



IUPUI

**STEM EDUCATION  
INNOVATION AND  
RESEARCH INSTITUTE**

**SEIRI SEED Grant (SSG)**

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**2023 Request for Proposals**

Questions regarding this RFP should be directed to [dmaric@iu.edu](mailto:dmaric@iu.edu) or [pvn@iupui.edu](mailto:pvn@iupui.edu)

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# 2023 STEM Education Innovation & Research Institute Seed Grants Request for Proposals

Submission Deadline: **March 31<sup>st</sup>, 2023**

## I. Purpose

The STEM Education Innovation and Research Institute (SEIRI) at Indiana University Purdue University Indianapolis (IUPUI) is pleased to announce the 2023 SEIRI Seed Grant (SSG) competition. The goal of this competition is to facilitate and support STEM education innovation and research at IUPUI. Specifically, this opportunity provides faculty members in science, technology, engineering, and mathematics (STEM) departments with funding to develop, implement, and evaluate the impact of pedagogical innovations across one or more IUPUI STEM courses. As a long-term goal, this grant is intended to enable faculty competitiveness for external funding with agencies such as the National Science Foundation (NSF), Spencer Foundation, and the National Institute for Health (NIH), or other internal funding such as the IUCRG. As such, we strongly encourage that interested STEM faculty partner with an educational research or design expert within fields related to the learning sciences, such as (but not limited to) IUPUI's Department of Psychology or School of Education.

## II. Scope

The SSG supports a wide range of curricular innovations with a targeted focus on potentially transformative projects that will be implemented in the undergraduate or graduate curriculum at IUPUI and that provide opportunities for novel Scholarship of Teaching and Learning (SoTL) or Discipline-Based Educational Research (DBER). Proposals should include an innovative aspect as well as a plan to evaluate the impact of this curricular innovation. Possible projects include, but are not limited to, the following:

- Developing and exploring any novel and potentially transformative approach to teaching science, technology, engineering, mathematics, or informatics to undergraduate or graduate STEM students at IUPUI.
- Situating a rigorously tested pedagogical approach that has been proven to work in one context within another.
- Utilizing technology within or beyond the STEM classroom to strengthen inclusive teaching and learning outcomes.
- Fostering interdisciplinary collaborations among student teams from within and outside of STEM or across STEM disciplines.
- Applying online instructional strategies developed during COVID-19 in a face-to-face or hybrid classroom.

## III. Eligibility

- Proposals can be of three types (1) individual (2) faculty teams or (3) department wide.
  - Individual-level projects involve one faculty member examining innovations in one existing course or a new course that is being created.
  - Faculty team-level projects involve two or more faculty members examining innovations in one or two existing courses or courses that are being created.

- Departmental-wide projects involve a larger team of three or more faculty members creating/testing innovations in three or more courses in a single department. For example, this may include making changes to all introductory courses or all laboratory components in a department.
- The Principal Investigator (PI) must be an IUPUI full-time faculty member in the School of Science, the School of Engineering and Technology, or the School of Informatics and Computing (tenured, tenure track, or non-tenure track).
- IU School of Medicine Faculty involved in STEM Education Projects (Assistant or Associate Research Professors) are eligible to apply as PI or co-PI(s).
- Co-PI(s) may also include faculty members from any other school within IUPUI.
- Other part-time or adjunct faculty in the Schools of Science, Engineering and Technology, or Informatics and Computing may be included on proposals but may not serve as the PI.
- For department wide proposals, the department chair must be involved in a meaningful way (e.g., provide administrative support or provide consultation) in the execution of the proposed project. Within the main body of the proposal, please include a description for their specific role in the project beyond a letter of support.
- For department-wide proposals, not all of the faculty have to be listed as PIs or Co-PIs, but all participating members should be listed either as collaborators or key personnel.

#### **IV. Funding**

- Individual or faculty teams can apply for up to \$15,000 for the project duration of 18 to 24 months.
- Departmental projects can apply for up to \$30,000 for the project duration of 18 to 24 months.
- Year 1 funding will be dispersed in June 2023 and year 2 funding will be dispersed in June 2024 for 24-month projects. The distribution of Year 2 funds is contingent on the completion of the Year 1 annual report.
- We encourage you to review your budget with the budget manager or fiscal officer in your school. Fringe benefits, associated with salary support, must be included based on IU rates at the time of submission: <https://research.iu.edu/funding-proposals/proposals/budgets/rates.html>

#### **V. Submission Deadline**

- Submit all application materials by 11:59pm EST on March 31<sup>st</sup>, 2023.
- Late submissions will not be considered.

#### **VI. Application Process**

- Direct your SSG-related questions to [dmaric@iu.edu](mailto:dmaric@iu.edu) or [pvn@iupui.edu](mailto:pvn@iupui.edu)
- SEIRI will hold an information session prior to the submission deadline. To find dates and in order to register, please refer to the SEIRI webpage:

<http://www.seiri.iupui.edu>. This session will provide information about the SSG, including eligibility, guidelines, proposal writing expectations, and post-award expectations.

- Complete the proposal application form on our website at <https://seiri.iupui.edu/fundingopportunities/ssg/> by the deadline (March 31<sup>st</sup>, 2023).

## VII. Support for Awardees

- Programmatic consultations, including framing programmatic objectives, developing or refining your assessment or evaluation plan, developing a plan to disseminate findings, and preparing your IRB materials.
- SEIRI will facilitate regular meetings, which will allow awardees to discuss any emergent challenges or successes with their colleagues as well as participate in workshops covering topics in education research.
- Although SEIRI staff are available for awardee support as consultants assigned by the director, SEIRI staff members cannot serve as Co-PI on a SEIRI Seed Grant project during the SSG funding period.
  - However, SEIRI staff may serve as Co-PI once the project is being submitted for external funding.

## VIII. Awardees' Obligations

- Submit an annual and final project report by **11:59 PM EST on June 30<sup>th</sup>** each year respectively.
- Agree to work with a facilitator from SEIRI who will serve as a consultant, provide feedback, and monitor progress in light of the project timeline provided in the proposal.
- Participate in the programming offered by SEIRI related to the SSG, including:
  - Attendance at the SSG welcome session for all awardees, June 2022
  - A presentation in the SEIRI Symposium, time TBD
  - Twice yearly check-in sessions
- The research team must have or receive IRB approval for their project.
- Awardees must include plans for securing external funding, and they are required to submit a proposal building on the SSG-funded study within **24 months** of receiving SSG funds.
- Awardees must acknowledge receipt of SEIRI support in any presentation or publication of work presented or published resulting from this support.

## IX. Review Criteria

Funding decisions will result from peer review of proposals in response to this call. Reviews for submitted proposals will be based on:

- The potential student impact of the project.
- The potential for the project to advance knowledge.
- The appropriateness of the budget, including *individual or faculty team commitment*.
  - *Travel allocations will be subject to current university policies.*

- The qualifications of the team to conduct the work.
- The sustainability and long-term impact of the project.
- The probability of the project leading to external funding.
- The integration of the project with department goals (for department wide projects).

## X. Review Process

- A panel consisting of STEM faculty and SEIRI personnel will review proposals.
- During the review or award process, questions may arise regarding budget or other aspects of the proposal. SEIRI reserves the right to negotiate changes in budget requests or other project features.
- Applicants will be notified of award decisions no later than **June 1<sup>st</sup>, 2023**.

## XI. Proposal Features

**The proposal must include all sections listed below.** By the submission deadline, please complete the online form on our website at: <https://seiri.iupui.edu/fundingopportunities/ssg/>

### *PI, Co-PI, and Key Personnel Information*

- List all investigators, including full name, department, rank/title, and e-mail address.
- Optional: Other personnel (collaborators, technicians, graduate students, postdocs)

### *Section 1. Project Summary*

- Project Title
- Project category: Individual/faculty team OR Departmental
- List potential sources of future funding, such as potential program solicitation(s)
- Abstract (*250 words*): Describe the project in lay terms; articulate the project objective; specify what makes this project innovative; describe your assessment or evaluation plan to ascertain student impact (this will be listed on SEIRI's website if the project is funded)

### *Section 2. Project Description*

- Project Scope (500 words)
  - *Framing*: Specify your overarching objectives; identify and describe sub-goals or specific aims and how these align with the overarching objectives; identify how the proposed innovation will meet those goals.
  - *Participants*: Identify your target participants; approximate how many participants will be impacted during the grant period; beyond the SSG duration, identify if and how this innovation will continue to benefit later student cohorts.
  - *Recruitment*: Specify how participants will be identified and contacted.
  - *Schematic*: Include an overview of how the primary project components fit together. This could take the form of a flow chart, concept map, or logic model.
- Rationale and Literature Review (500 words)
  - Describe if and how this project aligns with IUPUI strategic initiatives.
  - Describe if and how this project aligns with national initiatives.
  - Identify educational research that has been conducted in this space.
  - Identify what prior work your team done in this space.

- Novelty (500 words)
  - Describe what aspects of this project are novel.
  - Articulate what makes this project distinct from or build upon existing interventions.
- Assessment and Evaluation Plan (500 words)
  - Address how the sub-goals or specific aims will be measured.
  - Indicate how you will monitor the effectiveness of the project as it evolves.
  - Specify the assessment and evaluation methods you will use.
  - Identify what curricular changes you envision your project leading to at IUPUI.
  - Specify how you will know the extent to which those changes are achieved.
- Role of Key Personnel (500 words)
  - Specify the expectations and obligations of all project personnel, including qualifications of the investigators with respect to their specified roles. For Departmental proposals, include contributions of the Chair.
- Dissemination Plan (500 words)
  - Describe how the findings and products will be disseminated within IUPUI.
  - If appropriate, indicate how your investigation will inform the scholarship of STEM education throughout the larger academic community.
- Broader Impacts (500 words)
  - Frame the broader impacts of the innovation with respect to NSF’s language.
- References

*Section 3. Project Timeline (1-page maximum)*

- Use a timeline to depict the schedule for your project. The timeline should include start and finish dates for your project as well as the dates or timeframe during which various project tasks will occur.
- The 2022 SSG project period is June 2023 to June 2025, so the project timeline should be within that timeframe.
- Please upload this as a PDF file.

*Section 4. Budget Overview*

- Complete the budget using a template offered by the Office of Research Administration: [https://seiri.iupui.edu/doc/ssg/SEIRI\\_SSGBudgetTemplate2020.xlsx](https://seiri.iupui.edu/doc/ssg/SEIRI_SSGBudgetTemplate2020.xlsx)
- Please upload this as a PDF file.

*Section 5. Budget Justification*

- Specify how each budgeted item will contribute to the research plan. For instance, if faculty salary is a line item, please indicate who will be paid at what level of effort or time and salary amount consistent with university policy. If “Software” is a line item, please indicate categories of supplies and cost (e.g., “quantitative analysis software”) and their project use. If travel is included, specify the specific time and location of travel.

*Section 6. PI and Co-PI Biographical Sketches (2-page maximum for each investigator)*

- List professional preparation; current and prior academic appointments; relevant products, such as publications and/or presentations.
- Please upload this as a PDF file.

*Section 7. Letter(s) of Support (1-page maximum per letter)*

- A letter of support from each investigator's Department Chair must be uploaded with your application. Your chair should indicate you have the time to perform the project and that this proposal represents original work that is not funded by another agency.
- Please upload all letters as PDF files.