



## PILOT & FEASIBILITY AWARDS PROGRAM

# Center for Enteric Diseases in Engineered Tissues (CEDET)

## Request for Proposals (RFP)

<b>Solicitation Release Date</b>	May 17, 2018
<b>Electronic Submission Deadline:</b>	July 2, 2018, 6 PM EST
<b>Approximate Award Date:</b>	September 1, 2018

The Center for Enteric Diseases in Engineered Tissues is issuing a Request for Proposals. Applicants are invited to propose one year Pilot and Feasibility projects that utilize primary human cells in culture.

### SCIENTIFIC SCOPE of the Pilot and Feasibility (P/F) Awards Program

The Tufts Center for Enteric Diseases in Engineered Tissues (CEDET) fosters research directed toward investigating the interaction of pathogens with primary human intestinal tissues. The Center has expertise in the isolation and culture of enteroids and colonoids from human biopsy samples and is developing technologies for scaffolding of these cells in either static or perfused cultures. Interaction of the following pathogens in these culture systems is currently being pursued: *Vibrio cholera*, enteropathogenic *Yersinia*, *Clostridium difficile*, and *Cryptosporidium*. The Center is funded by an NIAID funding opportunity titled Human Tissue Models for Infectious Diseases (HTMID), with the purpose of establishing multidisciplinary research Centers focused on developing innovative *in vitro* human tissue models for basic and translational research on infectious diseases. In total, NIAID is funding three HTMID centers.

The mission of the Center is to reconstruct events that occur in the human gut during enteric pathogen-promoted diseases, using engineered 3-dimensional tissues, focusing primarily on using organoid-derived cells from patient samples. We are particularly interested in approaches that expand these systems, and allow the introduction of immune cells, capillaries and synthetic lymph nodes with the goal of accurately mimicking gut architecture. Strategies that allow the establishment of a robust and stable human microbiota also contribute to the mission of the Center. Pilot & Feasibility projects will be considered for support if they relate to this mission.

### Eligible projects may be in areas such as:

- Three dimensional culture models of primary human cells
- Development of three dimensional models for co-culture of immune cells with primary human enteric cells
- Introduction of capillary flow into scaffolded mini-guts
- Analysis of pathogen interaction with patient-derived enteric cell isolates
- Strategies for differentiation of organoids into enteric cell subpopulations
- Three dimensional models for culture of pathogens in the presence of immune cells.
- Strategies for culturing of microbiota in the presence of primary human cells.

Investigators may contact co-Directors to determine whether their proposed project is appropriate for this funding mechanism.

### **UTILIZATION of the CEDET CORE FACILITY is encouraged.**

The Core provides colonoid and enteroid culture and will train workers to maintain these cells. Projects that use the Core should include media, materials and growth factor expenses as Budget items

### **PURPOSE of P/F PROGRAM**

- Allow investigators to exploit technology developed by CEDET to initiate new research directions.
- Enable young, developing scientists and/or clinicians to pursue innovative and promising pilot projects that might otherwise not have support, and which ultimately might lead to independent support.
- Allow the development of new technologies that join advances in immunology and microbiology with new strategies for culturing stem cells
- Allow investigators to develop novel approaches of interrogating patient samples with pathogens
- Allow investigators to pursue new strategies of interrogating pathogens.

### **ELIGIBILITY**

- All tenure and research track faculty at Tufts University or Tufts-associated hospitals, postdoctoral research fellows, clinical faculty and clinical fellows. PI may have adjunct position
- New/Young Investigators are particularly encouraged to apply and to use P/F funding to gather the data needed for subsequent NIH applications.
- Although P/F projects may be related to ongoing or previous work, they **cannot** overlap any funded project. Ongoing work refers to established projects already funded by NIH or other mechanisms.
- P/F grants are not intended to be used as bridging support.

### **EXPENSES FOR WHICH FUNDS MAY BE USED**

#### **Funds may be used for the following:**

- Research supplies.
- Technician support
- Core Facility costs

#### **Non-allowable expenses:**

- Salaries (Investigator, Post-Doctoral)
- Travel

## MAXIMUM AWARD

The amount of awards will vary with the availability of funds. In this fiscal year, one project will be funded with a budget line that is expected to be approximately \$25,000, direct costs, one year of support. Budget details should be based on this projected funding level. Applications are eligible for a renewal for a second year of support on a competitive basis with new applications

## APPLICATION PROCEDURE

The application deadline is **July 2, 2018**. All applications must be compiled and submitted as a single PDF to [kathleen.riendeau@tufts.edu](mailto:kathleen.riendeau@tufts.edu). Please cc: the application to the OVPR Office of Research Development ([researchdevelopment@tufts.edu](mailto:researchdevelopment@tufts.edu)). Signed originals of the face page, budget page, IACUC and/or IRB approvals will be requested if the project is approved.

Use the NIH format. The documents to be submitted should be assembled in the order listed below. The link to the NIH forms is <http://grants.nih.gov/grants/funding/phs398/phs398.html>

## FORMAT OF APPLICATION

- Form Page 1 (Face Page)
- Form Page 2 (Description, Performance Sites, Key Personnel)
- Form Page 4 (Detailed Budget for Initial Budget Period)
- Budget Justification (Please use Continuation Format Page)
- Biographical Sketch
- Other Support – Please include a paragraph explaining how this research proposal is a departure from your ongoing work, and from the work of your previous or current mentors or collaborators.
- Resources: please also list here Core Facilities that you plan to use, including the CEDET Core.
- **Specific Aims**
- **Research Plan** limited to **2 pages, single-spaced**. In the Research Plan, indicate if the project will use CEDET Core.
- References. These are not included in the 2-page limit, but should be limited to essential citations.
- The application does not need to be signed by the institutional official. However, the application should be sent in parallel to the Office of the Vice Provost ([ovpr@tufts.edu](mailto:ovpr@tufts.edu))
- If your application is selected for the award, we will request additional information prior to award of the funds.

## EVALUATION OF APPLICATIONS

The CEDET co-directors in addition to one other expert not supported by CEDET will review each P/F application. The Center Directors supported by the HTMID funding opportunity will then review the highest priority proposals at the HTMID annual meeting, and one pilot will be awarded to each HTMID Center. Funding decisions are based upon scientific merit and the appropriateness of the project to the goals of the HTMID funding opportunity (<https://grants.nih.gov/grants/guide/rfa-files/RFA-AI-16-022.html>).

## RESPONSIBILITIES OF AWARDEES

- Awardees are encouraged to use the CEDET Scientific Core.
- Awardees are expected to participate in CEDET group meetings, which take place approximately bimonthly.
- Awardees will be required to present work at least once during the funding period at CEDET group meetings, as well as a final close-out presentation at the end of funding.
- Awardees will be required to attend the annual meeting of HTMID centers, which will occur in Summer 2019. Meeting will either be in Boston, Bethesda, MD, or Philadelphia, PA.
- A progress report will be required at the completion of the funding period.
- **CEDET support must be acknowledged on all publications resulting from the research. This may take the form of "Supported in part by the Center for Enteric Disease in Engineered Tissues, NIAID Grant U19 AI131126."**

## CONTACTS

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