

Nemirovsky Engineering and Medicine Opportunity (NEMO) Prize Solicitation of Letters of Intent and Proposals

USC's Office of the Senior Vice President of Health Affairs is soliciting proposals for the Nemirovsky Engineering and Medicine Opportunity (NEMO) Prize, a highly selective prize designed to bridge the critical gap between ideas and clinical breakthroughs. Two \$125,000 NEMO Prizes will be awarded annually.

Originating with a generous gift from Shelly and Ofer Nemirovsky, the NEMO Prize is focused on supporting early-stage research at the intersection of health sciences and engineering that do not yet qualify for support by federal agencies and are not yet mature enough for private investment.

The goal is to support true health-engineering collaborations. The most competitive applicants will have lead investigators with both health science and engineering expertise. Both new and ongoing collaborative teams are invited to apply.

Eligibility

Faculty and research investigators from USC and Children's Hospital Los Angeles are eligible to apply. The most competitive applicants will have lead investigators with academic appointments in one of the health sciences schools and in the Viterbi School of Engineering. Early stage or seasoned investigators can apply however we encourage teams to include an early-stage investigator(s).

Letter of Intent (LOI)

Applicants will first submit a one-page LOI with a NIH-formatted [Biosketch](#) for each Principal Investigator and Co-investigator in a **single PDF**. LOIs not submitted as a single PDF will be returned to the applicant for correction.

Letters of Intent will be due on May 17, 2024, by 5:00 PM PST. The following information should be included in your LOI:

- Project title, principal investigator(s), and project team
- What health or health care problem are you trying to solve (what difference will it make)?
- What are you trying to do (articulate your objectives without using jargon)?
- How is it done today, and what are the limits of current practice?
- What is new in your approach and why do you think it will be successful?
- What are the risks and payoffs?
- What will it cost? How long will it take? What will be your metrics of success?
- The names of two individuals at USC that are non-conflicted and have expertise in the area(s) of research outlined in the LOI who could potentially serve as reviewers.
- The names of two individuals outside of USC that are non-conflicted and have expertise in the area(s) of research outlined in the LOI that could potentially serve as reviewers.

Full Proposal & Pitch Session

The LOIs with the most competitive scores will be invited to submit a written proposal which will be peer-reviewed by three reviewers with relevant expertise and the NEMO Prize Review Committee. Those proposals with the most competitive scores will be invited to present their team and project during an in-person pitch session with the NEMO Prize Review Committee. Proposals are to include the following information (margins 0.8 in, font: arial 11-pt).

Sections A-D should be no more than six (6) pages.

- A. **Abstract** (½-page limit)
- B. **Research Plan** (4-page limit)
 - a. Specific aims, significance, innovation, approach, and data analysis and interpretation
- C. **MPI Plan:** Explain how the proposed research and activities relate to the expertise of the MPIs and indicate any potential overlap with existing funded grants (up to 1-page).
- D. **Future Directions** (½-page limit): Indicate how the results of the proposed activities will advance health-engineering innovations, and health, health outcomes, or healthcare delivery.

There are no page limits for Sections E-I.

- E. **Regulatory Approvals:** Indicate all regulatory approvals that will be required to conduct the proposed research (e.g., IRB).
- F. **References Cited**
- G. **Budget:** Presented on NIH 398 Detailed Budget for Initial Budget Period Form (form can be obtained at <https://grants.nih.gov/grants/funding/phs398/fp4.pdf> (not included in the 4-page limit).
- H. **Budget Justification:** Explain and justify all budgetary requests and any in-kind cost share (not included in the 4-page limit).
- I. **USC Curriculum Vitae**

Review Criteria

NEMO Prizes will be awarded to projects that are highly innovative, propose a strong health-engineering collaboration, and have the greatest potential to someday make breakthroughs in health. LOIs and proposals will be peer-reviewed by three USC faculty/investigators and the NEMO Prize Review Committee. The review criteria are as follows.

Review Criteria 1: Importance of the Research

Significance: Does this project address an important clinical, health, or healthcare-related problem? If the aims of the application are achieved, will scientific knowledge or clinical practice be advanced?

Innovation: Is the proposal original and innovative? For example: Does the proposal challenge existing paradigms and address an innovative hypothesis or critical barrier to progress in the field? Will the project foster or employ novel concepts, approaches, methodologies, tools, or technologies for this area?

Review Criteria 2: Collaboration & Expertise

Collaboration: Did the applicants convey the highly novel nature of their relationship? Do the investigators bring expertise in both the health sciences and engineering? Does the proposal focus on the collaborative relationship, such that the proposed objectives could not be reached without the efforts of both investigators and both (or all) disciplines?

Investigators: Does the investigative team bring diverse, complementary, and integrated expertise to the project? Are the investigators appropriately trained and well suited to carry out this work? Is the work proposed appropriate to the experience levels of the principal investigators and other members of the team? How does the investigators' previous work strengthen and ensure the project's success?

Review Criteria 3: Rigor & Feasibility

Approach: Are the conceptual framework, design, methods, and analyses adequately developed, well-integrated, well-reasoned, feasible, and appropriate to the aims of the proposal? Is the project scope likely to be completed within the award period?

Environment: Does the environment in which the work will be done contribute to the probability of success? Does the proposal leverage the unique strengths of USC and the team's research environment(s) and/or study populations?

Review Criteria 4: Overall Impact & Future Direction

Overall Impact: Is the project likely to exert a sustained, impactful influence on the research field(s) involved? What is the likelihood that the project will significantly contribute to enhancing clinical, health outcomes, and/or healthcare delivery? Will the proposed activities advance health-engineering innovations?

Future Direction: Did the investigators clearly describe next steps for the proposed work (e.g., NIH funding, industry partnership, commercialization, etc.)? Is this vision exciting, compelling, impactful?

NEMO Prize Awardees

Recipients of the NEMO Prize will be asked to provide 6-, 12- and 18-month progress reports (both written and an oral presentation). Presentations will be open to the public.

Award funds can be carried forward into Year 2, pending approval and contingent upon the team's productivity. Requests for carry forward funds can be made at the time the progress report is submitted.

FAQs

1. Can teams include investigators from another institution?

Yes, but the lead investigator(s) must be from USC or CHLA. In the event your team includes an investigator from another institution, you will need to include justification for this external investigator in your Letter of Intent.

2. Are there particular health-related topics I should focus on, such as cancer, heart disease, diabetes, or mental health?

While we are not specifying a particular health related topic, your project should focus on addressing an important health related problem. Your Letter of Intent and application needs to propose an exciting health-engineering collaboration, and a project that has the potential, down the road, to improve health, health outcomes, and/or healthcare delivery.

3. Our team just started collaborating and our research is in the ideation stage. Can we still apply?

The NEMO Prize will support early-stage ideas at the intersection of engineering and medicine that (1) do not yet qualify for support by federal agencies and/or (2) are not yet mature enough for private investment. Recognizing that major breakthroughs often occur from new collaborations, this award program can either support investigator(s) with no prior collaborative work, or ongoing collaborative teams examining new ideas at the interface between engineering and medicine.

4. What sorts of preliminary data are needed?

No preliminary data are needed but proposals will need to demonstrate that the project is feasible, and the team has the resources it needs to be successful.

5. What are allowable costs?

The NEMO Prize is expected to cover the costs of the health-engineering collaborative project. Awardees will be given the authority to spend the funds as they deem appropriate.

6. Are the grants for one year only? Can funds be carried forward?

Funding can be used across multiple years. Awardees will be asked to provide an annual report and at that time, they may request permission to carry funds forward.

Email contact: NEMOPrize@usc.edu