The Ohio State University

President's Research Excellence program: Catalyst Grants

The Ohio State University aims to continue to grow its research and innovation enterprise and increase its research eminence among the nation's and the world's research universities by attracting more externally sponsored research funding, enabling curiosity-driven research and discoveries, and addressing large, complex societal challenges.

Towards these goals, the President's Research Excellence (PRE) program, administered by the Enterprise for Research, Innovation and Knowledge (ERIK), provides seed support for cross- and interdisciplinary research that will secure extramural funding. Specifically, the PRE program supports (1) small teams formed to pursue high-risk and high-reward research; and/or (2) large cross- and interdisciplinary teams to pursue large-scale, high-impact research that addresses emerging or existing challenges of national and international societal importance, generates long-term, sustained, impact, and positions Ohio State as THE leader in this area.

Proposals must make a compelling case for the nature and scope of anticipated scientific, technological or societal impacts that will result from the proposed research. Applicants should also provide plausible and measurable impacts consistent with program goals to increase research expenditures and enhance Ohio State's leadership position. Projects are expected to result in a proposal submitted for external funding by the end of the grant period or the closest deadline for the external program suggested by the proposing team and approved by the review panel. Failure to do so will disqualify the PI and Co-PIs from submitting PRE requests in the future.

Program

The 2023-2024 academic year PRE program includes one call for proposals for Catalyst Grants and two calls for proposals for Accelerator Grants. Up to $2.5 million will be awarded in total. Additional details on the timing of these calls can be found on the PRE program webpage.

Note: *The level of expected research eminence is the same for both categories; the difference is the breadth and scope of the proposed projects.*

Catalyst Grants

Catalyst Grants support cross- and interdisciplinary teams proposing bold, creative, and potentially transformative ideas that address significant societal challenges and raise the level of research eminence at Ohio State. Successful Catalyst projects will: (1) address a recognized challenge of societal significance; (2) propose a transformative research concept; (3) employ

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breakthrough technology and/or novel methodologies; and (4) lead to submission of a large-scale ($3 to 5 million or more), national-level center proposal by the end of the grant period.

Applications from all areas of inquiry are welcome. Highly interdisciplinary research proposals that integrate business, art, policy, law, or humanities with natural, social and physical sciences, engineering, health, or agricultural sciences are strongly encouraged.

The Catalyst program prioritizes support for proposals that address emergent and convergent research aligned with national scientific, medical, and engineering priorities. Within these broad areas, the university is especially interested in proposals that position Ohio State for leadership in:

- Aging, Healthy Aging

- Biotechnology/Biomanufacturing

- Cancer Science and Engineering, Immunology and Therapeutics

- Cardiopulmonary Disease

- Cell and Gene Therapeutics

- Data Sciences, Artificial Intelligence, Machine Learning

- Digitalized and Next Generation Manufacturing

- Emerging Autonomous Technologies and Systems, Smart Mobility, Cybersecurity

- Food, Nutrition, Metabolism, Behavior and Health

- Genomics

- Health Disparities, One Health

- Neuroscience

- Novel Social Science Research Concepts that Address Societal Challenges Related to Food, Water, Health, Racial Equity and Inclusion, and National Security

- Precision and Sustainable Agriculture

- Quantum Information Science and Technology, Next Generation Wireless Communication

- Renewable Energy, Smart Grid, Energy Storage

- Space Exploration, Habitation, and Defense Research, Including Geospatial Science and Technology

Eligibility Requirements

The lead PI for this program must be a faculty member, either tenure/tenure track or research, or a clinical-track faculty member who is engaged in research. PI status at Ohio State is required

for all lead PIs. Co-PIs can be faculty, research staff or post-docs from intellectually distinct disciplines. Highly collaborative, cross- and interdisciplinary teams formed with attention to the diverse perspectives and approaches required to address the identified challenge, and that include researchers at all career stages, are strongly encouraged to apply.

Proposing teams must include at least three to five Ohio State researchers from distinctively different interdisciplinary areas.

Researchers may only be named as PI or Co-PI on a single PRE project proposal per Accelerator or Catalyst competition. If any researcher is named as PI or Co-PI on more than one proposal in the same competition (Accelerator or Catalyst), only the first proposal submitted, as indicated by the time and date stamp from the submission site, will be reviewed and any proposal submitted with a duplicate investigator named after that will be disqualified. Any PI or Co-PI named on an active, awarded PRE project (Accelerator or Catalyst) cannot be named as such on another PRE proposal (Accelerator or Catalyst) until the awarded PRE project period ends.

Budget

Catalyst Grants provide up to $200,000 for an 18-month performance period. Funding is allocated in two installments, with the second installment contingent on interim review of progress towards milestones. For the 2023-2024 academic year, there will be one funding round.

Allowable spending:

Catalyst Grants may fund the following:

- Research supplies and expenses associated with project deliverables

- Support for students (stipends and tuition/fees)

- Salary and benefits for staff scientist(s) and/or post doc(s)

- Matching funds ($50,000 maximum) for research instruments or technical infrastructure

- Expenses associated with project-specific travel to meet with external collaborators or host collaborator meetings on campus

Funds <u>cannot</u> be used to support or supplement faculty salaries or for travel to conventional academic meetings or conferences. External collaborators are welcome, but <u>must not</u> be supported by PRE funding.

Concept Paper Requirements

Proposing teams must submit a three-page concept paper narrative **that is organized using the required section headers listed below:**

- **Title:** descriptive project title

- **Project Narrative:** non-technical narrative describing the societal challenge to be addressed, the proposed cross- and interdisciplinary approach(es) to be employed, and how the proposed work will utilize or develop breakthrough technology and methodologies to produce potentially transformative results

- **Strategic Research Growth Areas:** identification of one or more research priority areas listed above that are addressed in the concept paper or that speaks to the societal impact and significance of the proposed research if it falls in a category outside of the identified priority topics

- **Team:** list of core proposing team members with departmental affiliations, a brief statement of their role(s) on the proposed project, and a summary that describes the various ways in which team members have previously collaborated and to what extent

- **External Funding Opportunity:** name of the external sponsoring agency and specific program to which a proposal will be submitted by the end of the grant period, and

- **Budget Narrative:** a brief narrative description of the anticipated allocation of requested seed funding. For example, "Project expects to utilize seed funding to support 50% stipends for 2 graduate students (include total dollars), 25% compensation for a research scientist (include name and total dollars), 50% compensation for a post-doctoral researcher (include name and total dollars) and $25K to cover the core facility usage fees (include name of core facility)." Do not include a budget table or form.

- **Note that** references are optional and, if included, are separate from the required three-page narrative. Do not include a cover page or any biosketches/CVs. Concept paper narratives should be single-spaced with one-inch margins on all sides and a font size no smaller than Arial 10.

Review and Selection

Concept papers for the Catalyst program are reviewed by a panel of faculty experts. Panel members are not eligible to apply for PRE funding during their term of service. The faculty panel will make recommendations for projects to invite for full proposal submission to the vice president of Knowledge Enterprise, who will make the final decision in consultation with ERIK leadership.

Invited Full Proposals

Teams whose concept papers are invited for full proposal submission will submit a one-page "Response to Reviewer Feedback," a five-page proposal narrative, team member biosketches, and a budget and budget narrative **within a single PDF file**.

Full Proposal Requirements

- Response to Reviewer Feedback – one page

- Describe how you have elected to respond or not respond to reviewer feedback of your concept paper.

- Narrative **(must be organized using the section headers underlined below)** – five pages

    - **Title:** descriptive project title

    - **Project Narrative:** non-technical narrative describing the societal challenge to be addressed, the proposed cross-disciplinary approach(es) to be employed, and how the proposed work will utilize or develop breakthrough technology and methodologies to produce potentially transformative results

    - **Timeline and Milestones:** timeline and milestones for the activities to be supported with grant funds

    - **Identified Strategic Research Growth Area(s) or Societal Impact and Significance:** statement as to how the proposed research fits in one or more of the identified priority topics, or that speaks to the societal impact and significance of the proposed research if it falls in a category outside of the identified priority topics

    - **Expected Impact: explanation** of the significance and expected impact of the work on science and/or society, along with the anticipated contribution to Ohio State's goals related to research eminence and external funding

    - **External Funding Opportunity:** name of the external sponsoring agency and specific program to which a proposal will be submitted at the end of the grant period

- Team Member Biosketches – two pages each

- Budget and Budget Narrative – two page maximum

- **Note that** are optional and, if included, are separate from the required five-page narrative. Do not include a cover page. Proposals should be single-spaced with one-inch margins on all sides and a font size no smaller than Arial 10.

Teams submitting to this program should present a clear, compelling, and detailed plan that addresses the preliminary research to be pursued and milestones to be achieved to enable submission of a large, externally sponsored grant proposal by the end of the 18-month performance period.

A final report of activities and budget expenditures, along with a copy of the proposal submitted for external funding are required at the conclusion of the funding period. Awarded teams may be required to participate in a facilitated team science ideation session(s) during the project period to ensure cohesiveness and functionality of the team. Awarded teams whose projects include potential intellectual property are encouraged to contact David Mess at mess.11@osu.edu with ERIK's Office of Innovation and Economic Development for support and guidance.

No-cost extensions are not permitted. Unspent grant funds will be returned to the PRE program.

Review and Selection:

Invited full proposals will be reviewed by the same faculty panel that reviewed the concept papers. The faculty panel will make funding recommendations to the Program Executive Lead, designated by the executive vice president of the Enterprise for Research, Innovation and Knowledge (ERIK). The Program Executive Lead will make the final decision, in consultation with an advisory team designated by the executive vice president of ERIK.

PRE Evaluation Criteria

- Degree to which the proposed project is discovery-driven, and offers A) novel, high-impact and high-reward research concepts to a well-defined challenge of regional or national significance (Accelerator Grant) or B) transformative and high-impact research concepts for larger-scale, significant societal challenges (Catalyst Grant).

- Degree to which the proposed project will increase Ohio State's research eminence and prestige and result in extramural funding.

- Degree to which the project includes strong rationale for the proposed activities and offers compelling near-term proposal submission, long-term impacts on science and/or society, and clear return on university-invested dollars consistent with program goals.

- Degree to which planned activities will plausibly achieve the desired outcome(s) in the designated performance time (i.e., 12 months for an accelerator grant and 18 months for a catalyst grant).

- Degree to which there is demonstrated knowledge and expertise of the team members to effectively execute the project and to which the team members have previously collaborated. It is expected that all partners are substantively involved in the design and implementation of the proposed work.

- Degree to which Ohio State's unique strengths and expertise are leveraged to position the university for regional, national and international leadership in the project area.

- Degree to which the plan for the external submission is clear, technically sound and attainable within or at the conclusion of the performance period.

For more information or questions, contact us via email at pre@osu.edu.