



Office of the Vice Chancellor for Research and Innovation

The Ignition Grant Initiative (IGI)

Objective of IGI

The Kummer Missouri S&T Ignition Grant Initiative (IGI) is an **annual *planning grant*** created by the Office of the Vice Chancellor for Research and Innovation to fund new and innovative ideas that will ultimately lead to large research proposals in strategic areas for Missouri S&T. The proposals will integrate multi-disciplinary ideas and ignite teamwork and collaboration to strive towards achieving the visions of the Kummer Research Centers (Center for Artificial Intelligent and Autonomous Systems, Center for Advanced Resilient Infrastructure, Center for Advanced Manufacturing, and Center for Resource Sustainability). Furthermore, IGI will support **initiatives elaborated in the 2021 Research Road Map** that identifies major research constellations selected based on the existing research foundation, projected directions of disciplines, and potential to create a true research ecosystem. The research constellations include BioX, Data Science, Infrastructure, Intelligent Systems, Materials, Resources: Natural, Energy, Water for Society (ReNEWS), as well as Training, STEM Education, and Workforce Development. Further description of the constellations can be found at: <https://sponsoredprograms.mst.edu/resources/researchroadmapreports/>

Proposals may be aimed at NASA, NSF, DOD, DoE, NIH, ONR, or any other government agency, foundation, or non-profit/private organization. They can be either directly targeted at public agency calls or can be targeted at known government needs. A list of potential RPFs can be found online at: <https://sponsoredprograms.mst.edu/funding/>

Operationally, the main emphasis of an Ignition Grant is to provide resources for Missouri S&T Faculty members to start planning a new significant project and building teams that can lead to long-term, externally funded, multi-investigator, multi-disciplinary research programs. The starting external proposal must be **≥ \$500,000**. The **stretch goal** would be to develop proposals with a budget **≥ \$3M**. When properly planned, such efforts could ultimately meet stretch goals targeting large programs, such as the NSF Engineering Research Center (ERC), the DoD Multidisciplinary University Initiative (MURI), or the NIH Multi-Year Funded (MYF) Awards, as well as enable the development of one or more spin-off proposal activities with subsets of a larger team.

Funding and Allowable Expenses

It is anticipated to award about five ignition grants in this round of competition in the following amounts of funding depending on the targeted external proposal level:

\$40-\$60K for proposals of >\$3M;

\$30-\$40K for proposals of \$1M-\$3M;

\$20-\$30K for proposals of \$0.5-\$1M.



The ignition grant awards will provide funding for internal and external team building, holding research workshops, visits with funding agencies, provide short-term graduate/undergraduate student support to develop pilot experiments (up to 4 months), hiring a grant writer/illustrator, and supporting up to one month of summer salary for faculty to develop a full proposal. Each of these types of support is limited to \$15,000. Note: there are no indirect costs for these grants. **Regular research grant proposals will not be funded since IGI aims at planning grants.** Ignition Grant funds can be used for reimbursement of approved research planning expenses described in the proposed budget and must be managed in accordance with standard S&T's policies, including documentation of expenditure.

Non-Allowable Expenses

Some of the expenses that will not be covered through this program are expenses paid for course buyout, publishing journal papers, books, book chapters, membership fees, purchase of computers or other equipment, purchase of routine office supplies, and travel expenses that are not included in the approved budget.

How to Apply to IGI

Each team should submit a **summary page** (see exhibit below) and **two-page white paper** describing the vision and technical approach, including references to past relevant work. The two-page white paper should include the following items:

1. Scientific Objective and Broader Impact.
2. Team members and their expertise, including needed expertise for members to be identified.
3. Funding target, anticipated due date, and justification (how will this proposal or proposal set lead to a stretch goal?). If possible, identify the specific solicitation/RFP to provide the reviewers with a better understanding of the potential impact of the proposal.
4. Timeline, budget, and budget justification.
5. Synopsis of a previous seed grant (if any), outcomes, relation to current proposal.

The deadline for the application is **February 28, 2023**. A PI can apply only to one IGI grant per grant cycle (fall or spring terms) and lead only one IGI grant per fiscal year. Applications should be sent to: S&T Office of the Vice Chancellor for Research and Innovation at: research@mst.edu. Technical questions should be directed to your College's Dean or Associate Dean for Research, if applicable. The Vice Chancellor for Research and Innovation and/or your College's Associate Dean for Research will be glad to brainstorm with you and your team to help tune your concept.

Proposal Evaluation

The proposals will be evaluated by the Research Proposal Review and Mentoring (RPRM) panel. The RPRM panel will evaluate the proposals based on several criteria, including the clarity of vision, the intellectual merit, the strategic impact for Missouri S&T, the past performance of the investigator(s), the plan for team building, the plan for the potential external fund opportunities, the plans for diversity and inclusion, and the potential societal impacts. The winning teams will be announced in **early April 2023**.

Full Proposal Due Date and Outcome Assessment

The team is required to submit monthly progress reports as well as an external proposal by **March 31, 2024**. Grant recipients will give a 30-minute presentation to the Award Capture Team, ACT, no later than one full month in advance of the proposal due date. The purpose of the presentation is to help the team prepare a competitive proposal by assessing the progress made by the team, addressing some of the challenges the team may face, and assessing the proposal submission plans of the team.

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Summary Page

Title	Technical Challenges
Problem Definition	Technical Approach
Potential Impact	Milestones/Timing
Future Funding Agency	Funding Request
Missouri S&T Research Alignment and Payoff	Deliverables