

RYN FLAHERTY

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EDUCATION

Ph.D. Candidate in Biomedical Sciences, expected August 2025

New York University Grossman School of Medicine, Biomedical Imaging & Technology

Advisor: Dr. Mariana Lazar

Bachelor of Science in Neuroscience, May 2015

Brandeis University, Cum Laude Advisor: Dr. Angela Gutchess

Senior Research Project: [The Effect of Age Bias on Mu Suppression and Source Memory](#)

HONORS AND AWARDS

NYU Dean's Conference Fund, August 2024

Awarded \$500 for travel.

Used to present work at Alzheimer's Association International Conference (AAIC).

NYU Alzheimer's Disease Research Center REC Junior Scholar, June 2023

Awarded \$1500 grant for independent research.

Project title: Diffusion MRI of hippocampal subfields in subjective cognitive decline

NYU Vilcek Institute Special MacCracken Award, May 2023

Awarded \$300 annual stipend increase.

For energetic and inclusive spirit, academic achievement, efforts during recruitment, professional attitude, and willingness to embrace leadership roles.

International Society for Magnetic Resonance in Medicine (ISMRM) Trainee Travel Award, April 2023 to present

Awarded \$500 annually for travel.

Used to present work at the ISMRM Annual Meeting.

NYU Vilcek Institute Travel Grant, April 2022 to present

Awarded \$700 annually for travel.

Used to present work at the ISMRM (International Society for Magnetic Resonance in Medicine) Diffusion Workshop and AAIC.

Brandeis University Undergraduate Research Fund, April 2014

Awarded \$2500 grant for independent research.

Project title: Mu Suppression, Bias, and Memory

RESEARCH EXPERIENCE

Lazar Lab, January 2022 to present

New York University Langone Medical Center, Vilcek Institute of Biomedical Sciences
Graduate Research Assistant

Principal Investigator: Dr. Mariana Lazar

- Complete a PhD thesis project on the application of multimodal MRI microstructure models to study subjective cognitive decline, including diffusion weighted and magnetization transfer images.
- Supervise incoming students' training on cognitive testing for schizophrenia research.
- Implement data processing, image quality control, modeling, analysis, writing, and presentation of results related to the PhD thesis project.
- Consult on other projects involving the application of multimodal MRI to psychiatry.

Baete Lab, May 2022 to July 2022

New York University Langone Medical Center, Vilcek Institute of Biomedical Sciences
Rotating Graduate Student

Principal Investigator: Dr. Steven Baete

- Completed data processing, quality control, modeling, analysis, and writing for TPS2 PET-MR and diffusion weighted MRI data on Major Depressive Disorder.

Kirov Lab, October 2021 to December 2021

New York University Langone Medical Center, Vilcek Institute of Biomedical Sciences
Rotating Graduate Student

Principal Investigator: Dr. Ivan Kirov

- Completed data processing, quality control, and analysis for magnetic resonance spectroscopy (MRS) data in Alzheimer's Disease and Traumatic Brain Injury.

Frontotemporal Disorders Unit Laboratory of Neuroimaging, July 2018 to August 2021

Massachusetts General Hospital and Harvard Medical School

Senior Clinical Research Coordinator

Principal Investigator: Dr. Brad Dickerson

- Completed data collection, analysis, and writing for independent projects on TIw MRI, amyloid PET, and tau PET in early onset Alzheimer's Disease and atypical Alzheimer's Disease.
- Coordinated the Massachusetts General Hospital/Harvard Medical School site of the Longitudinal Early-Onset Alzheimer's Disease Study (LEADS).
- Coordinated the Frontotemporal Disorders Unit brain donation program.
- Assisted in the collection of cognitive, behavioral, brain imaging, and biofluid data.

AgeLab, November 2016 to July 2018

Massachusetts Institute of Technology

Data Annotation Assistant

Principal Investigators: Dr. Bryan Reimer and Bruce Mehler

- Assisted in data visualization, collection, analysis, and writing in research on impacts of healthy aging on transportation technology usage.

Ageing, Culture, and Cognition Laboratory, March 2012 to May 2015

Brandeis University

Research Assistant

Principal Investigator: Dr. Angela Gutchess

- Designed, coded, and implemented an independent EEG project.
- Assisted in data collection and study design for research on healthy aging, cultural differences, and bias.

Cognitive Neuroimaging Laboratory, March 2014 to July 2014

University of Auckland

Research Assistant

Principal Investigator: Dr. Ian Kirk

- Assisted in study design, eprime coding, human EEG collection, and recruitment in a study of healthy short-term memory.

Laboratory of Behavioral Neuroscience, May 2013 to August 2013

Boston University

Research Assistant

Principal Investigator: Dr. Kathleen Kantak

- Assisted in data collection from rats and preliminary statistical data analysis in a study of addiction disorders.
- Trained in rat post-surgical care, sterile technique, and in the use of Skinner boxes.

PROFESSIONAL SERVICE

Peer Review for the following journals and conferences:

- Brain Imaging and Behavior
- Cognitive, Affective, and Behavioral Neuroscience
- Alzheimer's Association International Conference (AAIC)
- International Society for Magnetic Resonance in Medicine (ISMRM) Annual Meeting

High School Student Mentor for the following programs:

- Terra New York City STEM Fair
- Research Immersion Summer Experience for Underrepresented in Medicine (URiM) Physician Scientists (RISE UP)

Member of the following professional associations:

- International Society for Magnetic Resonance in Medicine (ISMRM)
- Alzheimer's Association International Society to Advance Alzheimer's Research and Treatment (ISTAART)
- New York Academy of Sciences (NYAS)

President, Student Queer Association, November 2023 to present

New York University Langone Medical Center, Vilcek Institute of Biomedical Sciences

Grad Group Leader, May 2022 to present

New York University Langone Medical Center, Vilcek Institute of Biomedical Sciences

Other Genders Representative, Women in Science, June 2019 to August 2021
Massachusetts General Hospital and Harvard Medical School, Martinos Center for
Biomedical Imaging

SELECTED PUBLICATIONS

Flaherty, R., Sui, Y. V., Masurkar, A. V., et al. (2024). [Diffusion imaging markers of accelerated neuronal aging of the lower cingulum in subjective cognitive decline](#). *Frontiers in Neurology* 15, 1360273.

Putcha, D., Katsumi, Y., Brickhouse, M., **Flaherty, R.**, Salat, D. H., Touroutoglou, A., & Dickerson, B. C. (2023). [Gray to white matter signal ratio as a novel biomarker of neurodegeneration in Alzheimer's disease](#). *NeuroImage: Clinical* 37, 103303.

PRESENTATIONS

Flaherty, R., Sui, Y.V., Youss, Z.B., and Lazar, M. (2025). First Application of the Standard Model of Diffusion to Subjective Cognitive Decline Reveals Novel Insights into White Matter Microstructure. Presented at the [ISMRM Workshop on 40 Years of Diffusion: Past, Present & Future Perspectives](#), Kyoto, Japan. Poster Presentation.

Flaherty, R., Sui, Y.V., Masurkar, A.V., et al. (2024). [A diffusion kurtosis MRI signature of subjective cognitive decline](#). Presented at the Alzheimer's Association International Conference, Philadelphia, Pennsylvania, USA. Poster Presentation.

Flaherty, R., Sui, Y.V., Masurkar, A.V., et al. (2024). [Diffusion kurtosis and diffusion tensor imaging of hippocampal subregions in subjective cognitive decline](#). Presented at the International Society for Magnetic Resonance in Medicine Annual Meeting and Exhibition, Singapore. Poster Presentation.

Flaherty, R. (2024). Diffusion MRI Biomarkers of Subjective Cognitive Decline. Presented at the New York University Center for Biomedical Imaging (CBI) and Center for Advanced Imaging Innovation and Research (CAI2R) Research Seminar, New York, NY, USA. Oral Presentation.

Flaherty, R., Sui, Y.V., Masurkar, A.V., et al. (2024). [Diffusion MRI Findings in Hippocampal Subregions of People with Subjective Cognitive Decline](#). Presented at the ISMRM Diffusion Study Group Trainee Day, Online. Power Pitch.

Flaherty, R., Sui, Y.V., Masurkar, A.V., et al. (2023). Preliminary Diffusion MRI Findings in Hippocampal Subregions of People with Subjective Cognitive Decline. Presented at the MGH-NYU REC Symposium, Online. Oral Presentation.

Flaherty, R., Sui, Y.V., Masurkar, A.V., et al. (2023). [Distinct neural correlates of anxiety and depression in subjective cognitive decline versus healthy aging: a microstructural diffusion MRI study](#). Presented at the Alzheimer's Association International Conference, Amsterdam, The Netherlands. Poster Presentation.

Flaherty, R., Sui, Y.V., Masurkar, A.V., et al. (2023). [Accelerated aging effects in subjective cognitive decline and low memory performers as measured by diffusion tensor imaging](#). Presented at the Alzheimer's Association International Conference, Amsterdam, The Netherlands. Poster Presentation.

Flaherty, R., Sui, Y.V., and Lazar, M. (2023). [Free water diffusion volume fraction from NODDI suggests inflammation may drive decreased memory performance in Subjective Cognitive Decline](#). Presented at the International Society for Magnetic Resonance in Medicine Annual Meeting and Exhibition, Toronto, ON, Canada. Oral Presentation.

Flaherty, R., Filippiak, P., Logan, J., et al. (2022). Inflammation has the opposite effect on gray matter diffusion MRI metrics than expected in the context of Major Depressive Disorder. Presented at the [International Society for Magnetic Resonance in Medicine Workshop on Diffusion MRI: From Research to Clinic](#), Amsterdam, The Netherlands. Power Pitch.

Flaherty, R., Krivensky, S., Brickhouse, M., et al. (2021). [The relationship between cortical grey to white matter signal contrast \(GWC\) and tau pathology in atypical AD](#). Presented at the Alzheimer's Association International Conference, Denver, CO, USA. Poster Presentation.

Flaherty, R., Ezzo, R., Collins, J. A., et al. (2020). [Increased white matter MRI T1 hypointensity volume in young onset Alzheimer's Disease patients is not accounted for by age or cardiovascular risk factors](#). Presented at the Alzheimer's Association International Conference, Online. Poster Presentation.

SKILLS

- FreeSurfer, MRTrix3, and FSL for MRI recon, segmentation, and data analysis.
- Bash, R, Python, MatLab, and Microsoft Excel for image processing, statistical analysis, and data modeling.
- Database management using Microsoft Access, Epic Healthcare Systems, and REDCap (Research Electronic Data Capture).
- Cognitive testing for dementia disorders with the ADAS-Cog, NACC, and MMSE.
- Cognitive testing and interviewing for schizophrenia spectrum disorders with the MCCB and DIGS.
- MRI scan administration on Siemens Trio and Prisma.
- Processing and transport of human and animal biofluids.