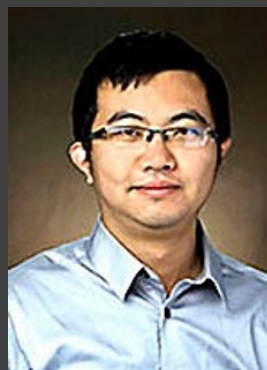# NDSU OFFICE OF RESEARCH AND CREATIVE ACTIVITY

RCA UPDATE

May 17, 2021

Collaboration between NDSU assistant professors Zhongyu Yang (chemistry and biochemistry) and Bingcan Chen (plant sciences) results in novel enzyme research.

Read more >>

Zhongyu Yang, PhD   Bingcan Chen, PhD

NIH Training Resources Available through May 31, 2021

Don't miss the opportunity to access the virtual, self-paced training course *NIH Ready: R Series,* a 4-part grantwriting course from Dr. Meg Bouvier.

MEG BOUVIER
MEDICAL WRITING

How it Works

The course is hosted on Meg Bouvier Medical Writing website. You'll need to register and watch the courses there.

- Click 'Add to Cart'.

- At checkout, apply your coupon code (**NDSU NIH TRAINING**)
- Add organizational email address, and create a unique password. Do not use your NDSU password.
- When you're ready, click Watch Now on megbouvier.com.

To learn more about Dr. Bouvier, please see her [website](#). If you have any questions or need assistance with accessing the training, please contact the NDSU Research Development office at [ndsu.researchdev@ndsu.edu](#).

Research Development and Grant Writing News

The Research and Creative Activity office holds a subscription to Research Development and Grant Writing News, a monthly newsletter full of helpful tips and information about funding agencies and writing successful grant proposals. Here are some articles you will find in recent editions:

- Tips for Winning an NEH Individual Fellowship
- NSC Report on Artificial Intelligence Offers a Guide to Future Funding Success
- You Got Funding! Now think about supplements
- Competitive Models for STEM Education and Research
- Developing Proposals to Fund the Future Workforce in Food, Agriculture, and Natural Resources
- New Research Directions Under President's 2022 Discretionary Funding Request

You can access these and many more articles in the [newsletter archive](#) with your NDSU network log-in information.

Virtual DEPSCoR Day
Wednesday, June 23, 2021 | 9am-4pm

The Defense Established Program to Stimulate Competitive Research (DEPSCoR) is holding a virtual DEPSCoR Day which will include overviews of currently open funding opportunities, various panel sessions, and breakout sessions with Program Officers representing the topics in the Research Collaboration funding opportunity announcement. The tentative agenda is as follows:

9:00 AM: Welcome and Opening Remarks, Dr. Bindu Nair, Director, Basic Research
9:30 AM: Session 1: DEPSCoR Collaborative Research and Capacity Building FOAs
10:15 AM: Session 2: Tri-Service Basic Research Offices Overviews
11:00 AM: Session 3: Engagement and Brainstorming Ideas with Program Officers
11:30 AM: Lunch Break
12:30 PM: Session 4: Previous DoD-funded Researchers
1:00 PM: Session 5: DEPSCoR Awardees Lessons Learned
1:30 PM: Session 6: DEPSCoR Application Submission: Noblis nVision
2:00 PM: Break
2:30 PM: Session 7: DEPSCoR FY21 Topic Breakout Sessions

To participate in the Virtual DEPSCoR Day, you must register **in advance no later than June 16, 2021.**

You are encouraged to register early as space is limited. If you register and find you can no longer attend, please cancel your registration so we can accommodate as many participants as possible.

Webinar: Horizon Europe Launch in the U.S.
Thursday, May 27, 2021 | 10-11:30am

Horizon Europe is the European Union's new research and innovation program, and is the largest multinational research program in the world. The $116 billion program will run from 2021-2027, and is designed to focus on some of the world's biggest challenges, from cancer and climate change to the health of cities and food supplies. For U.S. researchers, this program offers the possibility to collaborate with large European projects as well as to apply for generous grants available to individuals interested in spending part of their careers in Europe. It also presents opportunities for entrepreneurs and innovators with breakthrough, disruptive ideas

interested in scaling them up in Europe.

Learn more and register >>

CONTENTS

FUNDING OPPORTUNITIES

EVENTS

- [Workshops for Health Professionals](#)

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 [ndsu.researchdev@ndsu.edu](#) with questions.

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](#).

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

- [NSF: ADVANCE - Partnership Track](#)
  Notification Deadline: 06/02/2021
- [NIH: Director's Early Independence Awards](#)
  Notification Deadline: 06/16/2021

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 [ndsu.researchdev@ndsu.edu](#).

DEPSCoR: Research Collaboration

The objectives of the Defense Established Program to Stimulate Competitive Research (DEPSCoR) are to:

1. increase the number of university researchers in eligible States / Territories capable of performing science and engineering (S&E) research responsive to the needs of the Department of Defense (DoD);
2. enhance the capabilities of institutions of higher education (IHEs) in eligible States / Territories to develop, plan, and execute S&E research that is relevant to the mission of the DoD and competitive for Federal funding; and
3. increase the probability of long-term growth in the competitively awarded Federal funding.

The Research Collaboration funding opportunity [FOA-AFRL-AFOSR-2021-0007] aims to create basic research collaborations between a **pair** of researchers, namely

1. Applicant / Principal Investigator (PI), a full-time faculty member who has never served as a PI on a prior DoD directly funded research Prime award; and
2. Collaborator/co-Principal Investigator (co-PI), an investigator who will provide mentorship to the Applicant **and** has served as a PI on a DoD directly funded research Prime award active between 1 October 2014 and 30 September 2021.

This structure is aimed at introducing potential applicants to the DoD's unique research challenges and its supportive research ecosystem. Topic areas of interest include:

- Physics of Sensing
- Complex Networks
- Modeling of Complex Systems

- Biomathematics
- Solid Mechanics
- Environmental Chemistry
- Electronic Sensing
- Nanoscale Computing Devices and Systems
- Additive Manufacturing
- Social Networks and Computational Social Science

See the full list in the FOA.

Deadline: September 20, 2021

DOI BLM: Montana / Dakotas Plant Conservation and Restoration Management

The Plant Conservation and Restoration Management Program was created in response to largescale wildfires in the Western U.S. Because of a lack of native seed, in 2001 Congress directed the Bureau of Land Management (BLM) to establish a native plant material program. The Montana / Dakotas BLM has opportunities to work with partner organizations to accomplish goals of the BLM Plant Conservation and Restoration Program that include, but are not limited to, such things as:

- support habitat management efforts to restore keystone wildlife and pollinator habitats;
- work with growers to continue to develop genetically appropriate native plant material for use in habitat restoration and reclamation;
- support studies to improve the effectiveness of conservation restoration efforts;
- support pollinator studies and projects;
- work with partners to implement priority species conservation actions;
- assist BLM programs such as Fuels and Emergency Stabilization and Restoration in restoring public lands and integrating more widespread use of native plant materials;
- expand public education programs and outreach.

Application deadline: 06/21/2021

EPA: Sustainable Materials Management Grants – Region 8

The Environmental Protection Agency (EPA) Region 8 (Mountains and Plains – CO, ND, MT, SD, UT, WY) is soliciting applications [EPA-R8-2021-SMM] that address the national and regional priority of decreasing the environmental impact of materials with a focus on reducing greenhouse gas emissions (GHGs). This funding opportunity is designed to both decrease materials generated (source reduction) and increase the diversion of materials through reuse, recycling, and other strategies.

Deadline: June 23, 2021

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Fulbright Scholar Program

The Fulbright U.S. Scholar Program awards more than 800 fellowships annually. Over 400 different types of opportunities are available to teach, research, and conduct professional projects in more than 135 countries. Location and eligibility vary across all awards, and some awards may be restricted to certain career levels or types of scholars.

Deadline: September 15, 2021

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NIH: Director's Early Independence Awards – Limited Submission Program

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.

NIH Director's Early Independence Award: Notify RCA by 06/16/2021 if you are interested in submitting to this program.

The NIH Director's Early Independence Award [RFA-RM-21-018] provides an opportunity for exceptional junior scientists to accelerate their entry into an independent research career by forgoing the traditional post-doctoral training period. Though most newly graduated doctoral-level researchers would benefit from post-doctoral training, a small number of outstanding junior investigators are capable of launching directly into an independent research career. The Early Independence Award is intended for these select junior investigators who have already established a record of scientific innovation and research productivity and have demonstrated unusual scientific vision and maturity; typical post-doctoral training would unnecessarily delay their entry into independent research. The NIH Director's Early Independence Award also provides an opportunity for institutions to invigorate their research programs by bringing in fresh scientific perspectives of the awardees they host.

To be eligible, investigators, at the time of application, must have received their most recent doctoral degree or completed clinical training within the previous fifteen months or expect to do so within the following twelve months.

LIMITED SUBMISSION: Each institution may submit up to two applications to this FOA.

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NIH: Exercise and Nutrition Interventions to Improve Cancer Treatment-Related Outcomes

Through this Funding Opportunity Announcement (FOA) [RFA-CA-21-031], the National Cancer Institute (NCI) seeks to support exercise and/or medical nutrition intervention research designed to improve cancer treatment-related outcomes for therapies delivered with curative or life-extending intent to cancer survivors. Projects may include either pediatric or adult cancer patient populations and must identify a treatment-related outcome as a primary endpoint and specify a relevant patient-reported secondary outcome(s). Priority will be given to studies with direct clinical relevance and translational potential. Responsive applications will fill a research gap concerning the efficacy of specific exercise and dietary approaches to improve cancer treatment-related outcomes.

Information gained should improve behavioral intervention protocols for cancer survivors undergoing cancer treatment and may also generate feasibility information concerning translation into clinical care. Awardees will participate in an Exercise and Nutrition to Improve Cancer Treatment-Related Outcomes (ENICTO) in Cancer Survivors Consortium.

Deadline: July 14, 2021

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NSF: Cyber-Physical Systems

Cyber-physical systems (CPS) are engineered systems that are built from, and depend upon, the seamless integration of computation and physical components. Advances in CPS will enable capability, adaptability, scalability, resiliency, safety, security, and usability that will expand the horizons of these critical systems.

The CPS program [NSF 21-551] aims to develop the core research needed to engineer these complex CPS, some of which may also require dependable, high-confidence, or provable behaviors. Core research areas of the program include control, data analytics, and machine learning including real-time learning for control, autonomy, design, Internet of Things (IoT), mixed initiatives including human-in- or human-on-the-loop, networking, privacy, real-time systems, safety, security, and verification. By abstracting from the particulars of specific systems and application domains, the CPS program seeks to reveal cross-cutting, fundamental scientific and engineering principles that underpin the integration of cyber and physical elements across all application domains. The program additionally supports the development of methods, tools, and hardware and software components based upon these cross-cutting principles, along with validation of the principles via prototypes and testbeds. This program also fosters a research community that is committed to advancing education and outreach in CPS and accelerating the transition of CPS research into the real world.

NSF is working closely with multiple agencies across the federal government, including DHS; DOT; NIH; and USDA-NIFA.

Proposals for three classes of research and education projects—differing in scope and goals—are supported through the CPS program:

- **Small** projects may request a total budget of up to $500,000 for a period of up to 3 years. They are well suited to emerging new and innovative ideas that may have high impact on the field of CPS.
  There is no deadline for Small projects.
- **Medium** projects may request a total budget ranging from $500,001 to $1,200,000 for a period of up to 3 years. They are well suited to multi-disciplinary projects that accomplish clear goals requiring integrated perspectives spanning the disciplines.
  There is no deadline for Medium Projects.
- **Frontier** projects must address clearly identified critical CPS challenges that cannot be achieved by a set of smaller projects. Furthermore, Frontier projects should also look to push the boundaries of CPS well beyond today's systems and capabilities. Funding may be requested for a total of $1,200,001 to $7,000,000 for a period of 4 to 5 years.
  Deadline: December 15, 2021

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NSF: Perception, Action & Cognition

The National Science Foundation (NSF) Perception, Action & Cognition (PAC) program [NSF PD 09-7252] funds theoretically motivated research on a wide-range of topic areas related to typical human behavior with particular focus on perceptual, motor, and cognitive processes and their interactions. Central research topics for consideration by the program include (but are not limited to) vision, audition, haptics, attention, memory, written and spoken language, spatial cognition, motor control, categorization, reasoning, and concept formation. Of particular interest are emerging areas, such as the interaction of sleep or emotion with cognitive or perceptual processes, epigenetics of cognition, computational models of cognition, and cross-modal and multimodal processing. The program welcomes a wide range of perspectives, such as individual differences, symbolic and neural-inspired computation, ecological approaches, genetics and epigenetics, nonlinear dynamics and complex systems, and a variety of methodologies spanning the range of experimentation and modeling.

Deadline for research proposals: August 2, 2021

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NSF: Science of Organizations

Organizations -- private and public, established and entrepreneurial, designed and emergent, formal and informal, profit and nonprofit -- are critical to the well-being of nations and their citizens. They are of crucial importance for producing goods and services, creating value, providing jobs, and achieving social goals. The Science of Organizations (SoO) program [PD 11-8031] funds basic research that yields a scientific evidence base for improving the design and emergence, development and deployment, and management and ultimate effectiveness of organizations of all kinds.

SoO funds research that advances our fundamental understanding of how organizations develop, form and operate. Successful SoO research proposals use scientific methods to develop and refine theories, to empirically test theories and frameworks, and to develop new measures and methods. Funded research is aimed at yielding generalizable insights that are of value to the business practitioner, policy-maker and research communities.

Deadline: September 3, 2021

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Simons Foundation: Targeted Grants in Math and Physical Sciences

The Simons Foundation's Mathematics and Physical Sciences (MPS) division Targeted Grants in MPS program is intended to support high-risk theoretical mathematics, physics and computer science projects of exceptional promise and scientific importance on a case-by-case basis. This program provides funding for up to five years. The funding level and duration is flexible and should be appropriate based on the type of support requested in the proposal. There is no recommended or assumed funding level for this program.

Applications are accepted on a rolling basis.

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NASEM Virtual Workshop: Diversity, Equity, and Inclusion in Chemistry and Chemical Engineering
May 25-26, 2021

A diverse workforce and inclusive workspaces are critical for the advancement of science and the future of the chemical and chemical engineering fields. This virtual workshop will serve as a forum for academic, government, and industrial professionals to discuss the barriers to and best practices for creating more diverse, equitable, and inclusive environments in chemistry and chemical engineering classrooms and workplaces.

To learn more about this workshop, the planning committee, and invited speakers, or to download the agenda, please visit the event page.

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Grant Writing for Early Career Scientists
May 27, 2021 / 12-1pm

Department of Energy (DOE) Basic Energy Sciences (BES) Early Career Network is presenting this webinar for early career scientists. The grant writing and review process can feel daunting and difficult to navigate for young investigators. Learn tips and best practices from experts on how to successfully craft a scientific proposal for federal grants, industry partnerships, and non-profit support. After short presentations from each panelist, there will be a live question and answer session with the audience. This Zoom webinar is free and open to the public. Speakers include:

- **Dr. Brendan Abolins** is currently an External Innovation Manager at Eastman. His role enables him to identify and promote collaborations with groups outside of Eastman to accelerate internal initiatives.
- **Dr. Frances Houle** is a Senior Scientist in the Chemical Sciences and the Molecular Biophysics and Integrated Bioimaging Divisions at Lawrence Berkeley National Laboratory. Additionally, she is the Deputy Director of the Liquid Sunlight Alliance (LiSA) and has served as the Deputy Director for Science and Research Integration of the Joint Center for Artificial Photosynthesis (JCAP).
- **Dr. Michael "Mick" Pechan** is the program manager for the Experimental Condensed Matter Physics program in the Materials Sciences and Engineering Division of the Office of Basic Energy Sciences at the U.S. Department of Energy. Before coming to DOE, Dr. Pechan was a professor for 33 years at Miami University, where he received long standing support from BES.
- **Professor Jenny Yang** is currently an Associate Professor of Chemistry at the University of California, Irvine where her research focuses on inorganic

electrocatalysts for the generation and utilization of chemical fuels. She has received funding from the non-profit Alfred P. Sloan Foundation as part of a team targeting the capture and removal of atmospheric carbon dioxide.

Register to attend >>

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Virtual Meeting: NSF Directorate for Social, Behavioral, and Economic Sciences

Thursday, June 3, 2021 / 10-11am

RCA Research Development is hosting a one-hour virtual webinar with Dr. Arthur Lupia, the Assistant Director of the National Science Foundation (NSF) and head of the Directorate for Social, Behavioral, and Economic Sciences (SBE).

NSF SBE supports basic research on people and society. The SBE sciences focus on human behavior and social organizations and how social, economic, political, cultural, and environmental forces affect the lives of people from birth to old age and how people in turn shape those forces.

SBE funds a wide range of research programs. Organized into four divisions, these SBE programs support research that cuts across the human experience: Behavioral and Cognitive Sciences, Social and Economic Sciences, Multidisciplinary Activities, and the National Center for Science and Engineering Statistics.

Register to attend >>

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NSF Virtual Grants Conference Registration Open

The National Science Foundation (NSF) Spring 2021 Virtual Grants Conference will be held the week of **June 7-11, 2021**. Registration is now open, and can be accessed here.

Sessions typically reach capacity very quickly, but sessions will be recorded and will be available on-demand shortly after the event and posted on the website and YouTube page.

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.

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

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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. Sessions are also recorded and available to view on demand.

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

Learn more >>

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SHARPhub Webinars for Innovators and Entrepreneurs

The SHARPhub Program assists life science innovations that have been developed (or are developing) into a startup company with its headquarters and R&D operations in Kansas, Oklahoma, Nebraska, North Dakota, or South Dakota. SHARPhub is hosting a number of upcoming webinars:

June 9, 2021 / 8:30-10am

ABC of SBIR / STTR Funding

Find out whether your research is a candidate for SBIR / STTR federal R&D funding and learn SBIR / STTR program basics, including program purpose, eligibility, and sources of funding. This presentation will provide ample information to help you determine if you should seriously pursue proposal development and tools to help begin the process.

Register now >>

June 14, 2021 / 11am-12:30pm

Identifying SBIR / STTR funding opportunities and developing the Aims page for your project

Are you considering applying for Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs? Are you planning to reach out to SBIR / STTR program managers to gauge interest in your project? This is the right training for you.

Register now >>

June 21, 2021 / 8:30am-1pm

SBIR / STTR Proposal Prep for NIH

Discover the differences between SBIR and STTR, review how to navigate the NIH's SBIR website to research awarded projects, learn how to prepare an SBIR proposal, and find out how to avoid common pitfalls.

Register now >>

June 22, 2021 / 2-3pm

Entrepreneur Workshop Series: Licensing and Partnering agreements

Join the next session in this workshop series, hosted by NIA OSBR and the National Heart, Lung, and Blood Institute Small Business Program. The workshop includes breakout rooms on startup and university license agreements, partnerships and collaboration agreements, and negotiation tips.

Register now >>

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Dakota Cancer Collaborative on Translational Activity (DaCCoTA) Virtual Symposium
June 18, 2021 / 8am-5pm

Registration is now open for the **2021 DaCCoTA Virtual Symposium**. 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
June 24, 2021 / 8:30am-12:30pm

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