



IUPUI

**STEM EDUCATION  
INNOVATION AND  
RESEARCH INSTITUTE**

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INDIANA UNIVERSITY-PURDUE UNIVERSITY  
Indianapolis

**SEIRI SEED Grant (SSG)**

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**2017 Request for Proposals**

Questions regarding this RFP should be directed to [seiri@iupui.edu](mailto:seiri@iupui.edu) or 317-278-0168.

# 2017 STEM Education Innovation & Research Institute Seed Grants Request for Proposals

Submission Deadline: **May 15, 2017**

## **I. Purpose**

The STEM Education Innovation and Research Institute (SEIRI) at Indiana University Purdue University Indianapolis (IUPUI) is pleased to announce the 2017 SEIRI Seed Grant (SSG). The goal of this competition is to facilitate and support STEM education innovation and research by growing the body of Discipline-Based Education researchers at IUPUI. Specifically, this opportunity provides faculty within science, technology, engineering, and mathematics (STEM) departments, with funding to develop, implement, and evaluate the impact of pedagogical innovations across multiple 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 curriculum at IUPUI and that provide opportunities for novel Discipline-Based Educational Research. 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 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 in novel ways
- Fostering interdisciplinary collaborations among student teams from within and outside of STEM or across STEM disciplines

## **III. Eligibility**

- The Principal Investigator (PI) must be an IUPUI full-time faculty within the School of Science, the School of Engineering and Technology, or the School of Informatics and Computing (tenured, tenure track, and non-tenure track).
- Anyone fitting the above definition may serve as Co-PI.
- Co-PI(s) may also include faculty members from the School of Education or any other school, as long as this individual can be justified as an educational researcher or learning sciences expert.
- Other part-time or adjunct faculty within the School of Science or the School of Engineering and Technology may be included on proposals but may not serve as a PI.

#### IV. Funding Levels

- We will fund up to \$150,000 for 18 to 24 months.
- Teams can apply for up to \$30,000.

#### V. Submission Deadline

- Submit all application materials by 11:59PM EST on May 15, 2017.
- Late submissions will not be considered.

#### VI. Application Process

- Direct your SSG-related questions to [seiri@iupui.edu](mailto:seiri@iupui.edu), 317-278-0168, or by visiting SEIRI at room 1123 in the University Library.
- SEIRI will hold an information session prior to the submission deadline. To find dates and in order to register, check 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.
- Submit the proposal and a letter of support from your department or program chair at [https://iu.co1.qualtrics.com/SE/?SID=SV\\_1Y3BdVnMqyEYHwV](https://iu.co1.qualtrics.com/SE/?SID=SV_1Y3BdVnMqyEYHwV) by the deadline.

#### VII. Support for Awardees

- Programmatic consultations, including framing programmatic objectives, developing an assessment or evaluation plan, developing a plan to disseminate findings, and preparing your IRB materials.
- We strongly encourage you to include a learning sciences or other related educational researcher to help with the assessment and evaluation component.

#### VIII. Awardees' Obligations

- Complete and submit annual project reports by 11:59 PM EST on July 31.
- Agree to work with a facilitator from SEIRI who will serve as a consultant and will monitor the progress of the project so it is completed within the timeline proposed.
- Participate in the programming offered by SEIRI related to the SSG, including:
  - Attendance at the SSG information session for all awardees, August 2017
  - A presentation in the SEIRI Speaker Series, Spring 2018
- The research team must have or receive IRB approval for their project.
- Awardees must include explicit plans for securing external funding, and they are required to submit a proposal extending 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 sustainability and long-term impact of the project
- The potential for the project to advance knowledge
- The appropriateness of the budget
- The qualifications of the team to conduct the work
- The probability of the project leading to external funding

## **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 July 14, 2017

## **XI. Proposal Features**

The proposal must include all sections listed below. Use 10 to 12-point font with 1” margins, single-spaced. By the submission deadline, upload your proposal as a single document to:

[https://iu.co1.qualtrics.com/jfe/form/SV\\_1Y3BdVnMqyEYHwV](https://iu.co1.qualtrics.com/jfe/form/SV_1Y3BdVnMqyEYHwV)

### *Section 1. Project Summary (1-page maximum)*

- Project Title
- List all investigators, including full name, department, rank/title, and e-mail address
- Optional: Other personnel (collaborators, technicians, graduate students, postdocs)
- List potential sources of future funding (NSF, NIH, etc.)
- Abstract: 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 (8-page maximum)*

- Project Scope
  - *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
- Rationale and Literature Review
  - 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
  - Describe what aspects of this project are novel
  - Articulate what makes this project distinct from or build upon existing interventions
- Assessment and Evaluation Plan
  - 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 will you know the extent to which those changes are realized
- Role of Key Personnel
  - Specify the expectations and obligations of all project personnel, including qualifications of the investigators with respect to their specified roles
- Dissemination Plan
  - 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
  - Frame the broader impacts of the innovation with respect to NSF's language.
- References (*these will not count against the 8-page maximum*)

*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 2017 SSG project period is August 2017 to July 2019, so the project timeline should be within that timeframe.

*Section 4. Budget Overview*

- Complete the budget using a template offered by the Office of Research Administration: [http://www.researchadmin.iu.edu/GrantContract/gc-propprep/gcs\\_samples.html](http://www.researchadmin.iu.edu/GrantContract/gc-propprep/gcs_samples.html)

*Section 5. Budget Justification (1-page maximum)*

- 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 what salary consistent with HR rules. 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 on the grant, 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

*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.