

July 10, 2023

Gernhart named NDSU Research Foundation Executive Director

Zane Gernhart, PhD, has been appointed as the Executive Director for the NDSU Research Foundation (NDSURF). In this role, Gernhart will collaborate, develop, and advocate for a shared vision that supports commercialization and economic development for NDSU researchers.

As the first full-time executive director of NDSURF, Gernhart's appointment was approved by the NDSURF's Board of Directors and he will report to NDSU Vice President for Research and Creative Activity Colleen Fitzgerald. This reporting structure aligns with Fitzgerald's R1 research strategic framework which emphasizes 'Innovation and the NDSU Research Foundation' as one of six main focus areas of the plan.

"The Research and Creative Activity office supports NDSU researchers throughout the entire lifespan of their research activities and an important part of this process is commercialization," said Fitzgerald. "According to the 2022 Heartland Forward report, NDSURF's ranking was sixth (normalized) in terms of licenses and options issued and 117 overall. Having a strong leader like Zane directing activities will build



upon this foundation of success and help guide NDSU inventors when they are ready to commercialize their ideas.”

Along with serving as a member of Fitzgerald’s leadership team, Gernhart will manage the full life cycle of technology transfer activities generated by NDSU inventors. This includes managing, encouraging, and supporting the development, disclosure, and protection of NDSU’s intellectual property, technology transfer, and patent applications. He will also manage the NDSURF intellectual property portfolio and liaise with local, state, regional and national technology organizations. One of his initial tasks will be to develop and implement an NDSURF strategic plan in coordination with the Board.

“NDSU is traditionally strong in technology transfer, and I look forward to the opportunity to be a part of the business of innovation at the institution,” said Gernhart. More than 380 technologies are currently under management; 92 patents have been issued; 27 annual invention disclosures made; 91 active plant variety protections in place; and licensing revenue of over \$3.1 million the last two years.

Gernhart brings extensive experience in the research process to his new role, including intellectual property protection and technology transfer activities. Over the past nine years, he has held various positions at NUtech Ventures, the nonprofit commercialization affiliate of the University of Nebraska–Lincoln, and has leadership experience with the Nebraska I-Corps program.

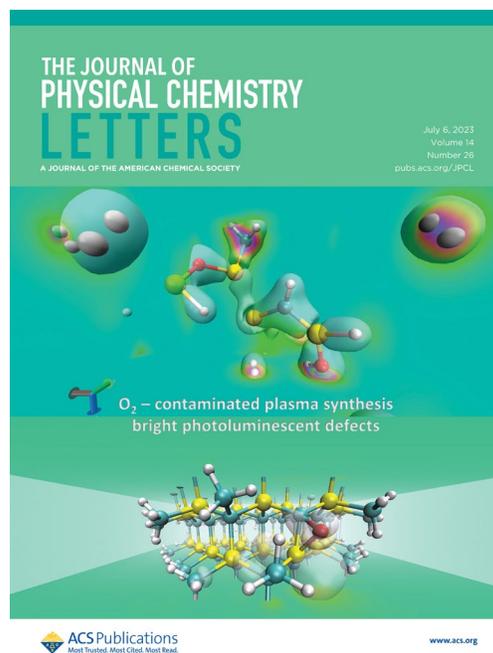
He will serve on the thirteen-member NDSURF Board ex-officio which is responsible for managing and administering the Foundation and consists of a diverse group of industry and academic leaders.

Established in 1989, NDSURF is an independent, not-for-profit organization that facilitates the transfer of scientific discoveries, technologies, products, and processes from NDSU to the marketplace. NDSURF safeguards and licenses intellectual properties and supports NDSU researchers in forming start-ups. The organization provides industry access to patented technologies to develop commercialization strategies.

NDSU nanocrystals research is featured as cover story in the Journal of Physical Chemistry Letters

A team of North Dakota State University researchers, led by NDSU physics student Joseph Granlie, NDSU Professor Erik Hobbie (physics), and NDSU Associate Professor Dmitri Kilin (chemistry and biochemistry), have made a new discovery that holds promise for enhancing the brightness and efficiency of blue and green light emitted from silicon carbide nanocrystals, also known as SiC quantum dots. These particles would have wide-ranging applications including lighting, displays, solar energy, and medical imaging. Like silicon, silicon carbide is durable, earth abundant, and nontoxic. By focusing their study on silicon carbide nanocrystals, the team aimed to address a common obstacle: impurities that impede the nanocrystals' ability to emit light effectively.

Their findings revealed that certain impurities, especially oxygen in certain forms, might have only a minimal effect on the ability of the nanocrystals to emit light. This contrasts with what is known for pure silicon, where oxygen is almost always detrimental to light emission from quantum dots. The team discovered this using advanced computer simulations developed at NDSU and supported by an NSF CAREER award (Kilin) to scrutinize how these impurities form during creation of the nanocrystals. By studying the building blocks of the particles, they identified the most likely bonding patterns between atoms of silicon, carbon, and oxygen, and then examined the brightness of emission in the different scenarios.



“This work is interesting on two levels,” said Hobbie. “First, it explains the emission that people have observed from SiC nanocrystals made by breaking down bulk

material in strong acids, which to date is almost the only way emitting SiC nanocrystals have been made. Such material will have high levels of oxygen impurity. Second, we know from our work with silicon quantum dots that nanocrystals built from the bottom up using molecular precursors are of much higher quality than those made by breaking down bulk material. At NDSU, we are actively engaged in making bright SiC quantum dots from the ground up, using liquid precursors in nonthermal plasmas. This work suggests that in certain cases, oxygen might not be as detrimental as we initially thought.”

The team’s research was featured as the cover story of [Volume 14, Issue 26](#) of The Journal of Physical Chemistry Letters, a scientific journal known for its publication of cutting-edge research in the form of concise letters.

RCA Undergraduate Research Director awarded best paper at conference

NDSU Civil and Environmental Engineering and Welch Faculty Fellow Professor Ying Huang was awarded Best Paper at the 8th International Conference on Civil, Structural, and Transportation Engineering (ICCSTE 2023) held in Ottawa, Canada, in June.

Huang received the recognition for her paper entitled "Weather Impact on Pipeline Temperature Distribution."



ICCSTE is one of the leading conferences in fields related to civil, structural, and transportation engineering. The goal of the annual event is to gather scholars from all over the world to present advances in the relevant fields and to foster an environment conducive to exchanging ideas and information.

Congratulations Dr. Huang!

National Academies New Voices Application Now Open

The application for our next cohort of New Voices members is now open for U.S.-based emerging leaders in all disciplines of the sciences, engineering, and medicine with an established track record of professional excellence and demonstrated commitment to service beyond their immediate discipline and institution.

Individuals with under-represented backgrounds in STEM and/or demonstrated interest in science communication, international scientific collaboration, and science policy advice are encouraged to apply.

New Voices membership provides the opportunity to

- Participate in a prestigious network of emerging leaders working across SEM;
- Explore interdisciplinary approaches to addressing critical global issues;
- Learn how the National Academies impact SEM policy at the federal level;
- Represent New Voices at international forums with other young SEM leaders and senior experts;
- Impact their organizations and local communities by bringing back lessons learned.



New Voices in Sciences, Engineering, and Medicine is a cohort-based

leadership program that promotes collaboration among outstanding early- and mid-career scientists, engineers, and medical professionals during a two-year term of service. The program aims to expand the diversity of expertise engaged in the convening and advisory functions of the National Academies while building a network of emerging U.S. leaders to address national and global challenges.

Application Deadline: August 10, 2023, 11:59 pm

[Learn More >>](#)



Grants.gov Workspace lets your team collaborate when applying

The Application Workflow for Organizations in Workspace makes applying more efficient. Learn about the primary actions your team can take.

[Learn more >>](#)

Unlock the Mystery of the Gray "Apply" Button: Four Scenarios.

Have you ever encountered a situation on Grants.gov when the "Apply" button is grayed out and unresponsive for a funding opportunity? This blog post summarizes why the "Apply" button may be grayed out and offers advice and steps to take when this occurs.

[Learn more >>](#)

NSF seeks input to develop an investment roadmap for its new Directorate for Technology, Innovation and Partnerships

Help NSF create a strategic plan to drive future U.S. technology competitiveness, and societal and economic impacts.

The U.S. National Science Foundation continues to seek public input in response to a [Request for Information](#) to gather insights for the development of an investment roadmap for its Directorate for Technology, Innovation and Partnerships, or TIP, in accordance with the "CHIPS and Science Act" of 2022.



NSF seeks feedback from individuals and organizations across all sectors — industry, academia, nonprofits, government, venture capital, civil society and others — on prioritizing and focusing TIP investments to advance U.S. technological competitiveness and address societal and economic needs as well as workforce gaps through use-inspired and translational research, public and private partnerships, and crosscutting investments.

The comment period will remain open until July 27, 2023. Comments received will help inform the development of a strategic roadmap for the TIP directorate.

The "CHIPS and Science Act" tasks the TIP directorate with developing a roadmap to guide investment decisions in use-inspired and translational research over a three-year time frame to advance U.S. competitiveness and develop the U.S. workforce in 10 critical technology areas and to address societal, national and geostrategic challenges in five areas listed below.

Critical technology focus areas

1. Artificial intelligence, machine learning, autonomy and related advances.
2. High-performance computing, semiconductors, and advanced computer hardware and software.
3. Quantum information science and technology.
4. Robotics, automation and advanced manufacturing.
5. Natural and anthropogenic disaster prevention or mitigation.
6. Advanced communications technology and immersive technology.
7. Biotechnology, medical technology, genomics and synthetic biology.
8. Data storage, data management, distributed ledger technologies and cybersecurity, including biometrics.
9. Advanced energy and industrial efficiency technologies, such as batteries and advanced nuclear technologies, including but not limited to for the purposes of electric generation.
10. Advanced materials science, including composite 2D materials, other next-generation materials and related manufacturing technologies.

Societal, national and geostrategic challenge areas

1. U.S. national security.
2. U.S. manufacturing and industrial productivity.
3. U.S. workforce development and skills gaps.
4. Climate change and environmental sustainability.
5. Inequitable access to education, opportunity or other services.

NSF seeks feedback on suitability and appropriate staging of specific technology areas for TIP investments as well as on related workforce needs.

To submit feedback for NSF review, respond to the RFI by July 27, 2023.

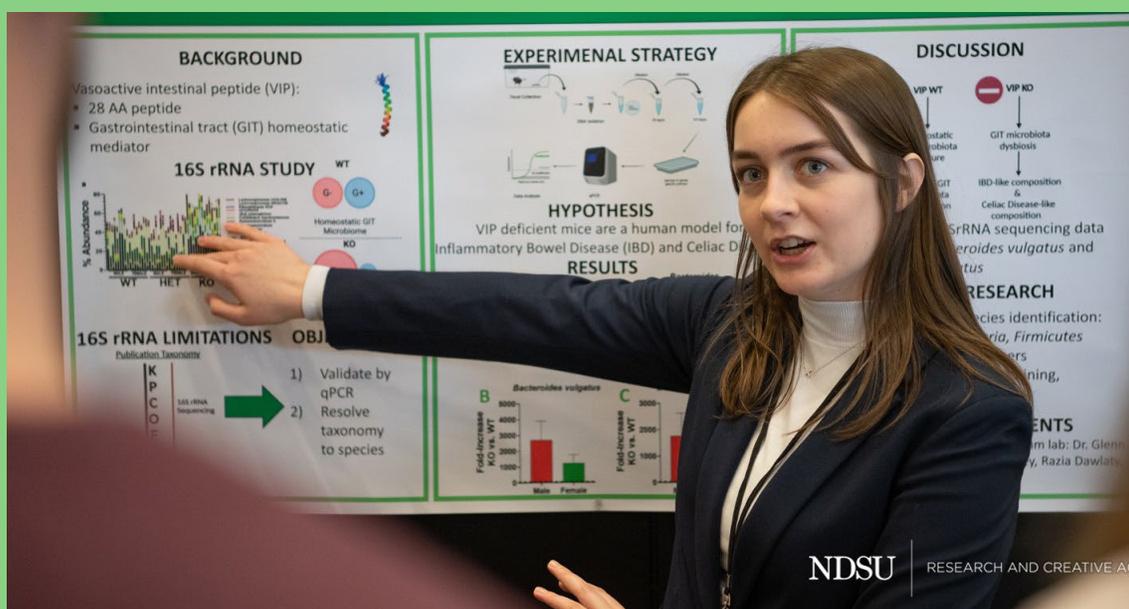
[Share your input >>](#)

2023 Summer Research Poster Session

Friday, August 4 / 1:00 p.m. to 3:00 p.m.
A. Glenn Hill Center (STEM Building), Main Hallway

You are invited to attend a public poster session featuring more than 60 high school and undergraduate students who have been participating in summer research experiences at NDSU this summer.

Come and learn about their research and provide them a positive experience in sharing their unique stories.



Students from the following programs will be participating in the poster session:

- [Green Chemistry](#)
- [Pollination Nation](#)
- [Collaborations in Discipline-based Education Research](#)
- [INBRE Summer Undergraduate Research Program](#)
- [USURE](#)
- [Center for Bioplastics and Biocomposites - CB2](#)
- IME (Industrial & Mechanical Engineering) REU (no website available)
- PICNICS (no website available)

Upcoming Events at a Glance

- **The Center for Global Mental Health Research Webinar Series 2023: Human Subjects Protection, Data and Safety Monitoring, and Operational Considerations in NIMH-Funded Clinical Research**
July 26, 2023 | [Register >>](#)
- **Specialized Centers of Research Excellence on Sex Differences (SCORE) 2023 Annual Meeting Keynote Address**
November 3, 2023 | [Learn More >>](#)
- **Building Interdisciplinary Research Careers in Women's Health (BIRCWH) 2023 Annual Meeting**
December 5, 2023 | [Learn More >>](#)

Funding Opportunities

- [American Council of Learned Societies: Digital Justice Grant Programs](#)
- [DoD: DARPA - Biological Technologies](#)
- [DoD: DARPA Synthetic Hemo-technologies to Locate and Disinfect](#)
- [DoD: FY 2023-2027 Broad Agency Announcement for Extramural Medical Research](#)
- [DOI: WaterSMART - Applied Science Grants](#)
- [NEH: Dangers and Opportunities of Technology: Perspectives from the Humanities](#)
- [NEH: Spotlight on Humanities in Higher Education](#)
- [NIH: ARPA-H Broad Agency Announcement](#)
- [NIH: Leveraging Social Networks to Promote Widespread Individual Behavior Change](#)
- [NIH: NOSI - Secondary Analyses of Existing Alcohol Research Data](#)
- [NSF: Assessing and Predicting Technology Outcomes](#)
- [NSF: Catalysis](#)
- [NSF: DCL - Searching for New Physics Beyond the Standard Model Using Precision Measurements](#)
- [NSF: DCL - Workshop to Inform Development of the NSF Research on Research Security Program](#)

- [NSF: Racial Equity in STEM Education](#)
- [NSF: Research Experiences for Undergraduates](#)
- [NSF: A Science of Science Approach to Analyzing and Innovating the Biomedical Research Enterprise](#)

Upcoming Limited Submission Program Deadlines

[Limited submission grant programs](#) are those that indicate a limit on the number of proposals that may be submitted by an institution for a particular deadline. A selection process becomes necessary if more applicants express interest in applying than NDSU is allowed to submit to the grant program. Email notifications of interest to ndsu.researchdev@ndsu.edu by **close of business** on the notification deadline date.

If you identify a limited submission opportunity that is not on the list below, please notify ndsu.researchdev@ndsu.edu.

- [NIH: Neuroscience Development for Advancing the Careers of a Diverse Research Workforce](#)

Notification Deadline: 07/11/2023

There are a number of limited submission grant programs with upcoming agency deadlines for which we did not receive any notifications of interest. For these programs, marked "**First to Notify**," approval to move forward with a full proposal submission to the funder will be given on a first come, first served basis.

- [NSF: Cyberinfrastructure Technology Acceleration Pathway](#)
Deadline: 07/06/2023
- [HRSA: Behavioral Health Workforce Education and Training](#)
Deadline: 07/14/2023
- [HRSA: Healthy Start Initiative - Eliminating Racial/Ethnic Disparities](#)
Deadline: 07/17/2023
- [USDA: Outreach and Assistance for Socially Disadvantaged Farmers and Ranchers and Veteran Farmers and Rancher](#)
Deadline: 07/25/2023
- [Mathers Foundation: Grant Program \(STEM\)](#)
LOI deadline: 07/28/2023

- [DOJ: Immersive Employment Readiness Training for Justice-Involved Individuals](#)
Deadline: 07/31/2023
- [NIH: Collaborative Partnership to Advance Global Health Research](#)
LOI Deadline: 08/01/2023
- [HRSA: Health Center Program](#)
Deadline: 08/21/2023
- [HRSA: Health Center Program - AA](#)
Deadline: 08/21/2023
- [USDA: School FoodService Workforce Cooperative Agreement](#)
Deadline: 08/21/2023

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American Council of Learned Societies: Digital Justice Grant Programs

The ACLS Digital Justice Grant program is designed to promote and provide resources for projects at various stages of development that diversify the digital domain, advance justice and equity in digital scholarly practice, and/or contribute to public understanding of racial and social justice issues.

[ACLS Digital Justice Development Grants](#) and [ACLS Digital Justice Seed Grants](#) are designed to promote and provide resources for projects that diversify the digital domain, advance justice and equity in digital scholarly practice, and/or contribute to public understanding of racial and social justice issues. These programs address the inequities in the distribution of access to tools and support for digital work among scholars across various fields, those working with under-utilized or understudied source materials, and those in institutions with less support for digital projects. It promotes inclusion and sustainability by extending the opportunity to participate in the digital transformation of humanistic inquiry to a greater number of humanities scholars and projects at the beginning stages of development.

Deadline: December 15, 2023; 8PM

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DoD: DARPA - Biological Technologies

The Biological Technologies Office's (BTO) mission for [Biological Technologies](#) is to develop capabilities that leverage the unique properties of biology -adaption, replication, resilience and complexity, to revolutionize how the United States defends the homeland and prepares and protects its Warfighters. Research in BTO creates biotechnological capabilities that provide tactical care and restore function to injured warfighters, increase operational resilience, develop novel functional materials, and detect and protect against threats to maintain force readiness.

Topics of Interest:

- Human Performance
- Materials, Sensors, Processing
- Ecosystem and Environmental
- Biosecurity and Biosafety
- Biomedical and Biodefense

Abstracts Accepted on a Rolling Basis until June 20, 2024

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DoD: DARPA Synthetic Hemo-technologIEs to Locate and Disinfect (SHIELD)

The Synthetic Hemo-technologIEs to Locate and Disinfect ([SHIELD](#)) program will develop safe and effective prophylactic countermeasures to defeat bloodborne pathogens and prevent bloodstream infections (BSI) associated with combat wounds. The program will develop prophylactic countermeasures effective against both bacteria and fungi, pathogens that are responsible for the vast majority of BSI. State-of-the-art countermeasures to manage BSI include antifungals and antibiotics which can be toxic, ineffective, and be administered in an untimely manner. SHIELD will develop safe and effective broad-spectrum prophylaxes that will protect recipients from bloodborne bacteria and fungi and prevent BSI for up to 144 h.

Research will focus on the following areas:

- Identify, optimize, and validate prophylaxes that clear bloodborne fungi and bacteria from the host in a pathogen-agnostic manner

- Develop prophylaxes that will protect the recipient and prevent BSI for at least 72 hours after administration in animal models across various pathogen exposure and trauma scenarios that are relevant to combat casualty care
- Establish the safety and non-immunopathogenicity of prophylaxes. Upon completion, SHIELD will demonstrate prophylaxes that are safe, effective, and increase survival rates in relevant animal models significantly over state-of-the-art approaches to manage BSI.

Abstract Deadline: August 2, 2023; 4PM

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DoD: FY 2023-2027 Broad Agency Announcement for Extramural Medical Research

The Department of Defense has a variety of [Extramural Medical Research](#) Congressionally Directed Medical Research Programs available at this time:

Military Infectious Diseases Research Program

The mission of the Military Infectious Diseases Research Program (MIDRP) is to plan, coordinate, and oversee the DOD requirements-driven medical solutions that PREVENT, PREDICT, and TREAT infectious diseases threats to the total force maximizing Warfighter readiness and performance.

Combat Casualty Care Research Program

Research efforts are needed in principles, therapies, and technologies to enhance self- and buddy aid, also referred to as tactical care; techniques, methods, or materiel to improve basic and advanced life support for all injured persons; monitoring, sustainment, and management of all injured casualties during episodes of delayed care or prolonged care; and enhanced capability for triage of large numbers of casualties and staged treatment in the field.

Military Operational Medicine Research Program

The MOMRP supports Army Biomedical Performance Enhancement, Human Dimension, MDO, Soldier Lethality, Dense Urban Environment/Subterranean Operations, Army Modernization Priorities, with emphasis on Soldier Lethality and informing Future Vertical Lift Platform Development, Health Services Support, Protection and Survivability, and the DOD Total Force Fitness concepts.

Medical Biological Defense Research Program

The Medical Biological Defense Research Program (MBDRP) provides medical countermeasures for biological warfare agents. These countermeasures include specialized medical materiel or procedures designed to enhance protection.

Medical Chemical Defense Research Program

The fundamental orientation of the program is to protect U.S. Armed Forces from the effects of chemical warfare agents by developing protective, pretreatment, and prophylactic products, providing products usable by the individual Service Member for immediate treatment of chemical warfare agent exposures, developing antidotes/therapeutics to chemical warfare agents, defining care procedures for chemical warfare agent casualties, and advancing management of these casualties.

Deadline: September 30, 2027

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DOI: WaterSMART – Applied Science Grants

Through WaterSMART, the Bureau of Reclamation provides financial assistance on a competitive basis for [Applied Science Grants](#). Through these grants, Reclamation provides funding to non-Federal entities for the development of tools and information to support water management for multiple uses. Eligible projects include the development of modeling and forecasting tools, hydrologic data platforms, and new data sets. See a full description of [eligible project types](#).

Cost Share Required of 50% or more

Deadline: October 17, 2023

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NEH: Dangers and Opportunities of Technology: Perspectives from the Humanities

The [Dangers and Opportunities of Technology: Perspectives from the Humanities](#) (DOT) program supports humanistic research that examines the relationship between technology and society. NEH is particularly interested in projects that examine current

social and cultural issues that are significantly shaped by technology. The DOT program is part of the NEH's new initiative, American Tapestry.

Technology has had an enormous impact on modern society, affecting how we work, communicate, learn, engage in the political process, and live. The relationship between technology and culture continues to have dramatic impacts, both positive and negative, on our health, the environment, our social interactions, our government, cultural and educational institutions, the arts, and nearly all other aspects of life.

Anticipated Deadline: October 11, 2023



NEH: Spotlight on Humanities in Higher Education

The [Spotlight on Humanities in Higher Education](#) program supports the exploration and development of small projects that would benefit underserved populations through the teaching and study of the humanities. Eligible applicants include small- to medium-size two- and four-year institutions of higher education and nonprofit organizations whose work advances the humanities at these institutions and among their faculty and students

The Spotlight program supports activities such as curricular or program development, expert consultations, speakers' series, student research, creation of teaching resources, and community engagement. Projects may benefit students, faculty, the institution or organization, and/or the community. The Spotlight program features a simplified application and streamlined application process. You may request support at one of two levels: Exploration or Development.

Anticipated Deadline: October 11, 2023



NIH: ARPA-H Broad Agency Announcement

The Advanced Research Projects Agency for Health ([ARPA-H](#)) is issuing the ARPA-H Open Office Broad Agency Announcement (BAA). ARPA-H's mission is to accelerate better health outcomes for everyone by supporting the development of high-impact solutions to society's most challenging health problems. Awardees will develop groundbreaking new ways to tackle health-related challenges through high-potential, high-impact biomedical

and health research. With a scope spanning the molecular to the societal, ARPA-H seeks proposals that aim to rapidly achieve better health outcomes across patient populations, communities, diseases, and health conditions, including in support of the Cancer Moonshot. Proposals are expected to use innovative approaches to enable revolutionary advances in science, technology, or systems.

The four initial focus areas are:

1. Health Science Futures
2. Scalable Solutions
3. Proactive Health
4. Resilient Systems

Deadline: March 14, 2024



NIH: Leveraging Social Networks to Promote Widespread Individual Behavior Change (R01 Clinical Trial Optional)

The purpose of this Notice of Funding Opportunity (NOFO) [[RFA-AG-24-025](#)] is to invite basic observational or experimental behavioral and/or social science R01 applications that test how intrapersonal and interpersonal mechanisms of behavior change interact with, influence, or are influenced by characteristics of social networks, with implications for health. Research supported through this NOFO will examine at least two levels of analysis: interpersonal processes and social network characteristics. Projects will identify targets for future social network health behavior change interventions across the lifespan, especially in populations in which they are currently largely underdeveloped and untested. Basic research to develop, refine, or optimize measures of putative targets is also supported by this NOFO.

This NOFO will support use-inspired basic observational or experimental behavioral and/or social science research that tests hypotheses about how interpersonal mechanisms of health behavior change interact with, influence, or are influenced by characteristics of social networks. This basic research should be designed to inform the identification of targets for future social network interventions. At least two levels of analysis must be examined: processes at the level of interpersonal relationships and characteristics of the social network.

Letter of Intent Deadline: October 3, 2023

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NIH: NOSI - Secondary Analyses of Existing Alcohol Research Data

The purpose of this Notice of Special Interest (NOSI) [[NOT-AA-23-011](#)] is to solicit applications to support the secondary analyses of existing data sets with the goal of enhancing our understanding of the following:

1. the patterns and trajectories of alcohol consumption,
2. the epidemiology and etiology, including genetics, of alcohol-related problems and disorders, and
3. alcohol-related health services and health systems, including access, quality, and efficiency.

This Notice encourages applications proposing innovative analyses of existing alcohol research data, answering novel research hypotheses and questions, and developing and testing advanced analytical methodologies applicable to alcohol related epidemiological, behavioral and genetics research.

Submit applications for this initiative using one of the following notice of funding opportunity (NOFO) or any reissues of these announcements through the expiration date of this notice.

- [PA-20-185](#) - NIH Research Project Grant (Parent R01 Clinical Trial Not Allowed)
- [PA-20-200](#) - NIH Small Research Grant Program (Parent R03 Clinical Trial Not Allowed)
- [PA-20-195](#) - NIH Exploratory/Developmental Research Grant Program (Parent R21 Clinical Trial Not Allowed)

This notice applies to due dates on or after October 05, 2023, and subsequent receipt dates through September 06, 2026.

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NSF: Assessing and Predicting Technology Outcomes (APTO)

The APTO program [[NSF 23-600](#)] will support a cohort of projects that will work together to complement each other's research and development (R&D) efforts on technology outcome models to accurately describe three types of technology outcomes: technology

capabilities, technology production, and technology use. These models should be able to predict future as well as past states of technology outcomes. Of particular interest are prediction models that are generalizable across multiple technology areas. The outcome of this work will help assess and evaluate the effectiveness of U.S. R&D investments and generate information that decision makers could use to strategize and optimize investments for advancing long-term U.S. competitiveness into the future.

Preliminary Proposal Deadline: August 21, 2023

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NSF: Catalysis

The Catalysis program [[PD 23-1401](#)] is part of the Chemical Process Systems cluster, which also includes: 1) the Electrochemical Systems program; 2) the Interfacial Engineering program; and 3) the Process Systems, Reaction Engineering, and Molecular Thermodynamics program.

The goals of the Catalysis program are to increase fundamental understanding in catalytic engineering science and to advance the development of catalysts and catalytic reactions that are beneficial to society. Research should focus on critical challenges and opportunities in both new and proven catalysis technologies. Areas of emphasis may include novel catalyst compositions, structures, operating environment, data science tools, theory, and modeling – preferably in various combinations as dictated by the specific reaction and related knowledge and technology gaps. Target applications include fuels, specialty and bulk chemicals, environmental catalysis, biomass conversion to fuels and chemicals, greenhouse gas mitigation, recycling of waste materials, generation of solar hydrogen, as well as efficient routes to energy utilization.

Deadline: Proposals accepted ANYTIME

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NSF: DCL - Searching for New Physics Beyond the Standard Model Using Precision Measurements (BSM-PM)

The research envisioned in this Dear Colleague Letter [[NSF 23-129](#)] will seek to push forward the frontier of measurement accuracy by substantial factors in order to contribute to one or both of the following long-term goals: (1) improve the constraints on

parameters in theoretical alternatives to the Standard Model of Particle Physics, or similarly overarching fundamental models in other domains of physics such as gravitational physics, or (2) determine the values of known parameters to an unprecedented level of accuracy such that deviations from predictions would signal the discovery of new fundamental physics.

This Dear Colleague Letter encourages interdisciplinary research proposals that target new approaches (super symmetry, large extra dimensions, extended Higgs sectors) across the core physics sub-disciplines within the purview of the Physics Division. The development of new methods or techniques not previously explored for such measurements is of particular interest, although work that will advance mature techniques by unusually large factors will also be considered. Experimental designs that incorporate empirical exploration of unknown systematics are desirable. Proposals for theoretical work will benefit from describing how uncertainties in the resulting quantitative predictions will be assessed, and how they will be used to guide the development of new experiments and/or interpret experimental data. Conversely, proposals for experimental work will benefit from describing how the results will test fundamental theory. Proposals that seek to connect two or more of the core sub-disciplines above, and/or develop new methods that have not been previously demonstrated and that hold promise of advancing the current precision frontier by an order of magnitude or more will be given priority.

Proposals addressing the goals of this Dear Colleague Letter should be submitted to one of the participating programs as described above and should have a title that begins with the "BSM-PM:" prefix. Participating programs and their respective proposal deadlines are listed in the current [Division of Physics: Investigator-Initiated Research Projects \(PHY\)](#) solicitation.

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NSF: DCL - Workshop to Inform Development of the NSF Research on Research Security Program (RRSP)

With this DCL [[NSF 23-126](#)], NSF seeks proposals to organize and facilitate a single workshop that will bring together diverse perspectives and stakeholders from all sectors of the research community, particularly those already engaged in research security-related research, to identify:

- Themes and topics that should be studied in the RRSP;
- Special considerations for and/or barriers to conducting research on the themes and topics, especially access to relevant data and associated statutory or regulatory restrictions; and
- Approaches that might be used to study the themes and topics systematically, qualitatively, and/or quantitatively.

These discussions will help build new and strengthen existing relationships that will lead to the collaborations necessary for the RRSP to be successful. Findings from the conference will be shared publicly in the form of an open-source report or other comparable communication mechanisms.

Potential Themes/Topics for Proposals:

- Nature and Pervasiveness of Research Security Threats
- Research Security Threat/Violation Identification, Mitigation and Prevention
- International Dimensions of Research Security

Deadline: September 25, 2023



NSF: Racial Equity in STEM Education (EDU Racial Equity)

This solicitation [[NSF 22-634](#)] aligns with the National Science Foundation (NSF) and the Directorate for STEM Education long-standing investments in the development of a diverse and well-prepared public and workforce. Racial inequities often create barriers to STEM knowledge generation, as well as access to and participation in all aspects of STEM education, research, and the workforce. In ongoing efforts to address these disparities, NSF EDU seeks to support bold, groundbreaking, and potentially transformative projects that contribute to advancing racial equity in STEM education and workforce development through practice and/or fundamental or applied research.

Collectively, proposals funded by this solicitation will:

- Substantively contribute to institutionalizing effective research-based practices, policies, and outcomes in STEM environments for those who experience inequities caused by systemic racism and the broader community
- Advance scholarship and promote racial equity in STEM in ways that expand the array of epistemologies, perspectives, ideas, theoretical and methodological approaches that NSF funds
- Further diversify project leadership (PIs and co-PIs) and institutions funded by NSF

Deadline: October 10, 2023



NSF: Research Experiences for Undergraduates

The Research Experiences for Undergraduates (REU) program [[NSF 23-601](#)] supports active research participation by undergraduate students in any of the areas of research funded by the National Science Foundation. REU projects involve students in meaningful ways in ongoing research programs or in research projects specifically designed for the REU program. This solicitation features two mechanisms for supporting student research:

- REU *Sites* are based on independent proposals to initiate and conduct projects that engage a number of students in research. REU Sites may be based in a single discipline or academic department or may offer interdisciplinary or multi-department research opportunities with a coherent intellectual theme.
- REU *Supplements* may be included as a component of proposals for new or renewal NSF grants or cooperative agreements or may be requested for ongoing NSF-funded research projects.

Research experience is one of the most effective avenues for attracting students to and retaining them in science and engineering and for preparing them for careers in these fields. The REU program, through both Sites and Supplements, aims to provide appropriate and valuable educational experiences for undergraduate students through participation in research. REU projects involve students in meaningful ways in ongoing research programs or in research projects specifically designed for the REU program. REU projects feature high-quality interaction of students with faculty and/or other research mentors and access to appropriate facilities and professional development opportunities.

Recent modifications to solicitation:

- Increased total project costs
- Non-PI faculty/professionals no longer need a BioSketch but require a COA

Deadline: September 27, 2023



NSF: A Science of Science Approach to Analyzing and Innovating the Biomedical Research Enterprise (SoS:Bio)

The National Science Foundation (NSF) and the National Institutes of Health (NIH) are interested in proposals that will propel our understanding of the biomedical research

enterprise by drawing from the scientific expertise of the science of science policy research community. Science of Science Approach to Analyzing and Innovating the Biomedical Research Enterprise (SoS:BIO) [[NSF 23-569](#)] is a joint program between the National Institute of General Medical Sciences (NIGMS) of the National Institutes of Health (NIH) and the Science of Science: Discovery, Communication, and Impact Program (SoS:DCI) of the National Science Foundation (NSF). SoS:BIO supports research that advances the scientific basis of science and innovation policy, with a focus on the biomedical sciences. Consistent with the SoS:DCI program, SoS:BIO will fund the development of models, analytical tools, data and metrics that can inform science policy and the development of the scientific enterprise. SoS:BIO welcomes individual and collaborative research projects and places a high priority on interdisciplinary research and on broadening participation.

Both NSF and NIH believe that there are opportunities and needs for building and supporting research projects with a focus on the scientific research enterprise. The two agencies also recognize that when programmatic goals are compatible, coordinated management and funding of a research program can have a positive synergistic effect on the level and scope of research and can leverage the investments of both agencies.

Deadline: September 9, 2023

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Looking for more funding opportunities?



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For more information and to access this database, visit the [SPIN page](#) on the RCA website. If you have questions, please contact ndsuh.researchdev@ndsuh.edu.

Have questions, ideas, or suggestions for the RCA Update?

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We collectively acknowledge that we gather at NDSU, a land grant institution, on the traditional lands of the Oceti Sakowin (Dakota, Lakota, Nakoda) and Anishinaabe Peoples in addition to many diverse Indigenous Peoples still connected to these lands. We honor with gratitude Mother Earth and the Indigenous Peoples who have walked with her throughout generations. We will continue to learn how to live in unity with Mother Earth and build strong, mutually beneficial, trusting relationships with Indigenous Peoples of our region.