

**Biomedical Engineering Technology Accelerator (BiomedX)  
Request for Proposal: Pre-Proposal Instructions**

Department of Biomedical Engineering

**2023 - 2024**

**2023-2024**  
**BiomedX Pre-Proposal Instructions**

The Columbia BiomedX program (formerly the Columbia-Coulter Translational Research Partnership) is a biomedical engineering technology accelerator that aims to catalyze the advancement of Columbia University technologies from the lab to the market. The program provides funding, education, resources, and mentorship to teams of clinicians, engineers, and scientists to develop solutions for unmet clinical needs, with the ultimate goal of bringing innovative research out of the lab to benefit society. Project support serves as a bridge to commercial investment, with awards granted to perform specific tasks needed to validate a commercial hypothesis (vs. a scientific hypothesis). We work closely with Columbia Technology Ventures (CTV), Accelerating Cancer Therapeutics (ACT), and the Translational Therapeutics Accelerator (TRx) to provide early-stage funding and project development resources to investigators with promising scientific ideas who aim to advance their discoveries through the translational spectrum toward commercialization. The BiomedX program is inviting Columbia University Faculty to submit pre-proposal applications for its annual awards. Investigators with technologies that may have a direct impact on human health are encouraged to apply. Funding from this award is intended to move projects forward to a value inflection point so that they are eligible to explore later stage funding opportunities through Government or Foundation grants, industry partnerships, and/or professional investors.

Applicants are **required** to have a complementary team comprised of an engineer/scientist and a practicing clinician.

**APPLICATION PROCESS:**

The application process is multi-stage, starting with the submission of a Pre-proposal. Teams whose Pre-proposals are selected are invited to participate in a multi-session Lab-to-Market Life Science Boot Camp (Spring 2024), which consists of interactive sessions that will help prepare the full proposal. During the training period, additional resources (business consultants, technology transfer specialists, etc.) will be offered to the project teams as needed. Teams then submit full written proposals and ‘pitch’ their projects (including a plan for a one-year “killer experiment”) to a panel of experts. The evaluation criteria consist of (1) the potential health care and patient care impact, (2) the timeline and pathway to commercialization, (3) the technical feasibility, and, most importantly, (4) the potential of obtaining further financial investment to bring the technology to the clinic. Details of the full proposal application requirements and format will be provided at a later date.

Required Boot Camp core sessions will run from January 2024 through March 2024, with supplemental sessions offered in April and May 2024. At least one member the project team (including students and post-docs) must participate in the core boot camp sessions.

**ELIGIBILITY:**

- Eligible teams must include an engineer or scientist **AND** a practicing clinician.
- Applicants must have a **full-time faculty** appointment, and **at least one** of the lead investigators should be from Columbia University. Graduate students and post-doctoral trainees can act as a project lead, with permission from the principal investigators (PIs).
- The technology must be based on Columbia Intellectual Property. We suggest discussing the application and project with your Columbia Technology Ventures licensing officer before applying. If you do not have a licensing officer, please reach out to [techventures@columbia.edu](mailto:techventures@columbia.edu).

If you need an engineering or clinical collaborator, we may be able to facilitate introductions. All members of the team should be committed to commercialization objectives and be open to receiving mentorship, coaching, and oversight of their projects.

**AREAS OF INTEREST:**

All technologies that may have a direct impact on human health will be considered (e.g., medical devices, diagnostics, software, platform technologies, etc.). However, the most relevant are those where translation to market can be achieved in a short time frame (e.g., 3-5 years). Projects that propose to undertake discovery research will not be considered. Successful proposals must be translational in nature, i.e., the proposals must focus on efforts to translate research results

**2023-2024**  
**BiomedX Pre-Proposal Instructions**

into innovative clinical products and applications that have commercial potential and societal benefit. In partnership with the Columbia Clinical Innovation Lab, we especially encourage proposals related to the following areas of need:

- (1) remote medicine
- (2) patient experience
- (3) care coordination and leakage reduction
- (4) provider efficiency and wellness

**FUNDING:**

After the Lab-to-Market Life Science Boot Camp, participating teams will be eligible to submit a full proposal application for a one-year grant of up to \$100,000 per project, based on the project's needs. The funds are intended to support a specific, determinative "killer" experiment(s) that will be critical in paving the way for first-in-human studies (as required) and eventually into clinical practice. The budget may include support for experimental and commercialization milestones including contract manufacturing, regulatory consulting, etc. Funding **cannot** be used to support faculty salaries.

**PRE-PROPOSAL DIRECTIONS:**

*Pre-proposals are due by 11:59PM ET on Monday, November 20<sup>th</sup> Pre-proposals should be completed through an online form found at [ColumbiaLSA.submittable.com](https://ColumbiaLSA.submittable.com)*

*Please allow time to create a Submittable account if you do not already have one.*

**1) Areas that will be covered on the online form include:**

- Project Title
- PI Name(s)
- Brief Non-Confidential Abstract
- Clinical Problem and Unmet Need  
*A brief description of the clinical problem or need that your envisioned product intends to address.*
- Standard of Care  
*A summary of how the clinical problem/unmet need is currently addressed*
- Value Proposition  
*A description of how your envisioned product will address the problem/unmet need better than the current standard of care.*
- Envisioned Product  
*A description of your envisioned product and its unique or innovative properties.*
- Enabling Technology  
*A summary of the innovation you have discovered or technology you have developed that will enable your envisioned product*
- Intellectual Property  
*List if there are patents covering this idea or invention reports with Columbia Technology Ventures.*

**2) Complete the online form and submit by 5:00PM ET on Monday, November 20<sup>th</sup> at:**

**[ColumbiaLSA.submittable.com](https://ColumbiaLSA.submittable.com)**

**REVIEW PROCESS:**

Pre-application proposals will be reviewed for eligibility and feasibility. Full proposals will be reviewed by our [Oversight Committee](#) and will be judged on translational and commercialization potential, scientific and medical merit, and feasibility. Proposals aligning with the unmet needs, outlined above, will be reviewed by a discipline specific advisory committee before review by the BiomedX Oversight Committee.

**2023-2024**  
**BiomedX Pre-Proposal Instructions**

**RECENT AWARD RECIPIENTS**

**2019-2020**

- Stavros Thomopoulos & William N. Levine
- Giovanni Ferrari & Antonio Frasca
- Daniel Javitt & Paul Sajda
- Jeffrey Kysar & David Kalfa
- Christine Hendon & Hanina Hibshoosh

**2020-2021**

- Virginia Cornish, Alastair Ager, & Thomas Brieese
- Gordana Vunjak-Novakovic, Robert Winchester, & Laura Geraldino-Pardilla
- Keith Yeager & Anjali Saqi
- David Kessler & Ken Shepard
- Mohsen Maharlooei & Megan Sykes
- Harris Wang & Mary Rosser

**2021-2022**

- Elisa Konofagou & Lawrence S. Honig
- Brett Youngerman & Kenneth Shepard
- Helen Lu, Sunil Wadhwa, Michael T. Yin
- Kam Leong
- Peter Quinn & Stephen Tsang

**2022 – 2023**

- Wei Min & Zhilun Zhao
- Deepak Saluja & Christine Hendon
- Nischay Mishra & Kiran Thakur
- Harris Wang & Alejandro Chavez

**QUESTIONS:**

**For questions about the application process, please contact:**

Meghan Pinezich, PhD

Program Manager, Biomedical Engineering Technology Accelerator (BiomedX)

Columbia Department of Biomedical Engineering

[m.pinezich@columbia.edu](mailto:m.pinezich@columbia.edu)

**For questions about the scientific content, please contact:**

Andrew Laine, PhD

Percy K. and Vida L. W. Hudson Professor of Biomedical Engineering

Professor, Radiology (Physics)

Director, Heffner Biomedical Imaging Lab

[al418@columbia.edu](mailto:al418@columbia.edu)