

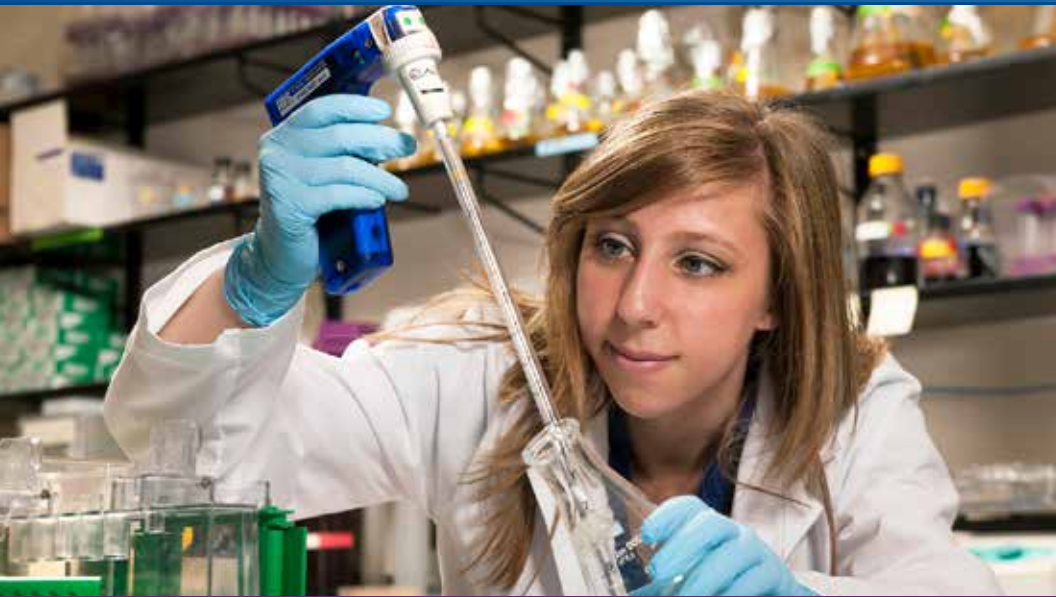


# Georgia CTSA

Georgia Clinical & Translational Science Alliance

## Certificate Program in Translational Research

This innovative and rigorous program gives PhD students, postdocs, and junior faculty members at the Georgia Clinical & Translational Science Alliance (Georgia CTSA)-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  
GEORGIA CLINICAL & TRANSLATIONAL SCIENCE ALLIANCE (GEORGIA CTSA)



EMORY | LANEY GRADUATE SCHOOL

## Certificate Program in Translational Research

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

The certificate program requires 16 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 (MSM), Georgia Institute of Technology (Georgia Tech), and University of Georgia (UGA).

Trainees may take the coursework 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.

### Eligibility

#### Predocctoral CPTR eligibility

**Graduate students:** PhD-level graduate students from all four Georgia CTSA partner institutions may apply in the subsequent year after passing comprehensive examinations at their institutions.

**PharmD students:** Predocctoral trainees enrolled in the UGA College of Pharmacy may apply to the CPTR program after their second year of training.

#### Postdoctoral CPTR eligibility

**Postdoctoral fellows with PhD, PharmD, or equivalent degrees:** Postdoctoral fellows from Emory, MSM, Georgia Tech, and UGA may apply at any point in their postdoctoral training. Those enrolled in UGA- or Emory-based PharmD residency programs are also eligible to apply.



**Moriah Bellissimo, CPTR student and PhD candidate,** applies the clinical assessment method of testing hand grip strength of a patient in the Georgia CTSA Clinical Research Center at Emory University Hospital. This test can be used as a surrogate marker of nutritional status.

**Physician postdoctoral fellows:** Postdoctoral physicians, including senior residents and those in clinical/research specialty fellowship programs, who will have protected time for CPTR may apply at any point in their postdoctoral training at Emory University School of Medicine and MSM.

**Faculty:** Physician and non-physician faculty members of all academic levels from all four Georgia CTSA partner institutions, who will have protected time and tuition support for CPTR training may apply.

### How to Apply

Applicants should apply via the web-based CPTR application system

[GeorgiaCTSA.org/CPTR/Apply.html](http://GeorgiaCTSA.org/CPTR/Apply.html)

**Application deadline:** There is a “rolling” deadline for predoctoral and postdoctoral CPTR applicants not applying through the TL1 mechanism or the junior faculty KL2 program. Applicants should apply by April 30.

#### The following items are required:

- Cover sheet
- NIH-style Biosketch from applicant and lead mentor/advisor/supervisor
- Personal statement (1-2 pages, single-spaced, 11 point font, 1 inch margins)
- Transcript from current program (required of PhD students)
- Letter of recommendation from PhD program director (not required of postdocs or faculty members)
- Letter of support from lead mentor (not required of faculty members at associate or full professor level)
- Application fee (if your application is successful) of \$75.00 payable to Emory University (unless currently enrolled at Emory University)

- Original transcripts (if your application is successful) in sealed envelopes or directly emailed from the issuing institution to the Laney Graduate School from each post-secondary institution you have attended. Transcripts are for the Laney Graduate School per SACS requirements. They must be in English or accompanied by notarized translations. Please hand-deliver to the Georgia CTSA Research Education Programs office (see back cover).



Translation to Clinical Medicine course director **Vin Tangpricha, MD, PhD,** and former CPTR student **Ellen Smith, PhD,** providing informed consent to a research participant

## Course Descriptions

### **CPTR 500 – Fundamentals of Epidemiology (2 credits)**

Introduces the principles and methods of epidemiology and 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.

### **CPTR 501 – Translation to Clinical Medicine (2 credits)**

This is a key component of the CPTR program. The goal is to provide 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 outcomes of individuals with disease. This course provides students with both didactic and experiential learning. This includes:

**1) 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 and clinical investigator working in their area (who may also serve on their mentoring team). Experiences may include rounding with a clinical service at Emory-affiliated teaching facilities (e.g., a student

interested in neuroscience research will round with neurology inpatient consult teams); participating in tertiary and community-based research sites; observing state-of-the art, hospital-based, analytical technologies; and shadowing additional multidisciplinary inpatient and/or outpatient teams caring for patients with disorders or diseases of interest.

**2) Monthly seminars on topics related to clinical research** – Students attend monthly lectures on a variety of topics related to clinical research including informed consent, working with large databases, careers in translational research, and regulations in conducting clinical trials.

### **CPTR 502 – Biostatistics for Clinical Research (2 credits)**

Introduces statistical concepts and analytical methods with special attention to data encountered in the biomedical sciences and biotechnology as well as translational research. The course emphasizes the basic concepts of study design including clinical trials, quantitative analysis of data, probability, and statistical inferences.

### **MSCR 591 – Community Engagement and Health Disparities in Clinical and Translational Research (1 credit)**

This course introduces the concepts, methods, and issues involved in community-engaged research. Emphasis is given to communication skills and practical considerations in planning,



implementing, and disseminating community-engaged research. The content of the course will be connected with expertise from MSM, UGA, and Emory and will reflect community-engagement in urban, rural, and disease-based populations. Students will have the opportunity to directly interact with community-based research partners. The goal is for students to gain an understanding of the practice and benefits of community-engaged research.

### **MSCR 592 – Clinical Research Colloquium (1 credit)**

This seminar-style course covers a wide-array of practical issues in clinical and translational research including: research administration and grants management; federal funding process; IRB and HIPPA; conflicts of interest; 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, science and social media, and entrepreneurial training.

### **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 clinical and translational research and covers a number of important human subject 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; research misconduct; conflicts of interest; IRB and HIPPA; ethics of genetic testing and gene therapy; and ethical issues in research in the developing world. Students are also required to complete the Emory IRB Human Subjects Training Program (online course from the Collaborative Institutional Training Initiative [CITI]).

**MSCR 594 A & B – Scientific and Grant Writing (2 credits)**

This class is designed to teach those who conduct clinical and/or translational research to enhance their scientific and grant writing skills. The course includes students from the Emory Master of Science in Clinical Research (MSCR) and CPTR. The material is tailored according to the educational level of trainees. Didactics are combined with an online learning and face-to-face tutorial format. Everyone works on an individual grant project throughout the semester, but some learning activities take place in collaborative groups (e.g., work on specific aims and NIH Biosketch).

**MSCR 595 – Health Services Research (1 credit)**

Provides students with an understanding of the nature, methods, scope, magnitude, and impact of health services research

in improving health care delivery as well as key tools employed in health services research and areas of funding (e.g., Patient-Centered Outcomes Research Institute [PCORI], Agency for Healthcare Research and Quality [AHRQ]).

**MSCR 598 – Big Data to Knowledge (BD2K) (1 credit)**

This course teaches fundamental Big Data principles underlying all fields that incorporate aspects of BD2K and provide more detailed case studies within select clinical patient care fields. More specific goals are to:

- Define Big Data, Data Science, and its components
- Recognize the importance of BD2K in numerous sectors of human endeavor and biomedical science
- Gain an overall understanding of various analytics techniques in handling big data



Former Morehouse School of Medicine PhD student **Patrick Carriere, PhD**, who completed the CPTR



CPTR student **Elyse Moran**, neuroscience PhD student, in Dr. Mar Sanchez's Laboratory at Emory

- Learn how the Big Data Pipeline is applied in various areas, such as clinical informatics, public health informatics, and learning health care systems

team science aspect of clinical and translational research is emphasized with students working together in groups in organized class and online activities.

**MSCR 761 – Introduction to Clinical and Translational Research (2 credits)**

Introduces the fundamentals of human subjects research in clinical and translational research beginning with the building blocks of hypothesis development, population and study sample selection, defining study measures, and power and sample size calculations. The course then conducts a broad survey of observational and experimental study designs including systematic review and meta-analysis. Throughout the semester the

**Other Program Requirements:**

- **Elective Course:** Students will choose an elective course of at least 1-credit hour that is relevant to clinical and translational research.
- **Journal Club** meets monthly in collaboration with the MSCR program and allows interaction with physician-scientists and PhD-level scientists interested in careers in clinical and translational research.
- **Attendance at an IRB Meeting** at any of the Georgia CTSA partner institutions.



**CTSA** Clinical & Translational  
Science Awards Program



**Certificate Program in Translational Research**

**[gs.emory.edu/sites/translational](https://gs.emory.edu/sites/translational)**

**Georgia Clinical & Translational Science Alliance Research Education Programs**

**[GeorgiaCTSA.org/training](https://GeorgiaCTSA.org/training)**

**CONTACT:**

**Cheryl Sroka**  
**Research Education Programs**

**Georgia CTSA**  
1599 Building  
1599 Clifton Road NE,  
Room 6.112  
Atlanta, GA 30322  
[csroka@emory.edu](mailto:csroka@emory.edu)

**Jessica A. Alvarez, PhD, RD**  
Associate Director, CPTR  
Assistant Professor of Medicine  
Division of Endocrinology, Metabolism, & Lipids  
Emory University School of Medicine  
101 Woodruff Circle NE, Room 1313  
[jessica.alvarez@emory.edu](mailto:jessica.alvarez@emory.edu)

**GEORGIA CTSA IS SUPPORTED BY A GRANT FROM THE NIH/NATIONAL CENTER FOR ADVANCING TRANSLATIONAL SCIENCES (NCATS) *UL1TR002378***