



U.S. NATIONAL SCIENCE FOUNDATION
2415 EISENHOWER AVENUE
ALEXANDRIA, VIRGINIA 22314

NSF 24-068

Dear Colleague Letter: Funding Opportunities for Science and Engineering Research with Impact on Women's Health

March 18, 2024

Dear Colleagues:

With this Dear Colleague Letter (DCL), in response to the [White House Initiative on Women's Health Research](#), the U.S. National Science Foundation (NSF) encourages the submission of research and education proposals related to women's health. Despite making up more than half of the population, women are historically understudied and underrepresented in health research. The historical exclusion of women from scientific and biomedical research studies, combined with the undervaluation of research that advances knowledge on conditions that uniquely, differentially, or disproportionately affect women, has resulted in significant knowledge and health gaps. Addressing these research gaps will ultimately advance the health, prosperity, and welfare of all.

NSF continues to support fundamental science and engineering research with implications for women's health. This DCL reaffirms NSF's commitment to fund discovery, innovation, and research translation on topics of relevance to women's health, from the molecular to the ecosystem level, including input from the full range of science, engineering, and education that NSF supports. Pioneering the next generation of discoveries in women's health will require a sustained effort focusing on the socioeconomic impact of women's health, breaking down disciplinary boundaries in carrying out the necessary research to advance understanding of relevant questions, and building a diverse STEM workforce committed to advancing women's health and the health of a citizens.

The National Science Foundation encourages the submission of fundamental research and education proposals related to women's health topics, including, but not limited to, proposals in the following areas:

- Projects that develop a well-informed citizenry and a diverse and capable STEM workforce that will pioneer the next generation of discoveries in women's health.
- Science and engineering approaches and novel computational models that elucidate

factors that interact with and impact women's health, such as studies that examine the genetic, epigenetic, biological, economic, societal, and environmental determinants of women's health and cognition.

- Holistic approaches to women's health and development, including aging, by moving beyond diagnostics and disease management to include novel methods for discovery and monitoring. This includes, but is not limited to, wearable devices, and other types of sensing and imaging technologies that improve early detection, as well as telehealth platforms that broaden accessibility and promote women's health.
- Foundational and transformative research that advances our understanding of engineering biomechanics and/or mechanobiology related to women's health.
- Advanced biomanufacturing of cells, tissues, or organs relevant to women's health.
- Engineering research that advances the understanding of injury mechanisms and rehabilitation technologies for health conditions and disabilities that affect women.
- Development of validated models (living or computational) of healthy and pathological cells, tissues, and organ systems relevant to women's health that improve the understanding of these systems.
- Projects on novel computational approaches (i.e. multi-level and multiscale data, sensing, prediction) that examine the effects of women's health on mental and physical development across the life span and that support health decision making.
- Projects that foster partnerships with government, industry, nonprofits, civil society, and communities of practice to leverage, energize, and rapidly bring to society use-inspired research and innovation that may include, but are not limited to, innovations that enable fundamental research of women's health topics, and breakthrough technologies designed for women.
- Transdisciplinary approaches to environmental change challenges and opportunities to improve understanding of climate, environment, and health pathways to protect and promote women's health, such as research that elucidates mechanisms and/or prevention of pollution transport/exposure implicated in adverse health outcomes.
- Studies that assess theories and models of health, aging, disease, and disease transmission at multiple scales (populational, generational, transgenerational, and geographical), from the molecular to the ecosystem level, including the interaction of environment on molecular scale phenomena.
- Research that seeks to advance knowledge about the processes that shaped biological diversity in living and ancient human species such as effects of life history transitions on women's health; intergenerational effects of violence, stress, and maternal health; and impacts of biocultural context on women's health, reproduction, and epigenetics.
- Research to advance theory on design and management of organizations such as how gendered aging symptoms may affect women's experience at work and in other environments.
- Research and research infrastructure to advance basic knowledge in bias, prejudice, and discrimination directed toward women as well as the intersection of gender and

other identities; dynamics of close interpersonal relationships and women's health; and power in relationships.

NSF welcomes proposals that broaden geographic and demographic participation to engage the full spectrum of diverse talent in STEM. Proposals from [minority-serving institutions](#), [emerging research institutions](#), primarily undergraduate institutions, two-year colleges, and institutions in [EPSCoR-eligible jurisdictions](#), along with collaborations between these institutions and those in non-EPSCoR jurisdictions, are encouraged.

PROPOSAL SUBMISSION AND RELEVANT NSF PROGRAMS AND CONTACTS

This DCL does not constitute a new competition or program. Proposals submitted in response to this DCL should be prepared and submitted in accordance with guidelines in the [NSF Proposal & Award Policies & Procedures Guide \(PAPPG\)](#) and instructions found in relevant NSF funding opportunities. Investigators who wish to submit proposals on any of these topics, or others related to women's health, are strongly encouraged to reach out to the cognizant NSF Program Officer(s) listed in the relevant funding opportunity to discuss the fit of their ideas to existing program. Specific programs and opportunities list these contacts. For assistance in determining program suitability for a proposal concept, researchers are encouraged to utilize the NSF "Program Suitability & Proposal Concept Tool (ProSPCT) at <https://suitability.nsf.gov/s/>. Note that NSF has limitations on the scope of health-related projects that can be submitted to participating programs. More information on these limitations can be found in "Introduction, Part A: about the National Science Foundation" in the PAPPG. In addition to these limitations, investigators should also review new information regarding human subjects in NSF-funded research at <https://new.nsf.gov/funding/research-involving-human-subjects>.

Sincerely,

Susan Marqusee, Assistant Director
Directorate for Biological Sciences (BIO)

Dilma Da Silva, Acting Assistant Director
Directorate for Computer and Information Science and Engineering (CISE)

Susan Margulies, Assistant Director
Directorate for Engineering (ENG)

James Luther Moore, Assistant Director
Directorate for STEM Education (EDU)

C. Denise Caldwell, Acting Assistant Director
Directorate for Mathematical and Physical Sciences (MPS)

Kendra Sharp, Office Head
Office of International Science and Engineering (OISE)

Alicia Knoedler, Office Head
Office of Integrated Activities (OIA)

Sylvia M. Butterfield, Acting Assistant Director
Directorate for Social, Behavioral and Economic Sciences (SBE)

Erwin Gianchandani, Assistant Director
Directorate for Technology, Innovation and Partnerships (TIP)