# 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](https://www.afar.org/research/funding/mstar/)

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 (**6/4/2024 - 7/17/2024**). 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](https://www.brighamandwomens.org/medicine/division-of-aging/for-medical-professionals) website.

Complete applications (**General Application Form** and **Home Institution Faculty Sponsor Form)** may be submitted between **October 30, 2023, and January 19, 2024, at 5:00 p.m., ET. The application should be sent as a single PDF file and will be reviewed upon receipt. Each applicant will receive a decision no later than January 31, 2024.**

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. Completed application (**Partner Institution Application Form** and **Partner Institution Faculty Sponsor Form**) may be submitted between **October 30, 2023, and January 19, 2024, at 5:00 p.m., ET. The application should be sent as a single PDF file and will be reviewed upon receipt. Each applicant will receive a decision no later than January 31, 2024.**

All applicants can send any questions about the application process to Leslie Power, [BostonMSTAR@bwh.harvard.edu](mailto: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. As the payments must be processed through Mass General Brigham, they are usually distributed about three weeks **after** an individual officially starts the program in the summer and all required onboarding protocols have been completed. The stipend last year was approximately $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** inSection 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](https://connects.catalyst.harvard.edu/profiles/search/people) you can perform a keyword search by name or topic.

Research Mentors and Projects (Summer 2016 through Summer 2023) and Potential Mentors, some mentors are listed more than once. Please note that mentor availability and projects vary from summer to summer. \*Indicates pre-requisites for working with a mentor. \*\*Indicates a mentor that is only available to work with if you are a student studying at that partner institution.

| **Projects** | **Project Type** | **Mentor** | **Institution** |
| --- | --- | --- | --- |
| Biological Age and Atrial Fibrillation in the Physicians’ Health Study | Epidemiologic Study | [Dr. Alexandre Pereira](https://connects.catalyst.harvard.edu/Profiles/display/Person/143023) | Mass General Brigham |
| Blank Slate: Spaced Repetition for Autobiographical Memory Retrieval in AD | Pilot Clinical Intervention with iPhone App | [Dr. Katherine Turk](https://www.bumc.bu.edu/neurology/profile/katherine-turk-md/) | VA Boston/BUMC |
| Refinement of the Time Limited Trial Conversation Guide for Critically Ill Older Adults in the Emergency Department | Creation and refinement of a Clinical Tool | [Dr. Kei Ouchi](https://connects.catalyst.harvard.edu/Profiles/display/Person/125411) | Mass General Brigham |
| Perspectives on Deprescribing and Osteoporosis Treatment from Skilled Nursing Facility (SNF) Providers | Qualitative Study | [Dr. Sarah Berry](https://connects.catalyst.harvard.edu/Profiles/display/Person/83697) | Hebrew Senior Life (HSL)/Beth Israel Deaconess Medical |
| Multicomponent Frailty Intervention in the Setting of a Skilled Nursing Facility During Post-Acute Rehabilitation | Pilot Intervention Study | [Dr. Sandra Shi](https://connects.catalyst.harvard.edu/Profiles/display/Person/161776) | Hebrew Senior Life (HSL)/Beth Israel Deaconess Medical |
| Delirium Prediction from EHR Free Text | Predictive Modeling for Delirium Assessment \*Programming experience required | [Dr. Charlotta Lindvall](https://connects.catalyst.harvard.edu/Profiles/display/Person/118894) | Dana Farber Cancer Institute |
| The Association of Physical Function with Incident Dementia in Older Adults:  The ARIC Study | Epidemiologic Study | [Dr. Kevin Sullivan, Dr. B. Gwen Windham, Dr. Michael Griswold](https://www.umc.edu/mindcenter/Research/Our-Research-Team.html) | University of Mississippi Medical Center \*\* |
| Association of Kidney Function with Cognitive Function in an African American Sample | Epidemiologic Study | [Dr. Kevin Sullivan, Dr. B. Gwen Windham, Dr. Michael Griswold](https://www.umc.edu/mindcenter/Research/Our-Research-Team.html) | University of Mississippi Medical Center\*\* |
| Medical Education on Carceral Health | Systematic Review | [Dr. Nicole Mushero](https://www.bumc.bu.edu/camed/profile/nicole-mushero/) | BUMC\*\* |
| A National Faculty Survey of Geriatrics Education in Medical School. | Survey | [Dr. Catherine Dawson](https://www.bumc.bu.edu/medicine/profile/catherine-dawson/) | VA Boston Medical Center |
| Machine learning using echocardiographic variables to distinguish unique phenotypes of biologic and chronologic age (cardiology and aging). | Validation Study  \*Some programing/data analysis experience required | [Dr. Jordan Strom](https://connects.catalyst.harvard.edu/Profiles/display/Person/21860) | BIDMC |
| 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](https://connects.catalyst.harvard.edu/Profiles/display/Person/161776) | 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](https://connects.catalyst.harvard.edu/Profiles/display/Person/46317) | HSL |
| Predictors of Disagreement between Brief App-Directed Clinician and Reference Standard Delirium Assessments. Focus on Delirium Assessment. | Prediction Study | [Dr. Edward Marcantonio](https://connects.catalyst.harvard.edu/Profiles/display/Person/3871) | 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](https://connects.catalyst.harvard.edu/Profiles/display/Person/120412) | VA Boston Healthcare System (VABHS)/BWH |
| Integration of Geriatric Measures Alongside Disease-Based Measures to Advance Precision Oncology | Epidemiologic Study | [Dr. Clark DuMontier](https://connects.catalyst.harvard.edu/Profiles/display/Person/161791) | HSL/BIDMC |
| Geriatric Medical Education in Internal Medicine Residency | Medical Education Study | [Dr. Julia Loewenthal](https://connects.catalyst.harvard.edu/Profiles/display/Person/139278) | 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  \*Work with Dr. Shen requires relevant bench research experience | [Dr. Jie Shen](https://connects.catalyst.harvard.edu/Profiles/display/Person/10458) | 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](https://www.bumc.bu.edu/neurology/profile/katherine-turk-md/) | 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](https://connects.catalyst.harvard.edu/Profiles/display/Person/125411) | BWH |
| Implementation of Geriatrician-Managed Inpatient Zoledronic Acid for Post-Hip Fracture Patients at BIDMC | Clinical Research | [Dr. Sarah Berry](https://connects.catalyst.harvard.edu/Profiles/display/Person/83697) | HSL/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](https://connects.catalyst.harvard.edu/Profiles/display/Person/29686) | 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](https://connects.catalyst.harvard.edu/Profiles/display/Person/100099) | HMS/ VABHS |
| A Scoping Review of Dementia Interventions in Home-Based Primary Care. Chronic Pain Management in Older Adults. | Review | [Dr. Christine Ritchie](https://connects.catalyst.harvard.edu/Profiles/display/Person/28801) | 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](https://connects.catalyst.harvard.edu/Profiles/display/Person/60119) | BIDMC |
| Refinement of ED GOAL for patients with cognitive impairment | Qualitative Study | [Dr. Kei Ouchi](https://connects.catalyst.harvard.edu/Profiles/display/Person/125411) | BWH |
| A crosswalk among frailty measures in the National Health and Aging Trends Study | Epidemiologic Study | [Dr. Dae Kim](https://connects.catalyst.harvard.edu/Profiles/display/Person/60119) | HSL/BWH |
| Goals of Care Documentation in Clinical Notes of Older Adults with Advanced Cancer | Observational Study  \*Programming experience required | [Dr. Charlotta Lindvall](https://connects.catalyst.harvard.edu/Profiles/display/Person/118894) | DFCI |
| CRESCENT Implementation- Assessing the Experience of Dementia Care Managers | Qualitative Study | [Dr. Christine Ritchie](https://connects.catalyst.harvard.edu/Profiles/display/Person/28801) | MGH |
| Cardiac Markers of Frailty, Echocardiographic Phenomapping to Distinguish Unique Phenotypes of Frailty | Epidemiologic Study  \*Some programing/data analysis experience required | [Dr. Jordan Strom](https://connects.catalyst.harvard.edu/Profiles/display/Person/21860) | BIDMC |
| Provider Perspectives on Safer Opioid Prescribing Guidelines | Qualitative Study | [Dr. Vassiliki Pravodelov](https://profiles.bu.edu/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](https://connects.catalyst.harvard.edu/Profiles/display/Person/46317) | HSL |
| Preoperative Cognitive Function and Risk of Poor Outcome for Older Adults Undergoing Aortic Valve Replacement | Epidemiologic Study | [Dr. Dae Kim](https://connects.catalyst.harvard.edu/Profiles/display/Person/60119) | BIDMC |
| Developing an Algorithm to Classify Injurious Falls Using ICD-10 Claims Codes | Validation Study | [Dr. Sarah Berry](https://connects.catalyst.harvard.edu/Profiles/display/Person/83697) | HSL |
| Gait Speed and Cognitive Impairment are Predictive of Outcomes in Elderly Males with Implantable Cardio-defibrillators | Epidemiologic Study | [Dr. Ariela Orkaby](https://connects.catalyst.harvard.edu/Profiles/display/Person/120412) | VABHS/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](https://connects.catalyst.harvard.edu/Profiles/display/Person/125411) | 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](https://connects.catalyst.harvard.edu/Profiles/display/Person/120412) | VABHS/BWH |
| Comparative Efficiency of Four Strategies for Delirium Screening | Screening Study | [Dr. Edward Marcantonio](https://connects.catalyst.harvard.edu/Profiles/display/Person/3871) | HSL /BIDMC |
| Implementation of Supportive Transition of Care Program for Veterans with Serious Illness | Clinical Research | [Dr. Jane A. Driver](https://connects.catalyst.harvard.edu/Profiles/display/Person/64511) | VABHS |
| The Minimum Data Set Falls Short on  Capturing Falls | Validation Study | [Dr. Sarah Berry](https://connects.catalyst.harvard.edu/Profiles/display/Person/83697) | HSL/BIDMC |
| DASH Diet and Risk of Abdominal  Aortic Aneurysm in the Physicians' Health Study | Epidemiologic Study | [Dr. Luc Djousse](https://connects.catalyst.harvard.edu/Profiles/display/Person/21551) | BWH |
| The clinical and economic benefits of C-Trac: Nurse Driven Telephone-  Based Transitional Care at VA Boston | Clinical Research | [Dr. Jane A. Driver](https://connects.catalyst.harvard.edu/Profiles/display/Person/64511) | VABHS/BWH |
| Assessing Gait Speed in the Clinic - another vital sign | Clinical Research | [Dr. Ariela Orkaby](https://connects.catalyst.harvard.edu/Profiles/display/Person/120412) | VABHS/BWH |
| Diagnosing Delirium Superimposed  on Dementia | Epidemiologic Study | [Dr. Edward Marcantonio](https://connects.catalyst.harvard.edu/Profiles/display/Person/3871) | HSL/BIDMC |
| The Impact of Social Vulnerability on Readmission of Hospitalized Older  Patients | Epidemiologic Study | [Dr. Houman Javedan](https://connects.catalyst.harvard.edu/Profiles/display/Person/32748) | BWH |
| Comparison of Simple Frailty Assessments in Predicting Poor Outcomes after Aortic Valve Replacement | Epidemiologic Study | [Dr. Dae Kim](https://connects.catalyst.harvard.edu/Profiles/display/Person/60119) | BIDMC |
| Association of Mediterranean Diet and High Intake of Carotenoids with Frailty – Results from the Framingham Offspring Study | Epidemiologic Study | [Dr. Shivani Sahni](https://connects.catalyst.harvard.edu/Profiles/display/Person/46317) | HSL |
| Nursing Intervention to Facilitate Advanced Care Planning for Older Patients in the Emergency Department | Qualitative Study | [Dr. Kei Ouchi](https://connects.catalyst.harvard.edu/Profiles/display/Person/125411) | BWH |
| Association of Nut Consumption and Carotid Atherosclerosis in the NHLBI Family Heart Study | Epidemiologic Study | [Dr. Luc Djousse](https://connects.catalyst.harvard.edu/Profiles/display/Person/21551) | BWH |
| Predicting Delirium: Developing an Inflammatory Index Score to Assess Risk of Postoperative Delirium in Older Patients | Epidemiologic Study | [Dr. Edward Marcantonio](https://connects.catalyst.harvard.edu/Profiles/display/Person/3871) | HSL/BIDMC |
| An Advance Care Planning Nursing Home Intervention in Response to COVID-19 | Clinical Research | [Dr. Sarah Berry](https://connects.catalyst.harvard.edu/Profiles/display/Person/83697) | HSL |
| Developing and Understanding the Role of a Serious Illness Care Community of Practice through Quality Improvement Surveys | Qualitative Study | [Dr. Rachelle Bernacki](https://connects.catalyst.harvard.edu/Profiles/display/Person/18742) | DFCI |
| The Effect of Multimorbidity on Short-term Improvement after Percutaneous Coronary Intervention | Epidemiologic Study  \*Some programing/data analysis experience required | [Dr. Jordan Strom](https://connects.catalyst.harvard.edu/Profiles/display/Person/21860) | BIDMC |
| Cardiovascular Disease Epidemiology and Frailty | Epidemiologic Study | [Dr. Darae Ko](https://www.marcusinstituteforaging.org/who-we-are/profiles/darae-ko-md-msc) | HSL |