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Annual Reporting for Faculty Supported Research Centres and Networks



NEUROINFORMATICS & MENTAL HEALTH

NEUROINFORMATIQUE ET SANTÉ MENTALE

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Annual Report of Activities and Outcomes

Please respect the page limits, where indicated, or the report will be returned.

(The accepted font is Times New Roman or Calibri regular 11 pts)

Name of the Unit: **Ludmer Centre for Neuroinformatics & Mental Health**

Director's contact information:

Primary contact is **Louis Doré-Savard, PhD**, Associate Director of Administration and Operations, Ludmer Centre | The Montreal Neurological Institute and Hospital (The Neuro) 3801 University, NW140 | Montréal, Québec | H3A 2B4 | Cell # +1 514 265 3408 | E louis.dore-savard@mcgill.ca

Board Chair: David Eidelman, Vice-Principal (Health Affairs) & Dean of the Faculty of Medicine, McGill

All funding decisions are presented to the ExCom/Board and Chair for approval.

Three (3) Scientific Directors: Initiated in 2013, the Ludmer Centre is a unique collaboration between three cutting-edge research institutions: the Douglas Mental Health University Institute (The Douglas) Research Centre, the Jewish General Hospital's Lady Davis Institute for Medical Research (JGH/LDI), and McGill University's Montreal Neurological Institute and Hospital (The Neuro – formerly referred to as the MNI). It brings research together across four key pillars, **led by three McGill researchers:**

- 1) Neuroimaging Pillar and 2) Neuroinformatics Pillar**, led by Dr Alan Evans at The Neuro.
- 3) Genomics, Bioinformatics & Statistical Genetics Pillar**, led by Dr Celia Greenwood at the JGH/LDI.
- 4) Genomic & Epigenetics Pillar** led by Dr Patricia P Silveira at the Douglas Research Institute.

If the Unit is a **Senate-approved** McGill Research Centre, indicate date of approval: **April 20, 2017**

Mission Statement of the Unit:

The **Ludmer Centre for Neuroinformatics & Mental Health** brings together cutting-edge computational infrastructure, 'big data' and transdisciplinary research expertise to advance research in normal and abnormal brain development — **neurological disorders** and **mental illness**. Specifically, activities aim to

- I. Develop innovative, interoperable and open-source neuroinformatics infrastructure.**
- II. Lead and support the application of big-data approaches to brain research, including the promotion of share-access and, where permitted, open-science datasets.**
- III. Mentor and train tomorrow's transdisciplinary researchers in the application of big-data research.**

Number of Unit members: Thirteen (13) researchers and their teams (approximately 120 people total). There have been no significant changes in membership for the period considered. Dr. Silveira, Dr. Greenwood and Dr. Evans are the scientific co-directors. [The Executive Committee](#) meets quarterly and

includes the Chair, the Co-Scientific Directors, the Associate Director, important members of the McGill Medicine community and major donors. The ExCom approves the allocation of funds and keeps the community updated on recent achievements, scientific advances, unexpected problems arising, etc.

Member List

	Last, First Name	Member Type	Joined	Trainee	Institutional Affiliation(s)
1	Meaney, Michael (Professor)	Regular. Past co-scientific director	2013		Douglas/FoMed
2	Evans, Alan (Professor)	Co-scientific director	2013		MNI/FoMed
3	Greenwood, Celia (Professor)	Co-scientific director	2013		LDI-JGH/FoMed
4	O'Donnell, Kieran (Assistant Professor)	Regular, past Interim Sc. Dir. (2018-19)	2016	2013-16 Ludmer postdoc	Yale University
5	Silveira, Patricia Pelufo (Associate Professor)	Co-scientific director	2016		Douglas/FoMed
6	Zhang, Tie Yuan (Assistant Professor)	Regular	2016		Douglas/FoMed
7	Bagot, Rose (Assistant Professor)	Regular	2016		FofSc (Psychology), cross appointed in FoMed (Psychiatry)
8	Poline, Jean-Baptiste (Associate Professor)	Regular	2017		MNI/FoMed
9	Iturria-Medina, Yasser (Assistant Professor)	Regular	2018	2013-16 Ludmer Postdoc	MNI/FoMed
10	Glatard, Tristan (Associate Professor)	Regular	2016	2013-16 Ludmer Visiting researcher	Concordia, Computer Sc, (TT, 2016) / FoSc (Comp Sc), McGill (Adjunct Prof 2018-2021)
11	Kleinman, Claudia (Assistant Professor)	Regular	2017		LDI-JGH/FoMed
12	Karama, Sherif (Assistant Professor)	Regular	2018		Douglas/FoMed
13	Nguyen, Tuong Vi (Assistant Professor)	Regular	2020		MUHC/FoMed

Number of members affiliated with McGill's FMHS: Including cross appointments, eleven (11): 10 FMHS plus 1 cross-appointment with the Faculty of Sciences (Bagot). One affiliation with Concordia University (Glatard). One affiliation with Yale University (O'Donnell).

Unit's website: <http://ludmercentre.ca>

Note: The website needs to feature the following:

- all sources of funding support: <http://ludmercentre.ca/about-us/our-donors/>
- the List of Members and their institutional affiliation: <http://ludmercentre.ca/research/research-membership>
- the activities supported by the Research Centre, Core Facility or Network, <http://ludmercentre.ca/research/> and <http://ludmercentre.ca/about-us/>
- Annual Reports: <http://ludmercentre.ca/about-us/annual-reports/>

1. Explain the significance of the Unit's mission at McGill and beyond (1/2 page max.)

Our goal is to minimize the impact of mental illness and neurodegenerative disease across Canada and on a global scale. The significance of our mission will only increase with the end of the COVID pandemic, during which the collective mental health has decreased and new challenges have emerged. Our members researchers will thus be even more solicited to help solving two of the major illnesses of the 21st century; anxiety and depressive disorders, and dementia.

Most importantly, an important aspect of our approach is to build data infrastructure and processing capabilities that reach far beyond our own needs. We provide neuroinformatic tools (such as LORIS, cBRAIN, EPSclusters, and more) and knowledge to the Canadian scientific community that will benefit the McGill community at large, and researchers from each of the Canadian provinces. An important example of that is the Canadian Open Neuroscience Platform (CONP), for which the Ludmer Centre just renewed its commitment of support for 3.5 years (\$1.36M). More data will be available to the community and

2. Alignment with the Faculty's Strategic Research Plan (1/2 page max.)

Like other Units, The Ludmer Centre focuses on one of the four priority diseases areas identified in the 2017 Strategic Research Plan: Neurosciences. However, it is most likely the only one prioritizing mental illness. The Ludmer Centre is thus an essential component in occupying this research area. Moreover, we address several of the prioritized themes by concentrating on genetic and environmental determinants of neurological diseases and mental illness. There will be a big push towards those methods in the next years with a new transformative initiative, to be announced in the first quarter of the next reporting period.

Members of the Ludmer Centre are world leaders in system approaches to large dataset analyses to elucidate health research questions and elaborate and test personalized medicine strategies. The Ludmer Centre is a champion for open-source, open access data management platforms and knowledge dissemination in the field of neuroimaging and neuroinformatics. Finally, the Ludmer Centre is an environment facilitating the growth of the next generation of thought leaders in those fields.

3. **Major joint publications over the past 12 months** (including shared software, data repositories; with links) co-authored by at least two PI members of the Unit:

Top 10 papers co-authored by at least 2 members, one of them being senior author:

1: Kiar G, Chatelain Y, de Oliveira Castro P, Petit E, Rokem A, Varoquaux G, Mistic B, Evans AC, Glatard T. Numerical uncertainty in analytical pipelines lead to impactful variability in brain networks. *PLoS One*. 2021 Nov 1;16(11):e0250755. doi: 10.1371/journal.pone.0250755. PMID: 34724000; PMCID: PMC8559953.

2: Vogel JW, Iturria-Medina Y, Strandberg OT, Smith R, Levitis E, Evans AC, Hansson O; Alzheimer's Disease Neuroimaging Initiative; Swedish BioFinder Study. Author Correction: Spread of pathological tau proteins through communicating neurons in human Alzheimer's disease. *Nat Commun*. 2021 Aug 5;12(1):4862. doi: 10.1038/s41467-021-25193-3. Erratum for: *Nat Commun*. 2020 May 26;11(1):2612. PMID: 34354079; PMCID: PMC8342451.

3: Vogel JW, Young AL, Oxtoby NP, Smith R, Ossenkopppele R, Strandberg OT, La Joie R, Aksman LM, Grothe MJ, Iturria-Medina Y; Alzheimer's Disease Neuroimaging Initiative, Pontecorvo MJ, Devous MD, Rabinovici GD, Alexander DC, Lyoo CH, Evans AC, Hansson O. Four distinct trajectories of tau deposition identified in Alzheimer's disease. *Nat Med*. 2021 May;27(5):871-881. doi: 10.1038/s41591-021-01309-6. Epub 2021 Apr 29. PMID: 33927414; PMCID: PMC8686688.

4: McGill MG, Pokhvisneva I, Clappison AS, McEwen LM, Beijers R, Tollenaar M, Pham H, Kee MZL, Garg E, de Mendonça Filho EJ, Karnani N, Silveira PP, Kobor MS, de Weerth C, Meaney MJ, O'Donnell KJ. Reply to: Crossing the "Birth Border" for Epigenetic Effects. *Biol Psychiatry*. 2022 Mar 3:S0006-3223(21)01867-9. doi: 10.1016/j.biopsych.2021.12.008. Epub ahead of print. PMID: 35249723.

5: Jaramillo-Ospina A, Casanello P, Garmendia ML, Andersen R, Levitan RD, Meaney MJ, Silveira PP. Interactions between a polygenic risk score for plasma docosahexaenoic fatty acid concentration, eating behaviour, and body composition in children. *Int J Obes (Lond)*. 2022 May;46(5):977-985. doi: 10.1038/s41366-022-01067-6. Epub 2022 Jan 20. PMID: 35058573.

6: de Mendonça Filho EJ, Barth B, Bandeira DR, de Lima RMS, Arcego DM, Dalmaz C, Pokhvisneva I, Sassi RB, Hall GBC, Meaney MJ, Silveira PP. Cognitive Development and Brain Gray Matter Susceptibility to Prenatal Adversities: Moderation by the Prefrontal Cortex Brain-Derived Neurotrophic Factor Gene Co-expression Network. *Front Neurosci*. 2021 Nov 24;15:744743. doi: 10.3389/fnins.2021.744743. PMID: 34899157; PMCID: PMC8652300.

7: Mucellini AB, Miguel PM, Dalle Molle R, Rodrigues DM, Machado TD, Reis RS, Toazza R, Salum GA, Bortoluzzi A, Franco AR, Buchweitz A, Barth B, Agranonik M, Nassim M, Meaney MJ, Manfro GG, Silveira PP. Diminished insulin sensitivity is associated with altered brain activation to food cues and with risk for obesity - Implications for individuals born small for gestational age. *Appetite*. 2022 Feb 1;169:105799. doi: 10.1016/j.appet.2021.105799. Epub 2021 Nov 9. PMID: 34767841.

8: McGill MG, Pokhvisneva I, Clappison AS, McEwen LM, Beijers R, Tollenaar MS, Pham H, Kee MZL, Garg E, de Mendonça Filho EJ, Karnani N, Silveira PP, Kobor MS, de Weerth C, Meaney MJ, O'Donnell KJ. Maternal Prenatal Anxiety and the Fetal Origins of Epigenetic Aging. Biol Psychiatry. 2022 Feb 1;91(3):303-312. doi: 10.1016/j.biopsych.2021.07.025. Epub 2021 Aug 19. PMID: 34756561.

9: Batra A, Chen LM, Wang Z, Parent C, Pokhvisneva I, Patel S, Levitan RD, Meaney MJ, Silveira PP. Early Life Adversity and Polygenic Risk for High Fasting Insulin Are Associated With Childhood Impulsivity. Front Neurosci. 2021 Sep 1;15:704785. doi: 10.3389/fnins.2021.704785. PMID: 34539334; PMCID: PMC8441000.

10: Parent C, Pokhvisneva I, de Mendonça Filho EJ, O'Donnell KJ, Meaney MJ, Kee MZL, Thng G, Wing H, Adler NE, Keeton V, Pantell MS, Hessler D, Gottlieb LM, Silveira PP. Salivary cytokine cluster moderates the association between caregivers perceived stress and emotional functioning in youth. Brain Behav Immun. 2021 May;94:125-137. doi: 10.1016/j.bbi.2021.02.025. Epub 2021 Mar 2. PMID: 33662503.

4. Major joint research projects funded over the past 12 months (involving at least two PI members of the Unit:

In 2021/2022, the Ludmer Centre was at the beginning of a new cycle in terms of funding new research. We coordinated the birth of the Sievers Initiative (\$5M), EEGNet (\$1.8M) through the Vera Gross Fund (\$2.5M), and an evolution for the Montreal Antenatal Wellbeing Study through the Chamandy Foundation (\$300k).

This year, we needed to regroup and think of what the next iteration of the Ludmer Centre will be. We spent a major part of the reporting period crafting this transformative initiative that will be announced shortly. With an unprecedented budget at the Ludmer Centre, we will develop a new arm to our activities with the addition of up to 9 new members, new staff and most importantly, millions of dollars for new research. The current stage of the project does not allow us to reveal the details, but this year's efforts will be well worth the wait.

Also pending is the renewal of the Canadian Neuroscience Platform (CONP) for which the Ludmer Centre made a new commitment of \$1.36M for 3.5 years. In addition to developing new projects, we are hoping to help maintain our current pillars with continued support.

Finally, we are proud that early support to our early-career investigators yield additional funding on a regular basis. This year, Dr. Rosemary Bagot obtained almost \$1.6M in research funding for depression, either facilitated by previous funding by the Ludmer Centre, or enabled in part by the Ludmer advocating on her behalf.

5. Major outreach activities (e.g., seminar series, general public events):

The Ludmer Centre maintained its commitment to promote quality science in its field by organizing and/or sponsoring several events:

- The 2021 World Maternal Mental Health Symposium (co-sponsored by the Canadian Alliance for Perinatal Mental Health). Online event. Attendance: 500

- Quantitative Life Science Seminar Series. Sponsored a seminar from Dr. Dani Bassett (University of Pennsylvania). Attendance: 60 (also a training activity).
- Mental Health Across the Spectrum of Life. General Public Event with Dr. Celia Greenwood, Dr. Patricia Silveira and Dr. Rosemary Bagot. Attendance: 100 + 500 Youtube views.
- The Inaugural Sievers Lecture by Dr. Martijn van den Heuvel (University of Amsterdam). Given during the 5th Big Brain Workshop. Attendance: 80 + 75 Youtube Views.
- The Inaugural Vera Gross Lecture by Dr. Janina Galler (Harvard). Presented during the Annual Global Brain Consortium Conference. Attendance: 55

6. **Major training activities** (e.g., summer schools, co-supervision of trainees, practical workshops):

- The Ludmer Centre is promoting the training of graduate students through its annual call for projects. In 2021, this call will allow for the support of 4 new graduate students with full or partial stipends (Iturria-Medina x 2, Silveira, Karama).
- Through the Sievers Initiative, the Ludmer Centre contributes to the supervision of a postdoctoral fellow and 2 graduate students.
- CONP put together several tool for education in Open Science, including ethics training.
 - <https://conp.ca/scholar-video-showcase/>
 - <https://training.incf.org/studytrack/open-neuroscience-starter-kit>
 - <https://conp.ca/conp-webinar-the-ethics-of-open-data-sharing-in-neuroscience/>
- Neurohub (Evans, Poline) presented a number of educational activities
 - CBRAIN workshop at the 5th Big Brain Workshop. Attendance 100
 - NeuroHub Q & A Sessions.

7. If applicable, **list new members** who joined the Unit in the past 12 months (indicate: Name, title, full/associate member, affiliation): None.

8. If applicable, **list members who have left the Unit** in the past 12 months: None.

Appendix

Part 1. Response to last year's comments from the CORU

From the Committee:

Overall, the Committee encouraged the Ludmer's leadership to make the Centre's membership terms more transparent, in order to promote the topical and EDI inclusivity and diversity of its members.

Response from the Ludmer Centre:

This comment triggered a deep introspection on what it means to be a member of the Ludmer Centre and how we want to handle current and prospective members in the future. In the past, we would base our decisions on recommendations from current members and approval of the Executive Committee. Now, we want to commit to the most current principles related to EDI, in line with McGill and the FHMS, and establish a set of guidelines to help us make those decisions. In addition to ongoing discussions, the Ludmer Centre will seek the advice of its new Scientific Advisory Committee on these matters. The new SAC was assembled in 2021 and will meet for the first time in 2022. We hope that, by the time we produce the next report, we

will be able to share new and updated principles on how we will build our membership. See the renowned experts composing the SAC below:

Dr. [David C. Glahn](#) from the Boston Children Hospital and Harvard Medical School, agreed to chair the Scientific Advisory Board and started to look for potential members in October 2021.

As of February 2022, three international experts have agreed to participate in the committee, **completing its composition**. They are:



DAVID C. GLAHN

Professor of Psychology, Dept. of Psychiatry

Boston Children's Hospital, Harvard Medical School

Associate Chief of research (Psychiatry)

Director, Tommy Fuss Center for Neuropsychiatric Disease Research

<https://bchgenetics.org/people/david-glahn/>



THEODORE D. SATTERTHWAITE, MD

Associate Professor of Psychiatry

The University of Pennsylvania, Perelman School of Medicine

Director, Penn Lifespan Informatics and Neuroimaging Center (PennLINC)

www.pennlic.io



CARRIE BEARDEN, PHD

Professor of Psychiatry and Biobehavioral Neurosciences

The University of California in Los Angeles

Director, Center for the Assessment and Prevention of Prodromal States

www.cappsucla.org



DANIELLE POSTHUMA, PHD

Research Chair Professor, Statistical Genetics

VU Amsterdam University, The Netherlands

Head of Department, Complex Trait Genetics

Center for Neurogenomics and Cognitive Research

<https://ctg.cncr.nl/>

Part 2. Publications

Publications for each member (more than 130 over the reporting period only) with total h-index (Google Scholar). Only peer-reviewed journal articles or online preprints are listed (not conference abstracts). Papers in **bold** represent Ludmer collaborations and **are listed for all researchers involved**. Preprints that converted in peer-reviewed publications during the reporting period are

only listed once. The numbers displayed are for May 1st, 2021 to time of writing (difference from last reporting period in parentheses).

Alan C. Evans	H-index: 202 (+5)	# of publications: 31 (+2)
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1: Li M, Wang Y, Lopez-Naranjo C, Reyes RCG, Hamid AIA, Evans AC, Savostyanov AN, Calzada-Reyes A, Areces-Gonzalez A, Villringer A, Tobon-Quintero CA, Garcia-Agustin D, Paz-Linares D, Yao D, Dong L, Aubert-Vazquez E, Reza F, Omar H, Abdullah JM, Galler JR, Ochoa-Gomez JF, Prichep LS, Galan-Garcia L, Morales-Chacon L, Valdes-Sosa MJ, Tröndle M, Zulkifly MFBM, Rahman MRBA, Milakhina NS, Langer N, Rudych P, Hu S, Koenig T, Virues-Alba TA, Lei X, Bringas-Vega ML, Bosch-Bayard JF, Valdes-Sosa PA. Harmonized-Multinational qEEG Norms (HarMNqEEG). *Neuroimage*. 2022 Apr 6;119:190. doi: 10.1016/j.neuroimage.2022.119190. Epub ahead of print. PMID: 35398285.

2: Bosch-Bayard J, Razzaq FA, Lopez-Naranjo C, Wang Y, Li M, Galan-Garcia L, Calzada-Reyes A, Virues-Alba T, Rabinowitz AG, Suarez-Murias C, Guo Y, Sanchez-Castillo M, Rogers K, Gallagher A, Prichep L, Anderson SG, Michel CM, Evans AC, Bringas-Vega ML, Galler JR, Valdes-Sosa PA. Early protein energy malnutrition impacts life-long developmental trajectories of the sources of EEG rhythmic activity. *Neuroimage*. 2022 Mar 24;254:119144. doi: 10.1016/j.neuroimage.2022.119144. Epub ahead of print. PMID: 35342003.

3: Shen MD, Swanson MR, Wolff JJ, Elison JT, Girault JB, Kim SH, Smith RG, Graves MM, Weisenfeld LAH, Flake L, MacIntyre L, Gross JL, Burrows CA, Fonov VS, Collins DL, Evans AC, Gerig G, McKinstry RC, Pandey J, St John T, Zwaigenbaum L, Estes AM, Dager SR, Schultz RT, Styner MA, Botteron KN, Hazlett HC, Piven J; IBIS Network. Subcortical Brain Development in Autism and Fragile X Syndrome: Evidence for Dynamic, Age- and Disorder-Specific Trajectories in Infancy. *Am J Psychiatry*. 2022 Mar 25;appiajp21090896. doi: 10.1176/appi.ajp.21090896. Epub ahead of print. PMID: 35331012.

4: Lavigne KM, Raucher-Chéné D, Bodnar MD, Makowski C, Joober R, Malla A, Evans AC, Lepage M. Medial temporal lobe and basal ganglia volume trajectories in persistent negative symptoms following a first episode of psychosis. *Prog Neuropsychopharmacol Biol Psychiatry*. 2022 Mar 16;117:110551. doi: 10.1016/j.pnpbp.2022.110551. Epub ahead of print. PMID: 35304154.

5: Bosch-Bayard J, Biscay RJ, Fernandez T, Otero GA, Ricardo-Garcell J, Aubert-Vazquez E, Evans AC, Harmony T. EEG effective connectivity during the first year of life mirrors brain synaptogenesis, myelination, and early right hemisphere predominance. *Neuroimage*. 2022 May 15;252:119035. doi: 10.1016/j.neuroimage.2022.119035. Epub 2022 Feb 24. PMID: 35218932.

6: Picher-Martel V, Magnussen C, Blais M, Bubela T, Das S, Dionne A, Evans AC, Genge A, Greiner R, Iturria-Medina Y, Johnston W, Jones K, Kaneb H, Karamchandani J, Moradipoor S, Robertson J, Rogaeva E, Taylor DM, Vande Velde C, Yunusova Y, Zinman L, Kalra S, Dupré N. CAPTURE ALS: the comprehensive analysis platform to understand, remedy and eliminate ALS. *Amyotroph Lateral Scler Frontotemporal Degener*. 2022 Feb 23;1-7. doi: 10.1080/21678421.2022.2041668. Epub ahead of print. PMID: 35195049.

- 7: Valdes-Sosa PA, Evans AC, Valdes-Sosa MJ, Poo MM. A call for international research on COVID-19-induced brain dysfunctions. *Natl Sci Rev*. 2021 Oct 27;8(12):nwab190. doi: 10.1093/nsr/nwab190. PMID: 34984105; PMCID: PMC8574484.
- 8: Yoo HS, Jeon S, Cavedo E, Ko M, Yun M, Lee PH, Sohn YH, Grothe MJ, Teipel S, Hampel H, Evans AC, Ye BS. Association of β -Amyloid and Basal Forebrain With Cortical Thickness and Cognition in Alzheimer and Lewy Body Disease Spectra. *Neurology*. 2022 Mar 1;98(9):e947-e957. doi: 10.1212/WNL.00000000000013277. Epub 2021 Dec 30. PMID: 34969939; PMCID: PMC8901177.
- 9: Dong L, Li J, Zou Q, Zhang Y, Zhao L, Wen X, Gong J, Li F, Liu T, Evans AC, Valdes-Sosa PA, Yao D. WeBrain: A web-based braininformatics platform of computational ecosystem for EEG big data analysis. *Neuroimage*. 2021 Dec 15;245:118713. doi: 10.1016/j.neuroimage.2021.118713. Epub 2021 Nov 17. PMID: 34798231.
- 10: Lewis JD, Bezgin G, Fonov VS, Collins DL, Evans AC. A sub+cortical fMRI-based surface parcellation. *Hum Brain Mapp*. 2022 Feb 1;43(2):616-632. doi: 10.1002/hbm.25675. Epub 2021 Nov 11. PMID: 34761459; PMCID: PMC8720195.
- 11: Kiar G, Chatelain Y, de Oliveira Castro P, Petit E, Rokem A, Varoquaux G, Misisic B, Evans AC, Glatard T. Numerical uncertainty in analytical pipelines lead to impactful variability in brain networks. *PLoS One*. 2021 Nov 1;16(11):e0250755. doi: 10.1371/journal.pone.0250755. PMID: 34724000; PMCID: PMC8559953.**
- 12: Peng L, Lin L, Lin Y, Chen YW, Mo Z, Vlasova RM, Kim SH, Evans AC, Dager SR, Estes AM, McKinstry RC, Botteron KN, Gerig G, Schultz RT, Hazlett HC, Piven J, Burrows CA, Grzadzinski RL, Girault JB, Shen MD, Styner MA. Longitudinal Prediction of Infant MR Images With Multi-Contrast Perceptual Adversarial Learning. *Front Neurosci*. 2021 Sep 9;15:653213. doi: 10.3389/fnins.2021.653213. PMID: 34566556; PMCID: PMC8458966.
- 13: Paquola C, Royer J, Lewis LB, Lepage C, Glatard T, Wagstyl K, DeKraaker J, Toussaint PJ, Valk SL, Collins L, Khan AR, Amunts K, Evans AC, Dickscheid T, Bernhardt B. The BigBrainWarp toolbox for integration of BigBrain 3D histology with multimodal neuroimaging. *Elife*. 2021 Aug 25;10:e70119. doi: 10.7554/eLife.70119. PMID: 34431476; PMCID: PMC8445620.**
- 14: OmidYeganeh M, Khalili-Mahani N, Bermudez P, Ross A, Lepage C, Vincent RD, Jeon S, Lewis LB, Das S, Zijdenbos AP, Rioux P, Adalat R, Van Eede MC, Evans AC. A Simulation Toolkit for Testing the Sensitivity and Accuracy of Corticometry Pipelines. *Front Neuroinform*. 2021 Jul 26;15:665560. doi: 10.3389/fninf.2021.665560. PMID: 34381348; PMCID: PMC8350777.
- 15: Vogel JW, Iturria-Medina Y, Strandberg OT, Smith R, Levitis E, Evans AC, Hansson O; Alzheimer's Disease Neuroimaging Initiative; Swedish BioFinder Study. Author Correction: Spread of pathological tau proteins through communicating neurons in human Alzheimer's disease. *Nat Commun*. 2021 Aug 5;12(1):4862. doi: 10.1038/s41467-021-25193-3. Erratum for: *Nat Commun*. 2020 May 26;11(1):2612. PMID: 34354079; PMCID: PMC8342451.**
- 16: Lee YG, Jeon S, Kang SW, Park M, Baik K, Yoo HS, Chung SJ, Jeong SH, Jung

JH, Lee PH, Sohn YH, Evans AC, Ye BS; Alzheimer's Disease Neuroimaging Initiative. Erratum. *Alzheimers Dement (Amst)*. 2021 Jul 28;13(1):e12215. doi: 10.1002/dad2.12215. Erratum for: *Alzheimers Dement (Amst)*. 2021 May 21;13(1):e12177. PMID: 34337131; PMCID: PMC8319653.

17: Spahr A, Rosli Z, Legault M, Tran LT, Fournier S, Toutouchi H, Darbelli L, Madjar C, Lucia C, St-Jean ML, Das S, Evans AC, Bernard G. The LORIS MyeliNeuroGene rare disease database for natural history studies and clinical trial readiness. *Orphanet J Rare Dis*. 2021 Jul 23;16(1):328. doi: 10.1186/s13023-021-01953-8. PMID: 34301277; PMCID: PMC8299589.

18: Kang SW, Jeon S, Lee YG, Park M, Baik K, Jung JH, Chung SJ, Yoo HS, Jeong SH, Yun M, Lee PH, Sohn YH, Evans AC, Ye BS. Implication of metabolic and dopamine transporter PET in dementia with Lewy bodies. *Sci Rep*. 2021 Jul 13;11(1):14394. doi: 10.1038/s41598-021-93442-y. PMID: 34257349; PMCID: PMC8277897.

19: Schiffer C, Spitzer H, Kiwitz K, Unger N, Wagstyl K, Evans AC, Harmeling S, Amunts K, Dickscheid T. Convolutional neural networks for cytoarchitectonic brain mapping at large scale. *Neuroimage*. 2021 Oct 15;240:118327. doi: 10.1016/j.neuroimage.2021.118327. Epub 2021 Jul 2. PMID: 34224853.

20: Larivière S, Paquola C, Park BY, Royer J, Wang Y, Benkarim O, Vos de Wael R, Valk SL, Thomopoulos SI, Kirschner M, Lewis LB, Evans AC, Sisodiya SM, McDonald CR, Thompson PM, Bernhardt BC. The ENIGMA Toolbox: multiscale neural contextualization of multisite neuroimaging datasets. *Nat Methods*. 2021 Jul;18(7):698-700. doi: 10.1038/s41592-021-01186-4. PMID: 34194050; PMCID: PMC8983056.

21: Lee YG, Jeon S, Kang SW, Park M, Baik K, Yoo HS, Chung SJ, Jeong SH, Jung JH, Lee PH, Sohn YH, Evans AC, Ye BS; and the Alzheimer's Disease Neuroimaging Initiative. Interaction of CSF α -synuclein and amyloid beta in cognition and cortical atrophy. *Alzheimers Dement (Amst)*. 2021 May 21;13(1):e12177. doi: 10.1002/dad2.12177. Erratum in: *Alzheimers Dement (Amst)*. 2021 Jul 28;13(1):e12215. PMID: 34046519; PMCID: PMC8140203.

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Celia M.T. Greenwood	H-index: 62(+3)	# of publications: 13(-10)
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1: Lu T, Forgetta V, Richards JB, Greenwood CMT. Polygenic risk score as a possible tool for identifying familial monogenic causes of complex diseases. *Genet Med*. 2022 Apr 23:S1098-3600(22)00717-1. doi: 10.1016/j.gim.2022.03.022. Epub ahead of print. PMID: 35460399.

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Preprints:

14. An algorithm-based multiple detection influence measure for high dimensional regression using expectile. A Barry, N Bhagwat, B Misic, JB Poline... - arXiv preprint arXiv:2105.12286, 2021

Patricia P. Silveira	H-index: 35 (+3)	# of publications: 20(+6)
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1: Silveira PP, More L, Gottfried C. Editorial: Gene and Environment Interactions in Neurodevelopmental Disorders. *Front Behav Neurosci*. 2022 Mar 31;16:893662. doi: 10.3389/fnbeh.2022.893662. PMID: 35431834; PMCID: PMC9008214.

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7: Jaramillo-Ospina A, Casanello P, Garmendia ML, Andersen R, Levitan RD, Meaney MJ, Silveira PP. Interactions between a polygenic risk score for plasma docosahexaenoic fatty acid concentration, eating behaviour, and body composition in children. *Int J Obes (Lond)*. 2022 May;46(5):977-985. doi: 10.1038/s41366-022-01067-6. Epub 2022 Jan 20. PMID: 35058573.

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10: Silveira PP. Fetal Growth and Brain Development-One Data Point Is Worth a Thousand Words, But Growth Trajectories Are Worth a Million. *JAMA Netw Open*. 2021 Dec 1;4(12):e2139283. doi: 10.1001/jamanetworkopen.2021.39283. PMID: 34882184.

11: Mucellini AB, Miguel PM, Dalle Molle R, Rodrigues DM, Machado TD, Reis RS, Toazza R, Salum GA, Bortoluzzi A, Franco AR, Buchweitz A, Barth B, Agranonik M, Nassim M, Meaney MJ, Manfro GG, Silveira PP. Diminished insulin sensitivity is associated with altered brain activation to food cues and with risk for obesity - Implications for individuals born small for gestational age. *Appetite*. 2022 Feb 1;169:105799. doi: 10.1016/j.appet.2021.105799. Epub 2021 Nov 9. PMID: 34767841.

12: McGill MG, Pokhvisneva I, Clappison AS, McEwen LM, Beijers R, Tollenaar MS, Pham H, Kee MZL, Garg E, de Mendonça Filho EJ, Karnani N, Silveira PP, Kobor MS, de Weerth C, Meaney MJ, O'Donnell KJ. Maternal Prenatal Anxiety and the Fetal Origins of Epigenetic Aging. *Biol Psychiatry*. 2022 Feb 1;91(3):303-312. doi: 10.1016/j.biopsych.2021.07.025. Epub 2021 Aug 19. PMID: 34756561.

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14: Batra A, Latsko M, Portella AK, Silveira PP. Early adversity and insulin: neuroendocrine programming beyond glucocorticoids. *Trends Endocrinol Metab*. 2021 Dec;32(12):1031-1043. doi: 10.1016/j.tem.2021.09.003. Epub 2021 Oct 8. PMID: 34635400.

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17: Potter-Dickey A, Letourneau N, Silveira PP, Ntanda H, Giesbrecht GF, Hart M, Dewell S, de Koning APJ. Associations Among Parental Caregiving Quality, Cannabinoid Receptor 1 Expression-Based Polygenic Scores, and Infant-Parent Attachment: Evidence for Differential Genetic Susceptibility? *Front Neurosci*. 2021 Jul 27;15:704392. doi: 10.3389/fnins.2021.704392. PMID: 34385904; PMCID: PMC8353245.

18: Koh DXP, Tint MT, Gluckman PD, Chong YS, Yap FKP, Qiu A, Eriksson JG, Fortier MV, Silveira PP, Meaney MJ, Tan AP. Association of increased abdominal adiposity at birth with altered ventral caudate microstructure. *Int J Obes (Lond)*. 2021 Nov;45(11):2396-2403. doi: 10.1038/s41366-021-00905-3. Epub 2021 Jul 19. PMID: 34282269.

19: Parent C, Pokhvisneva I, de Mendonça Filho EJ, O'Donnell KJ, Meaney MJ, Kee MZL, Thng G, Wing H, Adler NE, Keeton V, Pantell MS, Hessler D, Gottlieb LM, Silveira PP. Salivary cytokine cluster moderates the association between caregivers perceived stress and emotional functioning in youth. *Brain Behav Immun*. 2021 May;94:125-137. doi: 10.1016/j.bbi.2021.02.025. Epub 2021 Mar 2. PMID: 33662503.

Preprints

20. A Sex-Specific Genome-Wide Association Study of Depression Phenotypes in UK Biobank. PP Silveira, I Pokhvisneva, DM Howard, MJ Meaney - medRxiv, 2022

Michael J. Meaney	H-index: 149 (+2)	# of publications: 40(+5)
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1: Gordon Green C, Szekely E, Babineau V, Jolicoeur-Martineau A, Bouvette-Turcot AA, Minde K, Sassi R, Atkinson L, Kennedy JL, Steiner M, Lydon J, Gaudreau H, Burack JA, Herba C, Pennestri MH, Levitan R, Meaney MJ, Wazana A; MAVAN Research Team. Negative emotionality as a candidate mediating mechanism linking prenatal maternal mood problems and offspring internalizing behaviour. *Dev Psychopathol*. 2022 Apr 20:1-15. doi: 10.1017/S0954579421001747. Epub ahead of print. PMID: 35440354.

2: Lau HX, Kee MZL, Yap QV, Tham EH, Chan YH, Goh AEN, Teoh OH, Eriksson JG, Godfrey KM, Gluckman PD, Chong YS, Chan JKY, Van Bever H, Lee BW, Shek LP, Meaney MJ, Loo EXL. Associations Between Maternal Distress During Early Life Periods and Offspring Respiratory Infections and Allergic Outcomes. *Front Pediatr*. 2022 Mar 30;10:749323. doi: 10.3389/fped.2022.749323. PMID: 35433563; PMCID: PMC9006870.

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6: McGill MG, Pokhvisneva I, Clappison AS, McEwen LM, Beijers R, Tollenaar M, Pham H, Kee MZL, Garg E, de Mendonça Filho EJ, Karnani N, Silveira PP, Kobor MS, de Weerth C, Meaney MJ, O'Donnell KJ. Reply to: Crossing the "Birth Border" for Epigenetic Effects. *Biol Psychiatry*. 2022 Mar 3:S0006-3223(21)01867-9. doi: 10.1016/j.biopsych.2021.12.008. Epub ahead of print. PMID: 35249723.

7: Chen L, Tan KML, Gong M, Chong MFF, Tan KH, Chong YS, Meaney MJ, Gluckman PD, Eriksson JG, Karnani N. Variability in newborn telomere length is explained by inheritance and intrauterine environment. *BMC Med*. 2022 Jan 25;20(1):20. doi: 10.1186/s12916-021-02217-9. PMID: 35073935; PMCID: PMC8787951.

8: Sum KK, Cai S, Law E, Cheon B, Tan G, Loo E, Lee YS, Yap F, Chan JKY, Daniel M, Chong YS, Meaney M, Eriksson J, Huang J. COVID-19-Related Life Experiences, Outdoor Play, and Long-term Adiposity Changes Among Preschool- and School-Aged Children in Singapore 1 Year After Lockdown. *JAMA Pediatr*. 2022 Mar 1;176(3):280-289. doi: 10.1001/jamapediatrics.2021.5585. PMID: 35072692; PMCID: PMC8787686.

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11: Shenk CE, Felt JM, Ram N, O'Donnell KJ, Sliwinski MJ, Pokhvisneva I, Benson L, Meaney MJ, Putnam FW, Noll JG. Cortisol trajectories measured prospectively across thirty years of female development following exposure to childhood sexual abuse: Moderation by epigenetic age acceleration at midlife.

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15: Tsotsi S, Borelli JL, Backer M, Veragoo N, Abdulla N, Tan KH, Chong YS, Chen H, Meaney MJ, Broekman B, Rifkin-Graboi A. Preschoolers' emotion reactivity and regulation: Links with maternal psychological distress and child behavior problems. *Dev Psychopathol*. 2021 Nov 15:1-13. doi: 10.1017/S0954579421000936. Epub ahead of print. PMID: 34779373.

16: Zhu J, Zhang H, Chong YS, Shek LP, Gluckman PD, Meaney MJ, Fortier MV, Qiu A. Integrated structural and functional atlases of Asian children from infancy to childhood. *Neuroimage*. 2021 Dec 15;245:118716. doi: 10.1016/j.neuroimage.2021.118716. Epub 2021 Nov 9. PMID: 34767941.

17: Mucellini AB, Miguel PM, Dalle Molle R, Rodrigues DM, Machado TD, Reis RS, Toazza R, Salum GA, Bortoluzzi A, Franco AR, Buchweitz A, Barth B, Agranonik M, Nassim M, Meaney MJ, Manfro GG, Silveira PP. Diminished insulin sensitivity is associated with altered brain activation to food cues and with risk for obesity - Implications for individuals born small for gestational age. *Appetite*. 2022 Feb 1;169:105799. doi: 10.1016/j.appet.2021.105799. Epub 2021 Nov 9. PMID: 34767841.

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37: Labonté B, Abdallah K, Maussion G, Yerko V, Yang J, Bittar T, Quessy F, Golden SA, Navarro L, Checknita D, Gigek C, Lopez JP, Neve RL, Russo SJ, Tremblay RE, Côté G, Meaney MJ, Mechawar N, Nestler EJ, Turecki G. Regulation of impulsive and aggressive behaviours by a novel lncRNA. *Mol Psychiatry*. 2021 Aug;26(8):3751-3764. doi: 10.1038/s41380-019-0637-4. Epub 2020 Jan 6. PMID: 31907380; PMCID: PMC7436429.

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Preprints

39. A Sex-Specific Genome-Wide Association Study of Depression Phenotypes in UK Biobank. PP Silveira, I Pokhvisneva, DM Howard, MJ Meaney. medRxiv

40. Seemingly Unrelated Multi-State processes: a Bayesian semiparametric approach. A Cremaschi, R Argiento, M De Iorio, C Shirong... - arXiv preprint arXiv:2106.03072, 2021

Claudia L. Kleinman	H-index: 26(+3)	# of publications: 6(-5)
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1: Golbourn BJ, Halbert ME, Halligan K, Varadharajan S, Krug B, Mbah NE, Kabir N, Stanton AJ, Locke AL, Casillo SM, Zhao Y, Sanders LM, Cheney A, Mullett SJ, Chen A, Wassell M, Andren A, Perez J, Jane EP, Premkumar DRD, Koncar RF, Mirhadi S, McCarl LH, Chang YF, Wu YL, Gatesman TA, Cruz AF, Zapotocky M, Hu B, Kohanbash G, Wang X, Vartanian A, Moran MF, Lieberman F, Amankulor NM, Wendell SG, Vaske OM, Panigrahy A, Felker J, Bertrand KC, Kleinman CL, Rich JN, Friedlander RM, Broniscer A, Lyssiotis C, Jabado N, Pollack IF, Mack SC, Agnihotri S. Loss of MAT2A compromises methionine metabolism and represents a vulnerability in H3K27M mutant glioma by modulating the epigenome. *Nat Cancer*. 2022 Apr 14. doi: 10.1038/s43018-022-00348-3. Epub ahead of print. PMID: 35422502.

2: Tessier-Cloutier B, Kleinman CL, Foulkes WD. SWI/SNF-deficient undifferentiated malignancies: where to draw the line[†]. *J Pathol*. 2022 Feb;256(2):139-142. doi: 10.1002/path.5836. Epub 2021 Dec 16. PMID: 34767264.

3: Chaouch A, Berlandi J, Chen CCL, Frey F, Badini S, Harutyunyan AS, Chen X, Krug B, Hébert S, Jeibmann A, Lu C, Kleinman CL, Hasselblatt M, Lasko P, Shirinian M, Jabado N. Histone H3.3 K27M and K36M mutations de-repress transposable elements through perturbation of antagonistic chromatin marks. *Mol Cell*. 2021 Dec 2;81(23):4876-4890.e7. doi: 10.1016/j.molcel.2021.10.008. Epub 2021 Nov 4. PMID: 34739871.

4: Sweha SR, Chung C, Natarajan SK, Panwalkar P, Pun M, Ghali A, Bayliss J, Pratt D, Shankar A, Ravikumar V, Rao A, Cieslik M, Wilder-Romans K, Scott AJ, Wahl DR, Jessa S, Kleinman CL, Jabado N, Mackay A, Jones C, Martinez D, Santi M, Judkins AR, Yadav VN, Qin T, Phoenix TN, Koschmann CJ, Baker SJ, Chinnaiyan AM, Venneti S. Epigenetically defined therapeutic targeting in H3.3G34R/V high-grade gliomas. *Sci Transl Med*. 2021 Oct 13;13(615):eabf7860. doi: 10.1126/scitranslmed.abf7860. Epub 2021 Oct 13. PMID: 34644147; PMCID: PMC8783551.

5: Totten SP, Im YK, Cepeda Cañedo E, Najyb O, Nguyen A, Hébert S, Ahn R, Lewis

K, Lebeau B, La Selva R, Sabourin V, Martínez C, Savage P, Kuasne H, Avizonis D, Santos Martínez N, Chabot C, Aguilar-Mahecha A, Goulet ML, Dankner M, Witcher M, Petrecca K, Basik M, Pollak M, Topisirovic I, Lin R, Siegel PM, Kleinman CL, Park M, St-Pierre J, Ursini-Siegel J. STAT1 potentiates oxidative stress revealing a targetable vulnerability that increases phenformin efficacy in breast cancer. *Nat Commun.* 2021 Jun 3;12(1):3299. doi: 10.1038/s41467-021-23396-2. PMID: 34083537; PMCID: PMC8175605.

6: Arabzade A, Zhao Y, Varadharajan S, Chen HC, Jessa S, Rivas B, Stuckert AJ, Solis M, Kardian A, Tlais D, Golbourn BJ, Stanton AJ, Chan YS, Olson C, Karlin KL, Kong K, Kupp R, Hu B, Injac SG, Ngo M, Wang PR, De León LA, Sahm F, Kawauchi D, Pfister SM, Lin CY, Hodges HC, Singh I, Westbrook TF, Chintagumpala MM, Blaney SM, Parsons DW, Pajtler KW, Agnihotri S, Gilbertson RJ, Yi J, Jabado N, Kleinman CL, Bertrand KC, Deneen B, Mack SC. ZFTA-RELA Dictates Oncogenic Transcriptional Programs to Drive Aggressive Supratentorial Ependymoma. *Cancer Discov.* 2021 Sep;11(9):2200-2215. doi: 10.1158/2159-8290.CD-20-1066. Epub 2021 Mar 19. PMID: 33741710; PMCID: PMC8418998.

Kieran J. O'Donnell	H-index: 29(+4)	# of publications: 7(-4)
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1: Bérard A, Gorgui J, Tchuente V, Lacasse A, Gomez YH, Côté S, King S, Muanda F, Mufike Y, Boucoiran I, Nuyt AM, Quach C, Ferreira E, Kaul P, Winquist B, O'Donnell KJ, Eltonsy S, Chateau D, Zhao JP, Hanley G, Oberlander T, Kassai B, Mainbourg S, Bernatsky S, Vinet É, Brodeur-Doucet A, Demers J, Richebé P, Zaphiratos V. The COVID-19 Pandemic Impacted Maternal Mental Health Differently Depending on Pregnancy Status and Trimester of Gestation. *Int J Environ Res Public Health.* 2022 Mar 2;19(5):2926. doi: 10.3390/ijerph19052926. PMID: 35270623; PMCID: PMC8910614.

2: McGill MG, Pokhvisneva I, Clappison AS, McEwen LM, Beijers R, Tollenaar M, Pham H, Kee MZL, Garg E, de Mendonça Filho EJ, Karnani N, Silveira PP, Kobor MS, de Weerth C, Meaney MJ, O'Donnell KJ. Reply to: Crossing the "Birth Border" for Epigenetic Effects. *Biol Psychiatry.* 2022 Mar 3:S0006-3223(21)01867-9. doi: 10.1016/j.biopsych.2021.12.008. Epub ahead of print. PMID: 35249723.

3: O'Connor TG, Ciesla AA, Sefair AV, Thornburg LL, Brown AS, Glover V, O'Donnell KJ. Maternal prenatal infection and anxiety predict neurodevelopmental outcomes in middle childhood. *J Psychopathol Clin Sci.* 2022 Mar 3. doi: 10.1037/abn0000746. Epub ahead of print. PMID: 35238594.

4: Shenk CE, Felt JM, Ram N, O'Donnell KJ, Sliwinski MJ, Pokhvisneva I, Benson L, Meaney MJ, Putnam FW, Noll JG. Cortisol trajectories measured prospectively across thirty years of female development following exposure to childhood sexual abuse: Moderation by epigenetic age acceleration at midlife. *Psychoneuroendocrinology.* 2022 Feb;136:105606. doi: 10.1016/j.psyneuen.2021.105606. Epub 2021 Nov 26. PMID: 34896740; PMCID: PMC8724404.

5: McGill MG, Pokhvisneva I, Clappison AS, McEwen LM, Beijers R, Tollenaar MS, Pham H, Kee MZL, Garg E, de Mendonça Filho EJ, Karnani N, Silveira PP, Kobor MS, de Weerth C, Meaney MJ, O'Donnell KJ. Maternal Prenatal Anxiety and the Fetal Origins of Epigenetic Aging. *Biol Psychiatry.* 2022 Feb 1;91(3):303-312. doi: 10.1016/j.biopsych.2021.07.025. Epub 2021 Aug 19. PMID: 34756561.

6: Parent C, Pokhvisneva I, de Mendonça Filho EJ, O'Donnell KJ, Meaney MJ, Kee MZL, Thng G, Wing H, Adler NE, Keeton V, Pantell MS, Hessler D, Gottlieb LM, Silveira PP. Salivary cytokine cluster moderates the association between caregivers perceived stress and emotional functioning in youth. *Brain Behav Immun*. 2021 May;94:125-137. doi: 10.1016/j.bbi.2021.02.025. Epub 2021 Mar 2. PMID: 33662503.

Preprints

7. **Obesity and accelerated epigenetic aging in a high-risk cohort of children**
L Etzel, WJ Hastings, MA Hall, C Heim, MJ Meaney... - medRxiv, 2021

Jean-Baptiste Poline	H-index: 92(+1)	# of publications: 12(+3)
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1: Perez-Lebel A, Varoquaux G, Le Morvan M, Josse J, Poline JB. Benchmarking missing-values approaches for predictive models on health databases. *Gigascience*. 2022 Apr 15;11:giac013. doi: 10.1093/gigascience/giac013. PMID: 35426912; PMCID: PMC9012100.

2: Poline JB, Kennedy DN, Sommer FT, Ascoli GA, Van Essen DC, Ferguson AR, Grethe JS, Hawrylycz MJ, Thompson PM, Poldrack RA, Ghosh SS, Keator DB, Athey TL, Vogelstein JT, Mayberg HS, Martone ME. Is Neuroscience FAIR? A Call for Collaborative Standardisation of Neuroscience Data. *Neuroinformatics*. 2022 Jan 21. doi: 10.1007/s12021-021-09557-0. Epub ahead of print. PMID: 35061216.

3: DuPre E, Holdgraf C, Karakuzu A, Tetrel L, Bellec P, Stikov N, Poline JB. Beyond advertising: New infrastructures for publishing integrated research objects. *PLoS Comput Biol*. 2022 Jan 6;18(1):e1009651. doi: 10.1371/journal.pcbi.1009651. PMID: 34990466; PMCID: PMC8735620.

4: Markello RD, Arnatkeviciute A, Poline JB, Fulcher BD, Fornito A, Masic B. Standardizing workflows in imaging transcriptomics with the abagen toolbox. *Elife*. 2021 Nov 16;10:e72129. doi: 10.7554/eLife.72129. PMID: 34783653; PMCID: PMC8660024.

5: Bazeille T, DuPre E, Richard H, Poline JB, Thirion B. An empirical evaluation of functional alignment using inter-subject decoding. *Neuroimage*. 2021 Dec 15;245:118683. doi: 10.1016/j.neuroimage.2021.118683. Epub 2021 Oct 26. PMID: 34715319.

6: Dockès J, Varoquaux G, Poline JB. Preventing dataset shift from breaking machine-learning biomarkers. *Gigascience*. 2021 Sep 28;10(9):giab055. doi: 10.1093/gigascience/giab055. PMID: 34585237; PMCID: PMC8478611.

Preprints

7. NeuroLibre: A preprint server for full-fledged reproducible neuroscience. A Karakuzu, E DuPre, L Tetrel, P Bermudez... - 2022

8. **The Canadian Open Neuroscience Platform—An Open Science Framework for the Neuroscience Community.** RJ Harding, P Bermudez, M Beauvais, P Bellec, S Hill... - 2022

9. Recommendations for repositories and scientific gateways from a neuroscience perspective. M Sandström, M Abrams, J Bjaalie, M Hicks... - arXiv preprint arXiv:2201.00727, 2022

10. Micapipe: A Pipeline for Multimodal Neuroimaging and Connectome Analysis. RR Cruces, J Royer, P Herholz, S Larivière... - bioRxiv, 2022

11. An algorithm-based multiple detection influence measure for high dimensional regression using expectile. A Barry, N Bhagwat, B Mistic, JB Poline... - arXiv preprint arXiv:2105.12286, 2021

12. The Cost of Untracked Diversity in Brain-Imaging Prediction. O Benkarim, C Paquola, B Park, V Kebets, SJ Hong... - bioRxiv, 2021

Tristan Glatard	H-index: 30(+2)	# of publications: 8(+1)
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1: Khalili-Mahani N, Holowka E, Woods S, Khaled R, Roy M, Lashley M, Glatard T, Timm-Bottos J, Dahan A, Niesters M, Hovey RB, Simon B, Kirmayer LJ. Play the Pain: A Digital Strategy for Play-Oriented Research and Action. *Front Psychiatry*. 2021 Dec 15;12:746477. doi: 10.3389/fpsy.2021.746477. PMID: 34975566; PMCID: PMC8714795.

2: Kiar G, Chatelain Y, de Oliveira Castro P, Petit E, Rokem A, Varoquaux G, Mistic B, Evans AC, Glatard T. Numerical uncertainty in analytical pipelines lead to impactful variability in brain networks. *PLoS One*. 2021 Nov 1;16(11):e0250755. doi: 10.1371/journal.pone.0250755. PMID: 34724000; PMCID: PMC8559953.

3: Commowick O, Kain M, Casey R, Ameli R, Ferré JC, Kerbrat A, Tourdias T, Cervenansky F, Camarasu-Pop S, Glatard T, Vukusic S, Edan G, Barillot C, Dojat M, Cotton F. Multiple sclerosis lesions segmentation from multiple experts: The MICCAI 2016 challenge dataset. *Neuroimage*. 2021 Dec 1;244:118589. doi: 10.1016/j.neuroimage.2021.118589. Epub 2021 Sep 24. PMID: 34563682.

4: Paquola C, Royer J, Lewis LB, Lepage C, Glatard T, Wagstyl K, DeKraker J, Toussaint PJ, Valk SL, Collins L, Khan AR, Amunts K, Evans AC, Dickscheid T, Bernhardt B. The BigBrainWarp toolbox for integration of BigBrain 3D histology with multimodal neuroimaging. *Elife*. 2021 Aug 25;10:e70119. doi: 10.7554/eLife.70119. PMID: 34431476; PMCID: PMC8445620.

5: Levitis E, van Praag CDG, Gau R, Heunis S, DuPre E, Kiar G, Bottenhorn KL, Glatard T, Nikolaidis A, Whitaker KJ, Mancini M, Niso G, Afyouni S, Alonso-Ortiz E, Appelhoff S, Arnatkeviciute A, Atay SM, Auer T, Baracchini G, Bayer JMM, Beauvais MJS, Bijsterbosch JD, Bilgin IP, Bollmann S, Bollmann S, Botvinik-Nezer R, Bright MG, Calhoun VD, Chen X, Chopra S, Chuan-Peng H, Close TG, Cookson SL, Craddock RC, De La Vega A, De Leener B, Demeter DV, Di Maio P, Dickie EW, Eickhoff SB, Esteban O, Finc K, Frigo M, Ganesan S, Ganz M, Garner KG, Garza-Villarreal EA, Gonzalez-Escamilla G, Goswami R, Griffiths JD, Grootswagers T, Guay S, Guest O, Handwerker DA, Herholz P, Heuer K, Huijser DC, Iacovella V, Joseph MJE, Karakuzu A, Keator DB, Kobeleva X, Kumar M, Laird AR, Larson-Prior LJ, Lautarescu A, Lazari A, Legarreta JH, Li XY, Lv J, Mansour L S, Meunier D, Moraczewski D, Nandi T, Nastase SA, Nau M, Noble S, Norgaard M, Obungoloch J,

Oostenveld R, Orchard ER, Pinho AL, Poldrack RA, Qiu A, Raamana PR, Rokem A, Rutherford S, Sharan M, Shaw TB, Syeda WT, Testerman MM, Toro R, Valk SL, Van Den Bossche S, Varoquaux G, Váša F, Veldsman M, Vohryzek J, Wagner AS, Walsh RJ, White T, Wong FT, Xie X, Yan CG, Yang YF, Yee Y, Zanitti GE, Van Gulick AE, Duff E, Maumet C. Centering inclusivity in the design of online conferences-An OHBM-Open Science perspective. *Gigascience*. 2021 Aug 20;10(8):giab051. doi: 10.1093/gigascience/giab051. PMID: 34414422; PMCID: PMC8377301.

6: Kaur B, Dugré M, Hanna A, Glatard T. An analysis of security vulnerabilities in container images for scientific data analysis. *Gigascience*. 2021 Jun 3;10(6):giab025. doi: 10.1093/gigascience/giab025. PMID: 34080631; PMCID: PMC8173661.

Preprints

7. Data augmentation through Monte Carlo arithmetic leads to more generalizable classification in connectomics. G Kiar, Y Chatelain, A Salari, AC Evans, T Glatard - arXiv preprint arXiv:2109.09649, 2021

8. PyTracer: Automatically profiling numerical instabilities in Python. Y Chatelain, N Yong, G Kiar, T Glatard - arXiv preprint arXiv:2112.11508, 2021

Yasser Iturria-Medina	H-index: 30(+3)	# of publications: 13(+6)
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1: Lenglos C, Lin SJ, Zeighami Y, Baumeister TR, Carbonell F, Iturria-Medina Y. Multivariate genomic and transcriptomic determinants of imaging-derived personalized therapeutic needs in Parkinson's disease. *Sci Rep*. 2022 Mar 31;12(1):5483. doi: 10.1038/s41598-022-09506-0. PMID: 35361840; PMCID: PMC8971452.

2: Picher-Martel V, Magnussen C, Blais M, Bubela T, Das S, Dionne A, Evans AC, Genge A, Greiner R, Iturria-Medina Y, Johnston W, Jones K, Kaneb H, Karamchandani J, Moradipoor S, Robertson J, Rogaeva E, Taylor DM, Vande Velde C, Yunusova Y, Zinman L, Kalra S, Dupré N. CAPTURE ALS: the comprehensive analysis platform to understand, remedy and eliminate ALS. *Amyotroph Lateral Scler Frontotemporal Degener*. 2022 Feb 23:1-7. doi: 10.1080/21678421.2022.2041668. Epub ahead of print. PMID: 35195049.

3: McCarthy J, Borroni B, Sanchez-Valle R, Moreno F, Laforce R Jr, Graff C, Synofzik M, Galimberti D, Rowe JB, Masellis M, Tartaglia MC, Finger E, Vandenberghe R, de Mendonça A, Tagliavini F, Santana I, Butler C, Gerhard A, Danek A, Levin J, Otto M, Frisoni G, Ghidoni R, Sorbi S, Jiskoot LC, Seelaar H, van Swieten JC, Rohrer JD, Iturria-Medina Y, Ducharme S; GENetic Frontotemporal Dementia Initiative (GENFI). Data-driven staging of genetic frontotemporal dementia using multi-modal MRI. *Hum Brain Mapp*. 2022 Apr 15;43(6):1821-1835. doi: 10.1002/hbm.25727. Epub 2022 Feb 3. PMID: 35118777; PMCID: PMC8933323.

4: Savard M, Pascoal TA, Servaes S, Dhollander T, Iturria-Medina Y, Kang MS, Vitali P, Therriault J, Mathotaarachchi S, Benedet AL, Gauthier S, Rosa-Neto P; Frontotemporal Lobar Degeneration Neuroimaging Initiative. Impact of long- and short-range fibre depletion on the cognitive deficits of fronto-temporal dementia. *Elife*. 2022 Jan 24;11:e73510. doi: 10.7554/eLife.73510. PMID:

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5: Khan AF, Adewale Q, Baumeister TR, Carbonell F, Zilles K, Palomero-Gallagher N, Iturria-Medina Y; Alzheimer's Disease Neuroimaging Initiative. Personalized brain models identify neurotransmitter receptor changes in Alzheimer's disease. *Brain*. 2021 Oct 4;awab375. doi: 10.1093/brain/awab375. Epub ahead of print. PMID: 34605898.

6: Zeiler FA, Iturria-Medina Y, Thelin EP, Gomez A, Shankar JJ, Ko JH, Figley CR, Wright GEB, Anderson CM. Integrative Neuroinformatics for Precision Prognostication and Personalized Therapeutics in Moderate and Severe Traumatic Brain Injury. *Front Neurol*. 2021 Sep 7;12:729184. doi: 10.3389/fneur.2021.729184. PMID: 34557154; PMCID: PMC8452858.

7: Vogel JW, Iturria-Medina Y, Strandberg OT, Smith R, Levitis E, Evans AC, Hansson O; Alzheimer's Disease Neuroimaging Initiative; Swedish BioFinder Study. Author Correction: Spread of pathological tau proteins through communicating neurons in human Alzheimer's disease. *Nat Commun*. 2021 Aug 5;12(1):4862. doi: 10.1038/s41467-021-25193-3. Erratum for: *Nat Commun*. 2020 May 26;11(1):2612. PMID: 34354079; PMCID: PMC8342451.

8: Santonja J, Román FJ, Martínez K, Escorial S, Álvarez-Linera J, Privado J, Quiroga MÁ, Santarnecchi E, Iturria-Medina Y, Colom R. Neocortical Age and Fluid Ability: Greater Accelerated Brain Aging for Thickness, but Smaller for Surface Area, in High Cognitive Ability Individuals. *Neuroscience*. 2021 Jul 15;467:81-90. doi: 10.1016/j.neuroscience.2021.05.029. Epub 2021 May 30. PMID: 34077771.

9: Iturria-Medina Y, Carbonell F, Assadi A, Adewale Q, Khan AF, Baumeister TR, Sanchez-Rodriguez L. Integrating molecular, histopathological, neuroimaging and clinical neuroscience data with NeuroPM-box. *Commun Biol*. 2021 May 21;4(1):614. doi: 10.1038/s42003-021-02133-x. PMID: 34021244; PMCID: PMC8140107.

10: Adewale Q, Khan AF, Carbonell F, Iturria-Medina Y; Alzheimer's Disease Neuroimaging Initiative. Integrated transcriptomic and neuroimaging brain model decodes biological mechanisms in aging and Alzheimer's disease. *Elife*. 2021 May 18;10:e62589. doi: 10.7554/eLife.62589. PMID: 34002691; PMCID: PMC8131100.

11: Vogel JW, Young AL, Oxtoby NP, Smith R, Ossenkuppele R, Strandberg OT, La Joie R, Aksman LM, Grothe MJ, Iturria-Medina Y; Alzheimer's Disease Neuroimaging Initiative, Pontecorvo MJ, Devous MD, Rabinovici GD, Alexander DC, Lyoo CH, Evans AC, Hansson O. Four distinct trajectories of tau deposition identified in Alzheimer's disease. *Nat Med*. 2021 May;27(5):871-881. doi: 10.1038/s41591-021-01309-6. Epub 2021 Apr 29. PMID: 33927414; PMCID: PMC8686688.

Preprints

12. Differentiating amyloid beta spread in autosomal dominant and sporadic Alzheimer's disease. E Levitis, JW Vogel, T Funck, V Halchinski, S Gauthier... - bioRxiv, 2021

13. Social isolation is linked to classical risk factors of Alzheimer's disease-related dementias. K Shafiqi, S Villeneuve, P Rosa-Neto, AP Badhwar... - bioRxiv, 2021

Sherif Karama	H-index: 41(+4)	# of publications: 3(-3)
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1: Joober R, Karama S. Randomness and nondeterminism: from genes to free will with implications for psychiatry. *J Psychiatry Neurosci*. 2021 Aug 20;46(4):E500-E505. doi: 10.1503/jpn.210141. PMID: 34415691; PMCID: PMC8410475.

2: Drakulich S, Thiffault AC, Olafson E, Parent O, Labbe A, Albaugh MD, Khundrakpam B, Ducharme S, Evans A, Chakravarty MM, Karama S. Maturational trajectories of pericortical contrast in typical brain development. *Neuroimage*. 2021 Jul 15;235:117974. doi: 10.1016/j.neuroimage.2021.117974. Epub 2021 Mar 22. PMID: 33766753; PMCID: PMC8278832.

3: Huguet G, Schramm C, Douard E, Tamer P, Main A, Monin P, England J, Jizi K, Renne T, Poirier M, Nowak S, Martin CO, Younis N, Knoth IS, Jean-Louis M, Saci Z, Auger M, Tihy F, Mathonnet G, Maftei C, Léveillé F, Porteous D, Davies G, Redmond P, Harris SE, Hill WD, Lemyre E, Schumann G, Bourgeron T, Pausova Z, Paus T, Karama S, Lippe S, Deary IJ, Almasy L, Labbe A, Glahn D, Greenwood CMT, Jacquemont S. Genome-wide analysis of gene dosage in 24,092 individuals estimates that 10,000 genes modulate cognitive ability. *Mol Psychiatry*. 2021 Jun;26(6):2663-2676. doi: 10.1038/s41380-020-00985-z. Epub 2021 Jan 7. PMID: 33414497; PMCID: PMC8953148.

Tuong Vi Nguyen	H-index: 18*	# of publications: 15(+9)
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*New

1: Kandel M, MacDonald TM, Walker SP, Cluver C, Bergman L, Myers J, Hastie R, Keenan E, Hannan NJ, Cannon P, Nguyen TV, Pritchard N, Tong S, Kaitu'u-Lino TJ. PSG7 and 9 (Pregnancy-Specific β -1 Glycoproteins 7 and 9): Novel Biomarkers for Preeclampsia. *J Am Heart Assoc*. 2022 Apr 5;11(7):e024536. doi: 10.1161/JAHA.121.024536. Epub 2022 Mar 24. PMID: 35322669.

2: Bilbul M, Caccese C, Horsley K, Gauvreau A, Gavanski I, Montreuil T, Konci R, Lai JK, Da Costa D, Zerkowicz P, Shen HC, Gryte KR, Larosa A, Brown RN, Suarathana E, Nguyen TV. Maternal anxiety, depression and vascular function during pregnancy. *J Psychosom Res*. 2022 Mar;154:110722. doi: 10.1016/j.jpsychores.2022.110722. Epub 2022 Jan 25. PMID: 35114604.

3: Wong GP, Andres F, Walker SP, MacDonald TM, Cannon P, Nguyen TV, Keenan E, Hannan NJ, Tong S, Kaitu'u-Lino TJ. Circulating Activin A is elevated at 36 weeks' gestation preceding a diagnosis of preeclampsia. *Pregnancy Hypertens*. 2022 Mar;27:23-26. doi: 10.1016/j.preghy.2021.11.006. Epub 2021 Nov 17. PMID: 34844073.

4: Andres F, Wong GP, Walker SP, MacDonald TM, Keenan E, Cannon P, Nguyen TV, Hannan NJ, Tong S, Kaitu'u-Lino TJ. A disintegrin and metalloproteinase 12 (ADAM12) is reduced at 36 weeks' gestation in pregnancies destined to deliver small for gestational age infants. *Placenta*. 2022 Jan;117:1-4. doi: 10.1016/j.placenta.2021.11.001. Epub 2021 Nov 2. PMID: 34768162.

5: Whigham CA, Hastie R, Hannan NJ, Brownfoot F, Pritchard N, Cannon P, Nguyen

TV, Kandel M, Masci J, Tong S, Kaitu'u-Lino TJ. Placental growth factor is negatively regulated by epidermal growth factor receptor (EGFR) signaling. *Placenta*. 2021 Oct;114:22-28. doi: 10.1016/j.placenta.2021.08.002. Epub 2021 Aug 5. PMID: 34418751.

6: Garcha D, Walker SP, MacDonald TM, Hyett J, Jellins J, Myers J, Illanes SE, Nien JK, Schepeler M, Keenan E, Whigham CA, Cannon P, Murray E, Nguyen TV, Kandel M, Masci J, Murphy C, Cruickshank T, Pritchard N, Hannan NJ, Brownfoot F, Roddy Mitchell A, Middleton A, Pell G, Wong GP, Tong S, Kaitu'u-Lino TJ. Circulating syndecan-1 is reduced in pregnancies with poor fetal growth and its secretion regulated by matrix metalloproteinases and the mitochondria. *Sci Rep*. 2021 Aug 16;11(1):16595. doi: 10.1038/s41598-021-96077-1. PMID: 34400721; PMCID: PMC8367987.

7: Cruickshank T, MacDonald TM, Walker SP, Keenan E, Dane K, Middleton A, Kyritsis V, Myers J, Cluver C, Hastie R, Bergman L, Garcha D, Cannon P, Murray E, Nguyen TV, Hiscock R, Pritchard N, Hannan NJ, Tong S, Kaitu'u-Lino TJ. Circulating Growth Differentiation Factor 15 Is Increased Preceding Preeclampsia Diagnosis: Implications as a Disease Biomarker. *J Am Heart Assoc*. 2021 Aug 17;10(16):e020302. doi: 10.1161/JAHA.120.020302. Epub 2021 Aug 13. PMID: 34387117; PMCID: PMC8475051.

8: Lew J, Jones SL, Caccese C, Orfi I, Little C, Botteron KN, McCracken JT, Nguyen TV. Developmental variation in testosterone:cortisol ratio alters cortical- and amygdala-based cognitive processes. *J Dev Orig Health Dis*. 2021 Jul 29;1-12. doi: 10.1017/S2040174421000362. Epub ahead of print. PMID: 34321135.

9: Cretu C, Gee P, Liu X, Agrawal A, Nguyen TV, Ghosh AK, Cook A, Jurica M, Larsen NA, Pena V. Structural basis of intron selection by U2 snRNP in the presence of covalent inhibitors. *Nat Commun*. 2021 Jul 23;12(1):4491. doi: 10.1038/s41467-021-24741-1. PMID: 34301950; PMCID: PMC8302644.

10: Murphy CN, Walker SP, MacDonald TM, Keenan E, Hannan NJ, Wlodek ME, Myers J, Briffa JF, Romano T, Roddy Mitchell A, Whigham CA, Cannon P, Nguyen TV, Kandel M, Pritchard N, Tong S, Kaitu'u-Lino TJ. Elevated Circulating and Placental SPINT2 Is Associated with Placental Dysfunction. *Int J Mol Sci*. 2021 Jul 12;22(14):7467. doi: 10.3390/ijms22147467. PMID: 34299087; PMCID: PMC8305184.

11: Kaitu'u-Lino TJ, Tong S, Walker SP, MacDonald TM, Cannon P, Nguyen TV, Sadananthan SA, Tint MT, Ong YY, Ling LS, Gluckman PD, Chong YS, Godfrey KM, Chan SY, Tan KH, Lee YS, Michael N, Eriksson JG, Wlodek ME. Maternal circulating SPINT1 is reduced in small-for-gestational age pregnancies at 26 weeks: Growing up in Singapore towards health outcomes (GUSTO) cohort study. *Placenta*. 2021 Jul;110:24-28. doi: 10.1016/j.placenta.2021.05.007. Epub 2021 Jun 1. PMID: 34102451.

12: Caccese C, Jones SL, Ramesh M, Yu A, Brossard-Racine M, Nguyen TV. Role of testosterone: cortisol ratio in age- and sex-specific cortico-hippocampal development and cognitive performance. *J Dev Orig Health Dis*. 2022 Feb;13(1):28-38. doi: 10.1017/S204017442100012X. Epub 2021 Mar 31. PMID: 33787479.

13: Cole KM, Wei SM, Martinez PE, Nguyen TV, Gregory MD, Kippenhan JS, Kohn PD, Soldin SJ, Nieman LK, Yanovski JA, Schmidt PJ, Berman KF. The NIMH Intramural Longitudinal Study of the Endocrine and Neurobiological Events Accompanying Puberty: Protocol and rationale for methods and measures. *Neuroimage*. 2021 Jul 1;234:117970. doi: 10.1016/j.neuroimage.2021.117970. Epub 2021 Mar 24. PMID: 33771694; PMCID: PMC8159875.

14: Jones SL, Carmel A, Hayton BC, Poulin MJ, Schwartz H, Wolde-Giorghis R, Zerkowicz P, Nguyen TV; Quebec Reproductive Psychiatry Network. Translating developmental origins of health and disease in practice: health care providers' perspectives. *J Dev Orig Health Dis*. 2021 Oct;12(5):824-825. doi: 10.1017/S2040174420001142. Epub 2020 Dec 9. PMID: 33292878.

15: Dimopoulos M, Weisel K, Moreau P, Anderson LD Jr, White D, San-Miguel J, Sonneveld P, Engelhardt M, Jenner M, Corso A, Dürig J, Pavic M, Salomo M, Casal E, Srinivasan S, Yu X, Nguyen TV, Biyukov T, Peluso T, Richardson P. Pomalidomide, bortezomib, and dexamethasone for multiple myeloma previously treated with lenalidomide (OPTIMISMM): outcomes by prior treatment at first relapse. *Leukemia*. 2021 Jun;35(6):1722-1731. doi: 10.1038/s41375-020-01021-3. Epub 2020 Sep 7. PMID: 32895455; PMCID: PMC8179841.

Rosemary C. Bagot	H-index: 38(+2)	# of publications: 7(+3)
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1: Iyer ES, Weinberg A, Bagot RC. Ambiguity and conflict: Dissecting uncertainty in decision-making. *Behav Neurosci*. 2022 Feb;136(1):1-12. doi: 10.1037/bne0000489. Epub 2021 Sep 13. PMID: 34516164.

2: Cunningham AM, Walker DM, Ramakrishnan A, Doyle MA, Bagot RC, Cates HM, Peña CJ, Issler O, Lardner C, Browne C, Russo SJ, Shen L, Nestler EJ. Sperm transcriptional state associated with paternal transmission of stress phenotypes. *J Neurosci*. 2021 Jun 7;41(29):6202–16. doi: 10.1523/JNEUROSCI.3192-20.2021. Epub ahead of print. PMID: 34099514; PMCID: PMC8287983.

3: Muir J, Bagot RC. Mechanisms of Stress-Induced Sleep Disturbance Give New Insight Into Stress Vulnerability. *Biol Psychiatry*. 2021 Jun 15;89(12):1108-1110. doi: 10.1016/j.biopsych.2021.03.030. PMID: 34082885.

4: Guma E, Bordignon PDC, Devenyi GA, Gallino D, Anastassiadis C, Cvetkovska V, Barry AD, Snook E, Germann J, Greenwood CMT, Misic B, Bagot RC, Chakravarty MM. Early or Late Gestational Exposure to Maternal Immune Activation Alters Neurodevelopmental Trajectories in Mice: An Integrated Neuroimaging, Behavioral, and Transcriptional Study. *Biol Psychiatry*. 2021 Sep 1;90(5):328-341. doi: 10.1016/j.biopsych.2021.03.017. Epub 2021 Mar 23. PMID: 34053674.

5: Cvetkovska V, Bagot RC. Ophn1 regulation of prefrontal inhibition: A mechanism for stress susceptibility in intellectual disability. *Neuron*. 2021 May 19;109(10):1583-1584. doi: 10.1016/j.neuron.2021.04.030. PMID: 34015262.

6: Lopez J, Bagot RC. Defining Valid Chronic Stress Models for Depression With

Female Rodents. *Biol Psychiatry*. 2021 Aug 15;90(4):226-235. doi: 10.1016/j.biopsych.2021.03.010. Epub 2021 Mar 13. PMID: 33965195.

7: Walker DM, Zhou X, Cunningham AM, Lipschultz AP, Ramakrishnan A, Cates HM, Bagot RC, Shen L, Zhang B, Nestler EJ. Sex-Specific Transcriptional Changes in Response to Adolescent Social Stress in the Brain's Reward Circuitry. *Biol Psychiatry*. 2022 Jan 1;91(1):118-128. doi: 10.1016/j.biopsych.2021.02.964. Epub 2021 Feb 24. PMID: 33892914; PMCID: PMC8382786.

Tie Yuan Zhang	H-index: 18(-)	# of publications: 3 (+3)
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1: Caradonna SG, Zhang TY, O'Toole N, Shen MJ, Khalil H, Einhorn NR, Wen X, Parent C, Lee FS, Akil H, Meaney MJ, McEwen BS, Marrocco J. Genomic modules and intramodular network concordance in susceptible and resilient male mice across models of stress. *Neuropsychopharmacology*. 2022 Apr;47(5):987-999. doi: 10.1038/s41386-021-01219-8. Epub 2021 Nov 30. PMID: 34848858; PMCID: PMC8938529.

2: Almeida D, Fiori LM, Chen GG, Aouabed Z, Lutz PE, Zhang TY, Mechawar N, Meaney MJ, Turecki G. Oxytocin receptor expression and epigenetic regulation in the anterior cingulate cortex of individuals with a history of severe childhood abuse. *Psychoneuroendocrinology*. 2022 Feb;136:105600. doi: 10.1016/j.psyneuen.2021.105600. Epub 2021 Nov 24. PMID: 34839083.

Preprints

3. Genomic Modules and Intramodular Network Convergency of Susceptibility and Resilience in Multimodeled Stress in Male Mice. J Marrocco, SG Caradonna, TY Zhang, N O'Toole... - bioRxiv, 2021