



## Centers of Excellence in Applied Computational Science and Engineering

### FY2024-25 Planning and Capacity-building for Collaborative Teams (PACCT)

**Proposal Submission Deadline: 11:59pm on October 23, 2023**

The mission of the Center of Excellence in Applied Computational Science and Engineering (CEACSE) is to establish and expand a cohesive multidisciplinary effort in applied computational science and engineering. Initiatives supported by CEACSE must leverage broad, multidisciplinary collaborations, reflect excellence in integrated education and research, seed sustained growth in research funding, and result in increased national and international stature and competitiveness in Tennessee. As federal interest in interdisciplinary research increases, concentrated efforts are needed to cultivate and expand collaborations between faculty from diverse disciplines across campus.

As the administering unit for CEACSE, the UTC Research Institute is issuing a call for planning and capacity-building proposals to establish new or fortify existing interdisciplinary research collaborations that work to advance knowledge and community engagement in key areas of interest to the University. The purpose of the PACCT program is to bring together researchers and strategic industry/community partners to

1. Plan short- and long-term research goals that leverage UTC's resources and engage the community to develop innovative solutions to local and regional societal challenges.
2. Pilot small-scale studies that provide necessary proof-of-concept or preliminary data to successfully compete for external funding.

### Priority Areas

For FY24, the UTC Research Institute invites proposals for interdisciplinary research collaborations focused on the following **Priority Areas**:

1. Mobility & Transportation
2. Quantum Technologies

These priority areas are intended to capture a broad range of research topics and leverage interdisciplinary perspectives. For example, a collaboration under the Mobility & Transportation area could propose to investigate the environmental impacts of public transportation policies, the impact of incorporating eye tracking research into autonomous vehicles on pedestrian safety, or developing social science- and humanities-informed strategies to improve the use of crosswalks among pedestrians. A collaboration under the Quantum Technologies area could focus on computing/programming, networking, sensing, communication, etc. These examples are meant to be illustrative only and should not be interpreted as limiting in any way.

## Collaboration Requirements

Each proposed collaboration must meet the following requirements:

- The collaboration must align with one of the following **FY24 priority areas**: Mobility & Transportation or Quantum Technologies
- The collaboration must be led by a minimum of **2 full-time, tenured or tenure-track UTC faculty**, each with a primary appointment in a different UTC College. Identify one to serve as PI and the other to serve as Co-PI. Proposals that include two lead faculty from the same college will be returned without review. Additional faculty/staff, including non-tenure track faculty, may also participate as collaboration members but must have a meaningful role.
- The collaboration must develop a **community engagement plan** and identify at least one industry or community partner to serve as a collaborator.
- The collaboration must propose a **5-year research agenda** with specific external funding opportunities that will be pursued beyond the project period.

## Activities and Deliverables

Over the two-year project, research collaborations will be expected to complete the following activities:

- **Year 1:** Formalize collaboration, establish research collaboration website, refine community engagement plan and 5-year research agenda, and prepare for the pilot/small-scale research project.
- **Year 1 PACCT Workshop:** In fall 2024, awardees must attend a 2-day workshop to present the status of their planning efforts and pitch their plan for the pilot/small-scale research project. The workshop will include industry/community stakeholders to reinforce cross-sector collaboration efforts. Awardees must attend this workshop to be eligible to receive year 2 funding.
- **Year 2:** Conduct the pilot/small-scale project, analyze results, implement the community engagement plan, and apply for external funding.

Successful projects will result in the following outcomes by the end of the project period:

- Research collaboration website, linked to the UTC Research Institute
- Community engagement events or activities
- Preliminary data or prototype
- Refined 5-year research agenda with specific external funding opportunities
- At least 1 proposal submitted for external funding

## Award Information

UTC Research Institute expects to make up to six (6) awards through this competition. Selected collaborations will receive an award of up to \$125,000 for two years (January 1, 2024 – December 31, 2025). The total amount requested should be consistent with the size of the collaboration.

Awards will be issued in two phases. Year 1 funding will be available to PIs beginning January 1, 2024. Year 2 funding is contingent on meeting year 1 milestones and will be issued after the PACCT Workshop in fall 2024.

Allowable costs include:

- Faculty effort, including course releases and/or summer salary for 9-month appointments
- Student effort, including assistantships and hourly undergraduate students
- Fringe benefits associated with requested salary/wages/stipends
- Consultant fees for industry/community partners
- Equipment (individual units costing \$5,000 or more)
- Materials and supplies, including software
- Planning meeting/workshop costs
- Travel (meeting, conferences, etc.)
- Publication fees

Budgeting for a PhD student in year 2 to be mentored by both lead faculty is encouraged but not required.

Budget Restrictions:

- The cost of equipment cannot exceed 30% of the total requested budget.
- Extra services compensation during the academic appointment term is not permitted.
- Inclusion of indirect costs (F&As) is not permitted.

## Application Requirements

Applications must be submitted via InfoReady Review **by 11:59pm Eastern time on Monday, October 23, 2023**. No emailed applications will be accepted.

To access InfoReady Review, go to <https://tennessee.infoready4.com/#system> and log in with your UTC info. In the list of open competitions, select "UTC - FY2024 CEACSE Planning and Capacity-building for Collaborative Teams (PACCT)." Follow the instructions in InfoReady to submit your application.

The following documents are required for submission:

- Proposal Abstract (200 words)
- Narrative (3-page limit)
- Budget Narrative (1-page limit)
- 5-year Funding Plan (1-page limit)

### **Abstract:**

In **200 words or fewer**, highlight the research focus of the collaboration, the expertise of team members, and the long-term vision for the collaboration.

### **Narrative:**

Address the following in **no more than 3 pages**:

- Identify the research focus and explain how it aligns with a FY24 priority area.
- Describe the interdisciplinary approach to be taken and why it's needed.
- Describe the research plan for the pilot/small-scale study, including the aims, methods, and expected outcomes.
- Identify the UTC resources you will use to implement the project.
- Describe the community engagement plan.
- List all members of the collaboration. Describe their expertise and their role(s) on the project.

- Provide a timeline of activities for the 2-year project and identify key milestones/deliverables.

### **Budget Narrative:**

In **1 page or less**, state the amount of funding requested and how you would use PACCT funding to support the aims and activities of the project.

**Note:** a formal budget is NOT requested at the time of application; the UTC Research Institute will work with selected PIs to develop accurate budgets at time of award.

### **5-year Funding Plan:**

In **1 page or less**, describe the collaboration's vision for a 5-year research agenda and the plan for sustainability beyond the grant period. Identify specific external funding opportunities that will be pursued. Describe your plan for acquiring or gaining access to additional equipment or facilities, if relevant.

## **Review and Selection Criteria**

These funds will be awarded on a competitive basis via a review of the funding criteria below and the strategic merit of each proposal. Proposals will be reviewed by UTC administrators and scored based on the following:

- **Scientific Merit** – the proposed collaboration identifies a specific challenge within Transportation & Mobility or Quantum Technologies and details an innovative, interdisciplinary approach to address that challenge.
- **Qualifications of the Project Team** – the proposed collaboration includes two lead faculty from different UTC colleges. All collaboration members have a significant role on the project and the necessary expertise to implement it successfully.
- **Impact and Sustainability** – the proposed collaboration details a clear and concise plan for sustainability and utilizes relevant infrastructure and equipment available on UTC's campus.

## **Award Terms and Conditions**

CEACSE awards represent a significant investment from the institution and, by submitting a proposal and accepting an award, awardees agree to fulfill the required terms and conditions.

### **Release of Funds**

Year 2 funding is contingent on successful year 1 implementation. PIs must attend and participate in the PACCT Workshop in fall 2024 to be eligible to receive year 2 funding.

### **UT Policy Compliance**

This is an internal grant award and is subject to all University of Tennessee policies. The PIs and Head of the administering department are responsible for ensuring that any applicable policies are followed. If your project will involve any of the following, you must contact the Office of Research Integrity **BEFORE** any research is conducted:

- Human Subjects: [irb@utc.edu](mailto:irb@utc.edu)
- Vertebrate Animal Research: [jacuc@utc.edu](mailto:jacuc@utc.edu)
- Research Security & Export Control: [eco@utc.edu](mailto:eco@utc.edu)
- Biohazardous Materials: [ibc@utc.edu](mailto:ibc@utc.edu)

### **Budget & Award Management**

The UTC Research Institute will work with awardees to develop an accurate budget. The PI and Co-PI are responsible for monitoring and managing the award budget. This includes monitoring external collaborators and ensuring that “spend rates” are appropriate across the period of performance so the project activities are completed on time and within budget. This responsibility will include developing mechanisms with collaborators to monitor the project budget and expenditures.

### **External Proposal Submission**

A key requirement of the award is that the collaboration prepare and submit at least one competitive grant proposal to an external sponsor in support of the 5-year research plan. As soon as a funding opportunity is identified, please notify ORSP. Proposal documents are expected to be developed with sufficient time to allow for at least one review and critique by an external expert (arranged by ORSP).

### **Reporting & Dissemination**

Awarded PIs are expected to complete a progress report at the end of year 1 and a final report within 60 days of the project end date. Both reports must be submitted via InfoReady Review.

PIs are encouraged to participate in on-campus conferences, as appropriate. The UTC Research Institute may reach out to you for additional feedback to evaluate the impact of this program on campus.

### **Contacts**

For general inquiries regarding this program, contact [Mina-Sartipi@utc.edu](mailto:Mina-Sartipi@utc.edu).

For questions related to InfoReady Review, contact [Jordan-Gwarjanski@utc.edu](mailto:Jordan-Gwarjanski@utc.edu).