IUPUI

STEM EDUCATION INNOVATION AND RESEARCH INSTITUTE

SEIRI SEED Grant (SSG)

2019 Request for Proposals

Questions regarding this RFP should be directed to seiri@iupui.edu or 317-278-0168.

2019 STEM Education Innovation & Research Institute Seed Grants Request for Proposals

Submission Deadline: **May 13, 2019**

I. Purpose

The STEM Education Innovation and Research Institute (SEIRI) at Indiana University Purdue University Indianapolis (IUPUI) is pleased to announce the 2019 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 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 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 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 member in 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 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.

IV. Funding

- Teams can apply for up to $30,000 for project ranging from 18 to 24 months.
- Year 1 funding will be dispersed in August 2019 and Year 2 funding will be dispersed at beginning of year 2 (Aug 2020) 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 budget manager 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 May 13, 2019.
- Late submissions will not be considered.

VI. Application Process

- Direct your SSG-related questions to 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/jfe/form/SV_8uCdQlbuBCUuZYV by the deadline.

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.
- Monthly brown bag meetings will be facilitated by SEIRI and will allow you to discuss any emergent challenges or successes with your colleagues.

VIII. Awardees' Obligations

- Submit an annual and final project report by 11:59 PM EST on July 31 each year respectively.
- Agree to work with a facilitator from SEIRI who will serve as a consultant, provide feedback back, 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 information session for all awardees, August 2019
  - A presentation in the SEIRI Speaker Series, time TBD
- 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 faculty time commitment
- 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

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 12, 2019.

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_8uCdQlbuBCUuZYV

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, such as potential program solicitation(s)
- 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
- o *Recruitment*: Specify how participants will be identified and contacted
- o *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
    - o Describe if and how this project aligns with IUPUI strategic initiatives
    - o Describe if and how this project aligns with national initiatives
    - o Identify educational research that has been conducted in this space
    - o Identify what prior work your team done in this space
- Novelty
    - o Describe what aspects of this project are novel
    - o Articulate what makes this project distinct from or build upon existing interventions
- Assessment and Evaluation Plan
    - o Address how the sub-goals or specific aims will be measured
    - o Indicate how you will monitor the effectiveness of the project as it evolves
    - o Specify the assessment and evaluation methods you will use
    - o Identify what curricular changes you envision your project leading to at IUPUI
    - o Specify how will you know the extent to which those changes are realized
- Role of Key Personnel
    - o Specify the expectations and obligations of all project personnel, including qualifications of the investigators with respect to their specified roles
- Dissemination Plan
    - o Describe how the findings and products will be disseminated within IUPUI
    - o If appropriate, indicate how your investigation will inform the scholarship of STEM education throughout the larger academic community.
- Broader Impacts
    - o 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 2019 SSG project period is August 2019 to July 2021, 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

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.