

Óscar Miranda-Domínguez

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EDUCATION

- 2008 – 2012 **Ph.D., Biomedical Engineering**, *Department of Biomedical Engineering*, University of Minnesota, USA.
Thesis *Accurate Mathematical Neuron Models*
<http://conservancy.umn.edu/handle/11299/138855>
- 2000 – 2001 **M.Sc., Control Engineering and Automation**, *Department of Mechatronics*, Tecnológico de Monterrey, campus Monterrey, México.
Thesis *Model Reference Adaptive Robust Control of Blood Pressure using Sodium Nitroprusside*.
<https://repositorio.tec.mx/handle/11285/568029?locale-attribute=en>
- 1995 – 2000 **Bachelor of Biomedical Engineering (with highest honors)**, *Unidad Profesional Interdisciplinaria de Biotecnología*, Instituto Politécnico Nacional, México.

FELLOWSHIPS AND CERTIFICATES

- 2015-2018 **Certificate in Human Investigations**, *Oregon Clinical and Translational Research Institute (OCTRI)*, Oregon Health & Science University.
- 2008-2009 **Design of Medical Devices Fellowship**, *Departments of Mechanical Engineering and Biomedical Engineering*, University of Minnesota, USA .
- 2007 **Global Biodesign Fellowship**, *Biodesign*, Stanford University, USA. .

EMPLOYMENT

- 2020 – now **Assistant Professor**, *Department of Pediatrics*, University of Minnesota, USA.
- 2016 – 2020 **Research Assistant Professor**, *Department of Behavioral Neuroscience*, Oregon Health and Science University, USA.
- 2014 – 2016 **Postdoctoral Researcher**, *Department of Behavioral Neuroscience*, Oregon Health and Science University, USA.
- 2013 – 2014 **Professor**, *Department of Biomedical Engineering*, Tecnológico de Monterrey, campus Monterrey, México.
- 2012 – 2013 **Postdoctoral Researcher**, *Department of Behavioral Neuroscience*, Oregon Health and Science University, USA.
- 2008 – 2012 **Research Assistant - Teacher Assistant**, *Department of Biomedical Engineering*, University of Minnesota, USA.
- 2003 – 2006 **Biomedical Engineering Academic Program Director (and Founder)**, *Department of Biomedical Engineering*, Tecnológico de Monterrey, campus Monterrey, México.
- 2003 – 2006 **Professor**, *Department of Biomedical Engineering*, Tecnológico de Monterrey, campus Monterrey, México.
- 2002 – 2003 **Instructor**, *Department of Electrical Engineering*, Tecnológico de Monterrey, campus Monterrey, México.
- 2002 – 2006 **Chief of Technological Development**, *Direction of Operations*, Hospital San José-Tec de Monterrey, México.
Responsible of analysis and purchase of medical technology for a total of more than 10 million US Dollars.

SERVICE

- 2022 **NIH Study Section**, Center for Scientific Review (CSR), National Institutes of Health, USA. Panel meeting on 11/10/22, NIH member conflict Special Emphasis Panel (BP-R 02) focused on topics of Psychopathology and Developmental Disorders.
- 2022 **Oral Presentation Judge**, Pediatric Research, Education & Scholarship Symposium (PRESS), Department of Pediatrics, Medical School, University of Minnesota (April 1st, 2022).
- 2021 **Early Career Reviewer (ECR)**, Center for Scientific Review (CSR), National Institutes of Health, USA. Panel meeting on 10/21/21 - 10/22/21, Emerging Imaging Technologies in Neuroscience (EITN).
- 2021 **Undergraduate Summer Research**, Organized and directed the undergraduate research program at the Developmental Cognition and Neuroimaging Lab.
- 2019 **ABCD Workshop on Brain Development and Mental Health**, Expositor and co-organizer of this 5-day workshop on conducting reproducible research on brain development and mental health with the ABCD dataset.
- 2016 – now **Developmental Cognition And Neuroimaging (DCAN) Lab's leadership**, As a member of the leadership team of the DCAN Lab, I am involved in defining lab policies, project's priorities and workloads for our RA's. I have also overseen several RA's hiring processes.
- 2016 **Nano-course in Neuroimaging**, *Department of Behavioral Neuroscience*, OHSU, In collaboration with Damien Fair and Bonnie Nagel, I developed a nanocourse in neuroimaging titled Advanced Functional Brain Imaging Nano Course (FuNC).
- 2015 – 2016 **Didactics in Neuroimaging**, *Department of Behavioral Neuroscience*, OHSU, In collaboration with Damion Demeter, I organized this journal club for the Fair and Nagel labs.
- 2014 – now **Youth Engaged in Science (YES! Initiative)**, *DCAN Lab*, OHSU, I am an active member of this outreach program aimed to end educational and health disparities in underrepresented minority (URM) communities. I participate in school visits, science demonstrations and I also delivered the first YES!'s talk in Spanish for a group of more than 40 High School students from Hillsboro High School visiting OHSU.
- 2002 – 2006 **Development of the Biomedical Engineering Undergraduate Program**, *Department of Biomedical Engineering*, Tecnológico de Monterrey, campus Monterrey, México. Curriculum development of the undergraduate program of Biomedical Engineering. Leading role in the development of the outcome based academic program and syllabus of the courses: Introduction to Biomedical Engineering, Health Care Facilities, Bio-Instrumentation, Biomedical Engineering, Medical Imaging.

AWARDS

- 2022 2022 Young Investigator Award, First Annual Fetal, Infant, & Toddler Neuroimaging Group Conference (Paris, France, September 2022)
- 2022 Best Poster Award, First Annual Fetal, Infant, & Toddler Neuroimaging Group Conference (Paris, France, September 2022)
- 2020-2022 Member of the National System of Researchers (Level I), Mexican National Council for Science and Technology
- 2015-2017 Member of the National System of Researchers (Candidate), Mexican National Council for Science and Technology
- 2012 Best Poster Award in the Annual Neuroengineering Symposium, University of Minnesota.
- 2007 Distinction as one of the most-influential professors of the first class of Biomedical Engineering Undergraduate Program of Tecnológico de Monterrey.
- 2007 Highest GPA of all the biomedical engineers graduated from Instituto Politécnico Nacional.
- 2004 Third Place of the Mexican Federation of Private Schools of Superior Teaching Prize for the creation of the Biomedical Engineering Program at Tecnológico de Monterrey.
- 2000 Distinction for the best academic records of all the Unidad Profesional Interdisciplinaria de Biotecnología students all the ten semesters when I was a biomedical engineering student.
- 1995 – 2000 Highest GPA Diploma each one of the 10 semesters as biomedical engineering student.

PATENTS

2020 Nico Dosenbach, Jonathan Koller; Andrew Van; Abraham Snyder; Amy Mirro; Damien
US Patent App. Fair; Eric Earl; Rachel Klein; **Óscar Miranda-Domínguez**; Anders Perrone REAL TIME
16/491,413 MONITORING AND PREDICTION OF MOTION IN MRI SCANS.

INTELLECTUAL PROPERTY DISCLOSURES

2015 **Óscar Miranda-Domínguez**, Damien A. Fair. CONNECTOTYPING: INDIVIDUAL
OHSU FUNCTIONAL FINGERPRINTS (CONNECTOTYPING) OF THE CONNECTOME
BASED ON NEUROIMAGING.

PUBLICATIONS: ORCID | PUBMED | RESEARCHGATE

- DCN 43) Nora Byington; Gracie Grimsrud; Michael A. Mooney; Michaela Cordova; Olivia
2023 Doyle; Robert J.M. Hermosillo; Eric Earl; Audrey Houghton; Gregory Conan; Timothy
J. Hendrickson; Anjanibhargavi Ragothaman; Cristian Morales Carrasco; Amanda Rueter;
Anders Perrone; Lucille A. Moore; Alice Graham; Joel T. Nigg; Wesley K. Thomp-
son; Steven M. Nelson; Eric Feczko; Damien A. Fair; **Óscar Miranda-Domínguez**;
**Polyneuro risk scores capture widely distributed connectivity patterns of cogni-
tion.** Developmental Cognitive Neuroscience, Volume 60, 2023, 101231, ISSN 1878-9293,
<https://doi.org/10.1016/j.dcn.2023.101231>.
- DCN 42) David F. Montez; Andrew N. Van; Ryland L. Miller; Nicole A. Seider; Scott Marek;
2023 Annie Zheng; Dillan J. Newbold; Kristen Scheidter; Eric Feczko; Anders J. Perrone;
Óscar Miranda-Domínguez; Eric A. Earl; Benjamin P. Kay; Abhinav K. Jha; Aristei-
dis Sotiras; Timothy O. Laumann; Deanna J. Greene; Evan M. Gordon; M. Dylan Tisdall;
Andre van der Kouwe; Damien A. Fair; Nico U.F. Dosenbach. **Using synthetic MR im-
ages for distortion correction.** Developmental Cognitive Neuroscience, Volume 60, 2023,
101234, ISSN 1878-9293, <https://doi.org/10.1016/j.dcn.2023.101234>.
- DCN 41) Aiden Ford; Zsofia A Kovacs-Balint; Arick Wang; Eric Feczko; Eric Earl;
2023 **Óscar Miranda-Domínguez**; Longchuan Li; Martin Styner; Damien Fair; Warren Jones;
Jocelyne Bachevalier; Mar M Sánchez. **Functional maturation in visual path-
ways predicts attention to the eyes in infant rhesus macaques: Effects of so-
cial status.** Developmental Cognitive Neuroscience, 2023 Feb 8;60:101213. doi:
10.1016/j.dcn.2023.101213.
- Neuroscience 40) Carla Silva-Batista[#]; **Óscar Miranda-Domínguez**[#]; Anjanibhargavi Ragothaman;
2022 Damien A. Fair; Alessandra Mantovani; Sam Stuart; John G. Nutt; Fay B. Horak; Martina
Mancini. **Does cueing need attention? A pilot study in people with Parkinson's
disease.** [#] These authors contributed equally to this work. Neuroscience, 2022 Nov
8;S0306-4522(22)00540-1. doi: 10.1016/j.neuroscience.2022.10.023.
- 2022 39) Valeria Vazquez-Trejo; Binyam Nardos; Bradley L. Schlaggar; Damien A. Fair;
Frontiers in **Óscar Miranda-Domínguez**. **Use of connectotyping on task fMRI data reveals dy-
Neuroscience namic network level cross talking during task performance.** Front. Neurosci., Sec.
Brain Imaging Methods, doi: 10.3389/fnins.2022.951907 (2022).
- 2022 38) **Óscar Miranda-Domínguez**; Julian S.B. Ramirez; AJ Mitchell; Anders Perrone; Eric
Scientific Reports Earl; Sam Carpenter; Eric Feczko; Alice Graham; Sookyoung Jeon; Neal Cohen; Laurie
Renner; Martha Neuringer; Matthew J. Kuchan; John W. Erdman, Jr.; Damien Fair;
**Carotenoids improve the development of cerebral cortical networks in formula-fed
infant macaques..** Scientific Reports, volume 12, Article number: 15220 (2022)
- 2022 37) Anjanibhargavi Ragothaman; Martina Mancini; John G. Nutt; Damien A. Fair;
Gait and Posture **Óscar Miranda-Domínguez**; Fay B. Horak. **Resting State Functional Networks Pre-
dict Different Aspects of Postural Control in Parkinson's Disease..** Gait and Posture.
2022. Received 13 January 2022, Revised 17 June 2022, Accepted 5 July 2022, Available
online 8 July 2022. doi: 10.1016/j.gaitpost.2022.07.003.

- 2022 Developmental Cognitive Neuroscience 36) Omid Kardan; Sydney Kaplan; Muriah D. Wheelock; Eric Feczko; Trevor K. M. Day; **Óscar Miranda-Domínguez**; Dominique Meyer; Adam T. Eggebrecht; Lucille A. Moore; Sooyeon Sung; Taylor A. Chamberlain; Eric Earl; Kathy Snider; Alice Graham; Marc G. Berman; Kamil Uğurbil; Essa Yacoub; Jed T. Elison; Christopher D. Smyser; Damien A. Fair; Monica D. Rosenberg. **Resting-state functional connectivity identifies individuals and predicts age in 8-to-26-month-olds.** Dev Cogn Neurosci. 2022 Aug;56:101123. doi: 10.1016/j.dcn.2022.101123. Epub 2022 Jun 15.
- 2022 Journal of the American Academy of Child & Adolescent Psychiatry 35) Michaela Cordova; Dylan Antovich; Peter Ryabinin; Christopher Neighbor; Michael A. Mooney; Nathan F. Dieckmann; **Óscar Miranda-Domínguez**; Bonnie J. Nagel; Damien Fair; Joel T. Nigg **Attention-Deficit/Hyperactivity Disorder: Restricted Phenotypes Prevalence, Comorbidity, and Polygenic Risk Sensitivity in ABCD Baseline Cohort.** J Am Acad Child Adolesc Psychiatry. 2022 Apr 9;S0890-8567(22)00190-3. doi: 10.1016/j.jaac.2022.03.030.
- 2022 Nature 34) Marek, Scott; Tervo-Clemmens, Brenden; Calabro, Finnegan J.; Montez, David F.; Kay, Benjamin P.; Hatoum, Alexander S.; Donohue, Meghan Rose; Foran, William; Miller, Ryland L.; Hendrickson, Timothy J.; Malone, Stephen M.; Kandala, Sridhar; Feczko, Eric; **Óscar Miranda-Domínguez**; Graham, Alice M.; Earl, Eric A.; Perrone, Anders J.; Cordova, Michaela; Doyle, Olivia; Moore, Lucille A.; Conan, Gregory M.; Uriarte, Johnny; Snider, Kathy; Lynch, Benjamin J.; Wilgenbusch, James C.; Pengo, Thomas; Tam, Angela; Chen, Jianzhong; Newbold, Dillan J.; Zheng, Annie; Seider, Nicole A.; Van, Andrew N.; Metoki, Athanasia; Chauvin, Roselyne J.; Laumann, Timothy O.; Greene, Deanna J.; Petersen, Steven E.; Garavan, Hugh; Thompson, Wesley K.; Nichols, Thomas E.; Yeo, B. T. Thomas; Barch, Deanna M.; Luna, Beatriz; Fair, Damien A.; Dosenbach, Nico U. F.; **Reproducible brain-wide association studies require thousands of individuals.** Nature 603, 654–660 (2022). <https://doi.org/10.1038/s41586-022-04492-9>
- 2022 Neuroimage 33) Sydney Kaplan; Dominique Meyer; **Óscar Miranda-Domínguez**; Anders Perrone; Eric Earl; Dimitrios Alexopoulos; Deanna M. Barch; Trevor K.M. Day; Joseph Dust; Adam T. Eggebrecht; Eric Feczko; Omid Kardan; Jeanette K. Kenley; Cynthia E. Rogers; Muriah D. Wheelock; Essa Yacoub; Monica Rosenberg; Jed T. Elison; Damien A. Fair; Christopher D. Smyser. **Filtering Respiratory Motion Artifact from Resting State fMRI Data in Infant and Toddler Populations.** Neuroimage. Volume 247, 15 February 2022, 118838; <https://doi.org/10.1016/j.neuroimage.2021.118838>
- 2021 Journal of Parkinson's Disease 32) Anjanibhargavi Ragothaman; **Óscar Miranda-Domínguez**; Barbara H. Brumbach; Andrew Giritharan; Damien A. Fair; John G. Nutt; Martina Mancini; Fay B. Horak. **Relationship between brain volumes and objective balance and gait measures in Parkinson's disease.** Journal of Parkinson's Disease; Volume Pre-press, issue Pre-press. <https://doi.org/10.3233/JPD-202403>.
- 2021 Psychoneuroendocrinology 31) Melanie Pincus; Jodi R. Godfrey; Eric Feczko; Eric Earl; **Óscar Miranda-Domínguez**; Damien Fair; Mark E. Wilson; Mar M. Sanchez; Clare Kelly. **Chronic psychosocial stress and experimental pubertal delay affect socioemotional behavior and amygdala functional connectivity in adolescent female rhesus macaques.** Psychoneuroendocrinology; Volume 127; 2021; 105154. ISSN 0306-4530. <https://doi.org/10.1016/j.psyneuen.2021.105154>.
- 2021 Developmental Cognitive Neuroscience 30) Theresa W. Cheng; Kathryn L. Mills; **Óscar Miranda-Domínguez**; Dagmar Zeithamova; Anders Perrone; Darrick Sturgeon; Sarah W. Feldstein Ewing; Philip A. Fisher; Jennifer H. Pfeifer; Damien A. Fair; Kristen L. Mackiewicz Seghete. **Characterizing the impact of adversity, abuse, and neglect on adolescent amygdala resting-state functional connectivity.** Developmental Cognitive Neuroscience, Volume 47, February 2021 <https://doi.org/10.1016/j.dcn.2020.100894>

- 2020 Human Brain Mapping 29) Carla Silva-Batista; Anjanibhargavi Ragothaman; Martina Mancini; Patricia Carlson-Kuhta; John G. Nutt; Damien A. Fair; Se Hee Jung; Fay B. Horak; **Óscar Miranda-Domínguez**; **Cortical Thickness as Predictor of Response to Exercise in Individuals with Parkinson's Disease**. Article DOI: 10.1002/hbm.25211. Article ID: HBM25211.
- 2020 Neuroscience 28) **Óscar Miranda-Domínguez**; Anjanibhargavi Ragothaman; Robert Hermsillo; Eric Feczko; Rosie Morris; Patricia Carlson-Kuhta; John G. Nutt; Martina Mancini; Damien Fair; Fay Horak. **Lateralized Connectivity between Globus Pallidus and Motor Cortex is Associated with Freezing of Gait in Parkinson's Disease**. <https://doi.org/10.1016/j.neuroscience.2020.06.036>
- 2020 Neuroimage 27) Caterina Gratton; Rebecca S Coalson; Ally Dworetzky; Babatunde Adeyemo; Timothy O Laumann; Gagan S Wig; Tania S Kong; Gabriele Gratton; Monica Fabiani; Deanna M Barch; Daniel Tranel; **Óscar Miranda-Domínguez**; Damien A Fair; Nico U Dosenbach; Abraham Z Snyder; Joel S Perlmutter; Steven E Petersen; Meghan C Campbell **Removal of high frequency contamination from motion estimates in single-band fMRI saves data without biasing functional connectivity**. <https://doi.org/10.1016/j.neuroimage.2020.116866>
- 2020 Brain, Behavior, and Immunity 26) Jodi R. Godfrey; Melanie Pincus; Zsafia Kovacs-Balint; Eric Feczko; Eric Earl; **Óscar Miranda-Domínguez**; Damien Fair; Sara R. Jones; Jason Locke; Mar M. Sanchez; Mark E. Wilson; Vasiliki Michopoulos. **Obesogenic Diet-Associated Inflammation Predicts Reduced Central Dopamine and Corticostriatal Functional Connectivity in Female Rhesus Monkeys**. <https://doi.org/10.1016/j.bbi.2020.03.030>
- 2020 NeuroImage: Clinical 25) Michaela Cordova; Kiryl Shada; Damion Von Demeter; Olivia Doyle; **Óscar Miranda-Domínguez**; Anders Perrone; Emma Schifsky; Alice Graham; Eric Fombonne; Beth Langhorst; Joel Nigg; Damien A Fair; Eric Feczko. **Heterogeneity of executive function revealed by a functional random forest approach across ADHD and ASD**. <https://doi.org/10.1016/j.nicl.2020.102245>
- 2020 Cerebral Cortex 24) Julian S.B. Ramirez; Alice M. Graham; Jacqueline R. Thompson; Jennifer Y. Zhu; Darrick Sturgeon; Jennifer L. Bagley; Elina Thomas; Samantha Papadakis; Muhammed Bah; Anders Perrone; Eric Earl; **Óscar Miranda-Domínguez**; Eric Feczko; Eric J. Fombonne; David G. Amaral; Joel T. Nigg; Elinor L. Sullivan; Damien A. Fair. **Maternal interleukin-6 is associated with macaque offspring amygdala development and behavior**. <https://doi.org/10.1093/cercor/bhz188>
- 2020 Neuroimage 23) Damien A Fair[#]; **Óscar Miranda-Domínguez**[#]; Abraham Z Snyder; Anders Perrone; Eric A Earl; Andrew N Van; Jonathan M Koller; Eric Feczko; Rachel L Klein; Amy E Mirro; Jacqueline M Hampton; Babatunde Adeyemo; Timothy O Laumann; Caterina Gratton; Deanna J Greene; Bradley L Schlaggar; Donald Hager; Richard Watts; Hugh Garavan; Deanna M Barch; Joel T Nigg; Steven E Petersen; Anders Dale; Sarah W Feldstein-Ewing; Bonnie J Nagel; Nico U Dosenbach. **Correction of respiratory artifacts in MRI head motion estimates**. Volume 208, March 2020, 116400. <https://doi.org/10.1016/j.neuroimage.2019.116400>
[#] These authors contributed equally to this work
- 2020 Biological Psychiatry 22) Robert Hermsillo; Michael A. Mooney; Eric Feczko; Eric Earl; Mollie Marr; Darrick Sturgeon; Anders Perrone; **Óscar Miranda-Domínguez**; Stephen V. Faraone; Beth Wilmot; Joel T. Nigg; Damien A. Fair. **Polygenic risk score-derived subcortical connectivity mediates attention-deficit hyperactivity disorder diagnosis**. <https://doi.org/10.1016/j.bpsc.2019.11.014>

- 2019 J Neuroendocrinology 21) Katherine M. Reding; David S. Grayson; **Óscar Miranda-Domínguez**; Siddarth Ray; Mark E. Wilson; Donna Toufexis; Damien Fair; Mar M. Sanchez. **Effects of social subordination and estradiol on resting-state amygdala functional connectivity in adult female rhesus monkeys** J Neuroendocrinol. 2019 Dec 17:e12822. doi: 10.1111/jne.12822.
- 2019 Developmental Cognitive Neuroscience 20) Scott Marek; Brenden Tervo-Clemmens; Ashley N. Nielsen; Muriah D. Wheelock; Ryland L. Miller; Timothy O. Laumann; Eric Earl; William W. Foran; Michaela Cordova; Olivia Doyle; Anders Perrone; **Óscar Miranda-Domínguez**; Eric Feczko; Darrick Sturgeon; Alice Graham; Robert Hermosillo; Kathy Snider; Anthony Galassi; Bonnie J. Nagel; Sarah Feldstein Ewing; Adam T. Eggebrecht; Donald J. Hagler; Hugh Garavan; Anders M. Dale; Deanna J. Greene; Deanna M. Barch; Damien A. Fair; Beatriz Luna; Nico U.F. Dosenbach. **Identifying Reproducible Individual Differences in Childhood Functional Brain Networks: An ABCD Study**. Accepted (August 21, 2019). <https://doi.org/10.1016/j.dcn.2019.100706>
- 2019 Neuroimage 19) Donald J Hagler; ... ; **Óscar Miranda-Domínguez**; ... ; Anders M. Dale. **Image processing and analysis methods for the Adolescent Brain Cognitive Development Study**. In press. Available online 12 August 2019. [//doi.org/10.1016/j.neuroimage.2019.116091](https://doi.org/10.1016/j.neuroimage.2019.116091)
- 2019 Cerebral Cortex 18) Zsofia Kovacs-Balint; Eric Feczko; Melanie Pincus; Eric Earl; **Óscar Miranda-Domínguez**; Brittany Howell; Elyse Morin; Eric Maltbie; Longchuan Li; Jacqueline Steele; Martin Styner; Jocelyne Bachevalier; Damien Fair; Maria del Mar Sanchez. **Early developmental trajectories of functional connectivity along the visual pathways in rhesus monkeys**, doi: 10.1093/cercor/bhy222. PMID: 30272135.
- 2019 Trends in Cognitive Sciences 17) Eric Feczko; **Óscar Miranda-Domínguez**; Mollie Mar; Alice M. Graham; Joel T Nigg; Damien A. Fair. **The Heterogeneity problem: Approaches to characterize variance in cognitive and psychiatric research**, July 2019. DOI: 10.1016/j.tics.2019.03.009. PMID: 31153774 .
- 2018 Developmental Cognitive Neuroscience 16) Jeya Anandakumar, Kathryn Mills, Eric Earl, Lourdes Irwin, **Óscar Miranda-Domínguez** Damion V Demeter, Alexandra Walton-Weston, Sarah Karalunas, Joel Nigg, Damien A Fair. **Individual differences in functional brain connectivity predict temporal discounting preference in the transition to adolescence**. [//doi.org/10.1016/j.dcn.2018.07.003](https://doi.org/10.1016/j.dcn.2018.07.003)
- 2018 Journal of Neuroscience 15) Brian Mills, David Grayson, Anandakumar Shunmugavel, **Óscar Miranda-Domínguez**, Eric Feczko, Eric Earl, Kim Neve, and Damien Fair. **Correlated gene expression and anatomical communication support synchronized brain activity in the mouse functional connectome**. [//doi.org/10.1523/JNEUROSCI.2910-17.2018](https://doi.org/10.1523/JNEUROSCI.2910-17.2018).
- 2018 Nature Neuroscience 14) Marc Rudolph, Alice Graham, Eric Feczko, **Óscar Miranda-Domínguez**, Jerod Rasmussen, Rahel Nardos, Sonja Entringer, Pathik Wadhwa, Claudia Buss, Damien Fair. **Maternal IL-6 during pregnancy can be estimated from the newborn brain connectivity and predicts future working memory in offspring**. [//doi.org/10.1038/s41593-018-0128-y](https://doi.org/10.1038/s41593-018-0128-y) .
- 2018 Cell Reports 13) Ting Xu, Arnaud Falchier, Elinor L. Sullivan, Gary Linn, Julian Ramirez, Deborah Ross, Eric Feczko, Alexander Opitz, Jennifer Bagley, Darrick Sturgeon, Eric Earl, **Óscar Miranda-Domínguez**, Anders Perrone, R. Cameron Craddock, Charles Schroeder, Stan Colcombe, Damien Fair, Michael P. Milham. **Delineating the macroscale areal organization of the macaque cortex in vivo** [//doi.org/10.1016/j.celrep.2018.03.049](https://doi.org/10.1016/j.celrep.2018.03.049)

- 2018 Psychoneuro-endocrinology 12) Jodi R Godfrey; Maylen Perez Dias; Melanie Pincus; Zsafia Kovacs-Balint ; Eric Feczko; Eric Earl; **Óscar Miranda-Domínguez**, Damien Fair; Mar M Sanchez; Mark E Wilson; Vasiliki Michopoulos **Diet Matters: Glucocorticoid-Related Neuroadaptations Associated with Calorie Intake in Female Rhesus Monkeys.** [//doi.org/10.1016/j.psyneuen.2018.03.008](https://doi.org/10.1016/j.psyneuen.2018.03.008)
- 2018 Neuroscience 11) Moran Gilat, Kaylena A Ehgoetz Martens, **Óscar Miranda-Domínguez**, Ishu Arpan, James M Shine, Martina Mancini, Damien A Fair, Simon J Lewis, Fay B Horak. **Dysfunctional Limbic Circuitry Underlying Freezing Of Gait In Parkinson's Disease.** [//doi.org/10.1016/j.neuroscience.2018.01.044](https://doi.org/10.1016/j.neuroscience.2018.01.044)
- 2018 Network Neuroscience 10) **Óscar Miranda-Domínguez**, Eric Feczko, David S. Grayson, Hasse Walum, Joel T. Nigg and Damien A. Fair. **Heritability of the human connectome: a connectotyping study.** [//doi.org/10.1162/NETN_a_00029](https://doi.org/10.1162/NETN_a_00029)
- 2018 Network Neuroscience 9) Brian D. Mills, **Óscar Miranda-Domínguez**, Kathryn Mills, Eric Earl, Michaela Cordova, Julia Painter, Sarah L. Karalunas, Joel T. Nigg, Damien A. Fair. **ADHD and Attentional Control: Impaired Segregation of Task Positive and Task Negative Brain Networks.** [//doi.org/10.1162/NETN_a_00034](https://doi.org/10.1162/NETN_a_00034)
- 2017 Neuroimage 8) Eric Feczko, Nadir Balba; **Óscar Miranda-Domínguez**; Michaela Cordova; Sarah L Karalunas; Lourdes Irwin; Damion V Demeter; Alison P Hill; Beth H Langhorst; Julia Grieser Painter; Jan Van Santen; Eric J Fombonne; Joel L Nigg; Damien A Fair, **Subtyping cognitive profiles in Autism Spectrum Disorder using a random forest algorithm.** DOI: 10.1016/j.neuroimage.2017.12.044
- 2017 Neuroimage 7) Nico U.F. Dosenbach, Jonathan M. Koller, Eric A. Earl, **Óscar Miranda-Domínguez**, Rachel L. Klein, Andrew N. Van, Bonnie J. Nagel, Joel T. Nigg, Annie Nguyen, Victoria Wesevich, Deanna J. Greene, Damien A. Fair. **Real-time motion analytics during brain MRI improve data quality and reduce costs.** [//doi.org/10.1016/j.neuroimage.2017.08.025](https://doi.org/10.1016/j.neuroimage.2017.08.025)
- 2017 Developmental Cognitive Neuroscience 6) Marc D. Rudolph, **Óscar Miranda-Domínguez**, Alexandra O. Cohen, Kaitlyn Breiner, Laurence Steinberg, Richard J. Bonnie, Elizabeth S. Scott, Kim A. Taylor-Thompson, Jason Chein, Karla C. Fettich, Jennifer A. Richeson, Danielle V. Dellarco, Adriana Galván, BJ Casey, Damien A. Fair. **At risk of being risky: the relationship between brain age under emotional states and risk preference**, Developmental Cognitive Neuroscience, doi:10.1016/j.dcn.2017.01.010
- 2014 PNAS 5) James M. Stafford, Benjamin R. Jarrett, **Óscar Miranda-Domínguez**, Brian D. Mills, Nicholas Cain, Stefan Mihalas, Gareth P. Lahvis, K. Matthew Lattal, Suzanne H. Mitchell, Stephen V. David, John D. Fryer, Joel T. Nigg, Damien Fair. **Large-scale Topology and the Default Mode Network in the Mouse Connectome**, Proceedings of the National Academy of Sciences of the United States of America, doi: 10.1073/pnas.1404346111
- 2014 PLoS One 4) **Óscar Miranda-Domínguez**, Brian D. Mills, Samuel D. Carpenter, Kathleen A. Grant, Christopher D. Kroenke, Joel T. Nigg, Damien Fair. **Connectotyping: model based fingerprinting of the functional connectome**, PLoS ONE, doi:10.1371/journal.pone.0111048
- 2014 Journal of Neuroscience 3) **Óscar Miranda-Domínguez**, Brian D. Mills, David Grayson, Andrew Woodall, Kathleen A. Grant, Christopher D. Kroenke, and Damien Fair. **Bridging the gap between the human and macaque connectome: A quantitative comparison of global interspecies structure-function relationships and network topology**, Journal of Neuroscience, 34: 5552-5563

- 2013 2) **Óscar Miranda-Domínguez** and Netoff, T I. **Parameterized Phase Response Curves for characterizing neuronal behaviors under transient conditions**, Journal of Neurophysiology; published ahead of print January 30, 2013, doi:10.1152/jn.00942.2012
- 2010 1) **Óscar Miranda-Domínguez** and Gonia, J and Netoff, T I. **Firing rate control of a neuron using a linear proportional-integral controller**, Journal of Neural Engineering 2010 Dec; 7(6):066004. Epub 2010 Oct 26

In review

- In review Anjanibhargavi Ragothaman; Martina Mancini; John G. Nutt; Junping Wang; Damien A. Fair; Fay B. Horak; **Óscar Miranda-Domínguez**; **Resting state functional connectivity networks predict motor signs in Parkinsons Disease.**
- In review Bailey Holt-Gosselin; Taylor J. Keding; Rhayna Poulin; Alexis Briant; Amanda Rueter; Timothy J. Hendrickson; Anders Perrone; Nora Byington; Audrey Houghton; **Óscar Miranda-Domínguez**; Eric Feczko; Damien A. Fair; Jutta Joormann; Dylan G Gee; **Neural circuit markers of familial risk for depression among healthy youth in the Adolescent Brain Cognitive Development (ABCD) Study.**
- In review Robert Hermosillo; Lucille A. Moore; Eric Feczko; Adam Pines; Ally Dworetzky; Gregory Conan; Michael A. Mooney; Anita Randolph; Babatunde Adeyemo; Eric Earl; Anders Perrone; Cristian Morales-Carrasco; Johnny Uriarte-Lopez; Kathy Snider; Olivia Doyle; Michaela Cordova; Bonnie J Nagel; Sarah W Feldstein Ewing; Theodore Satterthwaite; Nico Dosenbach; Caterina Gratton; Steven Petersen; **Óscar Miranda-Domínguez**; Damien A Fair. **A Precision Functional Atlas of Network Probabilities and Individual-Specific Network Topography.**
- In review Julian S.B. Ramirez; Robert Hermosillo; Elina Thomas; Jennifer Y. Zhu; Darrick Sturgeon; Emma Schifsky; Anthony Galassi; Jacqueline R. Thompson; Jennifer L. Bagley; Michael P. Milham; **Óscar Miranda-Domínguez**; Samantha Papadakis; Muhammed Bah; AJ Mitchell; Ting Xu; Alice M. Graham; Eric Feczko; Elinor L. Sullivan; Damien A. Fair; **Characterization of Non-Human Primate cortical development with prenatal insights.**

NON PEER-REVIEWED PUBLICATIONS

- 2009 Florez Calderón, Lucio and Ruiz Soto, Gabriela María and **Óscar Miranda-Domínguez** and Franco Cabrera, María del Carmen. **METODOLOGÍA PARA LA DEFINICIÓN DE COMPETENCIAS DE INGENIERÍA BIOMÉDICA EN EL ITESM (METHODOLOGY FOR THE OUTCOME BASED CURRICULUM FOR BIOMEDICAL ENGINEERING IN THE ITESM)**, Congress for Research and Innovation and Management in Education 2009.
- 2018 Damien Fair and **Óscar Miranda-Domínguez**. **Unique brain ‘fingerprints’ may narrow search for autism subtypes**. Published online on Spectrum, from the Simons Foundation Autism Research Initiative (SFARI).

RESEARCH FEATURED IN THE NEWS

- 2018 Article featuring the method I developed to characterize functional connectivity. **‘Functional Fingerprint’ May Identify Brains Over a Lifetime**. Published online on Quanta Magazine, an editorially independent online publication launched by the Simons Foundation to enhance public understanding of science.
- 2018 Wired magazine reprinted the article from Quanta Magazine featuring the method I developed to characterize functional connectivity. **Scientists are developing a unique identifier for your brain**. Published online on July 18, 2018

GRANT-WRITING TRAINING

NIH (2014) **Workshop for Early Stage Research Investigators**, National Institute of Mental Health. A workshop designed to provide early stage research investigators with the tools necessary to continue along the path of competitive research support and transition to independence

OHSU (2014) **Vollum Scientific Writing Course**, Oregon Health and Science University
The Vollum Writing Course is an in-depth, 6-week professional science writing course to help researchers learn to write better papers and grants.

RESEARCH SUPPORT

ACTIVE

07/2022-05/2023 **R01DA056499-01 (Wilson) | Neurobehavioral mechanisms linking childhood social disadvantage with substance use trajectories in adolescence and adulthood**

Role: co-Investigator

05/2020-03/2025 **R01 MH096773 (Fair) | Identification of Outcome-based Sub-populations Using Deep Phenotyping and Precision Functional Mapping across ADHD and ASD**

To apply Functional Random Forest algorithms to trans-diagnostic (TD, ASD, ADHD) behavioral and precision functional mapping Resting State Functional Connectivity MRI data to identify distinct sub-populations across ASD, ADHD, and TD that relate to negative valence symptom dimensions.

Role: co-Investigator

09/2017-8/2022 **R01 MH115357-01 (Fair & Nigg) | Brain trajectories in ADHD**

Conduct follow up brain imaging on a cohort of 400 children who have been followed with prior brain imaging.

Role: co-Investigator

COMPLETED

05/2014-03/2020 **R01AG006457-29 (Horak) | Peripheral and Central Postural Disorders in the Elderly**

The goal of this project is to improve our understanding of the role of the frontal cortex in balance and gait and how cognitive impairments relate to postural disorders with the goal of improving mobility rehabilitation in the elderly.

Role: Faculty

08/2018-07/2020 **W81XWH-18-1-0425 (Horak) | Motor fatigue in multiple sclerosis: Role of central mechanisms**

The overall objective of this proposal is to investigate neural underpinnings of motor fatigue in people with Multiple Sclerosis

Role: Collaborator

10/2015-05/2020 **U24 DA041123-01 (Dale) | ABCD-USA Consortium: Data Analysis Center**

The goal is to interact and coordinate resting-state fMRI processing and analysis for the large consortium

Role: Faculty

09/2019-08/2020 **R44MH122066 (Deckard, Dosenbach, & Fair) | Visual biofeedback to reduce head motion during MRI scans**

This SBIR aims to further develop the FIRMM software and test efficacy in a clinical sample

Role: Engineer

2017 - 2018 **OHSU Parkinson Center Pilot Grant Program (PI: Miranda-Dominguez)**

Freezing of gait in Parkinson's Disease. This proposal aims to show that altered patterns of brain connectivity, as opposed to a focalized impairment, leads to freezing of gait.

Role: Principal Investigator

- 2017 - 2018 **Tartar Trust Award**
 The N. L. Tartar Trust Fellowship was established by the Tartar family to advance research in the School of Medicine at OHSU. This local foundation competitively reviews and awards one year of funding to support research projects proposed by postdoctoral fellows, graduate students, and the occasional junior faculty member.
Role: Principal Investigator
- 10/15-08/2017 **U01 DA041148-01 (MPI: Nagel, Fair, Feldstein Ewing, Garavan, & Potter) | ABCD-USA Consortium: Research Project**
 The goals of this project are to prospectively examine the effectiveness of substance use on the adolescent brain and cognition as part of a large, longitudinal, multi-site National study.
Role: Faculty
- 2014-2015 **OFDIR, Oregon Health and Science University**
 Oregon Health and Science University Diversity Fellowship for Research and Inclusion in Diversity in Research. This competitive program seeks to attract promising researchers from different backgrounds, races, ethnic groups, and other diverse populations whose life experience, research experience and employment background contributes significantly to the academic mission of OHSU.
- 04/2009-12/2009 **Grant-in aid, University of Minnesota**
 University of Minnesota internal funding to support the project: Unscented Kalman Filters to unveil ionic currents in neurons.
- 08/2008-01/2009 **Design of Medical Devices Fellowship, University of Minnesota**
 Fellowship awarded to top recruits with an interest in medical devices to support graduate studies the first semester and to provide a bonus stipend.
- 01/2007-06/2007 **Global Biodesign Fellowship, Stanford University**
 Fellowship for Design of Medical Devices and Entrepreneurial Design for Extreme Affordability.

SCHOLARSHIPS

- 2007 – 2008 Excellence Scholarship from Tecnológico de Monterrey to study for a PhD on Biotechnology (100% tuition fee).
- 2007 – 2008 Scholarship for living costs provided by the National Council of Science and Technology (Consejo Nacional de Ciencia y Tecnología-Mexico).
- 2000 – 2001 Excellence Scholarship of the Tecnológico de Monterrey to study a master degree (100% tuition fee).
- 1998 – 2000 Researchers Developer Fund Scholarship (Programa Institucional de Formación de Investigadores), Instituto Politécnico Nacional.
- 1997 – 2000 Telmex Foundation Academic-Merit economic scholarship.
- 1995 – 2000 Instituto Politécnico Nacional Academic-Merit Scholarship.
- 1992 – 1994 Instituto Politécnico Nacional Academic-Merit Scholarship.

TALKS

- 2022 **Meet the Expert series: Modeling to Unveil Associations Between Brain Function and Behavior.**
 Meet the Expert, Neuroscience 2022, San Diego, CA (November 14, 2022).
- 2022 **Selective combination of small effects lead to generalizable brain-behavior associations.**
 U Minnesota Biostatistics Seminar (September 28, 2022).
- 2022 **Brain Wide Associations (BWAS) and PolyNeuro Risk Scores to estimate Brain-Behavior Associations.**
 Invited talk from Dr. Claudia Buss at the Institut für Medizinische Psychologie, Charité – Universitätsmedizin Berlin (September 13, 2022).

- 2022 **Brain Wide Associations to characterize ADHD subtypes using brain-derived cognitive and behavioral scores**
University of Minnesota's T32 training program in Psychology (April 4, 2022).
- 2021 **Brain Wide Associations to study heterogeneity in ADHD**
ABCD Annual Meeting 2021 (November 10, 2021).
- 2021 **Brain Wide Associations (BWAS) to model the link between brain features and behavior**
Developmental Cognition and Neuroimaging Lab's Science Talk (September 20, 2021).
Masonic Institute for the Developing Brain, University of Minnesota
- 2021 **Unveiling associations between brain function and behavior**
Faculty Research Seminar, Mechatronics Engineering Department, School of Engineering and Sciences, Tecnológico de Monterrey (videoconference, May 12, 2021)
- 2019 **Important concepts and considerations in predictive modeling**
Presented at the Adolescent Brain Cognitive Development (ABCD) Workshop on Brain Development and Mental Health, Portland, Oregon, August 19th, 2019
- 2019 **Using functional MRI to understand differences in cueing responses in freezing of gait in Parkinson's disease**
Presented at the Parkinson's Foundation Physical Therapy Faculty Program, OHSU, Portland, Oregon, August 8, 2019
- 2019 **Neural correlates of freezing of gait in Parkinson's disease**
Presented at the Pacific Northwest Basal Ganglia Coterie (12th Annual Meeting, Glenden, OR April 11 & 12, 2019)
- 2019 **Modeling in Neuroscience: Towards early diagnosis and model based approaches to therapeutics**
Presented at the Institute of Neurobiology, National Autonomous University of Mexico (Juriquilla, Querétaro, Mexico, Jan, 2019)
- 2018 **Customized pipelines from the Human Connectome Project to process data from special populations**
Presented at the Functional Neuroimaging, Cognitive and Mobility Laboratory headed by Nicolaas Bohnen, MD, PhD at the University of Michigan (Oct, 2018)
- 2018 **Freezing of gait is associated with changes in functional connectivity among motor, subcortical, but also higher order attention networks**
Presented at the Movement Disorders Journal Club from the OHSU Parkinson Center of Oregon, May 2018
- 2017 **Differences in brain connectivity in Parkinson's disease: Freezing vs No-freezing phenotypes**
Presented at the OHSU Parkinson Center's Scientific Advisory Board Meeting
- 2017 **Reliable Estimation of Brain Connectivity using Functional MRI.**
Presented at the Anesthesiology and Perioperative Medicine Research Conference (Oregon Health and Science University)
- 2016 **Connectotyping: Individualized characterization of the functional connectome and its applications.**
Faculty Candidate Seminar, presented at the Vollum Seminar (Oregon Health and Science University)
- 2015 **Connectotyping: Model Based Fingerprinting of the Functional Connectome.**
Presented at the Vollum Seminar (Oregon Health and Science University)
- 2014 **Modeling in Neuroscience.**
X International Symposium of Biomedical Engineering (Tecnológico de Monterrey)
- 2011 **Unscented Kalman Filters for parameter and state estimation in neurons.**
Presented at the BME Graduate Colloquium (University of Minnesota)
- 2006 **Sistema de administración de equipo médico en el Hospital San José Tec de Monterrey (Medical Technology Management at Hospital San José Tec de Monterrey).**
UPIBI-IPN, Mexico City

- 2002 "Ingeniería Biomédica en el Tecnológico de Monterrey" (**Biomedical Engineering at Tecnológico de Monterrey**). XXVI Congreso Nacional de Ingeniería Biomédica: Monterrey, Mexico, 2002.

CONFERENCES AND POSTER PRESENTATIONS

- SfN 2022
San Diego, CA **280.05 - Salience network as a predictor of responsiveness to cueing in people with Parkinson's disease.** C. Silva-Batista, Óscar Miranda-Domínguez, A. Ragothaman, D. A. Fair, A. Mantovani, S. Stuart, J. G. Nutt, F. B. Horak, M. Mancini; Annual Meeting of the Society for Neuroscience, 2022 Nov 12-16, San Diego, CA.
- SfN 2022
San Diego, CA **391.25 - Resting state functional connectivity of postural sway in older adults.** A. Ragothaman, Óscar Miranda-Domínguez, J. G. Nutt, G. R. Harker, I. Arpan, P. Carlson-Kuhta, M. Mancini, F. B. Horak. Annual Meeting of the Society for Neuroscience, 2022 Nov 12-16, San Diego, CA.
- SfN 2022
San Diego, CA **Individual variation in the size of large-scale functional networks and its role in cognition.** S. Koirala, R. Hermosillo, E. Feczko, Óscar Miranda-Domínguez, A. Perrone, N. Byington, A. Rueter, O. Mayo, T. D. Satterthwaite, J. Elison, D. Fair. Annual Meeting of the Society for Neuroscience, 2022 Nov 12-16, San Diego, CA.
- SfN 2022
San Diego, CA **Predicting math abilities from resting-state functional connectivity using Polyneuro Risk Scores.** Amandine Van Rinsveld, Nora Byington, Gracie Grimsrud, Michael Mooney, Michaela Cordova, Olivia Doyle, Robert Hermosillo, Eric Earl, Anders Perrone, Lucille Moore, Alice Graham, Joel Nigg, Wes Thompson, Eric Feczko, Mathieu Guillaume, Ethan Roy, Óscar Miranda-Domínguez, Damien Fair, Bruce McCandliss. Annual Meeting of the Society for Neuroscience, 2022 Nov 12-16, San Diego, CA.
- FLUX 2022
Paris, France **Utilizing functional connectivity to identify neuropsychological subgroups in typically developing and ADHD-diagnosed youth.** Byington N, Grimsrud G, Feczko E, Rueter A, Hendrickson TJ, Conan G, Perrone A, Houghton A, Nigg JT, Nelson SM, Fair DA, Óscar Miranda-Domínguez. 10th meeting of Flux: The Society for Developmental Cognitive Neuroscience, Paris, France, September 7-9, 2022.
- FLUX 2022
Paris, France **A Method to Deliver Individualized rTMS in Youth with Tourette Syndrome.** Timothy Hendrickson, Cristian Morales-Carrasco, Óscar Miranda-Domínguez. Robert Hermosillo, Mo Chen, Steve Nelson, Damien Fair, Christine Conelea 10th meeting of Flux: The Society for Developmental Cognitive Neuroscience, Paris, France, September 7-9, 2022.
- FLUX 2022
Paris, France **Neurobiological markers of familial risk for depression among healthy youth in the Adolescent Brain Cognitive Development (ABCD) Study.** Bailey Holt-Gosselin, BS¹; Taylor Keding, PhD^{1,2}, Rhayna Poulin¹, Alexis Brieant, PhD¹, Amanda Rueter, PhD³, Timothy J. Hendrickson, MS³, Anders Perrone, MS³, Nora Byington, BS³, Audrey Houghton, BA³, Óscar Miranda-Domínguez, PhD³ Eric Feczko, PhD³, Damien A. Fair, PhD³, Jutta Joormann, PhD¹, Dylan G. Gee, PhD¹ 10th meeting of Flux: The Society for Developmental Cognitive Neuroscience, Paris, France, September 7-9, 2022
1 Department of Psychology, Yale University, New Haven, CT 06511; 2 Child Study Center, Yale School of Medicine, New Haven, CT 06511; 3 Department of Pediatrics, University of Minnesota Medical School, Minneapolis, MN 55455
- FLUX 2022
Paris, France **Anxiety, Externalizing Behaviors, and Trauma Exposure: Investigating Associations with Amygdala-PAG Functional Connectivity in Pre-Adolescents.** Alexis Broussard, Taylor Keding, Amanda Rueter, Timothy J. Hendrickson, Anders Perrone, Nora Byington, Audrey Houghton, Óscar Miranda-Domínguez., Eric Feczko, Damien A. Fair, Arielle Baskin-Sommers, Dylan G. Gee. 10th meeting of Flux: The Society for Developmental Cognitive Neuroscience, Paris, France, September 7-9, 2022.

- OHBM 2022
Glasgow,
Scotland
- Polygenic risk for depression moderates association between amygdala connectivity and internalizing.** Thomas E., Juliano A., Owens M., Cupertino R., Mackey S., Potter A., Hermsillo R., Óscar Miranda-Domínguez, Conan G., Ahmed M., Fair D., Graham A., Garavan H., Albaugh M. Organization for Human Brain Mapping. Glasgow, Scotland. June-20-2022
- Biological
Psychiatry 2022
New Orleans,
LA, US
- Amygdala connectivity associated with withdrawn/depressed symptoms in large sample of children from ABCD study.** Thomas E., Albaugh M., Juliano A., Owens M., Cupertino R., Hermsillo R., Óscar Miranda-Domínguez, Conan G., Ahmed M., Fair D., Graham A., Potter A., Garavan H. Society for Biological Psychiatry. April 28, 2022
- MN
Neuromodulation
Symposium 2022
Minneapolis, MN
- SimNIBS-cifti-tools: a standardized pipeline to guide transcranial magnetic stimulation (TMS) using individualized functional brain structure.** Cristian Morales Carrasco, Amal Aaden, Robert Hermsillo, Mo Chen, Christine Conelea, Steven M. Nelson, Damien A. Fair, Óscar Miranda-Domínguez, MN neuromodulation Symposium, April 2022. MN, USA.
- SfN 2021
Virtual
- Head motion in functional MRI scans does not drive results of a brain-wide association study: an ABCD study multivariate analysis.** Grimsrud G, Byington N, Mooney M, Cordova M, Doyle O, Hermsillo R, Earl E, Perrone A, Moore LA, Graham A, Nigg JT, Thompson WK, Feczko E, Óscar Miranda-Domínguez, Fair DA. Annual Meeting of the Society for Neuroscience, 2021 Nov 8-11
- Brain Stimulation
2021
Charleston, SC
- Target identification for Transcranial Magnetic Stimulation (TMS) using precision mapping.** Amal Aaden, Cristian Morales-Carrasco, Robert Hermsillo, Nora Byington, Eric Feczko, Mo Chen, Christine Conelea, Damien Fair, Óscar Miranda-Domínguez. 4th International Brain Stimulation Conference.
- OHBM 2021
Virtual
- Resting state functional connectivity networks predict motor behaviors in Parkinson's Disease** Anjanibhargavi Ragothaman¹ Martina Mancini^{1,2}, John G. Nutt², Damien A. Fair^{3,4}, Fay B. Horak^{1,2,3}, Óscar Miranda-Domínguez⁴ 27th Annual Meeting Organization for Human Brain Mapping (OHBM).
1. Dept. of Biomedical Engineering, 2. Dept. of Neurology, 3. Dept. of Behavioral Neuroscience, Oregon Health & Science University; 4. Masonic Institute for the Developing Brain (MIDB), University of Minnesota
- FLUX 2021
newline Virtual
- Patterns of brain connectivity associated with executive function are globally distributed among higher order heteromodal areas.** Grimsrud G, Byington N, Mooney M, Cordova M, Doyle O, Hermsillo R, Earl E, Perrone A, Moore LA, Graham A, Nigg JT, Thompson WK, Feczko E, Óscar Miranda-Domínguez, Fair DA. 9th meeting of Flux: The Society for Developmental Cognitive Neuroscience, 2021 Sep 17-21
- OHBM 2021
Virtual
- Polyneuro risk scores of executive function show widely distributed effects across the brain** Byington N, Grimsrud G, Mooney M, Cordova M, Doyle O, Hermsillo R, Earl E, Perrone A, Moore LA, Graham A, Nigg JT, Thompson WK, Feczko E, Óscar Miranda-Domínguez, Fair DA. 27th Annual Meeting Organization for Human Brain Mapping (OHBM).
- SfN 2019
Chicago, IL
- Freezing of gait in Parkinson's disease leads to lateralized alterations of resting state functional connectivity.** Óscar Miranda-Domínguez¹ Anjanibhargavi Ragothaman², Martina Mancini³, Robert Hermsillo¹, Eric Feczko⁴, John Nutt³, Damien A. Fair¹, Fay Horak³,
1. Behavioral Neuroscience; 2. Biomedical Engineering. 3. Neurology. 4. Med. Informatics and Clinical Epidemiology. Oregon Health & Science University

- SfN 2018
San Diego, CA
- Unveiling temporal changes in brain activity in task fMRI using connectotyping.** Valeria Vázquez-Trejo¹, Binyam Nardos², Bradley L. Schlaggar³, Damien A. Fair², Óscar Miranda-Domínguez² 48th Annual Meeting of the Society for Neuroscience
1. Portland State University; 2. Oregon Health & Science University; 3. Washington University in Saint Louis
- International Conference of Freezing of Gait 2018 Leuven, Belgium
- Freezing of gait is associated with changes in functional connectivity among motor, subcortical, but also higher order attention networks.** Óscar Miranda-Domínguez¹, Moosa Ahmed¹, Ishu Arpan², Martina Mancini², Maddy Dunn², Anjanibhargavi Ragothaman^{2,3}, Valeria Vázquez-Trejo^{1,4}, Damien A. Fair^{1,5,6}, John Nutt², Fay Horak^{2,3}, Freezing of Gait 2018, June 6-8, 2018, Leuven, Belgium
1. Department of Behavioral Neuroscience, Oregon Health & Science University; 2. Department of Neurology (OHSU), 3. Department of Biomedical Engineering (OHSU); 4. Department of Biology, Oregon State University; 5. Department of Psychiatry (OHSU); 6. Advanced Imaging Research Center (OHSU)
- International Conference of Freezing of Gait 2018 Leuven, Belgium
- Are different aspects of postural impairments in PD who freeze mediated by similar SMA networks dysfunctions?** Fay Horak¹, Ishu Arpan¹, Óscar Miranda-Domínguez², Daniel Peterson³, Christian Schlenstedt⁴, John Nutt¹, Brett Fling⁵, Patty Carlson-Kuhta¹, Mahmoud El-Gohary⁶, Martina Mancini¹. Freezing of Gait 2018, June 6-8, 2018, Leuven, Belgium
1. Department of Neurology, Oregon Health & Science University, OR, USA; 2. Department of Behavioral Neuroscience, Oregon Health & Science University, OR, USA; 3. College of Health Solutions, Arizona State University, AZ, USA; 4. Department of Neurology, University Hospital Schleswig-Holstein, Christian-Albrechts University of Kiel, Kiel, German; 5. Department of Health & Exercise Science, Colorado State University, CO, USA; 6. APDM, Inc, OR, USA
- International Conference of Freezing of Gait 2018 Leuven, Belgium
- Dysfunctional Limbic Circuitry Underlying Freezing Of Gait in Parkinson's Disease** Moran Gilat¹, Kaylena A. Ehgoetz Martens¹, Óscar Miranda-Domínguez², Ishu Arpan³, James M. Shine¹, Martina Mancini³, Damien A. Fair^{2,4,5}, Simon J.G. Lewis¹, Fay B. Horak^{3,6,7}. Freezing of Gait 2018, June 6-8, 2018, Leuven, Belgium
1. Brain and Mind Centre, The University of Sydney, NSW, Australia; 2. Department of Behavioral Neuroscience, Oregon Health & Science University, Portland, USA; 3. Department of Neurology, Oregon Health & Science University, Portland, USA; 4. Department of Psychiatry, Oregon Health & Science University, Portland, USA; 5. Advanced Imaging Research Center, Oregon Health & Science University, Portland, USA; 6. Department of Biomedical Engineering, Oregon Health & Science University, Portland, USA; 7. Medical Veterans Affairs Portland Health Care System (VAPORHCS), Portland, USA.
- SfN 2017
Washington, DC
selected as HOT TOPIC
- Development of functional connectivity of macaque cerebral cortical networks: Comparison of infants fed breast milk or formulas with low or high carotenoid content and synthetic or natural α -tocopherol.** Óscar Miranda-Domínguez¹, Samuel Carpenter¹, Eric Fezcko¹, L. Renner², Erdman JW Jr³, Matthew Kuchan⁴, Martha Neuringer², Damien A. Fair¹, 47th Annual Meeting of the Society for Neuroscience, Nov. 11-15, 2017, Washington, DC
1. Oregon Health & Science University; 2. Oregon National Primate Research Center; 3. University of Illinois at Urbana-Champaign, 4. Abbott Nutrition
- SfN 2017
Washington, DC
- Cortical contributions to gait in people with Parkinson's Disease and Frontal Gait Disorder.** Patricia Carlson-Kuhta¹, ML Singer¹, Óscar Miranda-Domínguez¹, Ishu Arpan¹, Moosa Ahmed¹, Damien A Fair¹, Fay B Horak¹, Laurie A King¹, 47th Annual Meeting of the Society for Neuroscience, Nov. 11-15, 2017, Washington, DC
1. Oregon Health & Science University
- FLUX 2017
Portland, OR
- Filtering artificial motion caused by magnetic field distortions from cardiopulmonary function.** Anders Perrone¹, Óscar Miranda-Domínguez¹, Eric Earl¹, Jonathon Koller² Andrew Van², Rachel Klein¹, Nico Dosenbach², Damien Fair¹, The 5th Annual Flux Congress, September 16-18, 2017, Portland, OR
1. Oregon Health & Science University; 2. Washington University in St. Louis

- FLUX 2017
Portland, OR **Age and neural maturation predict changes in temporal discounting in the transition to adolescence.** Jeya Anandakumar¹, Kathryn Mills², Eric Earl¹, Lourdes Irwin¹, Óscar Miranda-Domínguez¹, Damion Demeter³, Alexandra Walton Weston⁴, Joel Nigg¹, Damien Fair¹ The 5th Annual Flux Congress, September 16-18, 2017, Portland, OR
1. Oregon Health & Science University; 2. University of Oregon; 3. University of Texas at Austin, 4. Janelia Research Campus
- FLUX 2017
Portland, OR **Chronically elevated prenatal cytokine exposure changes rodent offspring behavior and functional connectivity network structure.** Brian Mills¹, Anandakumar Shunmugavel¹, Alina Goncharova¹, Óscar Miranda-Domínguez¹, Matt Lattal¹, Suzanne Mitchell¹, Damien Fair¹, The 5th Annual Flux Congress, September 16-18, 2017, Portland, OR
1. Oregon Health & Science University
- FLUX 2017
Portland, OR **Developmental outcomes of early adverse care: elevated cortisol and altered Amygdala functional connectivity.** Elyse Morin¹, Brittany Howell¹, Kathy Reding², Eric Fezcko¹, Eric Earl³, Óscar Miranda-Domínguez¹, Melanie Pincus¹, Martin Styner⁴ Damien Fair³, Mar Sanchez¹, The 5th Annual Flux Congress, September 16-18, 2017, Portland, OR
1. Emory University; 2. NIH/NIMH; 3. Oregon Health & Science University; 4. University of North Carolina at Chapel Hill
- OHBM 2017
Vancouver, BC **Addressing heterogeneity challenges in ASD with ADHD impairments using machine learning and fMRI.** Michaela Cordova¹, Eric Fezcko¹, Nadir Balba¹, Anders Perrone¹, Óscar Miranda-Domínguez¹, Alice Graham¹, Beth Langhorst¹, Joel Nigg¹, Eric Fombonne¹, Damien Fair¹, Organization of the Human Brain Mapping, June 25-29, 2017, Vancouver, BC, Canada
1. Oregon Health & Science University
- AUA 2017
Washington, DC **Rhesus macaques exposed to isoflurane anesthesia as infants display disrupted functional connectivity as juveniles.** Katie J Schenning¹, Óscar Miranda-Domínguez¹, Lauren D Martin², Gregory A Dissen², Damien Fair¹, Ansgar Brambrink³, AUA 64th Annual Meeting of the Association of University Anesthesiologists, May 4-5, 2017, Washington, DC
1. Oregon Health & Science University; 2. Oregon National Primate Research Center; 3. Columbia University Medical Center
- SfN 2016
San Diego, CA **Heritability of the human connectome.** Óscar Miranda-Domínguez¹, Eric Fezcko¹, Joel Nigg¹, Damien Fair¹, 46th Annual Meeting of the Society for Neuroscience, Nov. 12-16, 2016, San Diego, CA
1. Oregon Health & Science University
- SfN 2016
San Diego, CA **Characterizing Heterogeneity in Autism Spectrum Disorders Using Random Forest Algorithm.** Eric Fezcko¹, Nadir Balba¹, Óscar Miranda-Domínguez¹, Michaela Cordova¹, Lourdes Irwin¹, Alison Hill¹, Beth Langhorst¹, Julia Grieser Painter¹, Jan van Staten¹, Eric Fombonne¹, Joel Nigg¹, Damien Fair¹, 46th Annual Meeting of the Society for Neuroscience, Nov. 12-16, 2016, San Diego, CA
1. Oregon Health & Science University
- OHBM 2016,
Geneva,
Switzerland. **Cortical development of children with ADHD: Effects of motion on developmental trajectories.** Kathryn Mills¹, Eric Earl¹, Óscar Miranda-Domínguez¹, Eric Earl¹, Damion Demeter¹, Alexandra Walton Weston¹, Joel Nigg¹, Damien Fair¹. 22nd Annual Meeting of the Organization for Human Brain Mapping, Geneva, Switzerland, June 26-30, 2016
1. Oregon Health & Science University
- OHBM 2016,
Geneva,
Switzerland. **Real-time head motion analytics improve functional MRI data quality and reduce acquisition costs.** Nico Dosenbach¹, Jonathan Koller¹, Eric Earl², Óscar Miranda-Domínguez², Damien Fair². 22nd Annual Meeting of the Organization for Human Brain Mapping, Geneva, Switzerland, June 26-30, 2016
1. Washington University School of Medicine; 2. Oregon Health & Science University

- SfN 2015
Chicago, IL **The impact of maternal diet on large scale network patterns and behavior in macaque offspring** JS Ramirez¹, EL Sullivan¹, BD Mills¹, J Valleau¹, Eric Earl¹, Óscar Miranda-Domínguez¹, Damien Fair¹, 45th Annual Meeting of the Society for Neuroscience, Oct. 17-21, 2015, Chicago, IL
1. Oregon Health & Science University
- SfN 2014
Washington, DC **Longitudinal development of functional brain networks in ADHD** Brian Mills¹, L. Johansen², Óscar Miranda-Domínguez¹, Eric Earl¹, Bonnie Nagel¹, Joel Nigg¹, Damien Fair¹, 44th Annual Meeting of the Society for Neuroscience, Nov 15-19, 2014, Washington, DC
1. Oregon Health & Sciences University; 2 University of Copenhagen, Denmark
- NGP 2014,
Timberline
Lodge, OR. **Connectotyping: model based fingerprinting of the functional connectome.** Óscar Miranda-Domínguez¹ Brian D. Mills¹, Samuel D. Carpenter¹, Kathleen A. Grant¹, Christopher D. Kroenke¹, Joel T. Nigg¹, Damien Fair¹. Neuroscience Graduate Program Retreat, Timberline Lodge, OR, USA, Sep 15-16 2014
1. Oregon Health & Sciences University
- OHBM 2014,
Hamburg,
Germany. **The Development of Hub Organization in the Human Functional Brain Network.** Louise Barué¹, William Baaré¹, Óscar Miranda-Domínguez², Eric Earl², Paul Cary², Kathrine Skak Madsen¹, Samuel Carpenter², Brian D. Mills², Elizabeth Hawkey², Julia Painter², Joel Nigg², Damien Fair². 19th Annual Meeting of the Organization for Human Brain Mapping, Hamburg, Germany, June 8-12 2014
1. Copenhagen University Hospital, Hvidovre, Denmark; 2. Oregon Health & Sciences University
- SfN 2013
San Diego, CA **Model-based functional brain connectivity** Óscar Miranda-Domínguez¹, Brian Mills¹, Paul Cary¹, C Kroenke¹, K Grant¹, Damien Fair¹, 44th Annual Meeting of the Society for Neuroscience, Nov 9-13, 2013, San Diego, CA
1. Oregon Health & Sciences University
- SfN 2013
San Diego, CA **Chronic psychosocial stress and estradiol alter intrinsic functional connectivity and gray matter volume in rhesus macaques** KM Reding¹, DS Grayson³, Óscar Miranda-Domínguez⁴, S Ray⁴, M Styner⁵, ME Wilson⁶, D Toufexis⁷, Damien Fair⁵, Mar Sabchez², 44th Annual Meeting of the Society for Neuroscience, Nov 9-13, 2013, San Diego, CA
1. Yerkes Natl. Primate Res. Ctr.; 2. Dept. of Psychiatry & Behavioral Sci., Emory Univ., Atlanta, GA; 3 Ctr. for Neurosci., Univ. of California, Davis, CA; 4 Dept. of Behavioral Neuroscience, Dept. of Psychiatry, Oregon Hlth. and Sci. Univ., Portland, OR; 5 Dept. of Psychiatry, Univ. of North Carolina, Chapel Hill, NC; 6 Div. of Developmental and Cognitive Neurosci., Yerkes Natl. Primate Res. Center, Emory Univ., Atlanta, GA; 7 Dept. of Psychology, Univ. of Vermont, Burlington, VT
- OHBM 2013,
Seattle, WA. **Large scale networks in the macaque brain share topological features with the human brain.** Óscar Miranda-Domínguez¹, Brian D. Mills¹, David Grayson¹, Andrew Woodall¹, Kathleen A. Grant¹, Christopher D. Kroenke¹. Damien Fair. 19th Annual Meeting of the Organization for Human Brain Mapping, Seattle, WA, USA, June 16-20 2013
1. Oregon Health & Sciences University
- CNE 2012,
Minneapolis,
MN. **Neuron: behave. Closed loop control to make a neuron follow an arbitrary voltage trace.** Óscar Miranda-Domínguez, and Theoden. I. Netoff. Annual Neural-Engineering Symposium, University of Minnesota, MN, USA. Feb 16 2012
- CNS 2010, San
Antonio, TX. **Firing rate control of a neuron using a linear Proportional-Integral (PI) controller.** Óscar Miranda-Domínguez, Jon Gonia, and Theoden. I. Netoff. Nineteenth Annual Computational Neuroscience Meeting: CNS 2010 San Antonio, TX, USA. 24-30 July 2010
- Neuroscience
2009 &
Dynamical
Neuroscience
XVII (Chicago,
2009) **Unveiling ion dynamics on neurons using Unscented Kalman Filter.** Óscar Miranda-Domínguez [1], Ullah Ghanim [2], Steven J. Schiff [2], Theoden. I. Netoff[1]. 1 Univ. of Minnesota, Minneapolis, MN; 2 Pennsylvania State Univ., University Park, PA. Presented at the Annual Meeting of the Society of Neuroscience (Chicago, 2009) and at Dynamical Neuroscience XVII (Chicago, 2009)

MENTEES

- 2022-ongoing **Souradipto Ghosh Dastidar** | Graduate Student in the Department of Biostatistics at the University of Minnesota. Project: Brain Wide Associations and PolyNeuro Risk Scores
- 2021-ongoing **Amal Aaden** | Undergraduate student at the University of Minnesota. Project: Target identification for Transcranial Magnetic Stimulation (TMS) using precision mapping
- 2021 **Otiti Mayo** | Undergraduate student at the University of Minnesota. Project: Effects of early-childhood anesthesia exposure on functional connectivity
- 2020-ongoing **Gracie Grimsrud** | Neuroscience's freshman in the College of Biological Sciences | University of Minnesota
- 2019-2020 **Monica Garibay** | BUILD EXITO Fellow | Portland State University
Building Infrastructure Leading to Diversity (BUILD)-EXITO student. The BUILD-EXITO program is a NIH-funded initiative that support students from diverse backgrounds to successfully pursue careers in health-related research. Monica is working on the project: "MRI-derived biomarkers of Alzheimer's, Parkinson's disease and disease severity"
- 2017-ongoing **Anjanibhargavi Ragothaman** | Graduate student | Oregon Health and Science University
Anjani is a grad student in the Department of Biomedical Engineering. I am co-mentoring Anjani providing advice and training in functional MRI
- 2016-2018 **Valeria Vazquez-Trejo** | BUILD EXITO Fellow | Portland State University
I mentored Valeria for two years in her research stay at OHSU and directed her honors thesis where she applied model based connectivity matrices in task f-MRI
Thesis: **Use of connectotyping on task fMRI data reveals dynamic network level cross talking during task performance**

TEACHING EXPERIENCE

Oregon Health and Science University

- Winter 2016 Curriculum facilitator of the Advanced Functional Brain Imaging Nano Course (FuNC)
- 2015-2016 Coordinator of the Nagel and Fair Lab Didactics

University of Minnesota

- Spring 2012 Teacher Assistant - Biomedical Systems Analysis BME3401 (recitations and office hours)
- Fall 2011 Guest lecture, Physiological Controls Systems (BMEn8502). Topic: Parameters and states estimation in physiological systems.
- Spring 2010 Teacher Assistant - Biomedical Systems Analysis BME3401 (recitations and office hours)

Tecnológico de Monterrey

- Spring 2014 Modeling of Physiological Systems, Computerized Control, Signals and Systems, Engineering Projects (taught in Spanish), 100% responsibility.
- Fall 2013 Mathematics for Engineering I, Neural Engineering, Computerized Control, Engineering Projects (taught in Spanish), 100% responsibility.
- Spring 2006 Mathematics for Engineering I, first year undergraduate level course (taught in Spanish), 100% responsibility.
- Spring 2006 Professional Experience, fifth year undergraduate level course (taught in Spanish), 100% responsibility.
- Fall 2005 Mathematics for Engineering I, first year undergraduate level course (taught in Spanish), 100% responsibility.
- Fall 2005 Introduction to Biomedical Engineering, first year undergraduate level course (taught in Spanish), 100% responsibility.
- Spring 2005 Biomedical Engineering, PhD level course (taught in Spanish), 49 % responsibility.
- Fall 2004 Mathematics for Engineering I, first year undergraduate level course (taught in Spanish), 100% responsibility.
- Fall 2004 Introduction to Biomedical Engineering, first year undergraduate level course (taught in Spanish), 100% responsibility.

- Spring 2004 Mathematics for Engineering I, first year undergraduate level course (taught in Spanish), 100% responsibility.
- Fall 2003 Mathematics for Engineering I, first year undergraduate level course (taught in Spanish), 100% responsibility.
- Fall 2003 Introduction to Biomedical Engineering, first year undergraduate level course (taught in Spanish), 100% responsibility.

PEDAGOGY

- Problem Based Learning
- Blackboard
- How to re-design a course
- Adopting re-designed courses
- Cooperative Learning

OUTREACH ACTIVITIES

- 2020 "Uplifting Research" Expositor at Jefferson High School. Ontrack Program, Portland Or (Dec 14, 2020).
- 2019 Expositor and organizer of the "Si se puede" summer camp, where a group of students from Hillsboro High School visited OHSU to talk about neuroscience (July 18,2019).
- 2019 Expositor in the "On track OHSU" with high school students from underrepresented minority backgrounds.
- 2017 Expositor in the Career Fair at Reynolds Middle School, OR.
- 2014-2017 Multiple activities in OHSU as part of the initiative Youth Engaged in Science.
- 2014 iUrban Teen Tech Summit, panel of professionals to engage High School students to pursue Science/Engineering careers | Saturday, October 11, 9:30 am-12:30pm at the Mount Hood Community College Campus in Gresham, OR.
- 2011 Engineering Outreach program for South Senior High, 100 High school students tour Netoff Lab. Tour, talk and patch clamp demonstration.
- 2011 Engineering Outreach, South Senior High, 76 high school Juniors and Seniors tour Netoff Lab. Tour, talk and patch clamp demonstration.
- 2011 Exploring Careers in Science and Engineering, 13 students 8-10th grad. Tour, talk and patch clamp demonstration.
- 2010 First Lego League student tour of lab, 40 2-6th graders. Tour, talk and patch clamp demonstration.
- 2009 Brain U: Giving a tour, talk and patch clamp demonstration to 30 High school teachers at Netoff lab.

Updated: April 7, 2023