Clinical and Translational Science Institute (CTSI)
Request for Applications for Basic/Translational Science Pilot Awards

Purpose

The purpose of this RFA is to support high impact pilot projects that help catalyze translation of discoveries to treatments or the delivery of care. Funds for up to four pilot projects will be supported by the NIH/NCATS Clinical and Translational Science Award awarded to Wake Forest. The ultimate aim of this program is to make research investments that maximize healthcare value and improve health. The immediate aim is to allow investigators to develop, test, or disseminate novel approaches to a translational research question and obtain preliminary data in support of larger follow-up investigations. Examples of pilot studies include feasibility studies, secondary analysis of existing data, development of new research methodology and/or new tools, dissemination of effective tools, methods, processes, or early development of new therapy/technology. A preferred, but not required characteristic is that such research not only address a translational research question, but also provide insights that could be generalized to other projects. Generalizable solutions are ones that can be applied to other patient populations or disease mechanisms (e.g. how the technique can be used in other disease states; how the process can be used in a different patient population). Consistent with NCATS mission, projects should help catalyze translation of discoveries to treatments or the delivery of care.

Successful proposals will clearly state:

- How the proposed project advances research in a particular field to address health care needs within the population
- A rationale and potential for generalizability (if applicable)
- How the proposed project is translational (e.g., identify translational roadblocks that the proposed project will address and the anticipated benefits of overcoming them)
- A feasible project plan for the one-year award period
- Address next steps for this project: Will it lead to larger, subsequent grant applications (be specific, indicate RFA you will submit to and when)? Can it be applied to improve health or how we deliver care? How will results be disseminated? Is the project scalable? Consider the full range of possibilities for how the Medical Center and/or our community will benefit.

No pilot data is required to apply for this RFA, however supporting data from the recent literature is appropriate if available.

Basic/Translational Pilot Award Categories

In line with the definition of NCATS Translational Science Spectrum, a proposal for the Basic/Translational Pilot Award **must** fall into one of the below categories.

- **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. NCATS scientists typically do not conduct basic research; however, insights gained from the Center's studies along the translational spectrum can inform basic research.
- **Preclinical Research:**
  Preclinical research connects the basic science of disease with human medicine. During this stage, scientists develop model interventions to further understand the basis of a disease or disorder and find ways to treat it. Testing is carried out using cell or animal models of disease; samples of human or animal tissues; or computer-assisted simulations of drug, device or diagnostic interactions within living systems.

Funding

Up to four projects will be funded. Successful pilots will receive up to **$40,000** in direct costs. All projects must meet the above specifications outlined under "Purpose." Project final budgets will be based on a complete review of the budget and budget justification. See "Budget Guidelines" below for more details. All funds are to be spent within a one-year project period; due to the restrictions on CTSA funding, no-cost extensions cannot be approved.

Note that the Center for Biomedical Informatics (WFBMI) is offering a $10,000 bonus for one of the pilot awards if the proposed project involves informatics researchers, techniques and methods. This bonus will be awarded to one pilot proposal evaluated as meritorious by CTSI Administrators and the IRSC and additional review by the leadership of the Wake Forest Center for Biomedical Informatics (the resulting pilot award will be in the amount of up to $50,000).

For more information regarding Biomedical Informatics, see Appendix II.

Eligibility

These awards are open to all faculty with a rank of instructor or higher from Wake Forest (Health Sciences & University) and all CTSI-affiliated institutions with a Wake Forest co-investigator.

Clinician scientists, teams that include both clinicians and basic scientists, interdisciplinary teams that represent a combination of clinicians and basic scientists, adult and pediatric researchers and/or junior and senior investigators are all strongly encouraged to apply.

NEW The CTSI will allow a Co-PI structure if the PIs include both a skilled researcher and clinician with expertise relevant to the project that contributes to designing and implementing the approach used for learning and for testing the intervention.

Additional Information:

- Projects already submitted as CTSI or other intramural Pilot Proposals are eligible, but must incorporate reviewer feedback.
- More than one proposal may be submitted per faculty member serving as PI or co-PI, but the faculty member is only eligible to receive one award as either PI or co-PI during a given funding cycle.
- CTSI KL2 scholars whose KL2 funding is active during the pilot project period are not eligible to apply.
- Projects that have been previously funded (or projects with very similar ideas) will not be considered.
- Investigators are limited to two funded CTSI pilots unless special permission is granted in advance of the Letter of Intent submission deadline. Please email Brittney Jackson at britjack@wakehealth.edu to request permission.
- Investigators with active Ignition Funds remain eligible.

Key Dates

Date	Detail
10/16/20, 11:59 pm	Letter of Intent (LOI) Deadline
11/13/20	Investigators Invited for Full Application
12/16/20, 11:59 pm	Full Application Deadline
03/10/21	Selection of Awardees
05/07/21	If applicable, completed materials sent to NCATS for approval (Appendix I)
07/01/21	Project Start Date
06/30/22	Project End Date

CTSI Resources Available to Support Investigators

Several resources are available in the CTSI to help submit a strong application; while they are not required as part of the submission, investigators are highly encouraged to seek out additional assistance. All services can be requested through the CTSI Service Request form.

- **Grant Proposal Editing:** have an expert medical editor review your proposal prior to submission. She will offer suggestions on how to refine your writing and thinking. Your proposal will be edited in "track changes" so that you can easily accept or reject edits (free to everyone).
- **Biostatistical Support:** meet with a statistician to develop your study design, measurement, and statistical analysis plans prior to submission (free to everyone).
- **Research Studio:** meet with a multi-disciplinary panel of experts to work through specific aims, hypotheses, or ways to address the generalizable requirement (free to everyone).
- **CTSI Faculty Consultation:** meet with a CTSI faculty member (clinician, basic scientist, or behavioral scientist) to talk through project ideas or to find research/clinical partners (free to everyone).

- **Informatics:** optimization of the EMR to extract data for research purposes (free or fee-for-service, depending on need).

Application Procedure

1. **Letter of Intent Deadline: 10/16/20, 11:59 pm**

   Letters of Intent (LOI) (2 pages max) require the following:

   - A brief abstract, including specific aims
   - A clear statement of how the project will overcome translational barriers for results to be generalizable to other populations or disease mechanisms and what makes the project generalizable
   - A list of study team members for the proposed project. All team members should have agreed to be listed.

   The LOI should be submitted through the ePilot electronic submission system, by the deadline noted above.

   Review Criteria and Process for Letters of Intent

   1. An Administrative Review will be completed to verify all required components were submitted and formatting guidelines followed (e.g. does not exceed page limit).
   2. Letters of Intent that pass the Administrative Review are reviewed by Research Executive Council. Reviewers at this stage will be looking for whether proposed projects can help catalyze translation of discoveries to treatments or the delivery of care and to ensure the project is responsive to the RFA.
   3. An invitation to apply for a full application, or notification if you are not selected, will be communicated via e-mail by 11/13/20.

2. **Full Application Deadline: 12/16/20, 11:59 pm**

   Investigators invited to apply will receive an e-mail by 11/13/20 with a link to submit a full application **by 12/16/20. Applications received after 12/16/20 will not be reviewed.** Application instructions are included in the ePilot system and summarized below.

Applications that do not comply with these guidelines will not be considered for review.

Format Specifications

- Arial font and no smaller than 11 point
- Margins at least 0.5 inches (sides, top and bottom)
- Single-spaced lines
- Consecutively numbered pages

Submission/Applicant Information

- Project Title
- Submitting Principal Investigator, Co-Investigator(s), and other Key Personnel information

Abstract (**300 words max**)

Research Strategy (**6 pages max, all items below are required components**)

- Specific Aims
- Research Plan:
  - Significance
  - Innovation
  - Approach
  - Study Team
- Study milestones and anticipated outcomes (e.g. publication, presentation, grant submission, patent) with timeline (see Appendix II for examples)

References (**no page limit**)

Information Regarding Human Subjects

Address the following if the project **involves human subjects**.

- IRB Approval Status (please note: IRB approval is not required for full application submission)
- Clinical Trial Classification Questions
- Protection of Human Subjects
  - Needs to clearly describe risk, protections, benefits, and importance of the knowledge to be gained by the revised or new activities as discussed in Part II of NIH competing application instructions
- Inclusion Plans for Women, Minorities, and Children, if applicable
- Recruitment and Retention Plan
- Targeted Enrollment Table (using NIH Targeted Enrollment Table)
- Data and Safety Monitoring Plan (DSMP) and Board (DSMB), if applicable
  - If you are unsure how much safety monitoring your study will need, please contact the CTSI DSMB Administrator, Issis Kelly Pumarol, at ikellypu@wakehealth.edu.

Information Regarding Live Vertebrates

Address the following if the project **involves live vertebrates**.

- IACUC Approval Status (please note: IACUC approval is not required for full application submission)
- IACUC approval will be required (as 'just in time' information) for implementation of projects with live vertebrate animals

Budget and Justification (**budget template plus 1 page justification**)

- Complete the budget template form and a brief justification for the funds requested. Please explain how other resources may be leveraged to support the project. If the proposed research will be done on more than one campus/institution, please include details in the justification.
- Sub-awards to other institutions are permissible, provided that most of the pilot project's activities and dollars spent occur within WF or one of its affiliates.

NIH-style biographical sketch for all Key Personnel

Review Criteria and Process for Full Proposals

1. An Administrative Review will be completed to verify all required components were submitted and formatting guidelines followed. **Applications that do not comply with guidelines will be automatically disqualified and will not be considered for review.**
2. Proposals that pass the Administrative Review are peer-reviewed by the WF Intramural Research Support Committee (IRSC), a Dean-appointed committee of selected expert faculty, using NIH review criteria and scoring. Budgets will be reviewed by CTSI Administrators and the IRSC for appropriateness. There will be separate review discussions for clinical science and basic science proposals.
3. Final award approval will be at the recommendation of CTSI Leadership.

Reviewers will score applications from 1 to 9 based on:

1. Significance of the problem to be addressed
2. Innovation of the proposed solutions
3. Strength and breadth (interdisciplinary nature) of the investigative team
4. Methodological rigor and feasibility, with clear milestones
5. Generalizability: Likelihood the innovation will be broadly applicable and impact translational research or delivery of care
6. A reporting plan, whether the study yields positive or negative results
7. The likelihood that the investment will lead to external funding, publication, or a licensable innovation; early-career faculty involvement, race/gender inclusiveness of the research team; and inclusion of women, minorities, older adults, and children as potential study participants.

Budget Guidelines

The project is one year beginning 07/01/21 and ending 06/30/22. Up to $40,000 in direct costs may be requested.

Grant funds may be budgeted for:

- Salary support for the PI or faculty collaborators (using NIH salary cap)
- Research support personnel (including undergraduate and graduate students)
- Travel, if necessary to perform the research
- Small equipment, research supplies, and core lab costs
- Other purposes deemed necessary for the successful execution of the proposed project

Grant funds may not be budgeted for:

- Office supplies or communication costs, including printing
- Meals or travel, including to conferences, except as required to collect data
- Professional education or training
- Computers or audiovisual equipment, unless fully justified as a need for the research
- Capital equipment
- Manuscript preparation and submission
- Indirect costs

Awarded funds must be used to conduct the work proposed. All direct charges to this award must adhere to federal regulations and requirements regarding the use of CTSA funds. The CTSI reserves the right to revoke funding if it is determined that funds were not spent in accordance with the approved protocol. The general criteria for determining allowable direct costs on federally sponsored projects are set forth in 2 CFR Part 200: Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards (The Uniform Guidance).

Program Expectations

Prior to funding, awardees will be assigned to a Research Navigator to: 1) assist with study initiation; 2) convene an initial meeting with the project PI, CTSI administrative personnel, and a senior CTSI leader to discuss the project and how CTSI resources can be leveraged for the pilot grant; and 3) monitor progress throughout the life of the study. If any significant issues arise, the study team will be required to work with the CTSI to determine solutions so that the study can be successfully completed (or in rare cases, terminated).

Specific Deliverables

- Participation in the study initiation meeting
- A formal progress report at 6 months
- Upon completion of the project:
    - Close-out report, with plans for implementing and disseminating innovations
- Presentation of findings at requested events (i.e. CTSI Seminar Series, Service Line Meeting, CTSI's annual External Advisory Committee meeting)
- Manuscript submitted within one year of the end of the pilot award
- Disclosure of 1) how results will be implemented and/or disseminated; 2) applications for extramural funding beyond the pilot grant; 3) what subsequent notification of funds occurred; and 4) related publications or significant collaborations resulted from the project, for a minimum of 4 years after completion of the award.

Other Guidelines

1. Prior to receiving funds, research involving human subjects must have appropriate approval from the IRB. Either an IRB approval letter or an IRB response to a "Determination Whether Research or Similar Activities Require IRB Approval" must be submitted to the CTSI prior to funds being released. Human subjects must be reviewed in accordance with the institution's general assurances and HIPAA. All key personnel must have certification of training in the protection of human subjects prior to the start of the grant period.
2. Research involving human subjects must also have approval from the National Center for Advancing Translational Sciences (NCATS). NCATS has defined human subjects research (HSR) categories and

determined the approval procedures per category. NCATS submission will be facilitated by the CTSI. Note: The study cannot be submitted to NCATS until **after** IRB approval has been given.

a. **Category 1**: Greater Than Minimal Risk studies and all NIH-defined Clinical Trials
    i. Category 1 studies/trials require approval from NCATS to begin.
b. **Category 2**: Minimal Risk and Exempt Studies
    i. HSR study is exempt and/or considered minimal risk by the IRB.
    ii. Category 2 studies must be submitted to NCATS, but do not require formal approval.

3. Prior to receiving funds, research involving live vertebrates must have appropriate approvals from IACUC. Either an IACUC approval letter or documentation on why activity does not require IACUC approval must be submitted to the CTSI prior to funds being released.
4. CTSI staff will work closely with funded teams throughout the grant period to monitor progress and, when necessary, provide assistance. A six-month interim progress report and a final progress report will be required. We expect PIs to report over the lifetime of the work the outcomes achieved due to the pilot award, e.g., subsequent external funding, publications, presentations, and patents.
5. All publications that are the direct result of this funding must reference: "Research reported in this publication was supported by the National Center for Advancing Translational Sciences of the National Institutes of Health under Award Number UL1TR001420. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health." Publications must also be registered in PubMed Central.
6. Any awardee who leaves his or her position should contact the CTSI to discuss future plans for the project.

Grant Administration

The Principal Investigator is responsible for the administration of grant funds.

Contacts

Questions about your research project or the ePilot electronic submission system should be directed to Brittney Jackson at britjack@wakehealth.edu.

Appendix I: NCATS Approval

Projects that meet the definition of human subjects research will require prior approval from the National Center for Advancing Translational Sciences (NCATS), the funding source of the CTSA grant. This means that no funds will be released to the award recipient until NCATS has provided approval.

The following items are needed for the NCATS submission by 05/07/21 (if an investigator is not ready to submit to NCATS by 05/07/21, their project timeline <u>will not</u> be altered to accommodate):

- Project Information (i.e. submitting investigator, project title)
- IRB Approval
    - We do not require an initiated IRB application/approval by the Full Application Deadline; however, in order to submit for NCATS approval, certification of IRB approval is required. Therefore, we encourage draft protocols/consent documents be created as far in advance as possible. Notifications of funding will be sent by 3/10/21.
- Project Abstract
- IRB Approved Protocol
- IRB Approved Consent/Assent/waiver
- Protection of Human Subjects
- Inclusion of women, minorities, and children
- Recruitment and Retention Plan
- Targeted Enrollment Table
- Biosketches (PI and Key Personnel)
- Documentation of CITI certification
- Data and Safety Monitoring Plan
- IND/IDE Documentation, if applicable
- Budget and Budget Justification

Please note: additional documentation will be required if project is classified as a Clinical Trial.

Appendix II: Biomedical Informatics

The primary focus of a **Biomedical Informatics** project is to address gaps in knowledge or other barriers to translational research problems by leveraging one or more Informatics tools and methods.

A project focused on biomedical informatics is intended to evaluate strategies in one of the following areas:

1. Creation, evaluation, and implementation of Clinical Decision Support Systems;
2. Improving and evaluating electronic information capture and data flow of both clinical and patient derived data;
3. Development of improved analytical methods for clinically derived data;
4. Creation of informatics tools to improve population health management;
5. Creation, evaluation, or implementation of Biomedical Informatics tools and algorithms.

The project must be translational in nature and should help to close the gaps in establishing a true Learning Healthcare System.

Successful proposals will create, evaluate, or implement Biomedical Informatics tools and algorithms while providing a rationale for local relevance and potential for generalizability, explaining how the proposed project advances research in Biomedical Informatics, and identifying translational roadblocks that the proposed project will address and the anticipated benefits of overcoming them with the informatics.

Appendix III: Study Milestone Examples

Below are examples of study milestones, outcomes, and timelines. However, these formats are not required.

Example 1:

- **Milestone 1 (0-1.5 months):** Milestone 1 Details **Outcome:** Outcome 1 Details
- **Milestone 2 (1.5-4 months):** Milestone 2 Details **Outcome:** Outcome 2 Details
- **Milestone 3 (4-6 months):** Milestone 3 Details **Outcome**: Outcome 3 Details
- **Milestone 4 (6-12 months):** Milestone 4 Details **Outcome:** Outcome 4 Details
- **Milestone 5 (8-12 months):** Milestone 5 Details **Outcome:** Outcome 5 Details

Example 2:

Timeline and Milestones												
Month	1	2	3	4	5	6	7	8	9	10	11	12
Activity/Aim/Milestone 1	X	X	X	X								
Activity/Aim/Milestone 2	X	X										
Activity/Aim/Milestone 3		X	X	X								
Activity/Aim/Milestone 4					X	X	X	X	X	X		
Activity/Aim/Milestone 5					X							
Activity/Aim/Milestone 6						X	X					
Activity/Aim/Milestone 7								X		X		
Activity/Aim/Milestone 8											X	X

Example 3:

Aim	**Milestone**	**Month 1-3**	**Month 4-6**	**Month 7-9**	**Month 10-12**
1	Milestone 1	X	X		
	Milestone 2		X		

Aim 1 Anticipated Outcomes: Detail

Aim	**Milestone**	**Month 1-3**	**Month 4-6**	**Month 7-9**	**Month 10-12**
2	Milestone 1		X	X	
	Milestone 2		X		
	Milestone 3			X	

Aim 2 Anticipated Outcomes: Detail

Aim	**Milestone**	**Month 1-3**	**Month 4-6**	**Month 7-9**	**Month 10-12**
3	Milestone 1			X	
	Milestone 2			X	X

Aim 3 Anticipated Outcomes: Detail