

The Greater Boston MSTAR Program at Harvard Medical School

Program Overview

The Greater Boston Medical Student Training in Aging Research (GBMSTAR) Program at Harvard Medical School is designed to give medical students a two to three-month in-person mentored research experience in the field of aging and an introduction to aging research topics and geriatric medicine.

Goals for Research Scholars

Students who participate in the program will

- Work on an aging research project under the supervision of a faculty mentor.
- Attend weekly didactic sessions on important topics in aging research and geriatric medicine.
- Give a formal research presentation to peers and faculty.
- Prepare and submit an abstract to the American Geriatrics Society (AGS) Meeting or another national research meeting. Many scholars have their work accepted for publication in peer-reviewed journals.
- Learn about a variety of career paths within the fields of aging research and geriatric medicine.
- Create lasting relationships with peers and faculty who share academic and clinical interests.

National Institutes of Aging MSTAR [Program Eligibility Guidelines](#) can be found on the [AFAR website](#)

Dates/Timeline

Students must participate in a research project for at least 2 months (i.e., 60 total days). **The days must be continuous (national holidays are excluded) and students may not take vacations or be involved in other programs during their research period.** Students should be able to participate in the entire didactic program and the MSTAR Scholars Week Presentations (6/6/2023 - 7/20/2023). If your academic schedule does not allow you to be present for the first few meetings of the didactic program, we are happy to discuss the possibility of arranging your summer GBMSTAR schedule around your academic commitments and finding you other didactic opportunities. Exceptions will not be made for non-academic scheduling conflicts. Those who start the program later in the summer, will be expected to present their work-in-progress during GBMSTAR Scholars Week.

General Application Process

Application materials and detailed instructions are available at the [BWH Division of Aging](#) website. Complete applications (**General Application Form** and **Home Institution Faculty Sponsor Form**) may be submitted between **November 1, 2022 and January 20, 2023 5PM ET.**

Decisions about acceptance will be made by **February 8th, 2023**. After acceptances are made, the process of matching students with research mentors will begin. There is more information about mentors and research projects below.

Partner Institution (UMISS, UMass, BU, BROWN) Application Process

The Greater Boston MSTAR Scholars Program at Harvard Medical School has partnerships with University of Mississippi School of Medicine, Boston University School of Medicine, University of Massachusetts Medical School, and Brown University School of Medicine. **Students from these institutions** are permitted to work on MSTAR projects with aging research faculty at their institutions. These applicants should meet with their potential faculty

mentor as soon as possible to start developing a project proposal plan. Notably, the **Partner Institution Project Proposal Form** will need to be submitted for review and approved by the GBMSTAR program **well before** the application deadline. The **Partner Institution Application Form** and the **Partner Institution Faculty Sponsor Form** are due on **January 20, 2023 5PM ET**. Decisions about acceptance will be made by **February 8th, 2023**.

All applicants can send any questions about the application process to Leslie Power, BostonMSTAR@bwh.harvard.edu.

We are an equal opportunity program, and all qualified applicants will receive consideration for our program without regard to race, color, religion, sex, national origin, disability status, protected veteran status, gender identity, sexual orientation, pregnancy and pregnancy-related conditions or any other characteristic protected by law. Women and minority candidates are particularly encouraged to apply.

Funding

Funding for this program is provided by the NIA/NIH and is usually distributed by mid-June, but **always after** the start of the summer program. The stipend last year was about \$2,000 per month. Additional funds for travel and housing are not provided.

Mentorship and Research Projects

Please review our list of recent faculty mentors, research projects, and project types below. Mentors vary from year to year based on their availability. The most successful mentorship pairings are often the result of students having strong research interests and identifying faculty in the GBMSTAR research community doing work in those areas. Once a scholar is accepted to the program, GBMSTAR will reach out to initiate the mentor pairing process.

1. For students applying to the program to work with a GBMSTAR Mentor:

Below is a list of potential mentors and links to their profiles on Harvard Catalyst or an equivalent website. Applicants should review the list, identify the top 3 mentors whose work aligns with their research interests, and convey **this information in their application** in Section 3: Research Interests/Mentorship. The applicant should also use that space to describe in detail what aspect of the faculty member's work is most interesting to them (e.g., the research question, the research area, the patient population, or the research method). Given the large number of early program inquiries this year, **please do not** reach out to past GBMSTAR mentors directly.

2. For students applying to the program from one of our **partner institutions** (UMISS, UMass, BU, BROWN):

If the applicant is from one of GBMSTAR's partner institutions and is applying to work with a research mentor at that institution, **the applicant should write the name of their mentor and research project** in Section 3: Research Interests/Mentorship. As noted previously, applicants from Partner Institutions will need to submit a **Partner Institution Research Project Proposal** form for approval prior to the application deadline.

Please follow the active links in the table below to learn more about recent and potential mentors. At [Harvard Catalyst](#) you can perform a keyword search by name or topic.

Research Mentors and Projects (Summer 2016 through Summer 2022) and Potential Mentors:

Projects	Project Type	Mentor	Institution
Assessing Mobility Device Use and Frailty Progression in Community Dwelling Adults: findings from the National Health and Aging Trends Study (NHATS).	Epidemiologic Study	Dr. Sandra Shi	Hebrew Senior Life (HSL)/Beth Israel Deaconess Medical Center (BIDMC)
High intake of dietary flavonoids and odds of frailty onset in middle-age and older adults in the Framingham Heart Study Offspring Cohort. Nutrition and Aging.	Epidemiologic Study	Dr. Shivani Sahni	HSL
Predictors of Disagreement between Brief App-Directed Clinician and Reference Standard Delirium Assessments. Focus on Delirium Assessment.	Prediction Study	Dr. Edward Marcantonio	BIDMC
Statin and other Lipid Lowering agents in the Primary Prevention of Cardiovascular Disease and Frailty. Focus on Cardiovascular Disease and Frailty.	Epidemiologic Study	Dr. Ariela Orkaby	VA Boston Healthcare System (VABHS)/BWH
Integration of Geriatric Measures Alongside Disease-Based Measures to Advance Precision Oncology	Epidemiologic Study	Dr. Clark Dumontier	HSL/BIDMC
Geriatric Medical Education in Internal Medicine Residency	Medical Education Study	Dr. Julia Loewenthal	Brigham and Women's Hospital (BWH) Osher Center
Leucine-Rich Repeat Kinase 2 (LRRK2) Activity Modulates Rab-GTPase Phosphorylation in Genetic Mouse Models of Parkinson's Disease	Bench Research	Dr. Jie Shen	BWH
Use of life logging devices to capture and review everyday events and rehabilitate memory in older adults and those with AD. EEG as a biomarker of Alzheimer's disease and impact on clinical care.	Clinical Research and epidemiologic research	Dr. Katherine Turk	BU Medical Center (BUMC)
Accuracy of Natural Language Processing Methods to Detect Emergency Department Patients' Values and Preferences for End-of-Life Care in Medical Records	Validation Study/Qualitative Research	Dr. Kei Ouchi	BWH
Implementation of Geriatrician-Managed Inpatient Zoledronic Acid for Post-Hip Fracture Patients at BIDMC	Clinical Research	Dr. Sarah Berry	HSL/BIDMC

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Machine learning using echocardiographic variables to distinguish unique phenotypes of biologic and chronologic age (cardiology and aging).	Validation Study	Dr. Jordan Strom	BIDMC
Sex differences on the Boston Remote Assessment for Neurocognitive Health (BRANCH) among older adults and those with preclinical Alzheimer's disease. Characterizing the evolution of Subjective Cognitive Decline in preclinical Alzheimer's disease	Epidemiologic Study	Dr. Rebecca Amariglio	BWH
(1) Geriatrics Education, focused on evaluating the new Harvard Medical School Aging and End of Life Theme which she co-directs and (2) Geriatrics Clinical Innovation, focused on implementing and evaluating the Age Friendly Health Systems initiative.	Medical Education Study	Dr. Andrea Schwartz	HMS/ VABHS
A Scoping Review of Dementia Interventions in Home-Based Primary Care. Chronic Pain Management in Older Adults.	Review	Dr. Christine Ritchie	Massachusetts General Hospital (MGH)
Assessing Frailty-Specific Treatment Effect in Cardiovascular Disease: Progress and Pitfalls. Frailty as an indicator of prognosis after Cardiovascular Interventions	Review	Dr. Dae Kim	BIDMC
Refinement of ED GOAL for patients with cognitive impairment	Qualitative Study	Dr. Kei Ouchi	BWH
A crosswalk among frailty measures in the National Health and Aging Trends Study	Epidemiologic Study	Dr. Dae Kim	HSL/BWH
Goals of Care Documentation in Clinical Notes of Older Adults with Advanced Cancer	Observational Study	Dr. Charlotta Lindvall	DFCI
CRESCENT Implementation- Assessing the Experience of Dementia Care Managers	Qualitative Study	Dr. Christine Ritchie	MGH
Cardiac Markers of Frailty, Echocardiographic Phenomapping to Distinguish Unique Phenotypes of Frailty	Epidemiologic Study	Dr. Jordan Strom	BIDMC
Provider Perspectives on Safer Opioid Prescribing Guidelines	Qualitative Study	Dr. Vassiliki Pravodelov	BUMC
Higher abdominal adiposity is associated with decreased lean muscle mass and muscle strength in men and women: The Framingham Study	Epidemiologic Study	Dr. Shivani Sahni	HSL

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Preoperative Cognitive Function and Risk of Poor Outcome for Older Adults Undergoing Aortic Valve Replacement	Epidemiologic Study	Dr. Dae Kim	BIDMC
Developing an Algorithm to Classify Injurious Falls Using ICD-10 Claims Codes	Validation Study	Dr. Sarah Berry	HSL
Gait Speed and Cognitive Impairment are Predictive of Outcomes in Elderly Males With Implantable Cardio-defibrillators	Epidemiologic Study	Dr. Ariela Orkaby	VABHS/BWH
Social Vulnerability, Frailty, and Preventable Hospitalizations of Older Adults	Epidemiologic Study	Dr. Laura Frain	BWH
The Association between Serious Illness Conversations and Long-term Prognosis of Older Adults who Survive Mechanical Ventilation in the ICU	Epidemiologic Study	Dr. Kei Ouchi	BWH
The impact of frailty in the effectiveness of cardioverter-defibrillators for the prevention of sudden cardiac death (SCD) in older patients	Systematic Review	Dr. Ariela Orkaby	VABHS/BWH
Comparative Efficiency of Four Strategies for Delirium Screening	Screening Study	Dr. Edward Marcantonio	HSL /BIDMC
Implementation of Supportive Transition of Care Program for Veterans with Serious Illness	Clinical Research	Dr. Jane A. Driver	VABHS
Frailty Index for the Identification of High-Risk Geriatric Patients with Hip Fracture	Clinical Research	Dr. Houman Javedan	BWH
FRAIL Questionnaire Screening Tool and Short-term Outcomes in Geriatric Fracture Patients	Clinical Research	Dr. Houman Javedan	BWH
The Minimum Data Set Falls Short on Capturing Falls	Validation Study	Dr. Sarah Berry	HSL/BIDMC
Feasibility of Quality Improvement for Depression Treatment in Medical Home Care: Findings from the Making Real Progress in Emotional Health Project	Pilot Study/Clinical Research	Dr. Eran Metzger	HSL
DASH Diet and Risk of Abdominal Aortic Aneurysm in the Physicians' Health Study	Epidemiologic Study	Dr. Luc Djousse	BWH
The clinical and economic benefits of C-Trac: Nurse Driven Telephone-Based Transitional Care at VA Boston	Clinical Research	Dr. Jane A. Driver	VABHS/BWH

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Assessing Gait Speed in the Clinic - another vital sign	Clinical Research	Dr. Ariela Orkaby	VABHS/BWH
Diagnosing Delirium Superimposed on Dementia	Epidemiologic Study	Dr. Edward Marcantonio	HSL/BIDMC
The Impact of Social Vulnerability on Readmission of Hospitalized Older Patients	Epidemiologic Study	Dr. Houman Javedan	BWH
Comparison of Simple Frailty Assessments in Predicting Poor Outcomes after Aortic Valve Replacement	Epidemiologic Study	Dr. Dae Kim	BIDMC
Association of Mediterranean Diet and High Intake of Carotenoids with Frailty – Results from the Framingham Offspring Study	Epidemiologic Study	Dr. Shivani Sahni	HSL
Comprehensive Geriatric Assessment-Based Frailty Index and Outcomes of Thoracic Cancer Surgery	Epidemiologic Study	Dr. Laura Frain	BWH
Nursing Intervention to Facilitate Advanced Care Planning for Older Patients in the Emergency Department	Qualitative Study	Dr. Kei Ouchi	BWH
Association of Nut Consumption and Carotid Atherosclerosis in the NHLBI Family Heart Study	Epidemiologic Study	Dr. Luc Djousse	BWH
Predicting Delirium: Developing an Inflammatory Index Score to Assess Risk of Postoperative Delirium in Older Patients	Epidemiologic Study	Dr. Edward Marcantonio	HSL/BIDMC
An Advance Care Planning Nursing Home Intervention in Response to COVID-19	Clinical Research	Dr. Sarah Berry	HSL
Developing and Understanding the Role of a Serious Illness Care Community of Practice through Quality Improvement Surveys	Qualitative Study	Dr. Rachelle Bernacki	DFCI
The Effect of Multimorbidity on Short-term Improvement after Percutaneous Coronary Intervention	Epidemiologic Study	Dr. Jordan Strom	BIDMC