REQUEST FOR APPLICATIONS

2025 Center for Biodevices Seed Grant Program

Release Date: November 5, 2025

STEP 1:

***Register Intent to Submit an Application by:* 12 Noon (EST), April 17, 2025**

https://psu.inforeadv4.com/#freeformCompetitionDetail/1954334

STEP 2:

***Submit a Full Application by:* 12 Noon (EST), May 1, 2025**

https://psu.inforeadv4.com/#freeformCompetitionDetail/1954469

A. Overview

Applications are sought for the Center for Biodevices (CfB) Seed Grant Program to support genuine collaborations among engineers, scientists, and clinicians. Applications should focus on biodevices to improve human and/or animal health such as implantable, surgical, wearable, sensing/diagnostic, and imaging devices. Seed grants will provide teams with funds to establish collaborations, generate preliminary data for external grant submissions, and co-author publications. Projects with relevant industry collaboration/partnership are particularly encouraged.

B. Eligibility Criteria

1. Each application must have **at least two Co-Principal Investigators (Co-PIs)** who are Penn State faculty members at the rank of Assistant Professor, Associate Professor, or Professor with primary appointments in **at least two different Penn State colleges or campuses**.
2. The proposed research should be performed at one or more Penn State campuses.
3. Investigators who are currently serving as a PI/Co-PI of an **active** CfB Seed Grant **or** Grace Woodward Grant **are not eligible** to submit an application in response to this RFA.
4. **An investigator may only serve as Co-PI on ONE (1) Grace Woodward Grant OR Center for Biodevices Seed Grant application for 2025.** While an investigator may only serve as Co-PI on one application, the number of projects where an investigator serves as a co-investigator or collaborator is not limited.

C. Program Guidelines

1. **CfB Seed Grants will provide teams with funds for Fundamental Research or Applied Research focused on biodevices to improve human/animal health such as implantable, surgical, wearable, sensing/diagnostic, and imaging devices**. Relevant topics include, but are not limited to, novel materials for biomedical sensing, enabling technologies for new orthopaedic implants, advanced surgical instruments, acoustic diagnostic or therapeutic modalities, and other emerging medical device-related areas.
   a. Projects focused on **Fundamental Research** should describe the proposed fundamental research and how it is expected to lead to discoveries in biodevices. Seed grants will provide teams with funds to generate preliminary data for external grant submissions and co-authored publications. Applications must include a specific plan for submitting external grant application(s), noting how preliminary data for such application will be generated by the seed grant project. Applications should also address the ways in which the

proposed research supports the strategic plans of the Colleges of the two Co-PI's, e.g., the strategic plans of the College of Engineering, College of Nursing, etc.

b. Projects focused on **Applied Research** must include: 1) a Development Plan describing the scope of work with supporting technical detail and clear milestones to advance the technology toward commercialization, as well as a description of the most probable licensee and summary of the IP portfolio, and 2) a Commercialization Plan that provides the overall strategy to commercialize the technology both during and after the funding period. While applicants are not expected to have a detailed business plan at this stage, the proposal should demonstrate an understanding of issues that relate to commercial relevancy (see Appendix 1). A summary of how the proposed Development Plan helps to address key commercial questions should be included. Investigators wishing more information on this type of application should contact Erika Swift, Director, Center for Medical Innovation (eus59@psu.edu).

2. **Projects with industry collaboration/partnership are particularly encouraged.** A letter of support that describes the organization's interest in the proposed research and the extent of the involvement and contributions of the industry partner is expected for projects with industry participation. Examples of industry involvement include, but are not limited to, in-kind contributions for technical support, use of equipment, and donations of materials or supplies. CfB Seed Grant funds are to be used for PSU research only; no grant funds may be used to support any industry involvement.

3. **Project budgets of up to $80,000 direct costs will be considered.** The specific aims proposed in the application must be achievable within ***18 months*** using the funds provided. Please note that requests for No-Cost Extensions will not be granted.

4. **The colleges of each Co-PI must provide a letter of support** acknowledging that they will be asked to contribute a portion of the grant funds should the proposal rise to the top of the review process, up to the amount requested by the unit's Co-PI. If a college is unable to contribute, the college's Co-PI will be asked to reduce their budget accordingly.

5. Funds may be requested to support salaries and fringe benefits for staff and faculty, student stipends and tuition, essential research supplies, equipment, and research-related expenses to further the research aims, expenses related to the use of human subjects, costs associated with collaborative publications, and travel expenses directly related to the conduct of the research program.

   Applicants are reminded that the committed effort must be appropriate for the scope of the project and the work to be performed. However, it is anticipated that faculty Co-PIs would generally not request more than 5% effort. Any unfunded effort required by standing faculty members at the College of Medicine should be acknowledged as unfunded research in the letter from the department head/chair and would not be expected to exceed 2%. Faculty salaries should reflect the percentage of the current NIH Salary Cap ($221,900; NOT-OD-24-057).

6. **Co-PIs of CfB Seed Grants must agree to:** 1) present a progress report on their project at a Center for Biodevices event; 2) submit a final written progress report within 60 days of completing the project; 3) report periodically on publications resulting from this award and the impact of this award on subsequent sponsored research activities, upon request; and 4) serve as a member of the Center for Biodevices Review Committee in future years, upon request.

D. STEP 1: Register Intent to Submit an Application (REQUIRED)

Investigators planning to submit an application in response to this RFA must register their intent via Penn State InfoReady (**https://psu.infoready4.com/#freeformCompetitionDetail/1954334**) by **12 Noon (EST) on Thursday, April 17, 2025.**

Applicants will be asked to provide: the names, departments, colleges, and role (Co-PI, Co-Investigator, etc.) of all personnel involved in the project, a descriptive title of the application, and an abstract describing the objectives, specific aims, and health-relatedness of the project.

Intents will be reviewed by the administrative committee for programmatic fit and eligibility. Note: An investigator may only serve as PI/Co-PI on **ONE (1)** Center for Biodevices Seed Grant **OR** Grace Woodward Grant

notice of intent/application for 2025. While an investigator may only serve as Co-PI on one submission, the number of projects where an investigator serves as a co-investigator or collaborator is not limited. Projects with Co-PIs on multiple submissions must be resolved prior to the submitting the full application.

E. STEP 2: Submit a Full Application

Instructions for applicants:

All applications should use standard letter paper size (8 ½" x 11"), a font size of 11 points or larger with single line spacing and provide one-half inch (0.5") margins— top, bottom, left, and right— on all pages. Applications that do not follow the required format may be returned without review. The final PDF should include all components listed below in the order indicated:

1. **Cover page:** Include the project title and names, colleges, departments, and titles, and roles all key personnel involved in the project. Clearly indicate the Co-PIs of the project.
2. **Table of Contents:** Include page numbers starting with the cover page, numbering all pages consecutively.
3. **Abstract:** (30 lines of text maximum) Briefly summarize the research plan highlighting its impact on the understanding and/or use of biodevices.
4. **Specific Aims:** (1-page maximum)
5. **Research Plan:** (5 pages maximum, including figures and tables) Must include the following**:**
   a. **Significance** – Describe the problem that will be addressed and its significance in the field of biodevices, and the possible outcomes of the research with their expected impact.
   b. **Innovation** – Describe how the research is new and unique, e.g., explores new scientific avenues, has a novel hypothesis, and/or will create new knowledge.
   c. **Approach** – Describe the approach that you propose to use.
   d. **Environment** – Describe the unique facilities and resources available for this research.
6. **Investigators:** (1-page maximum)
   a. Describe why the team is qualified to implement the project and the contributions that each Co-PI will make to this project, both individually and collaboratively.
   b. Explain how you envision that collaboration between the Co-PIs and potentially other members of the team will be extended in the future and sustained.
7. **Future Plans:**

   ***For Fundamental Research applications:** (1-page maximum)
   a. Assuming that the project is successful, describe plans to secure continued funding including the most probable sponsor, mechanism, and expected receipt date for the first application.

   ***For Applied Research applications**:
   a. Development Plan: (2 pages maximum) Describe the scope of work with supporting technical details, including any compliance considerations, and clear milestones. Include a description of the most probable licensee and summary of the IP portfolio.
   b. Commercialization Plan: (1-page maximum) Provide a brief business plan describing the overall strategy to commercialize the technology both during and after the funding period. See Appendix 1.
8. **Literature Cited:** List all references.
9. **Human Subjects and/or Vertebrate Animals:** Describe involvement, if any.
10. **Budget:** Prepare a budget in SIMS for each college (up to $80,000 total combined direct costs). The period of performance is August 1, 2025 – January 31, 2027. SIMS budgets should be split to align with the University's fiscal years, i.e., Period 1 of the grant is August 1, 2025 – June 30, 2026, and Period 2 of the grant is July 1, 2026 – January 31, 2027. Please note that *requests for No-Cost Extensions will not be granted*. See Program Guidelines for additional budget details.

11. **Budget Justification:** Provide a separate justification page for the budget request from each college (1 page maximum each). Explain and justify all proposed expenditures so that it is clear why they are essential for the success of the project. Expenditures not fully justified can be removed at any time during the review process.
12. **Biosketches:** Include a current biosketch for each Co-PI and all other key personnel using the short NSF (5-page) format or the current NIH format. For NIH biosketch template and examples, see https://grants.nih.gov/grants/forms/biosketch.htm.
13. **Letters of Support:**
    a. The application must include letters of support from the Associate Deans for Research (or equivalent) in the College of each Co-PI that includes the following statement: "*The College acknowledges that it will be asked to contribute to supporting the project should the proposal rise to the top of the review process and be selected for funding, up to the portion of the grant funds requested by the unit's Co-PI. If unable to contribute, the College's Co-PI will be asked to reduce their budget accordingly.*"
    b. For Co-PIs and key personnel at the College of Medicine: If faculty will participate in the project but not receive salary support from this award, a letter from each Department Chair/Head or Institute Director is required confirming your salary support up to 2%.
    c. For projects that include industry collaboration, provide a letter of support from the industry partner describing their interest, involvement, and contributions to the proposed effort.

Submission:

All applications must be submitted as a single PDF via the PSU InfoReady competition page (**https://psu.infoready4.com/#freeformCompetitionDetail/1954469**) before **12 Noon (EST) on Thursday, May 1, 2025**. Before taking steps to submit a proposal, it is recommended that applicants first review the ***PSU InfoReady Guidance for Applicants*** on page 6 of this RFA.

F. Review Process

Applications will undergo a review for scientific and technical merit (and commercial merit for applied research projects) by non-conflicted members of the Center for Biodevices Review Committee using a scoring system adapted from the NIH. Review criteria will include: the responsiveness of the application to this RFA, significance, investigators, innovation, approach, and environment, as well as the project's relevance to the mission of the Center for Biodevices and the potential for the project to subsequently attract significant external research support. In addition, the review committee will be asked to comment on compliance and identify changes in study design and/or methodology that would strengthen each application. These recommendations will be returned to the applicant along with anonymous reviewer critiques at the conclusion of the review process. The review committee will make its recommendations to the Director of the Center for Biodevices, who will make all final decisions regarding awards, in consultation with the Deans of the Colleges of Engineering and Medicine, as well as the Directors of the Huck Institutes for Life Sciences and the Materials Research Institute.

G. Awards

Contingent upon the receipt of meritorious applications, two awards will be announced on or about July 1, 2025. The anticipated start date for these awards will depend upon the funding source but should occur on or after August 1, 2025. Research compliance approvals (IRB, IACUC, Biosafety) must be obtained before funding will be released. Awardees may interact with representatives from Penn State's Center for Medical Innovation (https://research.med.psu.edu/departments/medical-innovation/) in order to assist with potential technology commercialization.

H. Questions

Please direct any questions regarding this announcement to Dr. Mary Frecker, Director of the Penn State Center for Biodevices, mxf36@psu.edu, or Dr. Megan Jones, Assistant Director of Research Development, Penn State College of Medicine, mmy10@psu.edu.

Appendix 1: Thoughts to Consider When Creating a Commercialization Plan

Describe the clinical/medical unmet need this technology addresses/solves.
What is the market size of the unmet need? How common is this problem?
What is the current standard of care? Are there existing companies that offer a solution to address the unmet need? If so, what solutions do they offer?
Compare this technology to current standard of care/market solutions. Does this technology address weaknesses of current solutions?
Has this technology been disclosed to Penn State's Office of Technology Management??
Have you worked with industry related to this technology?

Please direct any questions or interest in receiving assistance with your commercialization plan to Penn State's Center for Medical Innovation. Contact Erika Swift, Director, Center for Medical Innovation (eus59@psu.edu).

PSU InfoReady Guidance for Applicants

PLEASE READ THIS BEFORE SUBMITTING A PROPOSAL

In order to submit applications through PSU InfoReady, applicants **must** first login to InfoReady using their Penn State credentials and complete the authentication process through Penn State University's Single Sign-On (SSO) *at least one time prior to submission*. InfoReady requires this one-time log in/SSO process to authenticate applicants as affiliates of Penn State. Once authenticated, applicants have the ability to submit a proposal on their own OR to designate a proxy who can submit proposals on their behalf. All users are reminded to use only PSU email accounts (e.g. jlg174@psu.edu) when using PSU InfoReady. PSU InfoReady does not recognize applicant submissions associated with other email domains.

Preferred Systems & Browers

The site should be accessed via a desktop or laptop computer. It is not compatible with mobile devices or tablets. Both Windows and Mac operating systems are compatible. InfoReady runs best on the latest supported versions of Chrome, Firefox, and Safari browsers. It does not run optimally on Microsoft Edge or Internet Explorer. Some display issues have been reported when using Safari. If you are experiencing issues, please try using another browser.

Designating a Proxy

Proxy submitters are individuals designated by the PI to submit a proposal on their behalf. Typically, a proxy is a department research administrator that supported the applicant's submission. InfoReady provides step-by-step Instructions for Designating a Proxy. Both the proxy and applicant will receive all competition notifications.

Save as Draft

InfoReady allows users to Save as Draft and return later to complete an application. Access your draft applications through the Applications tab on the home navigation bar. Clicking 'Apply' more than once for a particular opportunity may create multiple submissions in the competition. Delete any old or duplicate drafts by clicking the trash can icon to the right of the desired application.

Editing a Submitted Application

Prior to the submission deadline, InfoReady administrators are able to return applications to applicants for edits. There is no need to start a new application. Please contact Research Development at the College of Medicine (ResearchDevelopment@pennstatehealth.psu.edu) if you need to recall a submitted application. The applicant and/or proxy submitter will receive an email notification with a link to the application, which will return to draft status in the Applications tab. The applicant will be able to make edits and re-submit. Once the submission deadline has passed, only an InfoReady administrator can make edits to a submitted application.

Questions or Concerns? If applicants or administrators encounter any technical issues with InfoReady, they are encouraged to submit a ticket for technical support by emailing InfoReady at support@inforeadycorp.com. InfoReady's support team is available from 8:00 a.m. – 7:30 p.m. (EST) and is very responsive. Research Development at the College of Medicine is also available to provide technical support. To connect with Research Development, please email ResearchDevelopment@pennstatehealth.psu.edu.