

**Request for Proposals**

**Engineering Research and Innovation Seed Funding Program (ERISF)**

**Solicitation Announcement: November 8, 2022**

**Submission Deadline: January 31, 2023**

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**INTRODUCTION**

**Background**

The College of Engineering (COE) Research Task Force Report recommendations include initiating multi-disciplinary collaborations in the existing strength and emerging research areas (described on pages 6), providing support to successful faculty to move to the next phase of their research, and cultivating faculty leaders for emerging areas. Through support from the University of Arkansas Provost Office, the Dean of Engineering has invested seed funding to enhance the COE’s research program and address these recommendations. To this end, the COE Associate Dean for Research (ADR) has initiated the Engineering Research and Innovation Seed Funding (ERISF) Program as described in this document.

**Program Description**

The overarching goal of the ERISF program is to encourage COE researchers to develop new research collaborations within the college and to assist researchers in developing proof of concept research outcomes that have strong potential for securing future external funding. Encouraged are projects that align with the COE research strengths and emerging areas as described on pages 6. Proposals should be of high risk/high gain and describe how the project will advance these emerging areas of research or enhance existing strength areas. Proposals must develop research initiatives with high potential for significant extramural funding. Be as specific as possible, including agency names, programs, dates, and potential amounts. Interdisciplinary research across multiple departments is encouraged. To encourage new research collaborations, the proposing research team must consist of College of Engineering faculty who have not previously collaborated as co-investigators or co-authors.

**AWARD INFORMATION**

**Type of Award**

The solicitation will be open November 8, 2022. Awards will be effective for projects lasting twelve calendar months or less, beginning on July 1, 2023.

**Estimated Number of Awards and Anticipated Funding Amount**

Awards are expected to range between $10,000 and $25,000, with an anticipated 3 – 6 awards. Extensions to the award period are not permitted.

**Eligibility**

Eligibility is limited to University of Arkansas College of Engineering faculty. Faculty can serve as Principal Investigator on one proposal; however, there is no limit on the number of proposals in which a researcher can serve as Co-Investigator.

**PROPOSAL CONTENT AND SUBMISSION INSTRUCTIONS**

**Proposal Content**

ERISF proposals must include the following sections:

* **Cover page (see required ERISF cover template on page 8):** The cover page includes the title of the proposed project, contact information of the submitting Principal Investigator, list of Co-PIs and other key personnel, requested budget amount, five (5) keywords, COE research area(s) addressed, and a 1,000-character synopsis of the proposed project.
* **Project description (3 pages max):** The project description must address how the proposed activities are consistent with the goals of the ERISF program, especially potential for external funding, enhancement of COE research existing and emerging areas, and interdisciplinary (if applicable). The description should include sufficient detail such that reviewers can evaluate the appropriateness and feasibility of the proposed plans. Please keep in mind that not all reviewers will be experts in every proposed field of study, and thus project descriptions should be written for a broad audience. If the submitted collaborative work has previously been submitted and rejected by an external funding agency, a brief summary of the reviews should be provided along with an explanation of how the proposed effort will address any shortcomings.
* **Budget with Justification (required RSSP budget template is also attached):** The budget and justification should include funds requested from the ERISF program. Indirect costs are not applicable. Faculty salaries, equipment purchases, foreign travel, tuition waivers and cost share are not permitted.
* **Team Description:** The team description should describe the role of each PI, Co-PI, and other key personnel mentioned in the proposal.
* **References:** No limit
* **Appendices:**
  + **Biosketch (up to 2 pages each):** Biosketches of each PI, Co-PI, and other key personnel that should include information relevant to the proposed project.

**SUBMISSION INSTRUCTIONS**

Proposals must be submitted electronically in MS Word or PDF format to: swilmoth@uark.edu. Subject of the email should be: “ERISF submission: *PI name*” (where PI name is the last name of the submitting Principal Investigator).

Proposals are due on Tuesday, January 31, 2023.

**REVIEW PROCESS**

**Review Cycle**

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| November 8 | Request for Proposals announcement sent to COE faculty |
| January 31 | Proposals due; Electronic submission to: swilmoth@uark.edu; subject line: ERISF submission: *PI name* (where PI name is the last name of the submitting Principal Investigator) |
| February 15 | Proposals delivered to reviewers |
| March 31 | Review process ends; all reviews submitted to: swilmoth@uark.edu; subject line: ERISF review: *Reviewer name* |
| After May 1 | Principal Investigators notified of award status; summary of reviewer comments emailed to submitting PIs; abstracts of awarded proposals posted to COE research website |
| July 1, 2023 | Project begin date |
| June 30, 2024 | Project end date |
| July 31, 2024 | Progress report that describes accomplishments to date due to the COE Associate Dean for Research |

**Review Criteria**

Each proposal will undergo an internal peer review based on the following criteria:

* Potential for future funding (50%): The potential for follow-up funding for the project is high and clearly defined;
* Description and feasibility of the project (35%): Goals and objectives are clearly defined and aligned with the specific purposes of the ERISF program; project does not duplicate former efforts surrounding the proposed problem area; plan of work is clearly articulated and adequately meets the goals of the project; the project is feasible;
* Team qualifications (15%): PI and team are qualified and appropriate for the project; roles for team members are clearly defined;
* Multi-department collaborations and interdisciplinary teams are highly encouraged.

**Review and Selection Process**

Proposals will be reviewed by members of the Engineering Research Council (ERC) and may be reviewed by colleagues outside of the project discipline. In order to be ranked highly, proposals must use language that can be understood by persons lacking expertise in the discipline. Highly ranked proposals will clearly state the:

* Problem or need to be addressed;
* Innovativeness of the solution;
* Specifics of activities;
* Appropriateness and contribution of the named team members;
* Cross-disciplinary nature of the approach;
* Expected outcomes from one year (or less) of work;
* Long-term implications for the work; and
* Funding agencies and specific opportunities likely to fund ongoing proposals generated from this effort.

Following peer review, proposals and reviews are presented to a separate selection committee. The selection committee decides the number of awards and the amount of each award.

**NOTIFICATION OF AWARD**

The submitting PI(s) for the awarded proposals will be notified within thirty (30) business days of the award selection. The submitting PI(s) for non-awarded proposals will be notified within five (5) business days of the awardees notification. A synopsis of reviewer comments will be provided to the submitting PI(s) for all proposals after all PI(s) have been notified of their award status.

**REPORTING REQUIREMENTS**

The Principal Investigator will be required to report on measurable outcomes of their seed funding effort (i.e. continued funding for the project, published reports, graduate students funded, etc.). The first report will be due one month after the close of the grant period. In addition, awardees may be asked to make a presentation to the ERC at the conclusion of their project. Periodic status updates on the progress of the project may be requested at the discretion of the program administration.

**REFERENCES**

The ERISF program and this document are heavily based on the Research and Innovation Seed Funding Program at North Carolina State University. httpS://research.ncsu.edu/rdo/funding/internal-funding/risf/

**COE Existing Research Strength Areas**

* **Electronics:**The College of Engineering has been producing graduates focused on electronics for over 30 years. Researchers in this area are developing new materials for circuits and photovoltaic cells, designing and modeling circuits, creating packages that protect and integrate electronic devices and creating and testing new technologies to improve our power grid.
* **Energy**: The broad area of energy has a foundation in electronics, but has expanded to include power systems, energy storage, smart grid innovation, biofuels and oil and gas research. As the world struggles to find and integrate safer and more sustainable sources of energy, research in this field is more important than ever.
* **Biomedical and Healthcare Engineering:** College of Engineering research encompasses both technological and biological investigations in biomedical and healthcare engineering. Many life-enhancing breakthroughs in medicine and healthcare delivery result from research combining engineering and the medical sciences including biomechanics and mechanobiology, biomaterials, cell and tissue engineering, healthcare logistics and medical decision making.
* **Materials Science and Engineering:** Our college’s innovations in materials science and engineering lead to improved materials to solve technological and societal problems. Our research activities include advanced materials for packaging, control analysis, high resolution and device characterization, advanced coatings and surface engineering, photovoltaic materials, thermoelectric materials, nanotribology and bioinspired functional surfaces and materials.
* **Transportation and Logistics:** The College of Engineering has been a national leader in transportation and logistics for more than twenty years. Researchers are looking at distribution, transportation, information technology and software solutions, and maritime and multimodal transportation.

**COE Emerging Research Areas**

* **Data Science**: Our data science researchers are exploring real-time data collection and assessment, parallel data processing, machine learning, intelligent search, sensor network architecture and design flow, electronics packaging, and information.
* **Cybersecurity**: Researchers are looking at increasing digital security and information assurance, especially in the areas of transportation and the power grid.
* **Infrastructure**: As a land grant institution, the U of A has a responsibility to maintain the nations water and electric resources, communication and transportation.
* **Advanced Manufacturing:** Our innovation into modern manufacturing involves technology-driven manufacturing processes, assembly and control technologies, new automation, techniques, design and modeling of systems, and process planning.
* **Membranes & Separations:** Our researchers are exploring membrane materials, characterization, formation, and performance to improve energy production, water treatment, pharmaceutical purification, and chemical processing.
* **Water**: Research in this area includes water quality, wastewater treatment and watershed management.

Engineering Research and Innovation Seed Funding

**Proposal Cover Page**

Please complete the information in the shaded areas below.   
Submit this cover page with your proposal and supporting documents as one document in MS Word or PDF format to: swilmoth@uark.edu

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Proposal Title:** | | |  | | | | | |
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| **Submitting Principal Investigator Information:** | | | | | | | | |
| Name: | |  | | | | | Phone: |  |
| Email: | |  | | | | | Department: |  |
|  | | | | | | | | |
| **Collaborator Information:** | | | | | | | | |
| Role | | | | Name | Department | | | |
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| **Key Words (5):** | | | | | **Budget Amount Requested:** | | | |
| 1. |  | | | |  |  | | |
| 2. |  | | | |  | | | |
| 3. |  | | | | **COE Research Area(s) Addressed:** | | | |
| 4. |  | | | |  | | | |
| 5. |  | | | |
| **Synopsis** (1,000 character max): | | | | | | | | |
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