

June 20, 2022

NDSU Researcher awarded R15 grant to measure muscle function in older adults

Ryan McGrath, assistant professor in the NDSU department of Health, Nutrition, and Exercise Sciences, has been awarded an Academic Research Enhancement Award (R15) from the National Institutes of Health-National Institute on Aging. The \$416,000 grant will support research into how muscle function can be better measured with handgrip in older adults, which is a predictor in determining other health issues that may be present.



Traditionally, scientists studying muscle function have utilized a somewhat dated handgrip dynamometer device, which measures the amount of force applied when a person squeezes it with their hand. The results of such a test are then extrapolated to determine overall muscle strength in the patient's body. These tests may be used during recuperation from an injury or surgery, or as an indicator of age-related disease that may cause the involuntary loss of skeletal muscle strength.



An electronic handgrip dynamometer used in the research

While McGrath identifies handgrip dynamometers as powerful testing tools, they also have limitations. Mere strength measurements are incomplete indicators for a person's muscle function and it's difficult for medical providers to describe the exact and unique health issues for each patient. McGrath's research will examine how to improve the method of assessing muscle function with handgrip dynamometers with new technologies that can collect other muscle function data in addition to maximal strength and provide a better overall picture of a person's general health.

[Read more >>](#)

IBC Update: New IBC Submissions can be made in Novelution

The Institutional Biosafety Committee (IBC) Module in Novelution is now live for protocol submissions. For more information, visit the [Novelution webpage](#). Contact the IBC Office by phone [231-8908] or email Amanda Wilkinson [amanda.wilkinson@ndsu.edu] with any questions.



Funding agencies use plagiarism software to identify potential overlap in current and pending support

Disclosing potential overlap in the "Other Support" section of your grant application is essential to maintaining compliance when submitting similar grant proposals to different funding agencies. Read more in "[Case Study in Research Integrity: Double, Double, Toil and Trouble.](#)"



FEATURED RESOURCE

June Issue: Research Development & Grant Writing News

The June issue of [Research Development and Grant Writing News](#) is now available to view. Use your NDSU login information to access this resource. Various topics are covered, including:

- NSF Begins Using Broad Agency Announcements
- NSF's New TIP Directorate
- NSF's Semi-Annual "Shout Out" to Those Guilty of Research Misconduct and Plagiarism
- Adjectives Are Not Numbers

Upcoming Events

- **DARPA Forward Regional Events on National Security Innovation**
Registration open June 1 / [Learn more >>](#)
- **DEPSCoR Day at University of South Dakota**
Register by June 24, 2022 / [Learn more >>](#)
- **REGISTRATION OPEN: AICoRN Summit & DaCCoTA Symposium**
August 4-5, 2022 / [Learn more >>](#)

FUNDING OPPORTUNITIES

- [Bayer: Enabling Technologies for Plant Transformation](#)
- [CDC: NIOSH Exploratory / Developmental Grants](#)
- [DARPA: Defense Sciences Office BAA](#)
- [DOE NOI: Clean Energy Manufacturing Institute](#)
- [National Endowment for Financial Education](#)
- [NIH: Accelerating Drug Abuse Research Using Existing Data](#)
- [NIH: Exploratory Grants in Cancer Control](#)

- [NSF: Mid-Career Advancement](#)
- [NSF: Science of Science – Discovery, Communication, and Impact](#)
- [PepsiCo: Greenhouse Gas Reduction in Packaging](#)
- [Spencer Foundation: Small Research Grants on Education](#)

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 ndsuhresearchdev@ndsuh.edu.

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

- [NEH: Infrastructure and Capacity Building Challenge Grants](#)
Notification Deadline: 06/21/2022
- [LOC: Connecting Communities Digital Initiative](#)
Notification Deadline: 06/30/2022

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 ndsuhresearchdev@ndsuh.edu.

Looking for more funding opportunities?



RCA subscribes to SPIN by InfoEd Global, a database of more than 40,000 funding opportunities. Through this subscription, SPIN is free for current NDSU faculty, staff, and students.

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

Bayer Crop Science: Grants4Ag - Enabling technologies for plant transformation

The intent of [this project](#) is to enable research towards developing new plant transformation technologies for row crops, particularly monocots.

Solutions of interest include:

- novel ways to enhance starting material for plant transformation;
- novel delivery systems into plant cells;
- selection systems;
- innovative ways to enhance regeneration into plants with heritable traits (e.g. morphogenic regulators); and
- new methods to enhance crop transformation.

Brief applications due July 31, 2022

A webinar to discuss this and other Bayer funding opportunities will take place on Thursday, July 7 at 2:00pm. [Register >>](#)

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CDC: NIOSH Exploratory / Developmental Grants (R21)

The purpose of the National Institute for Occupational Safety and Health (NIOSH) Exploratory / Developmental (R21) grant program [[PAR-18-798](#)] is

1. to develop an understanding of the risks and conditions associated with occupational diseases and injuries,
2. to explore methods for reducing risks and preventing or minimizing exposure to hazardous conditions in the workplace, and
3. to translate significant scientific findings into prevention practices and products that will effectively reduce work-related illnesses and injuries.

NIOSH supports exploratory and developmental research projects (R21) that identify and address novel scientific ideas or new model systems, tools, or technologies with the potential for significant impact on occupational safety and health.

Applicants must concisely describe the occupational health burden addressed in their proposals and must link the need for the proposed research activities to planned outputs that will help alleviate this burden. Applicants should clearly articulate the anticipated impacts of the proposed research, both during the project period and beyond.

Standard deadlines apply; upcoming deadlines: October 16, 2022; February 16, 2023

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DARPA: Defense Sciences Office BAA

The mission of the Defense Advanced Research Projects Agency (DARPA) Defense Sciences Office (DSO) is to identify and create the next generation of scientific discovery to fuel innovation throughout the Agency and beyond. In support of this mission, the [DSO Office-wide BAA](#) invites proposers to submit innovative basic or applied research concepts or studies and analysis proposals that address one or more of the following technical thrust areas:

1. Novel Materials & Structures,
2. Sensing & Measurement,
3. Computation & Processing,
4. Enabling Operations,
5. Collective Intelligence, and
6. Global Change.

Each of these thrust areas is described in the BAA and includes a list of example research topics that highlight several (but not all) potential areas of interest. Proposals must investigate innovative approaches that enable revolutionary advances. DSO is explicitly not interested in approaches or technologies that primarily result in evolutionary improvements to the existing state of practice.

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DOE NOI: Clean Energy Manufacturing Institute

The U.S. Department of Energy (DOE) [announced](#) its intent to issue a funding opportunity that will support the development of a Clean Energy Manufacturing Innovation Institute dedicated to rapidly decreasing emissions across the industrial sector through electrified process heating.

To ensure this newest institute supports clean energy solutions that benefit all Americans, the forthcoming funding opportunity will solicit participation from a diverse group of applicants, partners, and future members. The [notice of intent](#) (NOI) includes a Teaming Partner List to help identify a broad and inclusive range of interested individuals and organizations, as well as potential areas of interest for the funding opportunity.

The Office of Energy Efficiency and Renewable Energy (EERE) plans to issue the FOA via [EERE Exchange](#) in summer of 2022.

The funding opportunity is expected to include approximately \$70 million of federal funding and require a minimum non-federal cost share of 50% for each project. The estimated period of performance for the award will be five years. EERE envisions awarding a single financial assistance award through a cooperative agreement.

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National Endowment for Financial Education (NEFE)

Through [this program](#), NEFE provides funding for rigorous, innovative and actionable research that seeks to improve the public's financial well-being and has the potential to make a profound contribution to the field of financial education. The endowment welcomes original research questions and replication studies that align with their funding priorities. Research projects must use rigorous empirical and / or theoretical analysis. Original data is welcome but not required.

NEFE gives preference to well-designed projects that align with the following four topic areas:

- **Measurement:** Studies that re-evaluate current financial literacy metrics and how financial literacy, behavior, perception, knowledge and skill can be measured more effectively.

- **Systemic Inequality:** Studies that investigate knowledge, skill and wealth disparities, especially among populations that are statistically more likely to experience systemic barriers to improving their financial well-being.
- **Data and Methodological Limitations:** Studies that examine bias—specifically as it pertains to personal finance— to help the field identify knowledge gaps and to strengthen research data and design by including traditionally less heard voices.
- **Youth Focus:** Studies that examine inconsistencies in exposure to financial education among youth in the U.S. as well as variations in financial socialization and education within family units.

Letters of inquiry will be accepted starting on September 15, 2022. The deadline for letter of inquiry submission will be November 15, 2022.

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NIH: Accelerating the Pace of Drug Abuse Research Using Existing Data (R01 Clinical Trial Optional)

The purpose of this Funding Opportunity Announcement (FOA) [\[RFA-DA-22-037\]](#) is to invite applications proposing innovative analysis of existing social science, behavioral, administrative, and neuroimaging data to study the etiology and epidemiology of substance using behaviors (defined as alcohol, tobacco, prescription, and other substances) and related disorders, prevention of substance use and HIV, and health service utilization. This FOA encourages the analyses of public use and other extant community-based or clinical datasets to their full potential in order to increase our knowledge of etiology, trajectories of substance using behaviors and their consequences including morbidity and mortality, risk and resilience in the development of psychopathology, strategies to guide the development, testing, implementation, and delivery of high quality, effective and efficient services for the prevention and treatment of substance use disorder and HIV. Primary data collection is not allowed for applications in response to this FOA.

Upcoming deadlines: August 5, 2022; November 15, 2022

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NIH: Exploratory Grants in Cancer Control (R21 Clinical Trial Optional)

Through this funding opportunity announcement (FOA) [[PAR-21-341](#)], the National Cancer Institute (NCI) encourages the submission of exploratory / developmental research grant (R21) applications that focus on different aspects of cancer control by modifying behavior, screening, and understanding etiologic factors contributing to the development of cancer, and developing ways to control cancer. The overarching goal is to provide support to promote the early and conceptual stages of research efforts on novel scientific ideas that have the potential to substantially advance population-based cancer research, such as the development of novel techniques, agents, methodologies, models, or applications that could have a major impact on a field of cancer research (e.g. epidemiologic, biomedical, behavioral, health care delivery or clinical).

Upcoming deadlines: October 7, 2022; June 7 2023

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NSF: Mid-Career Advancement

The Mid-Career Advancement (MCA) program [[NSF 22-603](#)] offers an opportunity for scientists and engineers at the mid-career stage to substantively enhance and advance their research program and career trajectory. Mid-career scientists are at a critical career transition stage where they need to advance their research programs to ensure long-term productivity and creativity but are often constrained by service, teaching, or other activities that limit the amount of time devoted to research. MCA support is expected to help lift these constraints to reduce workload inequities and enable a more diverse scientific workforce (more women, persons with disabilities, and individuals from groups that have been underrepresented) at high academic ranks.

The MCA program provides protected time, resources, and the means to gain new skills through synergistic and mutually beneficial partnerships, typically at an institution other than the candidate's home institution. Partners from outside the Principal Investigator's (PI) own subdiscipline or discipline are encouraged, but not required, to enhance interdisciplinary networking and convergence across science and engineering fields. Research projects that envision new insights on existing problems or identify new problems made accessible with cutting-edge methodology or expertise from other fields

are encouraged.

Deadline: March 1, 2023

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NSF: Science of Science – Discovery, Communication, and Impact

The Science of Science: Discovery, Communication and Impact (SoS:DCI) program [[PD-19-125Y](#)] is designed to advance theory and knowledge about increasing the public value of scientific activity. Science of Science draws from multiple disciplinary and field perspectives to advance theory and research about scientific discovery, communication and impact. SoS:DCI welcomes proposals applying rigorous empirical research methods to advance theory and knowledge on:

- the social and structural mechanisms of scientific discovery;
- theories, frameworks, models and data that improve our understanding of scientific communication and outcomes; and
- the societal benefits of scientific activity and how science advances evidence-based policy making and the creation of public value.

The SoS:DCI program, which expands upon the former Science of Science and Innovation Policy (SciSIP) program, funds research that builds theoretical and empirical understanding of the social science of science. SoS:DCI welcomes proposals to conduct research at the individual, organizational and institutional levels or from micro, meso and macro scales and complex system levels. SoS:DCI encourages multiple disciplinary perspectives, interdisciplinary research and diverse methodological approaches in the pursuit of new knowledge to advance the science of science and evidence-based policy making. With these goals in mind, proposals should:

- draw from and advance theory, knowledge and frameworks on the science of science;
- develop models, data, indicators and associated analytical tools that constitute and enable transformative advances rather than incremental change;
- provide credible rigorous assessments of the proposed project's impact and social and policy implications; and
- include robust data management plans with the goal of advancing open science and increasing public access to usable, valid and reliable scientific materials.

Of particular interest are proposals with the potential to strengthen America's global leadership in science and increase national competitiveness across a broad range of domains. These include proposals that analyze strategies for strengthening and diversifying the scientific workforce, as well as ways to cultivate high-impact discovery across sectors. The program strongly encourages convergent research and collaboration.

Deadline: September 9, 2022

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PepsiCo: Materials and Technologies for Greenhouse Gas (GHG) Reduction

In [this project](#), PepsiCo is seeking technologies that will reduce GHG emissions during packaging production or over the entire lifecycle of PET bottles, aluminum cans, and glass packaging (and other types of packaging) without sacrificing packaging quality.

Solutions of interest include:

- highly functional materials, additives, or coatings that improve packaging properties (e.g., barrier, mechanical properties) and therefore can enable light weighting;
- additives or coatings that reduce energy usage during packaging production resulting in lower GHG emissions; and
- packaging production processes with reduced energy usage.

Requirements are:

- food safe materials (capable of achieving regulatory approval);
- does not negatively impact recycling of package; and
- clear and colorless (for PET bottles).

Preferred requirements are:

- cost parity with incumbent packaging;
- solutions for returnable and retort-ready glass packaging;
- does not impact organoleptic or sensory attributes of contents; and
- FDA food contact approved.

What's out of scope:

- achieving GHG reduction solely by conversion to renewable energy;
- traditional light weighting technologies; and
- any nonrecyclable materials.

Brief applications due July 31, 2022

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Spencer Foundation: Small Research Grants on Education

The [Small Research Grants Program](#) supports education research projects that will contribute to the improvement of education, broadly conceived, with budgets up to \$50,000 for projects ranging from one to five years.

This program is “field-initiated” in that proposal submissions are not in response to a specific request for a particular research topic, discipline, design, method, or location. The goal for this program is to support rigorous, intellectually ambitious and technically sound research that is relevant to the most pressing questions and compelling opportunities in education.

Deadline: August 9, 2022; 12pm

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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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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.