

Master of Science in Clinical Research

The Master of Science in Clinical Research (MSCR) degree program, in the Laney Graduate School at Emory University, provides innovative didactic and mentored research training to those interested in pursuing a career in clinical and/or translational research.



NIH-FUNDED CLINICAL AND TRANSLATIONAL SCIENCE AWARD
GEORGIA CLINICAL & TRANSLATIONAL SCIENCE ALLIANCE (GEORGIA CTSA)



Master of Science in Clinical Research

In order to achieve excellence in the 21st century, investigators undertaking clinical and translational research must couple their knowledge of medicine and biology with analytic sciences including statistical reasoning, decision analysis, probability theory, analytical epidemiology, and informatics. They must also have an understanding of the principles of evidence-based medicine, implementation science, bioethics, clinical trial design, regulations involving human subjects and animals, scientific and grant writing, and responsible conduct of research.

The Master of Science in Clinical Research (MSCR) degree program from the Emory University Laney Graduate School provides didactic and mentored clinical and translational research training to predoctoral (medical students, PhD students, or PharmD students), postdoctoral (resident and fellow physicians), and junior faculty members (physicians, PhD-level scientists, or PharmDs) from Emory University, Morehouse School of Medicine, Georgia Institute of Technology, and the University of Georgia.

Applicants not requesting Georgia Clinical & Translational Science Alliance (Georgia CTSA) financing support (e.g., predoctoral and postdoctoral trainees supported by NIH T32 training grants or other mechanisms) should apply directly to the Emory MSCR program or MSM MSCR program:

GeorgiaCTSA.org/training/MSCR.html

Applicants requesting financial support from the NIH-funded Georgia CTSA should apply through either the TL1 or KL2 mechanisms:

TL1 website: GeorgiaCTSA.org/training/tl1/

KL2 website: GeorgiaCTSA.org/training/kl2/

The MSCR requires a minimum of 30 academic credit hours, which include classes, a research thesis, and a written grant proposal. Full-time students complete two semesters of class work in the first year. The summer and second year consist of completing the grant writing product and a master's thesis.

Mentoring is by an established and successful federally funded clinical and translational investigator.

On the cover: Anna Woodbury, MD, assistant professor, Emory University Department of Anesthesiology, evaluates the feasibility of using fMRI as a biomarker in fibromyalgia studies



Casey Cable, MD, former fellow in Emory University Department of Medicine, Division of Pulmonary, Allergy, Critical Care, and Sleep Medicine, with mentor **Greg Martin, MD, MSc**, in the Emory ICU investigating the use of lung protective ventilation in patients with sepsis

MSCR Curriculum

Core Courses (30 minimum credits)

- Introduction to Clinical and Translational Research
- Analytic Methods for Clinical and Translational Research
- Biostatistics
- Data Management
- Community Engagement and Health Disparities
- Clinical Trial Design and Analysis
- Scientific and Grant Writing
- Overview of High Dimensional Data
- Clinical Research Colloquium
- Analysis and Presentation of Clinical Research Data
- Health Services Research
- Ethical, Legal, and Social Issues of Responsible Clinical Research
- Big Data to Knowledge (BD2K) for Clinical and Translational Research

Additional Requirements for the MSCR

- Observe an Institutional Review Board (IRB) meeting
- Clinical and Translational Research Journal Club
- Special Workshops and Lectures
 - Team Science
 - Leadership Training
 - Mentor Training

Elective Courses

- Advanced Data Management in R
- Personalized training, includes courses at any of the Georgia CTSA partner institutions

Emory MSCR: Who Should Apply

The MSCR degree is designed for predoctoral trainees (medical students, PhD students, PharmD students), postdoctoral trainees (physicians, PhD and PharmD scientists), and junior faculty (MD, PhD, or PharmD) at Emory University, Morehouse School of Medicine (MSM), Georgia Institute of Technology (Georgia Tech), and the University of Georgia (UGA) College of Pharmacy who have a commitment to a career in clinical and/or translational research.

MSM-based predoctoral and postdoctoral MSCR candidates apply at MSM to matriculate through MSM's MSCR didactic and mentored research curriculum.

Predocorial trainees from Emory (medical students, MD/PhD students, and PhD graduate students), MSM (medical students, MD/PhD students, and PhD graduate students) Georgia Tech (PhD graduate students), and UGA (PharmD and PhD graduate students in the College of Pharmacy) may apply through the Georgia CTSA TL1 program: GeorgiaCTSA.org/training/tl1/

Predocorial or postdoctoral trainees currently supported by other NIH or federal T-level or F-level training grants are not eligible for the Georgia CTSA TL1 program, but may apply to the MSCR program supported with stipends and tuition costs provided by their specific training grants.



Jessica Shantha, MD, assistant professor, Emory University Department of Ophthalmology, with mentor Steven Yeh, MD, examining a patient at the Emory Eye Center

Postdoctoral trainees from Emory (resident or fellow physicians, PhD postdocs), MSM (resident or fellow physicians, PhD postdocs), Georgia Tech (PhD or equivalent training) and UGA (PharmD, PhD, or equivalent training-College of Pharmacy) may apply through the Georgia CTSA TL1 program: GeorgiaCTSA.org/training/tl1/

MSCR Application Instructions

All application components should be uploaded to an online submission system. Visit GeorgiaCTSA.org/training/MSCR/how-to-apply.html for application instructions.

Components of the application must include:

1. Cover Page
2. Personal Statement
3. NIH-Style Predocorial or Postdoctoral Biosketch
4. NIH-Style Biosketch of Lead Mentor, Co-Mentors, and Advisors
5. Research and Training Plan
6. Human Subjects/Data Safety and Monitoring Plan
7. Literature Citations
8. Letters of Support from Mentors, Division/Program Director, or Dean of Students

Ravi Patel MD, MSc, assistant professor, Pediatrics/Neonatology, Emory School of Medicine, and MSCR graduate and former KL2 scholar in Grady Hospital's neonatal ICU

GEORGIA CTSA RESEARCH EDUCATION EXECUTIVE COMMITTEE

Jessica A. Alvarez, PhD, RD
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Assistant Professor of Medicine, Division of Endocrinology, Metabolism, and Lipids Emory University School of Medicine

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Co-Director, KL2 & TL1 Programs, Georgia Tech

Associate Chair for Innovation and Entrepreneurship and Associate Professor School of Electrical and Computer Engineering Georgia Institute of Technology Adjunct Assistant Professor Department of Rehabilitation Medicine Emory University

Henry M. Blumberg, MD
Director, Georgia CTSA Research Education Program Co-Course Director, Clinical Research Colloquium

Professor of Medicine Division of Infectious Diseases Emory University School of Medicine Professor of Epidemiology and Global Health Emory Rollins School of Public Health

Lou Ann Brown, PhD

Professor of Pediatrics, Division of Neonatal-Perinatal Medicine Director, Office of Postdoctoral Education Emory University School of Medicine

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Mentor Training Director

Associate Professor & Vice Chair for Faculty Development

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Jordan A. Kempker, MD, MSc
Co-Course Director, Introduction to Clinical & Translational Research

Assistant Professor of Medicine Division of Pulmonary, Allergy, Critical Care, and Sleep Medicine Emory University School of Medicine

Matthew Magee, PhD
Co-Course Director, Analytic Methods for Clinical and Translational Research

Associate Professor Hubert Department of Global Health Rollins School of Public Health

Amita Manatunga, PhD
Course Director, Overview of High Dimensional Data, Co-Director, MSCR Thesis Committee

Associate Professor of Surgery and Epidemiology Department of Surgery, Division of Transplantation & Department

Professor, Department of Biostatistics and Bioinformatics Emory Rollins School of Public Health

Greg S. Martin, MD, MSc
Program Director, Georgia CTSA Clinical Research Centers

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Research Education Program Evaluator

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Vasiliki Michopoulos, PhD, MSc

Assistant Professor of Psychiatry and Behavioral Sciences Emory University School of Medicine

Igho Ofotokun, MD, MSc
Co-Director, KL2 Program Co-Course Director, Clinical Research Colloquium Co-Coordinator, MSCR Journal Club

Professor of Medicine Division of Infectious Diseases Emory University School of Medicine

Rachel E. Patzer, PhD, MPH
Co-Director, TL1 Program

Associate Professor of Surgery and Epidemiology Department of Surgery, Division of Transplantation & Department



Successful MSCR graduates focused on HIV-related research and women's health (left to right): Drs. Cecile Lahiri, Igho Ofotokun, Lauren Collins, Caitlin Moran, and Anandi Sheth

of Epidemiology Rollins School of Public Health Director of Health Services Research, Emory Departments of Medicine & Surgery

Douglas F. Paulsen, PhD
Co-Director, TL1 Program, MSM Associate Dean for Graduate Studies Professor of Pathology and Anatomy Morehouse School of Medicine

Alexander Quarshie, MD, MSc
Co-Director, KL2 Program, MSM, Director, MSCR Program, MSM Director, Biomedical Informatics Program Professor of Community Health and Preventive Medicine Morehouse School of Medicine

William M. Shafer, PhD
Professor of Microbiology and Immunology

Emory University School of Medicine Senior Research Career Scientist Atlanta VA Medical Center

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Co-Course Director, Clinical Trial Design Professor of Pediatrics Division of Infectious Diseases Marcus Professor of Hospital Epidemiology and Infection Control Emory University School of Medicine Children's Healthcare of Atlanta

Emory University School of Medicine

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CTSA Clinical & Translational
Science Awards Program



EMORY
UNIVERSITY



MOREHOUSE
SCHOOL OF MEDICINE



**UNIVERSITY OF
GEORGIA**

Further information about the **Georgia Clinical & Translational Science Alliance Research Education Programs** is available online:

GeorgiaCTSA.org/training

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