MEDICAL STUDENT TRAINING IN AGING RESEARCH (MSTAR) PROGRAM

Rainier P. Soriano, MD
Melissa Aldridge, MBA, PhD

TUESDAY, NOVEMBER 17, 2020
MSTAR at Icahn School of Medicine at Mount Sinai

• Established in 1994
  • Provides medical students, with an enriching experience in aging-related research and geriatrics, under the mentorship of top experts in the field.

• Students participate in a 12-week structured research, clinical, and didactic program in aging.
  • Students may train at a National Training Center supported by the National Institute on Aging.
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• Major Sponsor:
  • The National Institute on Aging (NIA)

• Administered by:
  • The American Federation for Aging Research (AFAR)
  • The National Institute on Aging (NIA)
MSTAR National Training Sites

National Training Centers (NTCs) and Partner Sites

• Harvard Medical School (Boston University, University of Massachusetts, University of Mississippi, Brown University)
• Johns Hopkins University
• New York University
• UCLA (UCSF and University of Washington)
• UC San Diego
• University of North Carolina at Chapel Hill
• Program for Aging Research in the Summer (PARIS) at Augusta University (Universidad Central del Caribe, Ponce Health Sciences University, San Juan Bautista School of Medicine)
MSTAR National Training Sites

• National Training Centers and Partner Sites
  • Selected applicants are notified of their training site assignment prior to their acceptance of the award.
  • Accepted scholars work with their training site directors and research mentors to design an individualized research project and training program.
  • Due to NIA restrictions, individuals holding PhD, MD, DVM, or equivalent doctoral degrees in the health sciences are NOT ELIGIBLE to apply to do the MSTAR Program at a National Training Center
MSTAR National Training Sites

• National Training Centers and Partner Sites
  • Additionally, applicants receiving a stipend or salary support from a federal source are not eligible for this program.
  • Applicants may NOT hold another award or participate in another program concurrently with the MSTAR program
  • Must participate in the program full-time for 8 weeks
  • Stipend of $4,220 for 8 weeks
• Deadline: Set by individual NTCs
• Applicants will be notified of their application decision in March 2021
MSTAR at Icahn School of Medicine at Mount Sinai

• Formalized in 2000
• 245 medical students from 10 different medical schools
  • 103 peer-reviewed publications (58 1st authorship)
  • Over 300 competitive poster presentations
• For the last 10 years
  • 18 oral paper sessions at national meetings
  • 12 national student awards
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• GOALS:
  • Develop basic knowledge and skills required for aging and palliative medicine research
  • Foster the application of geriatric and palliative medicine principles in the care of older adults and those living with chronic illnesses and/or at the end of their lives, in whatever field in the future
  • Stimulate interest in a career in academic geriatrics and palliative medicine
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Participation in aging and palliative medicine research initiatives with established and successful research investigators

Development of formal mentoring relationships with leading research mentors in the field of aging and palliative medicine

Development and implementation of individual learning and research contracts

Participation in structured seminar series on basic research methodology and study design

Exposure to various clinical sites and aspects of geriatric and palliative medicine care
Research and Learning Activities

- Formal Mentorship in Research Work with Faculty Mentors
- Research Methods, Leadership Training Sessions and Future Careers Workshops
- Peer-to-Peer (P2P) Mentoring and Support
- Nested Clinical Exposures

MSTAR Student Trainee
## MSTAR Research Methodology Training Series

<table>
<thead>
<tr>
<th>Topic/Description</th>
<th>Seminar Leader</th>
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<tbody>
<tr>
<td><strong>The Basic Ingredients: Formulating Research Questions and Hypotheses</strong></td>
<td>Melissa Aldridge, PhD</td>
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<tr>
<td>Students’ oral presentation of their research question and 2-3 sentence background and significance</td>
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<tr>
<td><strong>Study Design: Observational versus Experimental Research</strong></td>
<td>Melissa Aldridge, PhD</td>
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<tr>
<td>Students’ discuss their choice of study design including limitations and challenges</td>
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<tr>
<td><strong>Measurement Approaches: Precision and Accuracy</strong></td>
<td>Melissa Aldridge, PhD</td>
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<tr>
<td>Students describe their measurement approach for dependent and independent variables and alternative strategies</td>
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<tr>
<td><strong>Enhancing Causal Inference in Observational Studies</strong></td>
<td>Melissa Aldridge, PhD</td>
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<tr>
<td>Students discuss methods they are using to enhance causal inference, if applicable, followed by group discussion of recent publications employing methods to enhance cause inference</td>
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<tr>
<td><strong>Sample Size and Power: Application and Examples</strong></td>
<td>Melissa Aldridge, PhD</td>
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<td>Students estimate the power of their primary analyses, if applicable, and describe the trade-offs inherent in increasing power</td>
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<tr>
<td><strong>Qualitative and Mixed Methods Research</strong></td>
<td>Melissa Aldridge, PhD</td>
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<tr>
<td>Students discuss ways in which their research was informed by or could be strengthened by a qualitative research approach</td>
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<tr>
<td><strong>Trainee Oral Presentation Practice Session</strong></td>
<td>Rainier Soriano, MD / Melissa Aldridge, PhD</td>
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<tr>
<td>All students attend both practice sessions to provide feedback and learn for their peers.</td>
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<tr>
<td><strong>Trainee Oral Presentation to the Department of Geriatrics and Palliative Medicine</strong></td>
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# MSTAR Research Career & Leadership Skills Development Workshops

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<thead>
<tr>
<th>Topic/Description</th>
<th>Workshop Leader(s)</th>
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<tbody>
<tr>
<td><strong>The Next Generation of Geriatric and Palliative Medicine Researchers</strong></td>
<td>R. Sean Morrison, M.D., Department Chair and Director, National Palliative Care Research Center</td>
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<tr>
<td>An overview presentation of the current state of aging and palliative care research in the US and the roles of the trainees in its future.</td>
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<tr>
<td><strong>Geriatric Palliative Care: Transforming the Care of Serious Illness</strong></td>
<td>Diane Meier, M.D. Director of the Center to Advance Palliative Care</td>
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<tr>
<td>Presentation on the evolution of palliative care in the US and the expansion of the field to various aspects of health care.</td>
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<tr>
<td><strong>Understanding the Institutional Review Board</strong></td>
<td>Mary Rojas, M.D., Director, MSRO</td>
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<td>Presentation of the history of the IRB and its role in maintaining the safety of research trainees and integrity and ethics of the research process.</td>
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<tr>
<td><strong>Research Ethics</strong></td>
<td>Nada Gligorov, PhD and Paul Cummins, PhD, Department of Bioethics</td>
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<td>The historical context of ethics in research will be presented. Trainees will also be able to learn an approach how to make decisions and to act ethically in various situations in the conduct of research.</td>
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<td><strong>Basics of Basic Science Research</strong></td>
<td>Charles Mobbs, M.D. Basic science and translational research track leader</td>
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<tr>
<td>An interactive session by the research track lead that will both describe research careers within the track and include a walk-through of clinical settings for aging research within the Mount Sinai Health System</td>
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<tr>
<td><strong>Clinician-Scientist</strong></td>
<td>Nathan Goldstein, M.D. Clinical research track leader</td>
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<td>This will be an interactive session by the research track lead that will both describe research careers within the track and include a walk-through of clinical settings for aging research within the Mount Sinai Health System</td>
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<tr>
<td><strong>Understanding Your Leadership Style</strong></td>
<td>Helen Fernandez, MD, Fellowship Program Director</td>
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<td>Active learning focused on identifying and comparing different leadership Style using the DISC assessment with an opportunity to critique and reflect on trainees’ styles</td>
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<tr>
<td><strong>A Career in Health Services Research</strong></td>
<td>Claire Ankuda, M.D. Health services research track leader</td>
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<tr>
<td><strong>How to Write an Abstract</strong></td>
<td>Rainier Soriano, M.D.</td>
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<td>Trainees will review effective abstract templates and craft their research abstracts</td>
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<tr>
<td><strong>A Guide to Research Podium Presentations</strong></td>
<td>Rainier Soriano, M.D.</td>
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<td>Review of effective communication skills and delivery techniques for research podium presentations</td>
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# Sample MSTAR Trainee Schedule

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<thead>
<tr>
<th>Week</th>
<th>Mon</th>
<th>Tue</th>
<th>Wed</th>
<th>Thu</th>
<th>Fri</th>
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<tbody>
<tr>
<td><strong>First Week</strong></td>
<td>Introduction to MSTAR Program Trainees, Faculty Mentors and Near-Peer Mentors</td>
<td>AM: Research Methodology Seminar Series Career and Leadership Workshops</td>
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<td>Research Work</td>
<td>Mentoring Sessions</td>
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<td></td>
<td></td>
<td>PM: Research Work</td>
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<tr>
<td><strong>Week 2 to Weeks 7 or 11</strong></td>
<td>Research Work Mentoring Sessions</td>
<td>AM: Research Methodology Seminar Series Career and Leadership Workshops</td>
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<td>Research Work</td>
<td>Mentoring Sessions</td>
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<td></td>
<td></td>
<td>PM: Research Work</td>
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<tr>
<td><strong>Last Week</strong></td>
<td>Presentation Prep</td>
<td>MSTAR Program Podium Presentations and Poster Sessions</td>
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<td>Research Work</td>
<td>Mentoring Sessions</td>
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<td>Individual Exit Interviews</td>
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Project Administrative Structure

MSTAR Program Leadership*
Rainier P. Soriano, MD and Melissa Aldridge, PhD
Katelyn Ferreira, MPH – Program Manager

Advisory Committee*

Research Track Leaders*
- Health Services, Clinical and Basic Science/Translational Tracks

MSTAR Research Mentors

MSTAR Student Trainees

P2P Student Mentors

* Program Selection Committee
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• **Specifics:**
  • A stipend of approximately $5,500 is provided.
  • All students enrolled in U.S. allopathic or osteopathic medical schools can apply, provided they are U.S. citizens or permanent residents.
  • Applicants must have a faculty sponsor from their home institution (non-ISMMS) or a Faculty Reference (ISMMS)
  • Also require a Research Mentor at ISMMS
  • Scholars are selected based on their:
    • Academic excellence
    • Interest in aging and geriatrics
    • Potential for future achievement and leadership.
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• Specifics:
  • Applicants may NOT hold another award or participate in another program concurrently with the MSTAR program
  • Must participate in the program full-time for at least 10 of the 12 weeks.

• Deadline: Monday, February 1, 2021 at 5PM EST
• Applicants will be notified of their application decision on Friday, March 19, 2021.
MSTAR Program Timeline – Non-ISMMS

- **Call for applications to MSTAR Program at ISMMS**
  - **Nov**
  - Applications due
  - Selection Committee meets and chooses trainee candidates

- **MSTAR Scholars selected**
  - **Feb**
  - Track Leaders facilitate trainee and mentor meetings to determine interests and potential research projects
  - Trainee track and project selection

- **Selection Committee approves trainee mentors and research projects**
  - **Mar** - **May**
  - Research project pre-start up period (IRB submissions)

- **MSTAR Program officially commences**
  - **June–Aug**
  - MSTAR Program officially commences
  - Assessment of learning contract progress
  - Final presentations and abstract preparation for conference submissions
Call for applications to MSTAR Program at ISMMS

Dec-Jan

Track Leaders facilitate trainee and mentor meetings to determine interests and potential research projects

Feb

Applications due

Selection Committee meets and chooses trainee candidates
MSTAR Scholars are selected

Mar

Apr – June

Research project pre-start up period (IRB submissions)

July – Aug

MSTAR Program officially commences
Assessment of learning contract progress
Final presentations and abstract preparation for conference submissions
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Short Term Expectations:

• Research Methodology Series and Workshops
  • July 7 to August 20, 2021
• Research Presentations
  • Thursday, August 12, 2021
• ISMMS Student Research Day
  • March 2022
• Annual Meeting of the American Geriatrics Society (AGS) in Orlando, FL
  • May 12 -14, 2022
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Next Steps:

• Find a Research Mentor
  • MSTAR Research Abstract Book
  • 2021 MSTAR Research Mentors List
  • ISMMS Mentor Database
• If you already have a potential research mentor, then ask if the research area qualifies for MSTAR
• Review the Application Form
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<thead>
<tr>
<th>ISMMS Student Applicant</th>
<th>Application form</th>
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<tr>
<td></td>
<td>Personal Statement</td>
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<td>Research Plan</td>
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<td>Faculty Sponsor form</td>
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<td>Research Mentor Biosketch (if NOT in the Department of Geriatrics and Palliative Medicine)</td>
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<tr>
<td>Personal Statement</td>
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<td>Research Topic and Interests</td>
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<tr>
<td>Faculty (Home Institution) Sponsor form</td>
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<td>Faculty (Home Institution) NIH-style Biosketch</td>
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<td>Research Mentor Biosketch (if NOT in the Department of Geriatrics and Palliative Medicine)</td>
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MSTAR at Icahn School of Medicine at Mount Sinai

- MSTAR Abstract Book
- MSTAR Mentors List
- MSTAR Application