Elvisha Dhamala

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ACADEMIC APPOINTMENTS

2021-2023 **Postdoctoral Associate**
Yale University, New Haven, USA
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

2017 **B.Sc. (Neuroscience)**
McGill University, Montreal, Canada

FELLOWSHIPS

2023-2025 **Early Investigator Career Enhancement Program**
Yale School of Medicine SCORE on Sex Differences in Alcohol Use Disorder
Declined to Accept Faculty Position

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

HONORS AND AWARDS

2022 **Rising Star in Engineering in Health**
Johns Hopkins University and Columbia University

2022 **Travel Award**
Big Data Neuroscience Workshop

2020 **Graduate Student Award**
Cognitive Neuroscience Society

PEER-REVIEWED PUBLICATIONS

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

1. *Ricard JA, *Parker TC, **Dhamala E**, Kwasa J, Allsop AS, Holmes AJ. 2022. Confronting racially exclusionary practices in the acquisition and analyses of neuroimaging data. *Nature Neuroscience.* DOI: 10.1038/s41593-022-01218-y
2. **Dhamala E**, BTT Yeo, Holmes AJ. 2022. One Size Does Not Fit All: Methodological Considerations for Brain-Based Predictive Modelling in Psychiatry. *Biological Psychiatry*. DOI: 10.1016/j.biopsych.2022.09.024
3. Ooi LQR, Chen J, Shaoshi Z, Kong R, Tam A, Li J, **Dhamala E**, Zhou JH, Holmes AJ, Yeo BTT. 2022. Comparison of individualized behavioral predictions across anatomical, diffusion and functional connectivity MRI. *NeuroImage* 263, pp. 119636. PMID: 36116616 | DOI: 10.1016/j.neuroimage.2022.119636

4. **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
5. **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
6. **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
7. 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
8. **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
9. **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. *†Bukhari H, *Su C, **Dhamala E**, Gu Z, Jamison KW, Kuceyeski A. (Submitted). A graph-matching based metric of functional connectome distance between pairs of individuals varies with their ages, cognitive performances and familial relationships. *BioRxiv preprint.*
   DOI: 10.1101/2022.10.03.510660
2. Chopra S, Labache L, **Dhamala E**, Orchard ER, Holmes AJ. (Submitted). Moving Towards Reproducible and Programmatic Generation of Neuroimaging Visualizations.
   GitHub Preprint: https://github.com/sidchop/RepoNeuroVis/blob/main/manuscript.pdf.
3. Patrick LM, Kong R, **Dhamala E**, Anderson KM, Yeo BTT, Holmes AJ. (Submitted). Spatial variability in cortical thickness reflects the large-scale functional architecture of the human brain.
4. **Dhamala E**, Ooi LQR, Chen J, Ricard JA, Berkeley E, Chopra S, Qu Y, Lawhead C, Yeo BTT, Holmes AJ. (Submitted). Brain-based prediction of psychiatric illness-linked behaviors across the sexes. *BioRxiv preprint*.
   DOI: 10.1101/2022.12.18.520947
5. Chopra S, **Dhamala E**, Lawhead C, Ricard JA, Orchard E, Levi P, Aquino K, Fornito A, Anandh P, Rubenstein A, Chen L, Moses J, Harpaz-Rotem I, Germine LT, Baker JT, Yeo BTT, Holmes AJ. (Submitted). Reliable and generalizable brain-based predictions of cognitive functioning across common psychiatric illness. *MedRxiv preprint.*
   DOI: 10.1101/2022.12.08.22283232

TEXTBOOK CHAPTERS

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

PRESENTATIONS: TALKS, SYMPOSIA

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

1. Pergola G, Calhoun V, Passiatore R, **Dhamala E**, Wolfers T, Truelove-Hill M. (Accepted) Interindividual variability in brain-behavior relationships supports individualized perspectives on mental health. Symposium Presenter. *Society for Biological Psychiatry.* April 2023; San Diego, USA.
2. **Dhamala E**. Methodological considerations for predictive modelling using big data. Lightning Talk. *Big Data Neuroscience Workshop*; September 2022; Austin, USA.
3. **Dhamala E**, Holmes AJ. Psychiatric neuroimaging: methods and applications. Oral Session Chair. O*rganization for Human Brain Mapping.* June 2022; Glasgow, UK.
4. **Dhamala E**, Calhoun VD. Multivariate approaches: from methods to applications. Oral Session Chair. O*rganization for Human Brain Mapping.* June 2022; Glasgow, UK.
5. **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.
6. 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.
7. **Dhamala E.** Modelling and Analysis - Connectivity. Poster Session Moderator. *Organization for Human Brain Mapping*; June 2021; Virtual due to COVID-19.
8. **Dhamala E.** Higher Cognitive Function. Poster Session Moderator. *Organization for Human Brain Mapping*; June 2021; Virtual due to COVID-19.
9. **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.
10. **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.
11. **Dhamala E**, 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.

PRESENTATIONS: POSTERS

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

1. †Berkeley E, **Dhamala E**, Holmes AJ. The role of the amygdala in predicting aggression in children and adolescents. *Faculty for Undergraduate Neuroscience at Society for Neuroscience*; November 2022; San Diego, USA.
2. Ricard JA, Labache L, Chopra S, **Dhamala E**, Harnett NG, Jones G, Yip SW, Holmes AJ. The network-level correlates of cocaine use disorder. *Society for Neuroscience*; November 2022; San Diego, USA.

3. **Dhamala E**, Ooi LQR, Qu Y, Ricard J, Berkeley E, Yeo BTT, Holmes AJ. White matter connectivity differentially predicts mental health traits in children and adolescent males and females. *Society for Neuroscience*; November 2022; San Diego, USA.
4. **Dhamala E**, Ooi LQR, Chen J, Kong R, Anderson KM, Yeo BTT, Holmes AJ. Intracranial volume correction differentially biases brain-behavior predictions across populations. *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. *Organization for Human Brain Mapping.* June 2022; Glasgow, UK.
6. †Bukhari H, Su C, **Dhamala E**, Gu Z, Jamison KW, *Fan Z, *Kuceyeski A. A novel graph matching-based metric of the human connectome varies with age and sex. *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. *Society for Biological Psychiatry.* April 2022; New Orleans, USA.
8. **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. *Society for Neuroscience*; November 2021; Virtual due to COVID-19.
9. **Dhamala E**, Jamison KW, Jaywant, A, Kuceyeski A. Shared functional connectivity features predict individual cognitive abilities in males and females. *Organization for Human Brain Mapping*; June 2021; Virtual due to COVID-19.
   Featured in the Modelling and Analysis - Multivariate Approaches session.
10. †Wu E, **Dhamala E**, Pritschet L, Santander T, Jacobs E, Kuceyeski A. Increased sex hormones are associated with increased segregation of functional connectivity networks. *Organization for Human Brain Mapping*; June 2021; Virtual due to COVID-19.
    Featured in the Social Neuroscience, Emotion, and Motivation session.
11. †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. *Organization for Human Brain Mapping*; June 2021; Virtual due to COVID-19.
12. **Dhamala E**, Jamison KW, †Dennis SM, Patel R, Chakravarty MM, Kuceyeski A. Integration of structural and functional connectomes to predict individual cognitive abilities. *Organization for Human Brain Mapping*; June 2020; Virtual due to COVID-19.
13. 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. *Organization for Human Brain Mapping*; June 2020; Virtual due to COVID-19.
14. **Dhamala E**, Jamison KW, Kuceyeski A. Hybrid structure-function connectome predicts sex. *Organization for the Study of Sex Differences*; Cancelled due to COVID-19.
15. **Dhamala E**, Jamison KW, †Dennis SM, Patel R, Chakravarty MM, Kuceyeski A. Hybrid-structure-function connectome predicts crystallised and fluid cognition. *Cognitive Neuroscience Society*; May 2020; Virtual due to COVID-19.
16. **Dhamala E**, Jamison KW, †Dennis SM, Kuceyeski A. Prediction of individual cognitive ability using resting-state functional connectivity. *Society for Neuroscience*; October 2019; Chicago, USA.
17. **Dhamala E**, Jamison KW, Kuceyeski A. Sex differences in long-term temporal dependence of resting state fMRI time series. *Organization for Human Brain Mapping*; June 2019; Rome, Italy.
18. 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. *Society for Neuroscience*; November 2018; San Diego, USA.

19. Kassinopoulos M, Ghosh A, **Dhamala E**, Boudrias MH, Mitsis G. Cardiac noise removal from BOLD fMRI based on a dynamic linear model. *Organization for Human Brain Mapping*; June 2017; Vancouver, Canada.

INVITED RESEARCH TALKS

2022 Symposium on Neuroimaging and Neurophysics Research
Georgia State University, Atlanta, USA

2022 Neuromodulation and Neuroimaging Relevant to Affective Disorders Seminar Series
University of Pennsylvania, Philadelphia, USA

2022 Cornell NIH First Future Faculty Symposium
Cornell University, Ithaca, USA

2022 Research Seminar Series
Feinstein Institutes for Medical Research/Zucker Hillside Hospital, Manhasset, USA

2022 Current Work in Behavior, Genetics, and Neuroscience Seminar Series
Yale University, New Haven, USA

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 Cerebral Imaging Centre 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
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 Anti-Asian Racism
Cornell University, Ithaca, USA
2021 Open Science Room Emergent Sessions: Challenges with 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
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

Yale University

2022 Lucy Jane Arce (undergraduate research mentor)
2022 Emily Berkeley (summer undergraduate research fellow mentor)

Weill Cornell Medicine

2021-2022 Hussain Bukhari (graduate rotation student mentor)

Cornell University

2020-2021 Catherine Cai, Elaine Wu (undergraduate research mentor)
2020-2021 Saanvi Somani (high school capstone project mentor)
2020 Jason Chen (undergraduate research mentor)
2019 Sarah Dennis (undergraduate research mentor)

McGill University

2017 Afuad Hossain (undergraduate research mentor)
2016-2017 Bennet Desormeau (undergraduate research mentor)
2016 Sharif Ahmed, Natalie Sun (undergraduate research mentor)

Other

2020- Organization for Human Brain Mapping (international mentoring program)

HONORS AND AWARDS TO MENTEES

2022 Yale Kavli Institute for Neuroscience Summer Undergraduate Research Fellowship (SURF; Emily Berkeley)

AD HOC REVIEWER

Communications Biology
Computational Psychiatry
Developmental Cognitive Neuroscience
eNeuro
Frontiers in Neuroscience
Heliyon
IEEE Access
Human Brain Mapping
Network Neuroscience
Neuroimage
Neuropsychopharmacology
PLOS ONE
PNAS
Translational Psychiatry

PROFESSIONAL SERVICE

Organization for Human Brain Mapping

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

INSTITUTIONAL SERVICE

Yale University

2022 Yale Biomedical Sciences Diversity/Inclusion Collective: Research Symposium Judge
2022 Brain Education Day: Leader and Mentor

Weill Cornell Medicine

2021 Machine Learning in Medicine Symposium: Organiser
2020-2021 Machine Learning in Medicine Seminar Series: Organiser
2020 CoCo Lab Professional Development Series: Organiser and Facilitator
2020 BrainHack New York: Organiser
2018-2019 Neuroscience Boot Camp: Organiser, Lecturer
2017-2018 Vincent du Vigneaud Research Symposium: Alumni Outreach Coordinator

Cornell University

2020-2021 Graduate and Professional Students Diversity Council: Member
2020-2021 Graduate and Professional Students International: Co-President
2019-2020 Multicultural Academic Council: Mentor

McGill University

2015-2017 Neuroscience Undergraduates of McGill: Vice President Internal
2015-2016 Kinesiology Games: Head of Sponsorship

OUTREACH ACTIVITIES

2022 New Haven Science Fair: Scientific Judge
2018- Skype A Scientist: Scientist Mentor
2018 Cornell Cooperative Extension: Student Space Experiments Program: Mentor

PROFESSIONAL DEVELOPMENT AND TRAININGS

2022 Cornell NIH FIRST Future Faculty Symposium
Cornell University
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
Organization for the Study of Sex Differences
National Center for Faculty Development & Diversity
Society for Neuroscience

PRE-DOCTORAL TRAINING

2018	Weill Cornell Medicine: Rotation Student (Advisor: Barry Kosofsky)
2017	Weill Cornell Medicine: Rotation Student (Advisor: Olivier Elemento)
2017	Douglas Mental Health University Institute: Research Assistant (Advisor: Jamie Near)
2016-2017	McGill University: Research Assistant (Advisor: Marie-Hélène Boudrias)
2015-2016	McGill University: Research Assistant (Advisor: Maria Pompeiano)
2014-2015	McGill University: Laboratory Assistant (Advisor: Rüdiger Krahe)