Maedbh King, **PhD**

· ICoN Research Fellow, MIT · Teaching Fellow, Harvard Medical School

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Summary

Integrative computational neuroscience (ICoN) fellow at MIT using neuroimaging and machine learning to map and model the human brain in health and disease. Dedicated to advancing scientific policy and research innovation through data-driven solutions and highly interdisciplinary collaborations.

Education

2017-2022 **University of California, Berkeley**, Cognitive Neuroscience, and Graduate Certificate in Applied Data Science		*PhD*
2015-2017 **Western University, Canada**, Cognitive Neuroscience		*MSc*
2010-2014 **Trinity College Dublin**, Double Honors in Psychology and French		*BA*

Experience

Massachusetts Institute of Technology *Postdoctoral Associate*

2022-PRESENT

- Directed a cross-functional project on suicide prediction, bridging clinicians, software engineers, and scientists from MIT and the University of Pennsylvania. Designed large language modeling pipelines using electronic health records to identify racial bias in machine learning models.
- Managed a team of undergraduates to develop interpretable artificial intelligence pipelines. We then applied these pipelines to large-scale datasets, investigating the relationship between individual and sex-based variation and symptoms of neurodevelopmental disorders such as ADHD.

Harvard Medical School *Teaching Fellow*

2024-PRESENT

- Facilitated learning as a Teaching Fellow for a psychopathology course at Harvard Medical School, delivering review sessions, managing student engagement, and providing organizational and technical support, while acting as a key liaison between students and course directors.

MIT Science Policy Review *Co-Editor and Lead Author*

2023-PRESENT

- Interviews co-editor for Vol. VI, curated and managed interviews with high-profile changemakers, notably Nobel Prize economists and leading journalists from the Boston Globe, and directed the entire editorial workflow, from conception to publication.
- Strategically led a collaborative effort for Vol. V to inform policy on precision medicine for neuropsychiatry, resulting in a first-authored policy paper designed to inform academics and policymakers on the pitfalls and promises of personalized medicine for psychiatry.

University of California, Berkeley *Graduate Student Researcher*

2017-2022

- 15 publications (>1000 citations), including first authorship in #1 neuroscience journal *Nature Neuroscience* for my work using advanced neuroimaging and clinical neuropsychology to map and model the adult human cerebellum. Named in the top 0.5% of all scholars worldwide by *ScholarGPS* for *"strong publication record and impact of your work"*, and publicized in popular media including Knowable Magazine and Psychology Today.
- Delivered instruction for undergraduate courses including Biological Psychology and Cognitive Neuroscience at UC Berkeley. I also developed and delivered a course in General Psychology to incarcerated students at San Quentin State Prison adopting a trauma-informed curriculum.

Leadership

MIT Council on Family and Work ('23-'24)

- As a nominated member, I analyzed parental leave/childcare policies via university-wide survey, informing recommendations to senior leadership.

UC Berkeley Graduate Assembly ('20-'22)

- Co-led a departmental initiative to establish formal mentor-mentee agreements, resulting in a 10-page policy proposal, adopted by 90% of faculty.
- Served as a liaison between the Berkeley development office and external donors. Led fundraising initiatives for faculty in Silicon Valley.
- Launched and managed the Berkeley Psychology blog to spotlight graduate student research. Published and edited >10 pieces during my tenure.
- Managed data-driven initiatives to optimize fundraising and advocacy efforts, resulting in a 20% increase in graduate stipends for Psychology students.

European Federation of Psychology Students' Association

- Pioneered the implementation of pre-registration for the Journal of European Psychology Students, setting a new global standard for student journals.

Accomplishments & Awards

Management & Mentorship Awards

- Recipient of the highly competitive 2022 Presidential Management Fellowship, with offers from U.S. federal agencies incl. NIH, FDA, and CDC.
- Nominated for 2023 MIT Mentor of the year award for outstanding mentorship of undergraduate students in research activities.

Awarded >$1M in international scholarships and fellowships, and secured a $5M NIH grant with co-authors

- MIT Integrative Computational Neuroscience Fellowship ('22); Graduate co-author on a fully-funded $5M NIH R35 grant ('20); Cognitive and Computational Neuroscience Travel Award ('18); Gordon Cerebellum Travel Award ('17); Mark R. Rosenzweig Graduate Scholarship ('17); Irish Research Council Graduate Scholarship ('15 declined); Ussher Fellowship ('15 declined); Wellcome Trust Biomedical Vacation Scholarship ('13); Government of Ireland Irish Language Scholarship ('10 full-ride); Trinity College Entrance Exhibition Award ('10)

Skills

Computer Programming	Proficient in Python, SQL, R, MATLAB, HTML, Git, Bash, and High Performance Computing
Scientific Research	10 years of hypothesis- and data-driven science including AI large-language and predictive machine learning models
Mentorship	Formally mentored 12 students at UC Berkeley and MIT: 6 undergraduates, 2 postbaccalaureate students, and 4 PhD students
Public Speaking	Invited speaker at 12 international conferences including *Society for Neuroscience* and *Organization for Human Brain Mapping*
Languages	English (Native), Irish (Proficient), French (Conversational), German (Basic)