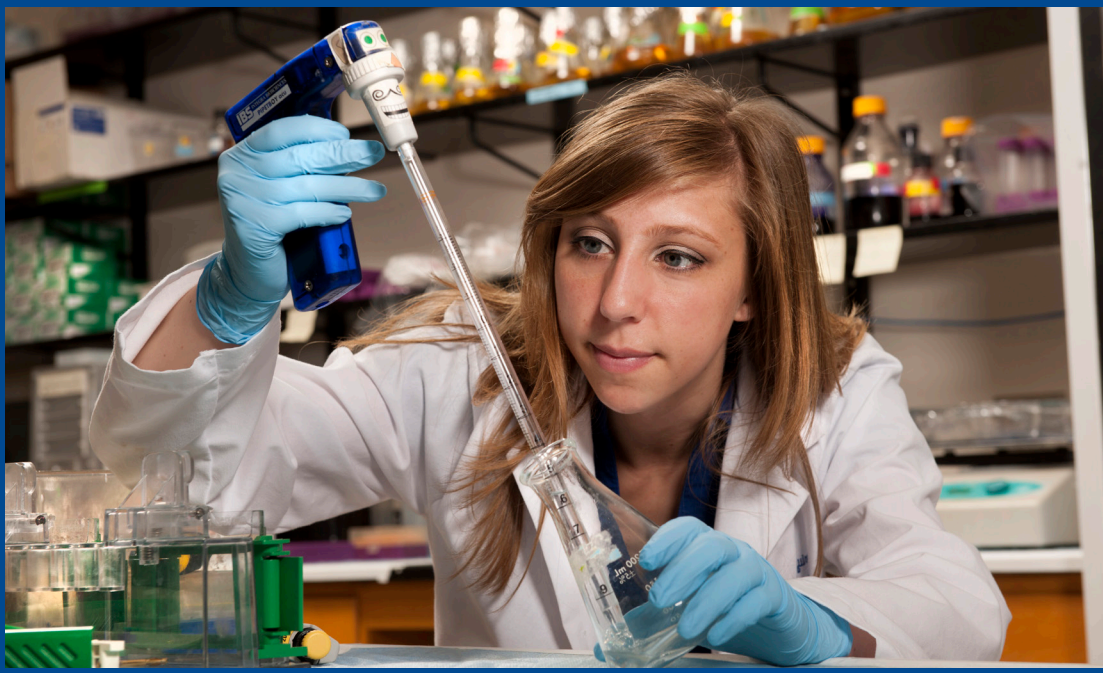
actsi
community • discovery • training

Certificate Program in Translational Research

This innovative and rigorous program gives PhD students, postdocs, and junior faculty members at the Atlanta Clinical & Translational Science Institute (ACTSI)-partner institutions the expertise and experience to translate fundamental biomedical scientific discoveries into treatments that will benefit human health.



NIH-FUNDED CLINICAL AND TRANSLATIONAL SCIENCE AWARD
ATLANTA CLINICAL & TRANSLATIONAL SCIENCE INSTITUTE (ACTSI)

EMORY | LANEY GRADUATE SCHOOL

Certificate Program in Translational Research

The Certificate Program in Translational Research (CPTR) is a multidisciplinary, innovative program which provides predoctoral or postdoctoral trainees with the expertise and experience to translate fundamental biomedical scientific discoveries into treatments that will benefit human health.

The certification program requires 16 credits (14 core and 2 elective credits) of didactic training in the Laney Graduate School of Emory University. The courses are taught by faculty at Emory University, Morehouse School of Medicine, and Georgia Institute of Technology (Georgia Tech).

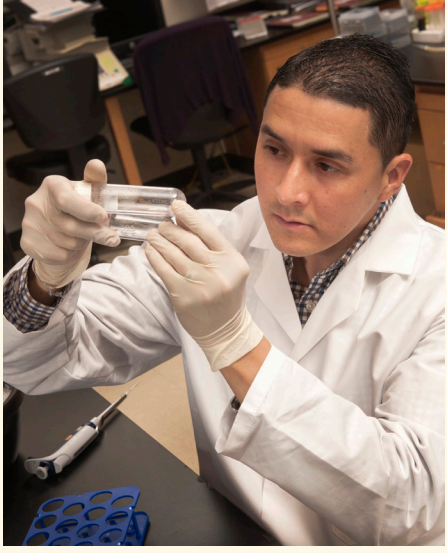
Trainees may take the course work over a single year or spread the work over two years for limited impact on the time required from their laboratory or clinical duties. There are no citizenship requirements.

Course Descriptions

CPTR 501 – Translation to Clinical Medicine (2 credits)
This is a key component of the CPTR program. The goal is to provide the students with a new set of experiences relevant to both their understanding of disease and their research interest(s) and to illuminate the potential impact of high-quality clinical and translational research (CTR) in clinical outcomes of individuals with disease. This course provides students with both didactic and experiential learning. This includes:

1.) Introduction into Clinical Medicine – Initial training and practical experience in common pathophysiologic diseases including exposure to patients and study subjects with disorders involving the cardiac, pulmonary, neurologic, endocrine system, gastrointestinal tract, and to inflammatory or infectious disease conditions;

2.) Individualized Clinical Medicine Rotation – The course instructor meets with each student prior to the course to discuss the student's future research career plans and designs a rotation based on the individual needs of the student. Students are linked with a clinician working in their area (e.g. who may also serve on their mentoring team) and round with a clinical service at Emory teaching facilities (e.g., a student interested in Neuroscience research will round in the Neurology inpatient and consult



teams). The clinical internship can occur either in the inpatient and/or the outpatient setting. Students also have opportunities to observe diagnostic or therapeutic procedures (e.g. imaging, surgery, physical examinations) in tertiary and community-based research sites; understanding and observing state-of-the art, hospital-based, analytical technologies; shadowing additional multidisciplinary inpatient and/or outpatient teams caring for patients with disorders or diseases of interest; and mentored examination of histologic sections of human tissues with clinical investigations faculty of the Emory Clinical Pathology and Laboratory Medicine Department.

MSCR 761 – Introduction to Clinical and Translational Research (CTR) (2 credits) is an introduction to CTR and analytic medicine for clinical/translational investigators. Resources needed for designing and implementing CTR are discussed as well as

translational blocks and methods to overcome these blocks. The course also covers protocol design, hypothesis development, and gathering of evidence, modeling, and statistical inference including Bayesian inference. Other topics include design of clinical trials and observational studies, human subjects issues, special populations, adverse effects, and pharmacokinetics.

CPTR 500 – Fundamentals of Epidemiology (2 credits)
This course introduces the principles and methods of epidemiology; it also includes concepts and methods used for population-based research. Epidemiologic study designs and data collection methods are described as well as approaches to data analyses. The concepts of bias and confounding are explored with examples from the clinical epidemiology literature.

MSCR 593 – Ethical, Legal, and Social Issues of Responsible Clinical and Translational Research (1 credit) examines concepts inherent to the ethical and responsible conduct of CTR and covers a number of important human subjects research training issues. A case-based approach is emphasized. Topics include: overview of ethics and the history of the protection of human subjects; informed consent and vulnerable subjects; development of data and safety monitoring plans and data and safety monitoring board (DSMB) charters, conflicts of interest; IRBs, HIPAA, ethics of genetic testing and gene therapy, and ethical issues in research in the developing world. All students are also required to complete the Emory IRB Human Subjects training program (online course from the Collaborative Institutional Training Initiative [CITI]).

MSCR 594 – Scientific and Grant Writing (2 credits)
This course developed for the MSCR program is focused on developing writing skills for peer-reviewed publications and competitive grants. Effective scientific communication and writing skills are reviewed and discussed as are key aspects of the NIH (and other organizations') grant review process. Each student prepares a grant proposal for extramural funding which is critiqued by the course directors and their mentors. The final product is a grant (e.g., predoctoral NIH National Research Service Award [NRSA]) tailored to the individual student's dissertation research and which may be submitted for funding. Students also meet individually with the course directors including Janet Gross, PhD who provides individualized feedback on the grant preparation in collaboration

with the student's mentoring team.

CPTR 502 – Biostatistics for Translational Research (2 credits)
This course introduces statistical concepts and analytical methods with special attention to data encountered in the biomedical sciences and biotechnology as well as translational research. It emphasizes the basic concepts of study design including clinical trials, quantitative analysis of data, probability, and statistical inferences.

MSCR 591 – Community-based Participatory Research and Health Disparities (1 credit)
This course, developed by the Morehouse School of Medicine and Emory MSCR programs, introduces and emphasizes the concepts of "T2" research. It also incorporates social science and behavior theory concepts in understanding of health disparities and research in this area; principles and historical roots of effective community engagement and partnership in CTR; community and academic perspectives in developing and sustaining collaborative, multidisciplinary research; practical issues in conducting community-based participatory research across the continuum of research including planning, implementation, evaluation, dissemination, and translation; and ethical issues and current community-based participatory research projects at Emory, Morehouse School of Medicine, and the Atlanta-area.

MSCR 592 – Clinical Research Colloquium (1 credit)
This seminar-style course covers a wide-array of practical issues in CTR including: research administration and grants management; federal funding process; IRB and HIPAA; conflict of interests; legal aspects of translational research; drug discovery; industry interactions (drug discovery and device development); multidisciplinary research and team science; mentor and mentee training; and translational research informatics, health services, and implementation science research.

MSCR 595 – Health Services Research (1 credit)
This course provides students with an understanding of the nature, meth-

ods, scope, magnitude, and impact of Health Services Research (HSR). Students gain a better appreciation for the importance and relevance of HSR in improving healthcare delivery as well as key tools employed in HSR and areas of funding (e.g. Patient Centered Outcomes Research Institute [PCORI], Agency for Healthcare Research and Quality [AHRQ]).

Other Program Requirements Include:

- **Journal Club** – meets monthly in collaboration with MSCR program and allows interaction with physician-scientists, PhD level scientists interested in careers in clinical investigation
- **IRB Rotation** – attend and observe one committee meeting. Students may attend one IRB meeting at either Emory, Georgia Tech, or Morehouse School of Medicine
- **Didactic and Individualized ACTSI Clinical Research Network (CRN) Rotation** – Students learn about the resources available through the CRN for CTR (including those that would benefit their own research), meet with CRN directors, with the PIs of NIH-funded and IRB-approved CRN projects, attend CRN Safety Advisory Subcommittee meetings, and are linked with CTR investigators and research coordinators working in their area of interest using CRN sites in Atlanta (e.g., Emory, Grady, Children's Healthcare of Atlanta, Hope Vaccine Clinic, HIV Clinic, etc.).

Eligibility

PhD Students: PhD graduate students in the biomedical sciences and/or biomedical engineering at Emory University, Georgia Institute of Technology, or Morehouse School of Medicine with a desire to become qualified clinical and/or translational investigators and obtain the knowledge and skills necessary to translate laboratory discoveries into new medical treatments are eligible to apply.

PhD students will generally apply in their second year of graduate school and will begin CPTR training at the onset of their third year of graduate school after completing comprehensive examinations. Completing the CPTR program early in their training would ensure an impact on their dissertation (facilitating translational research) and their career direction. The CPTR can be completed in one year but most graduate students take this 16-credit program over a two-year period.

Emory Postdocs and Junior Faculty: Emory postdocs and faculty are also eligible to apply to the program.

How to Apply – Rolling Deadline

Provide to the program office by e-mail to **csroka@emory.edu,** the following items:

1. Cover sheet – Request form by e-mail
2. NIH-style Biosketch from applicant and mentor/supervisor
3. Personal statement (maximum one page, single-spaced, 11 point font, 1 inch margins)
4. Letter of support from supervisor

Deliver to the program office:

- Original official transcripts from all colleges and universities previously attended in envelopes sealed by those colleges. This requirement does not apply to current PhD students at Emory University.
- Check payable to Emory University in the amount of $75 for the application fee. (Not necessary if current student at Emory.)

Applications will be reviewed by a committee consisting of the program directors and key leadership team and acceptances will be based on candidates' interest and potential for a translational research career.

Questions

Cheryl Sroka (csroka@emory.edu or 404-727-5096),
Room 6.112, 1599 Building, 1599 Clifton Road

CTSA Clinical & Translational™ Science Awards

EMORY UNIVERSITY

MOREHOUSE SCHOOL OF MEDICINE

Georgia Tech

Certificate Program in Translational Research
gs.emory.edu/sites/translational

Further information about the Atlanta Clinical & Translational Science Institute (ACTSI) is available online:
ACTSI.org

Contact:
Cheryl Sroka
1599 Building 1599 Clifton Road NE, Room 6.112
Atlanta, GA 30322
404-727-5096
csroka@emory.edu

ACTSI IS SUPPORTED BY A GRANT FROM THE NIH/NATIONAL CENTER FOR ADVANCING TRANSLATIONAL SCIENCES (NCATS) (UL1TR000454).