

# REQUEST FOR APPLICATIONS (RFA)

## Research Education, Training and Career Development (CTSI-Ed)

### Translational Research and Career Training (TRACT) TL1 Program

- Full-time research and research career development (one year)
- Open to predoctoral students pursuing a PhD (see details below)
- U.S. Citizens or noncitizen nationals (permanent residents) eligible
- Two predoctoral Scholars will be awarded
- Award starts August 1, 2021
- Letters of intent due March 31, 2021; Full application due April 30, 2021

#### Program description

The mission of the TRACT TL1 Program is to improve human health by catalyzing and accelerating the translation of research findings to the community and includes research from diverse disciplines and the full translational spectrum (i.e., preclinical to public health). Translational research fosters the multidirectional and multidisciplinary integration of basic research, patient-oriented research, and population-based research, with the long-term aim of improving the health of the public. See examples of titles of translational research projects across the translational spectrum below. The program provides comprehensive, flexible training for a diverse cohort of predoctoral trainees committed to a substantive and impactful career in translational research and team science. This one-year training opportunity, funded by the National Center for Advancing Translational Sciences (NCATS), integrates a mentored full-time research experience, an individualized curriculum, and professional development activities that focus on team-based research and effective collaboration and communication with the larger community. This RFA will award 2 predoctoral Scholars.

Applications from underrepresented students are strongly encouraged.

#### Eligibility

This award is open to Predoctoral students pursuing a PhD, PharmD (or dual degree with a PhD, e.g. MD/PhD, DVM/PhD, etc.) who have passed their written and oral preliminary examinations by August 1, 2021 and have at least 12 months remaining toward completion of their PhD as of August 1, 2021. Applicants must be U.S. citizens or noncitizen nationals (permanent residents).

## Research Support

### Predocctoral Scholars

The annual TRACT TL1 package provides 100% of predoctoral trainee salary as determined by current NIH NRSA Predocctoral Stipend rates. Each Trainee will also receive up to \$26,000 per year for tuition and fees\* (fall, spring, summer) and health insurance coverage. The annual stipend for predoctoral individuals will remain fixed for the period of support, unless the stipend level is changed in the NIH annual appropriation. The NIH Grants Policy Statement is the final authority on the terms and conditions of stipends.

*\*Tuition funds can be used for most courses offered by accredited organizations. However, courses outside of the University of Minnesota must be approved by senior leadership before payment.*

### Mentors

CTSI-Ed's mission is to train the next generation of independent investigators in clinical and translational science. Trainees are required to have a primary mentor, co-mentor and community mentor (community mentor determined after appointment in conjunction with TRACT TL1 leadership).

The Mentoring Team must include an experienced senior researcher with current (or past) NIH or similar funding, a translational focus and a strong training record. Other mentors are eligible regardless of training history. At least one mentor must be from a department/discipline different from the applicant's.

### Requirements and Milestones

Requirement	Duration/Frequency
Engage in full-time mentored research or educational activities related to the applicant's research activities during the period of the TRACT TL1 award.	Continuous
Meet with primary mentor	Weekly or more
Meet with co-mentor/s	Bi-monthly or more

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Mentorship team group meeting (Scholar, mentor and co-mentor)	Monthly or more
Participate in the Community Mentor Program which includes getting matched with a community mentor (determined after the appointment in conjunction with TRACT TL1 leadership) and a kick-off meeting, 2 planning meetings, the trainee's participation in a community conversation and a debrief	Throughout the award
Develop and revise an Individual Development Plan that will identify strategic goals and strategies associated with the trainee's objectives for the TRACT TL1 award	Required at orientation meeting, 6-mo, 12-mo reviews
Participate in monthly TRACT TL1 Scholar seminars with >75% attendance	Monthly; (the second Wednesday of each month), 3:00 - 5:00 p.m.
Present at the fall CTSI Poster Session; October 4, 2021	Once
Attend at least one CTSI-wide Research Career Development Seminar	Once
Attend half-day Translational Research Retreats	Twice
Attend the spring national Association for Clinical and Translational Science annual meeting, in Washington, DC, and submit an abstract to present a poster during the award period. The TRACT TL1 Program will cover travel expenses associated with the conference.	Once
Participate in one UMN/Mayo Mock Study Section held annually on UMN or Mayo campus.	Once
Complete coursework biostatistics PUBH 6450 Biostatistics I or equivalent	

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Complete translational science case study coursework	Spring 2022
Complete manuscript writing course: Peer Review and Publication (RSC 8306). Offered in the Spring 2022.	Optional
Complete coursework in communicating your science	Fall 2021
Attend a grant writing workshop. We recommend Writing Winning Grants offered in January 2021.	Once
<p>Adhere to all reporting requirements:</p> <p>Submit progress reports at 6-months and 12-months. Progress reports must document the efforts of the trainee to submit one or more peer-reviewed manuscript(s) incorporating research results obtained with this grant. A minimum of one peer-reviewed manuscript incorporating the research results obtained should be submitted for publication by the end of the one-year award period. Trainees will present their progress to members of the Internal Advisory Board and program leadership for assessment and guidance</p> <p>Work with TRACT TL1 Program administrators to complete all NIH reporting requirements including the annual Research Performance Progress Report (RPPR).</p>	Continuous

## Selection Criteria

- A 1-year career development plan that addresses professional and personal growth that is supported by the primary and co-mentor. This plan should clearly expand beyond what is offered in the applicant's PhD program.
- Individualized plan for expanded training specific to translational science, including coursework and possibly an advanced degree, as appropriate.
- Long-term career plan with milestones for evaluation by advisory committee
- Mentoring must include experienced senior researchers with strong training records, translational research experience and active funding of primary mentor.

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- Plans for regular interactions with each mentor and with the entire mentoring team should be clearly described.
- Description of a research study including title, aims, significance, innovation, approach, translation plan, incorporation of biostatistical analysis and potential for how this research will facilitate building a research-oriented career should be provided. The study should be designed to be realistically completed in one year.
- Previous research, academic experience, and academic potential.
- Passion for translational research and an academic career.
- Clear financial/resource support for conducting the research.
- After formal review of the applications, the top rated applicants will be interviewed by CTSI-Ed leadership and final decisions will be made based upon a combination of the grant review score, the interview, and having balance in disciplines and diversity in the program.

## Examples of Translational Research Projects

Translation refers to the process of turning observations in the laboratory, clinic and community into interventions that improve the health of individuals and the public—from diagnostics and therapeutics to medical procedures and behavioral- or population-level changes. The following list of project titles and investigators are from former TRACT TL1 Scholars. They are intended to demonstrate the range of research that is considered translational. See more information about current and former TRACT TL1 scholars at [z.umn.edu/TL1scholars](http://z.umn.edu/TL1scholars).

“Creating a culturally-sensitive report card for African-American kidney transplant candidates,” Warren McKinney, PhD, Postdoctoral Fellow, Nephrology, Hennepin Healthcare Research Institute (HHRI)

“Developing a capacitive aortic stent-graft for blood pressure management,” Shannen Kizilski, Mechanical Engineering PhD Program, College of Science and Engineering

“Resting-state brain networks underlying psychopathology and associations with early life stress”, Max Herzberg, Child Psychology PhD Program, College of Education and Human Development

“Computer-Aided Diagnosis for Prostate Cancer Detection on Multiparametric MRI,” Ethan Leng, MSTP Student, Biomedical Engineering PhD Program, College of Science and Engineering

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“The Clinical and Economic Impact of the Implementation of Prospective Pharmacogenomic Testing in the Care of Patients with Cancer,” Zachary Rivers, PharmD, Social and Administrative Pharmacy PhD Program, College of Pharmacy

“Altered neuroplasticity of the motor system with people with idiopathic REM sleep behaviour disorder: a harbinger of Parkinson's Disease?” Rebekah Summers, DPT, PhD, Postdoctoral Fellow, Department of Neurology, Medical School

If you have questions about how your research might relate to translational science please contact Angie Merrifield at [ctiseduc@umn.edu](mailto:ctiseduc@umn.edu).

## **Award Timeline**

<b>LOI Due</b>	March 31, 2021 at 11:59 p.m.
<b>Applicant full submissions due</b>	April 30, 2021 at 11:59 p.m.
<b>Award start date</b>	August 1, 2021

## **How to Apply**

### **Phase I: Letter of Intent (LOI)**

Access the link for LOI submissions on the TRACT TL1 website [z.umn.edu/CTSITRACT TL1](https://z.umn.edu/CTSITRACT_TL1)

A mandatory letter of intent (LOI) is due on March 31, 2021 and will be used for planning the review of applications. See the attached LOI template. Applicants will be notified in the first week of March if they are invited to submit a full application.

### **Phase II: Submitting Full Application**

Full applications are due on April 30, 2021. Application requirements can be found below. Submission information will be provided to those invited to submit a full application.

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Application Components	
<p>Formatting instructions:</p> <p>All typed documents must be Arial 11 pt font, ½ inch margins, single-spaced.</p> <p>Upload all documents as PDFs</p>	
<b>Applicant information</b>	Online form
<p><b>Research Proposal to include:</b></p> <ul style="list-style-type: none"><li>● Project Title</li><li>● Aims</li><li>● Significance</li><li>● Innovation</li><li>● Approach (include biostatistical analysis)</li><li>● Describe if and how this proposed research is different from your dissertation research</li></ul>	Upload up to 3 pages, exclusive of references
<p><b>Describe where the proposed research plan is on the translational research spectrum and the research’s potential translational impact. (See definition of translational science at <a href="http://z.umn.edu/CTSITRACT">z.umn.edu/CTSITRACT</a> TL1 and attached to this RFA)</b></p> <p>Provide translation plans for advancing the project’s research findings along the translational science continuum. Translation stage will vary by project but applicants must describe how this research will be useful in advancing human health (e.g., could lead to early stage testing in humans, be ready for human testing, or encompass later stage translational research of best practices in practice settings and the community).</p>	Upload up to ½ page
<p><b>Career Goals and Research Interests</b></p> <p>1 – 2 page statement</p>	Upload up to 2 pages

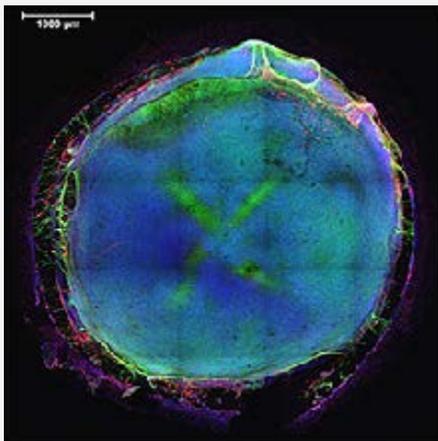
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<p><b>Describe how your research will be funded. The TRACT program provides a stipend, tuition and health insurance but does not provide research funds.</b></p>	Upload up to 1 page
<p><b>IRB, IACUC, IBC; Human participant and animal protection information</b></p> <p><b>(Most predoctoral Scholars have approval for their research as part of their mentor's research but this needs to be described.)</b></p> <p>Download this form on the TRACT TL1 website (<a href="http://z.umn.edu/CTSITRACT TL1">http://z.umn.edu/CTSITRACT TL1</a>)</p>	Upload
<p><b>Initial start-up plan:</b> Explain the steps needed to operationalize your research project – steps that are done and/or will be done in the first three months (e.g., start experiments, develop protocols and/or data collection).</p>	Upload up to ½ page (3 – 5 sentences)
<p><b>Curriculum Vitae (CV)</b></p>	Upload
<p><b>NIH Biosketch</b> (<a href="https://grants.nih.gov/grants/forms/biosketch.htm">https://grants.nih.gov/grants/forms/biosketch.htm</a>)</p>	Upload
<p><b>Proposed Mentor and Co-Mentor's NIH Biosketches and Other Support and Training Record</b></p>	Upload (combine into 1 pdf)
<p><b>Mentor-Mentee Compact</b> with Proposed Mentor and Co-Mentor</p> <p>One compact per mentor. Download this form on the TRACT TL1 website (<a href="http://z.umn.edu/CTSITRACT TL1">http://z.umn.edu/CTSITRACT TL1</a>).</p>	Upload (combine into 1 pdf)
<p><b>Letters of Support from Proposed Mentor and Co-Mentor</b></p> <p>This letter should indicate the mentor/co-mentor's commitment to the training of the applicant and outline the project the applicant will be doing in the mentor/co-mentor's laboratory. This letter must explicitly state the trainee will have 100% protected time for research and how the mentor will ensure coverage of research expenses. For each mentor named in the application, a coordinating letter of support must be provided.</p>	Upload

<b>LOI Template</b> – may adjust formatting as needed, but must provide each item. No more than 4 pages.	
Initial to confirm you meet the eligibility criteria stated in RFA	
1. Scholar Name 2. Predoc, postdoc or medical fellow 3. ORCID ID* (for more information: <a href="https://orcid.org/">https://orcid.org/</a> ) 4. Date of enrollment in PhD program 5. Date (or estimated date) of preliminary oral examination completion 6. Estimated date of graduation 7. Department/Division, School/College, Organization (if outside of UMN ex. HHRI, VA) 8. Primary Work Site(if not UMN Twin Cities)	
<b>Signatures:</b>  Applicant  PhD Program Head (predocs)  Department Chair (or equivalent if applicable)	
Planned mentoring team, including Name, Faculty rank, Department/Division, School/College of each team member	

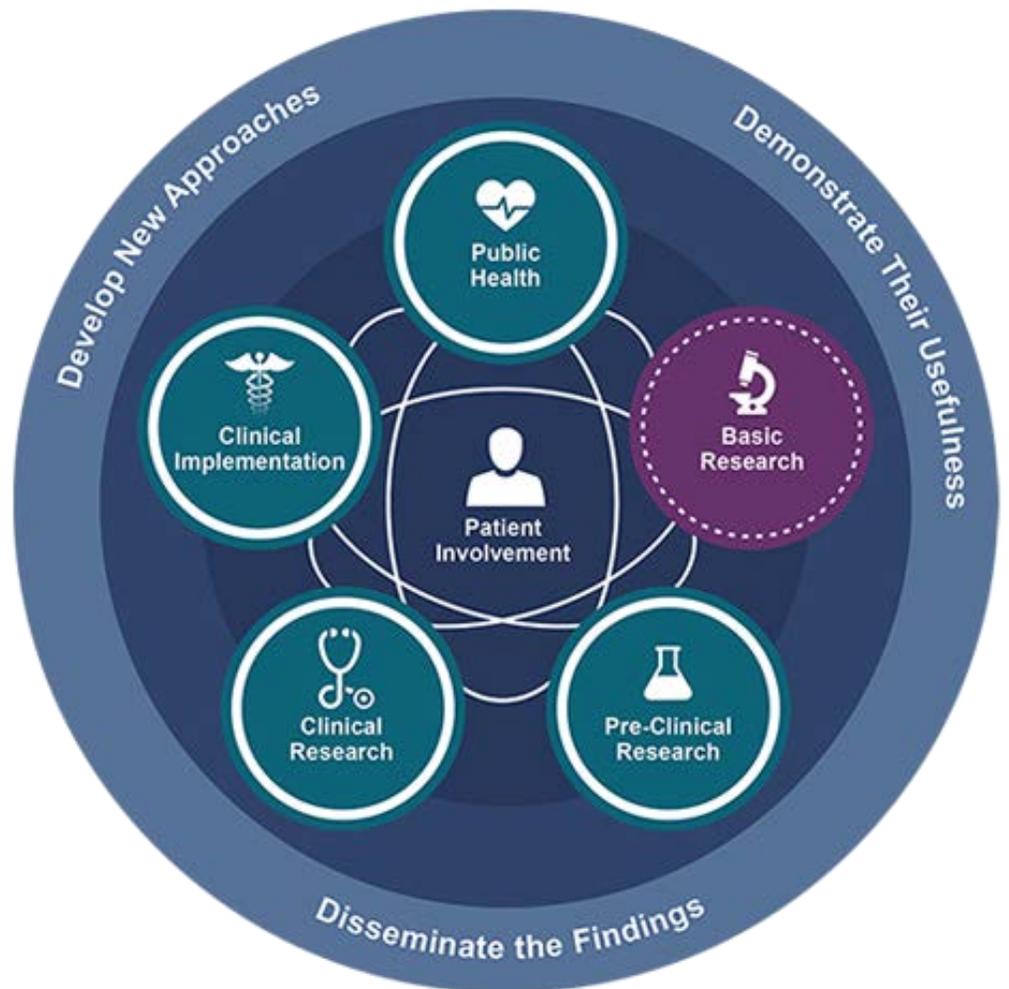
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Project title	
Number of years of support to be requested. (This RFA is offering 1 year of support)	
Please describe how you would contribute to a diversity of viewpoints and identities in the scholar program	



## Translational Science Spectrum

The translational science spectrum represents each stage of research along the path from the biological basis of health and disease to interventions that improve the health of individuals and the public. The spectrum is not linear or unidirectional; each stage builds upon and informs the others. At all stages of the spectrum, NCATS develops new approaches, demonstrates their usefulness and disseminates the findings. Patient involvement is a critical feature of all stages in translation.



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## For More Information

### About Translation

[ncats.nih.gov/translation](http://ncats.nih.gov/translation)

### About NCATS

[ncats.nih.gov/about](http://ncats.nih.gov/about)

### NCATS Programs

[ncats.nih.gov/programs](http://ncats.nih.gov/programs)

### Contact

[info@ncats.nih.gov](mailto:info@ncats.nih.gov)

301-435-0888

## Basic Research

Basic research involves scientific exploration that can reveal fundamental mechanisms of biology, disease or behavior. Every stage of the translational research spectrum builds upon and informs basic research, which is conducted at many Institutes and Centers across NIH. NCATS scientists typically do not conduct basic research. However, insights gained from the Center's studies along the translational spectrum can inform basic research.

## Pre-Clinical Research

Pre-clinical research connects basic science and human medicine. During this stage, scientists apply fundamental discoveries made in the laboratory or the clinic to further understand the basis of a disease or disorder and find ways to treat it. Hypothesis testing is carried out using cell or animal models; samples of human or animal tissues; or computer-assisted simulations of drug, device or diagnostic interactions within living systems.

## Clinical Research

Clinical research includes clinical trials with human subjects to test intervention safety and effectiveness, behavioral and observational studies, outcomes and health services research, and the testing and refinement of new technologies. The goal of many clinical trials is to obtain regulatory approval for an intervention.

## Clinical Implementation

The clinical implementation stage of translation involves the adoption of interventions into routine clinical care for the general population. This stage also includes implementation research to evaluate clinical trial results and identify new clinical questions and gaps in care.

## Public Health

In this stage of translation, researchers study health outcomes at the population level to determine the effects of diseases and efforts to prevent, diagnose and treat them. Findings help guide scientists working to improve interventions or develop new ones.

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**Translation** is the process of turning observations in the laboratory, clinic and community into interventions that improve the health of individuals and the public — from diagnostics and therapeutics to medical procedures and behavioral changes.

**Translational science** is the field of investigation focused on understanding the scientific and operational principles underlying each step of the translational process.

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