil Uludag Mitchell Valdes-Sosa Pedro Valdes-Sosa Arno Villringer Rigel Wang Andrew Welchman Dezhong Yao Robert Zatorre Ting Zhang

![](_page_15_Picture_0.jpeg)

![](_page_15_Picture_1.jpeg)

# McGill neuro MCIN

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