



K-State Game-Changing Research Initiation Program (GRIP)
Transdisciplinary Teams for Transformative Research
October 2022

Solutions to the global grand challenges facing our people, society, and the planet can best be found by the creation and deployment of successful transdisciplinary teams. The Office of the Vice President for Research (OVPR) is partnering with the Office of the President, the Office of the Provost, the KSU Foundation, and the college deans to help form and support impactful research teams that can provide solutions to our Kansas stakeholders, our nation, and our world. Under this new initiative, we anticipate funding the most promising **interdisciplinary teams** to conduct **transformative research** that may also have a positive impact on **Kansas economic growth and prosperity**, in pursuit of the goals articulated in K-State's *Economic Prosperity Plan*, see: www.k-state.edu/economicprosperity/

This opportunity is open to all K-State faculty, departments, colleges, and campuses. A total of \$3M will be made available for this initiative. Proposals from transdisciplinary research teams are invited for up to \$300K per year for up to three years. An additional \$50K of ramp-up funding will be provided prior the official start of the first year (\$950K total per project). We anticipate funding up to three teams/projects. The remaining \$150K will be used to seed promising but not yet competitive projects.

All K-State faculty are invited to attend one of **three GRIP Q&A sessions** in the coming weeks, hosted by the Vice President for Research (David Rosowsky) and the Senior Associate Vice President for Research and Director of the Office of Research Development (Beth Montelone). Two of the sessions will be held at one of the coffee venues on the Manhattan campus. A third (virtual) session via Zoom will be held to accommodate any interested faculty unable to attend one of the in-person sessions on the Manhattan campus. These informal sessions are opportunities for interested faculty to ask questions, share ideas, meet other faculty, and learn more about GRIP. Dates, times, and locations for these sessions will be announced in RESEARCH WEEKLY and posted on the GRIP website, www.k-state.edu/research/grip/

A core expectation of this program is to identify and support teams committed to developing competitive center-level proposals (federally funded, industry supported, or a combination or both) and/or contributing directly to statewide economic development.

The Office of Research Development (ORD) is available, if needed, to assist proposal leaders/teams in identifying faculty experts from across K-State (beyond their department or college, for example). ORD staff can point proposal leaders/teams to specific faculty members having complementary/contributing expertise or direct them to someone that can help identify the right faculty expert(s) and/or potential collaborators. Contact: ord@ksu.edu

GRIP proposals are invited on any topic, provided they meet the *at least one* of the stated goals for the GRIP program, namely: (1) groundbreaking, transdisciplinary research, and (2) potential for economic development. At least one of the GRIP awards will align with one or more of the thematic areas that have been identified in K-State's *Economic Prosperity Plan*. Kansas State Innovation Partners (KSIP) is available to advise on economic development potential and opportunities. Contact: Becky Plummer, beckyr@ksu.edu

Successful proposals will also identify how the research will contribute to existing or new academic (educational) programs, both disciplinary and transdisciplinary; outreach to (and learning by) external stakeholders; corporate partnerships; and/or the launch of startups.

GRIP funds may also be used to plan or launch a new center; however, new centers will only be allowed to continue with sustainable extramural funding.

GRIP proposal teams must include an identified tenured faculty leader with demonstrated record of assembling interdisciplinary research teams, and both a leadership plan and a team science/synergy plan that appropriately share resources and responsibilities among faculty from multiple K-State colleges and/or campuses. Faculty and scientists from institutions or organizations outside of K-State may be included if their participation strengthens the proposal. If appropriate, a member of the KSIP staff can be included on the proposal team on the full proposal (if invited).

Support to be provided:

1. Up to \$300K per year for up to three years, plus \$50K in one-time ramp-up funds, that *includes* a required contribution of \$67K per year from the participating college(s); annual renewal subject to review of progress and meeting of specific milestones identified in the proposal. For proposals requesting less than \$300K per year, the participating college(s) are required to provide 20% of the annual funding.
2. Center grant proposal development assistance if needed
3. KSIP assistance to develop specific industry engagement and economic development aspects, if applicable
4. Regular meetings with KSU Foundation staff to develop a strategy for identifying/securing philanthropic support, if applicable
5. A negotiated sharing of SRO returned to the lead college(s) from any new federal grants supporting a new center will be provided to the project team, subject to approval of the VPR
6. Commitment of startup space for a new company that evolves out of the research at reduced cost for up to two years, if applicable

GRIP proposals *must include* specific plans (including timelines and target agencies) for one or more large center grant proposals and, where appropriate, a list of any participating personnel or organizations outside of K-State. If appropriate, proposals *may include* specific plans for a collaborative research agreement with one or more companies that results in location of facilities/employees in the Manhattan area or elsewhere in Kansas, and that result in significant new investments in K-State research, researchers, and facilities.

Proposals should also include statements of additional financial support (beyond the required match), any other types of support from participating colleges (e.g., faculty positions, space, release time, staff support), and any additional direct financial support from industry partners (if applicable).

Pre-proposals will be reviewed by a broadly representative committee of senior researchers and academic leaders at K-State (identified once the pre-proposal topics and team members are known and including representation from all colleges). Invited full proposals will be reviewed by a broadly representative committee of faculty and academic leaders at K-State (identified once the final proposal topics and team members are known and including representation from all colleges), representatives from any relevant state agencies, and external experts invited to serve as reviewers. The committee will be assembled and charged to provide their ranked recommendations to the VPR. The VPR will make final decisions on awards in consultation with the president, provost, and Foundation.

Timeline: Announcement of GRIP funding opportunity Tuesday October 4, 2022
 Information sessions (optional) throughout the month of October
 Pre-proposal (not more than two pages) due Tuesday December 6, 2022
 Selection of projects to advance to full proposals by Tuesday January 17, 2022
 Full proposals due Tuesday May 2, 2023
 Awards announced by Tuesday June 20, 2023
 On-ramp funds available July 1, 2023
 Project start date: September 1, 2023
 (Requests for subsequent year funding will be due each summer,
 details to be provided)

Proposal format and requirements:

- a. Accepted fonts:
 - o Arial⁶ (not Arial Narrow), Courier New, or Palatino Linotype at a font size of 10 points or larger;
 - o Times New Roman at a font size of 11 points or larger; or
 - o Computer Modern family of fonts at a font size of 11 points or larger.
- b. No more than six lines of text within a vertical space of one inch.
- c. Margins, in all directions, must be at least an inch. No proposer-supplied information may appear in the margins.
- d. Paper size must be no larger than standard letter paper size (8 ½ by 11”).

Pre-proposal (maximum of 2 pages):

Title, colleges/departments, personnel, executive summary, commitment of match and any additional support; the technical/scientific merit as well as any economic development potential should be clearly identified, as should the degree to which the proposed project is (a)

transdisciplinary, (b) transformational, and (c) likely to be successful in securing center-level funding from federal and/or industry sources.

Full proposal (if invited):

Details to be provided. Must also describe plans for demonstrating impact through outreach, Extension, K-State 105, or other transfer of knowledge. An oral presentation is expected to be part of the final proposal stage.

APPENDIX:

Examples (only) of transdisciplinary thematic areas that tackle grand challenges, develop innovative and integrative solutions through transdisciplinary teams, and that could generate or lead to regional economic development:

EXAMPLE 1

Climate Change: Modeling, Mitigation, Adaptation and Sustainability

Basic science, applied science, earth and atmospheric sciences

Engineering

Agriculture

Data sciences, AI, machine learning

Human behavior and behavior change management

Education

Business and economics

Architecture and urban planning

Finance

Journalism and media

Marketing and communications

Psychology, sociology, anthropology

Political science

Policy studies

Cultural studies

Global studies and international affairs

Human health and health sciences

Animal sciences and veterinary medicine

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EXAMPLE 2

Energy (technologies, materials, systems, smart grid, economics, policy)

Basic science, applied science, earth and atmospheric sciences

Engineering

Agriculture

Data sciences, AI, machine learning

Human behavior and behavior change management

Education

Architecture and urban planning

Finance
Business and economics
Political science
Policy studies
Media and communications
...

EXAMPLE 3

Water (resources, scarcity, policy, use, reuse, access, equity, management, security)

Basic science, applied science, earth and atmospheric sciences
Engineering
Agriculture
Data sciences, AI, machine learning
Human behavior and behavior change management
Education
Business and economics
Architecture and urban planning
Finance
Journalism and media
Marketing and communications
Psychology, sociology, anthropology
Political science
Policy studies
Cultural studies
Global studies and international affairs
Human health, animal health, and health sciences
...

EXAMPLE 4

Food Systems and Security

Agriculture
Nutrition and food sciences
Basic science, applied science, earth and atmospheric sciences
Engineering
Data sciences, AI, machine learning
Human behavior and behavior change management
Education
Business and economics
Finance
Journalism and media
Marketing and communications
Psychology, sociology, anthropology
Political science
Policy studies
Cultural studies

Urban planning
Global studies and international affairs
Human health and health sciences
Animal sciences and veterinary medicine
...

EXAMPLE 5

Mixed Reality Applications in Teaching and Learning

VR/AR/MR/XR technologies and systems
Education
Engineering
Computer science, data sciences, AI, machine learning
Psychology, neuroscience, cognition
... *all* university disciplines and academic programs

These are examples only, offered to illustrate both the *opportunity* and the *need* for transdisciplinary teams of researchers and scholars from many different disciplines to work together to address timely topics and complex challenges.