Grand Challenges

Request for Full Proposals

Overview: Twenty-one preliminary Grand Challenge proposals were submitted. Each was carefully reviewed by the distinguished members of the Faculty Review Committee, as well as by the Steering Committee and President McRobbie. The Faculty Review Committee recommended eight for further consideration, the Steering Committee narrowed that list to five, and President McRobbie decided to invite the PIs of those five preliminary proposals to prepare full proposals. From these, President McRobbie ultimately will select one or two for the first round of Grand Challenges funding.

The review process has generated a number of comments and suggestions that PIs will want to consider carefully as they prepare full proposals. VPR staff look forward to meeting with PIs to share those comments. The Grand Challenges process is highly interactive in both the proposal and execution phases. PIs should therefore approach the proposal less as a final blueprint that the university will fund in its entirety than as a working articulation of a Grand Challenge area and the outline of a set of research initiatives and related resources that will evolve in partnership between PIs, their colleagues, and the university.

This is intended to be a collaborative, transparent process, and the university can provide substantial assistance in helping faculty develop full proposals—for example, assistance developing narratives and budgets, as well as identifying partners, metrics, and sources of potential external funding for long-term sustainability.

Proposals not funded in the 2015-16 round will be eligible for resubmission in 2016-17, and will have the benefit of additional comments from reviewers.

Requirements for Full Proposals: Full Proposals are due by 5:00 p.m. (EST) on Monday, April 18, 2016. A final decision will be announced by mid-June 2016, so that implementation can begin in the fall of 2016. Proposals should be submitted as Word, Excel, and/or Adobe Acrobat documents to grandchallenges@iu.edu.

Where appropriate, faculty submitting full proposals are welcome to use material from their preliminary proposals, expanded and revised as necessary to address suggestions from the reviewers.
A successful full proposal will be **no more than 20,000 words** (approximately 40 pages), excluding the cover page, biosketches, budget template, personnel template, partner letters, and assessments by academic leaders. **No other appendices are necessary or permitted.** Please use standard fonts such as Arial, Times or Calibri, with a font size no less than 11 point; 1-inch margins; either single or double-spaced text; and page numbers in the footer.

Given the scope of Grand Challenges, it is important that full proposals address **both the proposed research as a whole and each of its major component projects/areas.** Reviewers will be assessing the **major components and ensuring that they are integrated in such a way as to make the whole initiative greater than just the sum of its parts.**

Each full proposal must address:

1. **The Grand Challenge (~1 page):** The nature and significance of the need(s) the research will address.

2. **Goals (~1-2 pages):**
   a. The defined, achievable goals on which the proposed Grand Challenge initiative will focus; and
   b. The specific Grand Challenge program goals (see p. 6) that the proposed initiative will advance.

3. **Proposed research and its impact (~10-15 pages):** The contours of the proposed research, including:
   a. The projects that make up the research, with sufficient detail and description of timelines and deliverables so that each proposed project can be evaluated on its own merits;
   b. The ways in which each proposed research project will address the problem or challenge and help to achieve the Grand Challenge goals;
   c. Clear explanations of how the proposed projects interrelate, rather than merely proceed in parallel;
   d. The specific impact in the real world that you anticipate each project having, including the practical mechanisms (e.g., clinics, demonstration projects, partnerships with practitioners) for ensuring that impact;
   e. Other beneficial impacts you anticipate whether within IU, to a field of study, or to specific disciplines;
   f. A brief explanation of other work (at IU or other institutions) addressing the problem or challenge and how the proposed constellation of research projects is different or likely to be more effective.
4. Personnel (~5 pages):
   
   a. List:
      i. The point of contact for the proposed Grand Challenge initiative;
      ii. Team leaders who will be responsible for shepherding and, if selected, providing intellectual leadership for this Grand Challenge initiative; and
      iii. Other team members who have agreed to participate and their areas of expertise. (Please attach as appendices biosketches for team leaders in NIH, NSF, or similar format, not to exceed 5 pages each and not counted in the word/page limit.)
   
   b. In addition, outline the relevance to the problem of the areas of expertise represented and summarize the past successes of team leaders in collaborating on complex projects.
   
   c. Explain how the team is multidisciplinary and why each discipline is necessary to the success of the Grand Challenge research as a whole?
   
   d. Identify new faculty positions necessary to the research:
      i. Complete a personnel template (as an appendix, not counted in the word/page limit); and
      ii. Justify why each new position is needed and its relation to current positions. You might think of this as a “gap analysis” explaining what IU has and what is needed for the proposed Grand Challenge initiative to succeed.

5. Financial and physical resources (~5-8 pages): The IU strengths and resources on which the proposal would build together with an explanation of how the proposal will leverage those resources; the types and magnitude of the additional resources requested (e.g., equipment, office or lab space, other facilities, post-docs, graduate students, etc.); and clear explanations as to why they are needed. To facilitate this, each proposal should include:

   a. A completed budget template (as an appendix, not counted in the word/page limit); and
   b. A budget justification explaining why each item listed in the budget is needed.

   Do not include in this section information on salary and benefit estimates regarding faculty hires. These will be calculated from the information provided in the next section. However, this section should include costs related to start-up packages and other equipment or facilities that new hires will necessitate.

6. Management Plan (~2-4 pages): Addressing the management of component projects (and how they will be integrated), relationships with partners, application of metrics, pursuit of external funding, and decision-making among the PIs and senior personnel.

7. Sustainability (~4 pages): The long-term sustainability of the proposed research, including the potential for, and likely sources of, external funding necessary to
sustain the work. This section should address not only traditional sources of funding such as NSF and NIH, but other government agencies, foundations, companies, and private philanthropic support. Explain why the proposed research is likely to be of interest to these agencies, foundations, and companies.

8. Partners (~4 pages): External organizations and individuals necessary to the guidance, implementation, and funding of the research and its translation into practical benefits for the people of Indiana and elsewhere, including past experience with, and concrete plans for, engaging with these partners. The proposal should include letters from all key partners indicating not merely support, but specific contributions they will make to the project and its outcomes (as an appendix, not counted in the word/page limit).

9. Metrics (~4 pages): Metrics for assessment describing how progress and impact will be measured, as well as how and when the people of Indiana and elsewhere will benefit from the work.

10. Implementation Timeline (~2 pages): Describing in broad terms key milestones in project components of the proposed research, including when key personnel and significant facilities and equipment are likely to be needed.

11. Academic Leaders’ Assessments (not counted in the word/page limit): A brief (~1 page) indication by chairs and/or deans of units likely to be significantly involved in major project components indicating their assessment of the relevant components (e.g., how do the proposed research components and/or hires fit within the strategic plans of the unit, how well do they connect with other initiatives in the unit?).

In addition, each preliminary proposal should have a cover sheet that provides:

1. The title of the proposal;
2. The name, department, school, campus address, email address, and telephone number of the point of contact;
3. A one-sentence summary of the Grand Challenge problem that this proposal addresses; and
4. An abstract of no more than 250 words that describes: (a) the Grand Challenge; (b) why it is a Grand Challenge; (c) why it is appropriate for IU to address this Grand Challenge; and (d) what defined, achievable goals are the focus of the proposed Grand Challenge Initiative.

All proposals, other than sections marked nonpublic, will be made public. In all cases, the information on the cover sheet will be made public.

Review Process: All proposals will be reviewed by the Grand Challenges Faculty Review Committee. The Faculty Review Committee may supplement its assessment of proposals with additional external or internal reviews as necessary.
The Faculty Review Committee’s recommendations will be reviewed by the Grand Challenges Steering Committee and by the Community Advisory Board, comprising leaders from industry, government, and not-for-profit organizations throughout Indiana.

The recommendations of the Faculty Review Committee, the Steering Committee, and the Community Advisory Board will be sent to President McRobbie, who will make final decisions.

Each team submitting a proposal for a Grand Challenge Initiative will receive comments on its proposal. The review process also may result in adjustments to proposed budgets, requests for revisions, and/or recommendations to merge or otherwise combine elements of proposals.

Each team preparing a full proposal will have an identified point of contact in the VPR office. In addition, for further information visit www.grandchallenges.iu.edu or contact:

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The following material was included in the Preliminary Proposal RFP and is reproduced here for your convenience:

**Goals:** IU’s investments in Grand Challenges are intended to serve six critical goals:

1. To improve in tangible ways the quality of life of the people of Indiana and the world and to improve the economic vitality of the State of Indiana.
2. To transform Indiana University through strategic hires and by significantly enhancing the volume, quality, impact, and reputation of research at IU.
3. To provide critical, strategic investment in the research infrastructure of IU.
4. To improve IU’s ability to compete successfully for more ambitious and diverse external research support.
5. To facilitate collaboration that enables IU to leverage its extensive and diverse resources in pursuit of common goals.
6. To create valuable intellectual property, make it available to the public through appropriate commercialization, and create new sources of revenue for IU.

**Criteria:** To achieve these ambitious goals, Grand Challenge Initiatives will differ in scope, scale, and complexity from other important research programs. They must be sufficiently broad to have the potential to make a difference in local communities, the state, the nation, and the world. This will require an interdisciplinary approach that works across disciplinary and institutional boundaries. At the same time, they must be sufficiently focused to draw strategically on IU’s existing strengths and new Grand Challenges funding, have an impact that is measurable, and compete effectively for additional external funding. A proposal with the goal of “improving public health” or “enhancing national security” would likely be considered too broad, while a focus on “health education in K-12 schools” or “improved data encryption” would likely be considered too narrow.

The focus on tangible external impact is not intended to discourage proposals with bold scientific or other goals relevant to one or more fields of inquiry, but those goals should be articulated in a way that emphasizes benefits to the people of Indiana and beyond and each proposal should include translational elements that demonstrate the benefits of the research for the public.

Identifying proposals of appropriate scope and focus is not easy. The following criteria are intended to provide guidance. A Grand Challenge Initiative:

1. *Addresses a compelling problem or challenge,* the resolution of which would significantly affect the people of Indiana and beyond.
2. *Has defined, achievable goals that deliver tangible benefits* to the people of Indiana and beyond.
3. *Strategically leverages IU strengths* and existing resources.
4. **Requires a multidisciplinary team** that reaches across departments, schools, and, in most cases, campuses.

5. **Can attract the external competitive, philanthropic, corporate, and/or government funding necessary to sustain the work** to successful completion.

**Administration of Grand Challenges Program:** Development and implementation of a Grand Challenges Initiative requires faculty members to approach broad and challenging problems in new ways. The program similarly requires the university to make every effort to administer the program in such a way as to minimize the burden on all participants. To that end, key principles will guide the administration of the Grand Challenges program:

1. A commitment to being nimble and flexible in the implementation of Grand Challenges.
2. A commitment to being strategic in the investment of Grand Challenges funding.
3. A commitment to administrative efficiency and cost-effectiveness.
4. No shifting of funds between campuses without the explicit consent of campus leadership involved.
5. A concerted effort to reduce and, if possible, eliminate internal administrative barriers to collaboration and effective implementation.