# Office of the Vice President for Research
## Learn. Create. Discover. Innovate.

**Catalytic Collaborative Funding Initiative – The CAT Program**

The Office of the Vice President for Research (OVPR) at Temple University invites university investigators to apply for internal funding to support *catalytic* and *cross-cutting* research with potential to expand on existing strengths *or* develop new and innovative research related to thematic and strategic research areas of emphasis. The aim of this initiative is to enhance Temple University's competitiveness to leverage prospective funding in specific thematic areas from federal agencies, including but not limited to the National Institutes for Health, the National Science Foundation, and Department of Defense divisions. The CAT Program will prioritize funding for interdisciplinary and/or multi-college efforts that have the potential to advance the university's contribution to the understanding one of the following thematic topics: Sustainability Science, Rules of Life Research, Artificial Intelligence and Machine Learning, Design Innovation for Infrastructure and Engineered Environments, Cancer Research, and COVID-19 Research. More information on each theme is provided below.

### Sustainability Science

Projects related to this theme may focus on research related to the interactions between natural and social systems towards the aim of analyzing how interactions between them affect the challenge of advancing a sustainable world at any geographic scale. Proposed sustainability science research projects may also focus on analyzing the alignment between current challenges and needs with future impacts to nature and society through the study of such topics as: social and ecological systems; biodiversity and ecosystem services; vulnerability, adaptation, and resilience with respect to climate and global change; energy, food, water, and technology systems; and policy and governance with respect to the advancement of sustainability.

### Artificial Intelligence and Machine Learning

The National Academies of Sciences, Engineering and Medicine have focused heavily on the increasing prevalence and importance of Artificial Intelligence (AI) and Machine Learning (ML) to advance all fields of study as a means of harnessing the value of big data that are derived from an ever expanding university of sensors and cyber infrastructure. Research projects that focus on any aspect of AI or ML, including algorithms that analyze large volumes of complex data, algorithms for discovering patterns, making predictions, and advancing new optimization and decision support systems, and human factors associated with the use and development of AI and ML are invited.

### Design Innovation for Infrastructure and Engineered Environments

Research that advances the development of innovative design, characterization, and prototyping new technologies that are applicable to infrastructures and engineered environments at all scales are invited. Such approaches as the development and application of visualization, virtual reality, and

computational systems to such solutions along with technologies for modeling the building blocks for such systems are invited.

**Rules of Life Research**

Rules of life research has been identified by the National Science Foundation as one of the most important focus areas for research related to life on our planet, with an increasing need to understand how life is organized from the molecular scale to the scale of the biosphere. Rules of life research seeks discovery that increases the understanding of how interactions identify associative, causal, predictive, and dynamic relationships to better understand how life functions. Rules of life research may include projects that use tools and methods associated with bioinformatics and computational biology and focus on such topics as epigenetics and evolution, microbiome interactions and mechanisms, and the influence of environmental change on the genome.

**Frontiers of Science**

The National Science Foundation and other federal funding agencies have placed increasing importance on research that advances the frontiers of science towards the pursuit of critical, fundamental discovery that can lead to translational benefits and innovations for society, including responding to national priorities and grand challenges. Proposals from all fields in basic and life sciences, engineering, and computer and information sciences are invited to conduct fundamental or applied research that has the potential to drive the advancement of new capabilities or innovations and address recognized needs, including but not limited to: quantum information research, cyber infrastructure advancements and security systems, renewable energy solutions, and designing, characterizing and manufacturing new materials.

**Cancer Research**

Basic, translational, clinical, and population research that is focused on the study of cancer may include such topics as: research related to the development of safe and effective methods to prevent, detect, diagnose, and treat all types of cancer and contribute towards the goal of curing cancer diseases. Multidisciplinary teams are invited to submit proposals that support the following types of studies: basic research that is conducted in the lab or at the pre-clinical stage; translational research that focuses on the application of lab discoveries towards the goal of clinical use; clinical and behavioral research that applies or analyzes treatments and their effects; and population research that focuses on the causes and patterns associated with cancer risks and occurrences.

**COVID-19 Research**

Multidisciplinary research on basic and translational research, clinical studies, and population studies focused on the study of COVID-19 are invited. Topics may include but are not limited to: the impacts of COVID-19 on population groups, organizations, and social institutions; the issues, impacts and recovery connected to COVID-19; the development and implementation of therapeutic treatments and care for individuals with COVID-19; basic research on COVID-19, including but not limited to the mechanisms related to contracting and spreading COVID-19; research on mutations and diffusion of COVID-19; COVID-19 and its impact on health in acute, short and long term care of an individual; and genomic and epigenetic studies of COVID-19.

**PROGRAM OVERVIEW**

**Collaboration and Scale**
Proposals for the catalytic program must be large scale in format. Small, individual investigator initiatives will not be reviewed. Projects must be cross-cutting and multidisciplinary in nature, with a minimum of two or more schools and colleges involved in the effort.

- Projects must demonstrate meaningful collaboration and a cross-cutting approach to addressing the research theme identified in the proposal.
- Plans for the involvement and funding to support predoctoral and/or postdoctoral students required.
- Plan for pursuit of federal funding must include specific funding program or programs targeted by the collaborative team.

**Funding Mechanism**

- Grant requests must be between $250,000 and $500,000 plus matching funds from participating schools and colleges.
- A minimum of two school or college partners must partner with significant roles on selected projects.
- Each partner, regardless of the amount of the funding allocated to the school or college, is required to contribute a 30% match for its share of the overall budget.
    - For example, a grant request to OVPR for $250,000 will require a combined match of $75,000, leading to an award that totals $325,000; a request to OVPR for $500,000 will require a combined match of $150,000, leading to a total project award of $650,000.
- Up to $150,000 of the total combined OVPR and School or College funding may be used for core facilities with prior approval from OVPR.
- Projected work must be completed within two years.
- OVPR anticipates funding between 6 – 8 projects.

**Eligibility**

***Catalytic research funding is intended to support collaborative teams from more than one school or college. Only PIs who meet Temple's eligibility will be allowed to apply; no waivers of the policy will be approved.*** Support for pilot studies or other unfunded research will not be considered.

- Open to PIs from all schools and colleges.
- Eligible PIs must have ***prior federal funding during the past five years*** for research in an area related to the proposal focus.
- Approval of school or college deans, institute or center directors, and department chairs required.

**Review Criteria**

- Scholarly merit and quality of the overall study design
- Proven research track record of the investigators related to this topic
- Feasibility of the project to deliver outcomes within the timeline projected
- Quality of the strategy proposed to seek research funding, including its alignment to the outcomes anticipated from the funding provided

- Appropriateness of budget to support the scale and timeline of the project
- A well-developed strategy for the protection of intellectual property (IP) derived from this work and the pursuit of a commercialization strategy related to the anticipated IP
- Availability of facilities and infrastructure available to conduct the research.

**PROGRAM GUIDELINES**

Catalytic grant proposals must be submitted through the **Temple InfoReady** portal. Your dean or dean's designee must approve the submission and commit to provide the required matching funds to be eligible for support from the Office of the Vice President for Research. The project start date is July 1, 2021. All projects can be implemented over a two-year period, July 1, 2021 –June 30, 2023.

**Requests for catalytic research funding should include the following:**

- Statement of need, along with a plan to seek funding from external sponsors
- Statement of outcomes of prior work funded by OVPR required, if applicable
- Detailed budget and budget justification
- Investigator's biosketch, including other support information

**Proposal Format** *(This will be clearly defined in the application in Temple InfoReady).*

**Cover Page/Executive Summary/Project Description**

- Identification of proposed members of the research team and their roles related to the proposed project (e.g., project director, research assistant, staff scientist, faculty)
- Estimated level of effort (in hours) anticipated for each member
- Names of the methods and the domain expertise of co-investigators; their affiliations, including email addresses and phone numbers
- Sum of requested funds
- Approval signature of Dean or the Associate Dean for Research if designated by the Dean
- One-page executive summary that clearly explains how the proposed research addresses one or more thematic area of interest
- Project Description – No more than 4 pages including the following components:
  - Aims, research question and methods
  - Project timeline and milestones
  - Anticipated outcomes
  - Statement of broader significance of the work and plans for leveraging additional funding
  - Potential for this project to generate intellectual property that may be disclosed and protected through Temple's IP policy.
- Biosketch or CV for the proposed principal investigator(s) and other key members of the research team
  - The most current NSF or NIH biosketch can be used
  - For those investigators who do not have NIH or NSF funding but have been funded by other federal agencies, the relevant federally funded biosketch format or a CV is an acceptable alternative

**Budget Preparation**

- Budgets should itemize all costs anticipated for this project. Eligible costs: wages for trainees including students and postdoctoral fellows; graduate student tuition; supplies needed for the study; travel to conferences; and small equipment. Budgets should not include support for investigators with current grant funding.
- 9-month faculty who do not have current grant funding may request $5,000 (maximum) for summer support plus fringe.
- Budgets do not need to include F and A costs.
- A budget justification is required for each requested item.

**Intent to Apply**

Notification of intent to apply for this program is requested on or before ***March 5, 2021***. An email notification should include: specific thematic area to which you will apply; the names, affiliations, and titles of investigators to be involved in the study; and a one-paragraph overview of the specific focus of the work the team will complete. Please direct notifications to Rosemary C. Dillon at dillon@temple.edu.

Proposals are due in full on or before 5 p.m. Friday, March 26, 2021 via Temple University's InfoReady system.