

RCA UPDATE

April 26, 2021



2021 NDSU EXPLORE Virtual Showcase of Undergraduate Research and Creative Activity Awards

The 2021 NDSU EXPLORE Showcase took place April 19-23, 2021. Awards were given to the top poster presentations and the top oral presentations. The top presentations in each of seven disciplinary categories were also recognized. [View the award list online >>](#)

ORAL PRESENTATION WINNERS

FIRST PLACE

Annie Schiro [Biochemistry and Molecular Biology]

Faculty Mentor: James Nyachwaya, PhD

“Chemistry students' understanding of dissolving and associated phenomena: The case for sodium chloride”

SECOND PLACE

Alaina Driscoll [Physical Education]

Faculty Mentor: Jenny Linker, PhD

“Home Fun in Physical Education”

THIRD PLACE

Jake Jenson [Animal Sciences]

Faculty Mentor: Carolyn Hammer, DVM, PhD

“Relative expression and location of the neonatal Fc receptor [FcRn] in the equine gastrointestinal system”

HONORABLE MENTION

Troy Timmerman [Computer Science]

Faculty Mentor: Bakhtiyor Rasulev

“Automating protein structure modeling to predict beta sheet content”

POSTER SESSION WINNERS

FIRST PLACE

Rachel Voigt [Animal Sciences]

Faculty Mentor: Carolyn Hammer, DVM, PhD

“Visualization and Measures of Intensity of the Neonatal Fc Receptor in Major Body Systems of the Horse”

SECOND PLACE

Gabe Dusek [Biological Sciences]

Faculty Mentor: Andrew Friskop, PhD

“Evaluation of Fungicide Timing for Fusarium Head Blight in Two-row Barley”

THIRD PLACE [TIE]

Dani Douri [Biochemistry and Molecular Biology]

Faculty Mentor: Sathish Venkatachalem, PhD

“Gender Specific Differences in Expression of DNA-Methylation Associated Markers in the

Lungs of Allergic Mice”

Rebecca Tomann [Chemistry]

Faculty Mentor: Svetlana Kilina, PhD

“Holey Graphene with Embedded Au₁₃-Cluster for H₂S Gas Sensing Applications”

HONORABLE MENTIONS

Huan Ho [Computer Science]

Faculty Mentor: Simone Ludwig, PhD

“Handwritten Text Recognition using Convolutional Neural Networks in Deep Learning”

Helen Wax [Anthropology]

Faculty Mentor: Ellen Rubinstein, PhD

“The Cost of Death in the Upper Midwest - An Ethnographic Analysis of the American Funeral Industry”

TOP PRESENTATIONS BY CATEGORY

AGRICULTURE

Jake Jenson [Animal Sciences]

Rachel Voigt [Animal Sciences]

Max Salzer [Agricultural and Biosystems Engineering]

ARTS AND HUMANITIES

Garrett Bryan [Philosophy]

Makayla Scherrer [Music]

BIOLOGICAL, HEALTH SCIENCES, AND BIOMEDICAL ENGINEERING

Troy Timmerman [Computer Science]

Ryan Anderson [Civil Engineering]

Anna Marie Schornack, Anna Rudie, and Abby Voigt [Electrical Engineering]

COMPUTER SCIENCE AND ENGINEERING

Joshua Gisi [Computer Engineering]

Tiffany Meeks [Civil Engineering]

Mohammed Mohammed [Civil Engineering]

INTERDISCIPLINARY

Macy Rennpferd [Biological Sciences] and **Madeline Schroeder** [Biological Sciences Education]

PHYSICAL AND NATURAL SCIENCES, MATHEMATICS

Annie Schiro [Biochemistry and Molecular Biology]

Rebecca Tomann [Chemistry]

Sarah Montplaisir [English]

SOCIAL AND BEHAVIORAL SCIENCES, EDUCATION, AND BUSINESS

Alaina Driscoll [Physical Education]

Kate Best [Economics]

Helen Wax [Anthropology]

Nicolas Rohrich [Electrical Engineering] and **Kyle Berger** [Finance]

Halle Lipetzky [Apparel, Retail Merchandising and Design]

RCA Research Support Services Awards

Through the Research Support Services program, funds of up to \$2,500 can be requested to help defray the costs of support services required for research, creative, or scholarly activity. Funds must be spent by June 15, 2021. More information and application instructions are posted on the [RCA website](#). Please contact ndsuhresearchdev@ndsuh.edu with questions.

NSF Virtual Grants Conference

The National Science Foundation (NSF) Spring 2021 Virtual Grants Conference will be held the week of **June 7-11, 2021**. Registration will be free of charge and opens on **Wednesday, May 5 at 11am**. Sessions typically reach capacity very quickly, so we encourage you to register as soon as possible once the portal opens.

In the meantime, please feel free to check nsfpolicyoutreach.com for the most up-to-date information and view [recordings](#) of sessions from previous years. You may also view the Fall 2020 Virtual Grants Conference recordings on our [YouTube](#) page. For those who cannot attend the live conference, all recorded conference sessions will be available on-demand shortly after the event and posted on our [website](#) and our [YouTube](#) page.

If you have any logistical questions about this virtual conference, please contact grants_conference@nsf.gov.

Charging External Hard Drives to Grant Funds

External hard drives are allowed to be purchased with grant funds **only** if the need for this equipment cannot be met using centrally funded University storage services. The most commonly used storage services are Google Drive and OneDrive for business. NDSU's Information Technology Division has a list of the services they have available at [File Storage and Sharing \(ndsu.edu\)](#). If you are unsure if they can meet your need you can also reach out to the Office of the VP for IT. If the service is available from IT and external hard drives are also charged to the grant there is a risk of double-charging the sponsor.

To determine if external hard drives are allowable on your grant there are many variables to consider, and some awards have unique needs that can't be met with IT's current services. So, in an effort to prevent this potential double charge, please review the IT Division's services at [File Storage and Sharing \(ndsu.edu\)](#) and if they can't meet your awards needs please complete the Docusign form [Grant Fund External Hard Drive Purchase](#), **prior** to making your purchase. A copy should then be included with the invoice when processing payment. This form will help to document the need for the hard drive and will help expedite approvals for reimbursement requests.

[Contact Grant and Contract Accounting](#) with any questions.

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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 ndsus.researchdev@ndsus.edu.

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

- [NIH: Science Education Partnership Award](#)
Notification Deadline: 05/05/2021
- [NSF: Partnerships for Innovation](#)
Notification Deadline: 05/05/2021
- [William T. Grant Foundation: Scholars Program](#)
Notification Deadline: 05/05/2021
- [Breast Cancer Alliance: Young Investigator Grants](#)
Notification Deadline: 05/12/2021

There are a number of limited submission grant programs with upcoming agency deadlines for which we did not receive any notifications of interest. A full list of those programs is available on the [Limited Submissions page](#). 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. Email notifications of interest to ndsus.researchdev@ndsus.edu.

Looking for more funding opportunities?



On January 1, NDSU transitioned to a new funding opportunity database subscription: SPIN by InfoEd Global. SPIN is free for current NDSU faculty, staff, and students.

For more information, visit the [SPIN page](#) on the RCA website. If you have questions, please contact ndsus.researchdev@ndsus.edu.

DARPA: Biotechnologies Office

The mission of the Biological Technologies Office (BTO) is to foster, demonstrate, and transition breakthrough research, discoveries, and applications that integrate biology, engineering, computer science, mathematics, and the physical sciences. BTO's research investment portfolio includes combating pandemic disease, innovative physiological interventions, human performance and warfighter readiness, and deep exploration of changing ecologies and environments for improving U.S. capabilities and resilience. BTO's programs operate across a wide range of scales, from individual cells to the warfighter to global ecosystems. BTO responds to the urgent and long-term needs of the Department of Defense (DoD) and addresses national security priorities. Access the full solicitation on [Beta.SAM](#).

Abstracts may be submitted on a rolling basis until April 20, 2022; 3pm.

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DoD: Air Force Young Investigator Research Program

The Fiscal Year 2022 [Air Force Young Investigator Research Program \(YIP\)](#) intends to support young in career scientists and engineers who have received Ph.D. or equivalent degrees by 1 April 2015 or later showing exceptional ability and promise for conducting basic research. The program objective is to foster creative basic research in science and engineering; enhance early career development of outstanding young investigators; and increase opportunities for the young investigator to recognize the Air Force mission and related challenges in science and engineering.

Deadline for White Papers: May 31, 2021; 11am.

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NEH: Short Documentaries and Media Projects

The National Endowment for the Humanities (NEH) Division of Public Programs is currently accepting applications for the following programs:

- The [Short Documentaries program](#) supports the production and distribution of documentary films up to 30 minutes that engage audiences with humanities ideas in appealing ways. The program aims to extend the humanities to new audiences through the medium of short documentary films. Films must be grounded in humanities scholarship. This program supports production of single films or a series of

thematically-related short films addressing significant figures, events, or ideas. The proposed film(s) must be intended for regional or national distribution, via broadcast, festivals, and / or online distribution. The subject of the film(s) must be related to the [“A More Perfect Union”](#) theme. **Note that the 2021 application materials will be available June 11, 2021**; the [2020 instructions](#) are currently available to review.

Deadline: August 11, 2021.

- The [Media Projects program](#) supports the development, production, and distribution of radio, podcast, television, and long-form documentary film projects that engage general audiences with humanities ideas in creative and appealing ways. All projects must be grounded in humanities scholarship and demonstrate an approach that is thoughtful, balanced, and analytical. The approach to the subject matter must go beyond the mere presentation of factual information to explore its larger significance and stimulate reflection. Media Projects offers two levels of funding: Development and Production. **Note that the 2021 application materials will be available June 11, 2021**; the [2020 instructions](#) are currently available to review.

Deadline: August 11, 2021

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NIH: Director’s Pioneer Award Program (DP1 Clinical Trial Optional)

The [NIH Director’s Pioneer Award Program](#) supports individual scientists of exceptional creativity who propose highly innovative research projects with the potential to produce a major impact on broad, important areas relevant to the mission of NIH. For the program to support the best possible researchers and research, applications are sought which reflect the full diversity of the nation’s research workforce. Individuals from diverse backgrounds and from the full spectrum of eligible institutions in all geographic locations are strongly encouraged to apply to this Funding Opportunity Announcement [[RFA-RM-21-015](#)]. In addition, applications in all topics relevant to the broad mission of NIH are welcome, including, but not limited to, topics in the behavioral, social, biomedical, applied, and formal sciences and topics that may involve basic, translational, or clinical research. To be considered pioneering, the proposed research must reflect substantially different scientific directions from those already being pursued in the investigator’s research program or elsewhere. The NIH Director’s Pioneer Award is a component of the [High-Risk, High-Reward Research \(HRHR\) Program](#) of the [NIH Common Fund](#).

Deadline: September 10, 2021

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NIH: Exploratory Data Science Methods and Algorithm Development in Infectious and Immune-mediated Diseases

The purpose of this Funding Opportunity Announcement (FOA) [[RFA-AI-21-035](#)] is to support exploratory research focused on developing innovative methods and algorithms in biomedical computing, informatics, and data science addressing priority needs across the infectious or immune-mediated disease research continuum aligned with the research mission of the National Institute of Allergy and Infectious Diseases (NIAID). This includes infectious diseases, emerging infections, or immune-mediated diseases that include allergy, autoimmunity, or immune reactions associated with transplantation.

As a part of the trans-NIAID Data Science program, this R21 FOA encourages applications focused on the development of novel computational, mathematical, and statistical algorithms and methods, including artificial intelligence and machine learning approaches, that can considerably improve acquisition, management, analysis, visualization, and dissemination of relevant data and/or knowledge. This contrasts with early-stage development (U01) and enhancement/sustainment (U24) efforts to generate these tools and resources that are supported by the companion FOAs:

- [RFA-AI-21-020](#) , [U01](#) Research Project (Cooperative Agreements)
- [RFA-AI-21-021](#) , [U24](#) Resource-Related Research Project (Cooperative Agreements)

Deadline: July 2, 2021; February 17, 2022

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North Dakota Soybean Council: Soybean Non-Agronomy Research Funding

The North Dakota Soybean Council (NDSC) is seeking Non-Agronomy Research Funding Requests for FY 2022 (July 1, 2021 - June 30, 2022). The NDSC invites creative funding requests to address non-agronomy soybean research priorities. While NDSC will undoubtedly continue to fund many of the traditional programs that have supported the

NDSC mission, emphasis will be given to proposals which creatively address the following priority:

NDSC research committee is seeking proposals that intend to utilize North Dakota Soybeans in industrial or commercial products that create a “High Value or High-Volume Demand.”

- [Download RFP](#)
- [Download Appendix A](#)
- [Download Appendix B](#)

Deadline: May 27, 2021; 4pm

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NSF DCL: Models for Uncovering Rules and Unexpected Phenomena in Biological Systems (MODULUS)

The National Science Foundation (NSF) Division of Mathematical Sciences (DMS), in collaboration with the Division of Molecular and Cellular Biosciences (MCB), seeks to promote interdisciplinary research that enables novel mathematical and computational approaches that capture and explore the full range of mechanisms and biological variability needed to better understand complex and nonlinear behavior across multiple biological systems and scales. Funding opportunities are available in fiscal years FY2021 and FY2022 to provide support for proposals from interdisciplinary teams comprised of mathematical, computational, and biological scientists to develop *MODEls for Uncovering Rules and Unexpected Phenomena in Biological Systems (MODULUS)*. This Dear Colleague Letter (DCL) [[NSF 21-069](#)] is to encourage researchers involved in the biosciences and the mathematical sciences to collaborate in a substantive manner in biological investigations using novel mechanistic mathematical models to guide biological exploration and discovery of new rules, phenomena, and theories in living systems.

Proposals in response to this DCL should be submitted to either DMS via the [Mathematical Biology Program](#) (*Deadline September 6, 2021*) or the MCB solicitation, [NSF 21-509](#), directed to the Systems and Synthetic Biology program (8011) (*No deadline*).

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NSF: Improving Undergraduate STEM Education: Education and Human Resources (IUSE:EHR)

[IUSE: EHR](#) supports projects that seek to bring recent advances in STEM knowledge into undergraduate education, that adapt, improve, and incorporate evidence-based practices into STEM teaching and learning, and that lay the groundwork for institutional improvement in STEM education. In addition to innovative work at the frontier of STEM education, this program also encourages replication of research studies at different types of institutions and with different student bodies to produce deeper knowledge about the effectiveness and transferability of findings.

IUSE: EHR also seeks to support projects that have high potential for broader societal impacts, including improved diversity of students and instructors participating in STEM education, professional development for instructors to ensure adoption of new and effective pedagogical techniques that meet the changing needs of students, and projects that promote institutional partnerships for collaborative research and development.

The IUSE: EHR program features two tracks: (1) Engaged Student Learning and (2) Institutional and Community Transformation. Several levels of scope, scale, and funding are available within each track – see the [solicitation](#) for more information.

Deadline varies by track.

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NSF: Racial Equity in STEM Education

The National Science Foundation (NSF) Directorate for Education and Human Resources (EHR) seeks to support bold, ground-breaking, and potentially transformative projects addressing systemic racism in STEM. Proposals should advance racial equity in science, technology, engineering, and mathematics (STEM) education and workforce development through research (both fundamental and applied) and practice. Core to this funding opportunity [[PD 21-191Y](#)] is that proposals are led by, or developed and led in authentic partnership with, individuals and communities most impacted by the inequities caused by systemic racism. The voices, knowledge, and experiences of those who have been impacted by enduring racial

inequities should be at the center of these proposals, including in, for example: project leadership and research positions, conceptualization of the proposal, decision-making processes, and the interpretation and dissemination of evidence and research results. The proposed work should provide positive outcomes for the individuals and communities engaged and should recognize peoples' humanity, experiences, and resilience. Proposals need to consider systemic barriers to opportunities and benefits, and how these barriers impact access to, retention in, and success in STEM education, research, and workforce development. Competitive proposals will be clear with respect to how the work advances racial equity and addresses systemic racism, as these constructs may have different meanings in different settings.

Proposals should articulate a rigorous plan to generate knowledge through research (both fundamental and applied) and practice, such as, but not limited to:

- building theory;
- developing methods;
- testing approaches and interventions;
- assessing the potential, efficacy, effectiveness, and scalability of approaches and interventions;
- establishing, cultivating and assessing authentic partnerships;
- changing institutional, organizational, and structural practices and policies; and/or
- focusing on affective, behavioral, cultural, social components, and implications.

Contexts may include, but are not limited to: preK-12, two- and four-year undergraduate, and graduate institutions; municipal organizations; STEM workplaces; and informal STEM contexts, such as museums, community organizations, and media.

In addition, proposals should include a dissemination plan to proactively share what is learned with individuals and communities most impacted, as well as relevant leaders, policy makers, and other stakeholders.

Deadline: July 13, 2021



RWJF: Research in Transforming Health and Healthcare Systems

The Medicaid program is facing tremendous opportunities and challenges at a time when its role is so vital. States and the federal government have implemented numerous temporary changes to Medicaid in response to the pandemic—such as making it easier to access, qualify and enroll in state coverage and affordable health care services.

With states having the option to make some policies permanent once federal declarations end, it is essential to understand how Medicaid policies being implemented or considered in response to the pandemic may advance racial equity or, alternatively, reinforce or exacerbate structural racism. Evidence on these issues is needed to inform Medicaid policy in the months and years after the pandemic ends, and to help state and federal Medicaid policymakers identify and eliminate policies that contribute to racial inequities in access, care, and outcomes.

The purpose of this [call for proposals](#) is to fund research studies that evaluate or predict how enrollees are effected by Medicaid policy changes enacted in response to the COVID-19 pandemic. Given the disproportionate impact of the pandemic on communities of color, the Robert Wood Johnson Foundation (RWJF) is requesting studies that examine the impact of Medicaid policies on communities of color and / or explore how current or proposed policies may alleviate or exacerbate racial inequity and structural racism in the context of Medicaid. The goal of this funding opportunity is to generate rigorous evidence on the effects of recent Medicaid policy changes on enrollees, states, and others, and to inform and advance equitable policies and racial equity in Medicaid.

An informational webinar for potential applicants is scheduled for May 3, 2021, 2-3pm. Registration is required [through this link](#).

Deadline: June 28, 2021

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NSF CAREER Proposal Development Program

The National Science Foundation (NSF) Faculty Early Career Development ([CAREER](#)) Program is a prestigious grant award program that supports early career faculty who have the potential to serve as academic role models in research and education and to lead advances in the mission of their department or organization. Activities pursued by early-career faculty should build a firm foundation for a lifetime of leadership in integrating

education and research.

The NDSU Office of Research and Creative Activity is offering NSF CAREER-focused, virtual sessions to assist potential applicants with preparing competitive proposals.

- **NSF CAREER Awardee Panel [April 28, 2021 - 12pm (noon)]**

For this session, four recent NSF CAREER awardees at NDSU will share their experiences and offer their tips for writing a successful proposal and answer your questions about the process.

Presenters:

Britt Heidinger, Ph.D. - Biological Sciences

Ying Huang, Ph.D. - Civil and Environmental Engineering

Dmitri Kilin, Ph.D. - Chemistry and Biochemistry

Keerthi Nawarathna, Ph.D. - Electrical and Computer Engineering

[Register to attend this session >>](#)

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NASEM Workshop: Strategies for Effective Data Management and Sharing

On April 28-29, 2021, the National Academies of Sciences, Engineering, and Medicine (NASEM) is hosting Changing the Culture of Data Management and Sharing, a virtual public workshop to examine strategies for effective data management and sharing. The workshop will discuss challenges to and potential solutions for data management and sharing across scientific disciplines and ways researchers can integrate data management and sharing practices into their routine research conduct. The workshop aims to inform implementation strategies for the new [NIH Policy for Data Management and Sharing](#).

Strategies for Effective Data Management and Sharing

April 28-29, 2021

[Learn more and register >>](#)

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NEH Virtual Grant Workshops

In April and May, the National Endowment for Humanities (NEH) is hosting a series of virtual workshops with NEH program staff to share information about NEH grant opportunities, deadlines, and application information.

Topics include:

- Digital Humanities
- Individual Scholars
- Archives and Libraries
- College and University Grants and Sponsored Research Offices

[Learn more >>](#)

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Dakota Cancer Collaborative on Translational Activity (DaCCoTA) Virtual Symposium

[Registration](#) is now open for the **2021 DaCCoTA Virtual Symposium**.

The symposium will be held on June 18th from 8am to 5pm. It is free and open to the public.

The symposium includes:

- **Educational Opportunities (educational credit will be provided)**
 - Use of navigators in cancer care
 - Design, conduct and analysis of clinical trials
 - Navigating collaboration with industry
 - Best practices in community engagement
 - Mentorship: It takes two to tango
 - Demystifying the NIH study section
- **Poster Sessions**
- **DaCCoTA Awardee Presentations**
- **Networking Opportunities**

Register through the following link:

https://und.qualtrics.com/jfe/form/SV_ekW1Jpngue1U4Zf.

For additional information about the symposium and details regarding poster presentation requirements, please visit: <https://med.und.edu/daccota/symposium.html>.

The DaCCoTA is supported by the National Institute of General Medical Sciences of the National Institutes of Health under Award Number U54GM128729.

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Workshops for Health Professionals

Paul Casella, MFA, is a writer, teacher, editor and producer. Since 1988, Paul has worked with health professionals to improve the clarity and effectiveness of their manuscripts for publication, formal presentations, grant applications, slides, posters, videos, and other media for scientific purposes.

On June 24, 2021, Paul will visit the NDSU campus to conduct a series of workshops for health professionals:

- Writing for Publication
- Writing Effective NIH Grant Proposals
- Speaking for Success: Strategies for Effective Medical and Scientific Presentations

[Learn more and register >>](#)

This workshop is hosted by NDSU, UND, and the DaCCoTA. The workshop is sponsored by Great Plains IDEa-CTR.

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

[Contact Us](#)



The Office of Research and Creative Activity (RCA) sends weekly emails to NDSU faculty and staff to provide current information on various topics including funding opportunities, grant program changes, research resources, deadlines, notices, and training.

You are receiving this notification through the NDSU official employee listserv or sub-list. The official listserv refreshes after each pay period.

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