

Elvisha Dhamala

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ACADEMIC APPOINTMENTS

2021- **Postdoctoral Associate, Yale University**
Advisor: Avram Holmes

EDUCATION

2021 **Ph.D. (Neuroscience), Weill Cornell Medicine, New York, USA**
Multimodal Connectome Mapping of Sex Differences and Cognitive Abilities: A Machine Learning Approach
Advisor: Amy Kuceyeski

2017 **B.Sc. (Neuroscience), McGill University, Montréal, Canada**
Neurophysiology/Neural Computation Stream

HONOURS AND AWARDS

2021-2023 **Postdoctoral Fellowship for Academic Diversity, Kavli Institute for Neuroscience**
Amount awarded: \$130,000 USD

2020 **Graduate Student Award, Cognitive Neuroscience Society**
Amount awarded: \$100 USD

PEER-REVIEWED PUBLICATIONS

* denotes equal contributions. † denotes mentee co-author.

1. **Dhamala E**, Ooi LQR, Chen J, Kong R, Anderson KM, Yeo BTT, Holmes AJ. 2022. Proportional intracranial volume correction differentially biases behavioral predictions across neuroanatomical features and populations. *NeuroImage*, 260C. PMID: 35843514 | DOI: 10.1016/j.neuroimage.2022.119485
2. **Dhamala E**, Jamison KW, Jaywant A, Kuceyeski A. 2022. Shared functional connections within and between cortical networks predict individual cognitive abilities in males and females. *Human brain mapping*, 43(3), pp.1087-1102. PMID: 34811849 | DOI: 10.1002/hbm.25709
3. **Dhamala E**, Jamison KW, Jaywant A, †Dennis S, Kuceyeski A. 2021. Distinct functional and structural connections predict crystallised and fluid cognition in healthy adults. *Human brain mapping*, 42(10), pp.3102-3118. PMID: 33830577 | DOI: 10.1002/hbm.25420
4. Cha J, Speaker S, Hu B, Altinay M, Koirala P, Karne H, Spielberg J, Kuceyeski A, **Dhamala E**, Anand A. 2021. Neuroimaging correlates of emotional response-inhibition discriminate between young depressed adults with and without sub-threshold bipolar symptoms (Emotional Response-inhibition in Young Depressed Adults). *Journal of affective disorders*, 281, pp.303-311. PMID: 33341013 | DOI: 10.1016/j.jad.2020.12.037
5. **Dhamala E**, Jamison KW, Sabuncu MR, Kuceyeski A. 2020. Sex classification using long-range temporal dependence of resting-state functional MRI time series. *Human*

brain mapping, 41(13), pp.3567-3579.

PMID: 32627300 | DOI: 10.1002/hbm.25030

6. **Dhamala E**, Abdelkefi I, Nguyen M, Hennessy TJ, Nadeau H, Near J. 2019. Validation of in vivo MRS measures of metabolite concentrations in the human brain. *NMR in Biomedicine*, 32(3), p.e4058. PMID: 30663818 | DOI: 10.1002/nbm.4058
Top 10% most downloaded papers in NMR in Biomedicine 2018-2019.

PRE-PRINTS AND MANUSCRIPTS IN PREPARATION

* denotes equal contributions. † denotes mentee co-author.

1. Ooi LQR, Chen J, Shaoshi Z, Kong R, Tam A, Li J, **Dhamala E**, Zhou JH, Holmes AJ, Yeo BTT. (In revision). Comparison of individualized behavioral predictions across anatomical, diffusion and functional connectivity MRI. *BioRxiv preprint*. DOI: 10.1101/2022.03.08.483564
2. **Dhamala E**, BTT Yeo, Holmes AJ. (In revision). One Size Does Not Fit All: Methodological Considerations for Predictive Modelling in Psychiatry.
3. *Ricard JA, *Parker TC, **Dhamala E**, Kwasa J, Allsop AS, Holmes AJ. (In revision). Confronting racially exclusionary practices in the acquisition and analyses of neuroimaging data.
4. *†Bukhari H, *Su C, **Dhamala E**, Gu Z, Jamison K, *Fan Z, *Kuceyeski A. (In preparation). Graph-matching based metrics of functional connectome distance vary with age, sex, and relatedness.

TEXTBOOK CHAPTERS

* denotes equal contributions. † denotes mentee co-author.

1. Thompson JW, Kosofsky B, **Dhamala E**, Duggan, R. 2020. Electrophysiology monitoring. *Biomarkers for Traumatic Brain Injury*, pp.113-142. ISBN: 9780128163467

PRESENTATIONS: POSTERS, TALKS, SYMPOSIA

* denotes equal contributions. † denotes mentee co-author.

1. **Dhamala E**, Holmes AJ. Psychiatric neuroimaging: methods and applications. Oral Session Chair. *Organization for Human Brain Mapping*. June 2022; Glasgow, UK.
2. **Dhamala E**, Calhoun VD. Multivariate approaches: from methods to applications. Oral Session Chair. *Organization for Human Brain Mapping*. June 2022; Glasgow, UK.
3. **Dhamala E**, Ooi LQR, Chen J, Kong R, Anderson KM, Yeo BTT, Holmes AJ. Intracranial volume correction differentially biases brain-behavior predictions across populations. Poster. *Organization for Human Brain Mapping*. June 2022; Glasgow, UK.
4. **Dhamala E**, Holmes AJ, Chen J, Li J, Keller A. Machine learning in neuroimaging: from application to interpretation. Symposium Chair & Presenter. *Organization for Human Brain Mapping*. June 2022; Glasgow, UK.
5. Wu E, Olafson E, **Dhamala E**, Pritschet L, Santander T, Jacobs E, Kuceyeski A. Estradiol and progesterone relate to brain state dynamics. Poster. *Organization for Human Brain Mapping*. June 2022; Glasgow, UK.

6. †Bukhari H, Su C, **Dhamala E**, Gu Z, Jamison K, Fan Z, Kuceyeski A. A novel graph matching-based metric of the human connectome varies with age and sex. Poster. *Organization for Human Brain Mapping*. June 2022; Glasgow, UK.
7. **Dhamala E**, Ooi LQR, Chen J, Kong R, Anderson KM, Yeo BTT, Holmes AJ. Intracranial volume correction differentially biases behavioral predictions across neuroanatomical features and populations. Poster. *Society for Biological Psychiatry*. April 2022; New Orleans, USA.
8. Holmes AJ, Uddin LQ, **Dhamala E**, Bzdok D, Yip S. The future of psychiatry: promises and pitfalls in the use of big data. Symposium Presenter. *Society for Biological Psychiatry*. April 2022; New Orleans, USA.
9. **Dhamala E**, Kong R, Anderson KM, Ooi LQR, Chen J, Yeo BTT, Holmes AJ. Anatomical properties of individual-specific areal-level parcellations predict cognition and behaviour. Poster. *Society for Neuroscience*; November 2021; Virtual due to COVID-19.
10. **Dhamala E**. Modelling and Analysis - Connectivity. Poster Session Moderator. *Organization for Human Brain Mapping*; June 2021; Virtual due to COVID-19.
11. **Dhamala E**. Higher Cognitive Function. Poster Session Moderator. *Organization for Human Brain Mapping*; June 2021; Virtual due to COVID-19.
12. **Dhamala E**, Jamison KW, Jaywant, A, Kuceyeski A. Shared functional connectivity features predict individual cognitive abilities in males and females. Poster. *Organization for Human Brain Mapping*; June 2021; Virtual due to COVID-19. *Featured in the Modelling and Analysis - Multivariate Approaches session*.
13. †Wu E, **Dhamala E**, Pritschet L, Santander T, Jacobs E, Kuceyeski A. Increased sex hormones are associated with increased segregation of functional connectivity networks. Poster. *Organization for Human Brain Mapping*; June 2021; Virtual due to COVID-19. *Featured in the Social Neuroscience, Emotion, and Motivation session*.
14. †Cai C, **Dhamala E**, Pritschet L, Santander T, Jacobs E, Kuceyeski A. Fluctuations in estradiol and progesterone are not related to high amplitude co-fluctuations in fMRI. Poster. *Organization for Human Brain Mapping*; June 2021; Virtual due to COVID-19.
15. **Dhamala E**, Jamison KW, Jaywant A, Kuceyeski A. Shared functional connectivity features underlie cognitive abilities in males and females. Oral Presentation. *Weill Cornell Medicine, Vincent du Vigneaud Research Symposium*; April 2021; Virtual due to COVID-19.
16. **Dhamala E**, Jamison KW, †Dennis SM, Patel R, Chakravarty MM, Kuceyeski A. Hybrid structure-function connectome predicts individual cognitive abilities. Oral power pitch. *International Society of Magnetic Resonance in Medicine*; August 2020; Virtual due to COVID-19.
17. **Dhamala E** and Khosla M. Machine Learning in Neuroimaging. Breakout session leaders: Women in Machine Learning Un-Workshop. *International Conference on Machine Learning*. July 2020; Virtual due to COVID-19.
18. **Dhamala E**, Jamison KW, †Dennis SM, Patel R, Chakravarty MM, Kuceyeski A. Integration of structural and functional connectomes to predict individual cognitive abilities. Poster. *Organization for Human Brain Mapping*; June 2020; Virtual due to COVID-19.
19. Simon A, Jamison KW, Tozlu C, **Dhamala E**, Gauthier S, Kuceyeski A. Temporal memory of resting-state fMRI time series activations are able to classify multiple

- sclerosis. Poster. *Organization for Human Brain Mapping*; June 2020; Virtual due to COVID-19.
20. **Dhamala E**, Jamison KW, Kuceyeski A. Hybrid structure-function connectome predicts sex. Poster. *Organization for the Study of Sex Differences*; Cancelled due to COVID-19.
 21. **Dhamala E**, Jamison KW, †Dennis SM, Patel R, Chakravarty MM, Kuceyeski A. Hybrid-structure-function connectome predicts crystallised and fluid cognition. Poster. *Cognitive Neuroscience Society*; May 2020; Virtual due to COVID-19.
 22. **Dhamala E**, Jamison KW, †Dennis SM, Kuceyeski A. Prediction of individual cognitive ability using resting-state functional connectivity. Poster. *Society for Neuroscience*; October 2019; Chicago, USA.
 23. **Dhamala E**, Jamison KW, Kuceyeski A. Sex differences in long-term temporal dependence of resting state fMRI time series. Poster. *Organization for Human Brain Mapping*; June 2019; Rome, Italy.
 24. Duggan RC, **Dhamala E**, Kosofsky BE. Heart rate variability during exercise is a biomarker distinguishing between subjects with post-concussive syndrome following mild traumatic brain injury and healthy volunteers. Poster. *Society for Neuroscience*; November 2018; San Diego, USA.
 25. Kassinopoulos M, Ghosh A, **Dhamala E**, Boudrias MH, Mitsis G. Cardiac noise removal from BOLD fMRI based on a dynamic linear model. Poster. *Organization for Human Brain Mapping*; June 2017; Vancouver, Canada.

INVITED RESEARCH TALKS

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| 2022 | Open Science Sciencepalooza
University of South Carolina, Columbia, USA |
| 2021 | Yale Imaging and Psychopharmacology Lab
Yale University, New Haven, USA |
| 2021 | Cognitive Neuroscience Seminar
Yale University, New Haven, USA |
| 2021 | Brain Health Imaging Institute Seminar Series
Weill Cornell Medicine, New York, USA |
| 2020 | Centre d'Imagerie Cérébrale Lecture Series
Douglas Mental Health University Institute, Montréal, Canada |
| 2020 | Cognitive Neuroscience Seminar
Yale University, New Haven, USA |
| 2020 | Rajah Lab
Douglas Mental Health University Institute, Montréal, Canada |
| 2020 | Jacobs Lab
University of California Santa Barbara, Santa Barbara, USA |
| 2020 | Early Career BIPOC Scholars Neuropsychology Lecture Series
Ohio State University, Columbus, USA |
| 2020 | Frontiers in Neuropsychiatry Seminar
Weill Cornell Medicine, New York, USA |
| 2020 | Progress in Neuroscience Seminar
Weill Cornell Medicine, New York, USA |
| 2019 | Matteson Lab
Cornell University, Ithaca, USA |

2019 Psychiatric and Developmental Imaging Lab
University of Pennsylvania, Philadelphia, USA

INVITED PANELS

2022 Neurathon Neuroscience Workshop Series
Science Communication: One Tweet at a Time
Simply Neuroscience, Virtual

2022 From ACE to Home Base
Alumni Panel on Preparing for Career Paths Post PhD
Weill Cornell Medicine, New York, USA

2021 Building Allyship Series
Understanding and Combating Insidious Forms of Anti-Asian Racism
Cornell University, Ithaca, USA

2021 Open Science Room Emergent Sessions
Concerns and Challenges with the Different Meeting Formats
Organization for Human Brain Mapping Annual Conference, Virtual

2021 BrainHack
Data Visualisation and Machine Learning
Organization for Human Brain Mapping Annual Conference, Virtual

2020 Building Allyship Series
Dangers of Performative Allyship – Understanding Intent versus Impact
Cornell University, Ithaca, USA

TEACHING

2020-2021 **Instructor, HD 2200 Human Brain and Mind**
(Enrolment: ~15 per semester)
Spring 2020: Auburn Correctional Facility
Fall 2021: Cayuga Correctional Facility
Spring 2021: Five Points Correctional Facility
Cornell University - Cornell Prison Education Program

MENTORING

2022 **Yale University**
Emily Berkeley (2022, summer undergraduate research fellow mentor)

2019-2021 **Cornell University**
Hussain Bukhari (2021, graduate rotation student mentor)
Catherine Cai (2020-2021, undergraduate research mentor)
Elaine Wu (2020-2021, undergraduate research mentor)
Saanvi Somani (2020-2021, high school capstone project mentor)
Jason Chen (2020, undergraduate research mentor)
Sarah Dennis (2019, undergraduate research mentor)

2015-2017 **McGill University**
Afud Hossain (2017, undergraduate research mentor)
Bennet Desormeau (2016-2017, undergraduate research mentor)
Sharif Ahmed (2017, undergraduate research mentor)
Natalie Sun (2017, undergraduate research mentor)

AD HOC REVIEWER

Communications Biology
Developmental Cognitive Neuroscience
Frontiers in Neuroscience
Heliyon
IEEE Access
Neuroimage
PLOS ONE
Translational Psychiatry

PROFESSIONAL SERVICE

2021-2024 Program Committee: Ad Hoc Member
Organization for Human Brain Mapping
2020-2021 Technology Task Force: Ad Hoc Member
Organization for Human Brain Mapping
2020-2021 Program Committee: Student and Postdoc Liaison
Organization for Human Brain Mapping
2020-2021 Sustainability and Environmental Action Group: Social Coordinator
Organization for Human Brain Mapping
2020 Distance Based Education Taskforce: Student and Postdoc Liaison
Organization for Human Brain Mapping
2019-2021 Student and Postdoc Group: Social Coordinator
Organization for Human Brain Mapping

INSTITUTIONAL SERVICE

2020-2021 Machine Learning in Medicine Seminar and Symposium: Organiser
Weill Cornell Medicine
2020-2021 Graduate and Professional Students Diversity Council: Member
Cornell University
2020-2021 Graduate and Professional Students International: Co-President
Cornell University
2020 CoCo Lab Professional Development Series: Organiser, Facilitator
Weill Cornell Medicine
2020 Brainhack NY: Organiser
Weill Cornell Medicine
2019-2020 Multicultural Academic Council: Mentor
Cornell University
2018-2019 Neuroscience Boot Camp: Organiser, Lecturer
Weill Cornell Medicine
2017-2018 Vincent du Vigneaud Research Symposium: Outreach Coordinator
Weill Cornell Medicine
2015-2017 Neuroscience Undergraduates of McGill: Vice President Internal
McGill University

2015-2016 Kinesiology Games: Head of Sponsorship
McGill University

OUTREACH ACTIVITIES

2022 Scientific Judge
New Haven Science Fair

2022 Brain Education Day Leader
Yale University

2018- Scientist Mentor
Skype A Scientist

2018 Student Space Experiments Program: Mentor
Cornell Cooperative Extension, Cornell University

PROFESSIONAL DEVELOPMENT AND TRAININGS

2022 New England Future Faculty Workshop
Northeastern University, Harvard Medical School

2022 Scientists Teaching Science
New York Academy of Sciences

2022 Postdoc Series: Chalk Talk
Kavli Institute for Neuroscience, Yale University

2022 Creating Connections: An Introduction to the Alda Method
Kavli Foundation

2022 Crafting a Compelling Diversity Statement
Yale University

2022 Grant Writing
Yale University

2022 Mental Health First Aid Certification
National Council for Mental Wellbeing

2021 Fundamentals of Scientific Writing
Yale University

2021 Colman Inclusive Leadership Program
Cornell University

2020-2021 NextGen Professor's Program
Cornell University

2020 Integrating Sex and Gender to Improve Human Health
National Institutes of Health: Office of Research on Women's Health

2020 Writing in the Sciences
Coursera

2020 Teaching and Learning in the Diverse Classroom
Cornell University

2019 Art of Scientific Writing
Weill Cornell Medicine

PROFESSIONAL MEMBERSHIPS

Cognitive Neuroscience Society

Organization for Human Brain Mapping
National Center for Faculty Development & Diversity
Society for Neuroscience

PRE-DOCTORAL TRAINING

2018 Weill Cornell Medicine, New York, USA
Rotation Student (Advisor: Barry Kosofsky)

2017 Weill Cornell Medicine, New York, USA
Rotation Student (Advisor: Olivier Elemento)

2017 Douglas Mental Health University Institute, Montréal, Canada
Research Assistant (Advisor: Jamie Near)

2016-2017 McGill University Faculty of Medicine, Montréal, Canada
Research Assistant (Advisor: Marie-Hélène Boudrias)

2015-2016 McGill University Faculty of Science, Montréal, Canada
Research Assistant (Advisor: Maria Pompeiano)

2014-2015 McGill University Faculty of Science, Montréal, Canada
Laboratory Assistant (Advisor: Rudiger Krahe)