Biomedical Engineering Pilot Research Program
Larner College of Medicine and College of Engineering & Mathematical Sciences

Request for Proposals - Due: February 15, 2017.

PROGRAM DESCRIPTION

The LCOM-CEMS Pilot Research Program in Biomedical Engineering is designed to support the research mission at the University of Vermont by funding research initiatives that achieve the following goals:

1. Increased collaborations between faculty in the Larner College of Medicine (LCOM) and in the College of Engineering and Mathematical Sciences (CEMS),

2. Increased extramural funding in the area of biomedical engineering,

3. Increased opportunities for engineering and medical students to work on multidisciplinary projects.

Proposals will be accepted that establish new research collaborations between the Larner College of Medicine (LCOM) and the College of Engineering & Mathematical Sciences (CEMS).

Proposals will have two or three co-principal investigators (PIs), including at least one with a full-time faculty appointment in LCOM and one with a full-time appointment in CEMS. Successful applicants will not be able to re-apply to this program until three years following their initial funding.

The team of co-PIs must have had no previous collaboration (i.e., publications, grant proposals, etc.), and must seek to pursue a new idea that has not been previously submitted in any form.

In addition to the technical research proposed, each application (1) must define a Senior Experience in Engineering Design (SEED) capstone project with some funding (up to $5k) allocated for that project, and (2) must incorporate a medical student either into the proposed research and/or for mentoring the SEED project. SEED team students will come from the areas of biomedical, electrical and/or mechanical engineering and thus proposed projects should leverage these capabilities.

Submissions should be written in language that is understandable to scientists who are not experts in the applicants’ field of study. The budget period for the inaugural Pilot Research projects will begin on June 1, 2017 to allow for maximum productivity over the summer. No funds will be disbursed to awarded projects until all necessary institutional approvals (IRB/IACUC/etc.) are received.

Selected applicants must participate in the SEED Meet & Greet event (April TBD, 2017) to pitch their projects. Projects that garner sufficient student interest to run a SEED project during AY 17/18 will be eligible for the full $50,000 funding allocation. Otherwise, the funding cap is $40,000.

Funded applicants will be required to give a presentation on their progress and future plans at the Annual Biomedical Engineering Retreat, to be held in the Fall Semester of 2017, in order to receive continued funding. Expenditure of the complete budget is expected by the subsequent Annual Retreat (Fall 2018). A final presentation will be given at the 2018 Annual Retreat detailing the publications and proposals arising from the project. The slides from the presentation, along with a list of any products (papers, theses, proposals, etc.) arising from the project will constitute the final report.

Up to three projects will be funded in the 2017-08 cycle. Depending on the success of these projects,
future cycles of the program may be funded.

APPLICATION GUIDELINES

Applicants must follow the application format detailed below. All co-PIs must include either their standard 4-page NIH-style biosketch or 2-page NSF-style biosketch. Faculty with limited research experience should engage a mentor who must also provide a biosketch as well as a letter of support that includes a mentoring plan.

Budget (up to $50,000 with SEED team engaged, $40,000 without):

- Salary support for faculty and staff with primary assignments in LCOM and CEMS is allowable. Applicants are strongly encouraged to maximize the use of funds to support proof of concept and/or data-generation activities by ensuring adequate operating expenses are in place.

- Support for a SEED project (up to $5000).

- Equipment: the purchase of specific items of equipment exceeding $5,000 will require detailed justification, and is discouraged unless such equipment is unique to the proposal and not available for use by the applicant in any core facility or laboratory in the UVM colleges.

- Utilization of college core facilities is strongly encouraged. The award can be used only for support of laboratory and clinical studies conducted at the University of Vermont.

Deadlines and Timeline:

Submit proposals in one PDF file (in the order outlined below) to Katarina Khosravi (Katarina.Khosravi@uvm.edu) by the application deadline of February 15, 2017. This will allow the SEED project in each proposal to be presented to the engineering juniors later in the Spring Semester so that they are ready to begin work on the projects as seniors the following academic year.

If you need assistance in understanding these instructions or developing your proposal, seek input from Dr. Jason Bates or Dr. Jeff Frolik.

REVIEW PROCESS

Applications are subject to competitive review by an external committee of senior academic biomedical engineers. Funding decisions in light of the external reviews will be made an Awards Committee comprised of the co-directors of the Biomedical Engineering program, Drs. Jeff Frolik and Jason Bates, and two additional senior investigators, one from CEMS and one from LCOM (none of these four individuals will be involved in the competition themselves). The Awards Committee will also review and approve the budgets. In all cases, major consideration will be given to:

1. the extent to which the proposed study will enhance the investigators’ competitiveness for extramural funding,

2. the ability of the proposed study to strengthen biomedical research at UVM, and
3. the potential of the proposed study to provide valuable multidisciplinary experience for the students involved.

The results of the competition will be announced by April 15, 2017.

**FORMAT FOR SUBMISSION OF APPLICATIONS**

Since applicants will not be present at the review session, it is important that the proposal be as clear and complete within the page limitations.

I. TITLE PAGE

II. BUDGET:

III. PROJECT DESCRIPTION: Proposals may be up to five single-spaced typewritten pages (including all figures and table) written in Arial 11-point font with 1/2 inch margins all around. Project descriptions exceeding this page limitation will not be considered for review.

**Specific Aims:** In one page, provide the scientific premise of the proposed work, its rationale, any overarching hypothesis and/or goal, and the specific aims to be pursued.

**Research Strategy:** In the remaining 4 pages, provide the following sub-sections:

- **Significance (Background):** State the research problem, review relevant literature in the area, and indicate relevance of the project to translational research.

- **Preliminary Data:** Include relevant preliminary data that has led to the proposed studies; emphasize long-range objectives of the proposed work.

- **Research Design and Methods:** Describe what you plan to do in sufficient detail and clarity to allow the reviewers to grasp how you plan to achieve your stated specific aims. Be sure to address pitfalls, alternative approaches, and future directions as well as plans for publication and the likelihood of this project leading to future funding opportunities.

IV. REFERENCES (no page limit)


A fillable application from is available.