

## **North Dakota Senate Appropriations – Education and Environmental Committee**

**8:30 a.m. January 21, 2025 in Bismarck, ND**

### **TESTIMONY OF:**

**Colleen Fitzgerald, PhD, NDSU Vice President for Research and Creative Activity**

Chairman Sorvaag and members of the North Dakota Senate Appropriations – Education and Environmental Committee, thank you for the invitation to provide testimony today for SB 2003. My name is Colleen Fitzgerald and I'm the Vice President for Research and Creative Activity at NDSU. On behalf of everyone at NDSU, I express my gratitude to you and our Legislature for your support for the Economic Diversification Research Fund.

From a research perspective, NDSU continues to achieve success and to hit new high marks.

We continue to be ranked within the top 100 public research institutions in the country (National Science Foundation Higher Education R&D Rankings for FY23)

We are also among only 146 institutions in the country with a Carnegie Classification of Institutions of Higher Education R1 Ranking, which denotes "doctoral universities with very high research activity".

In Fiscal Year 2023, our researchers accounted for \$190.3 million in research expenditures; an all-time high and the fifth straight year of record totals. In addition, NDSU had a record \$142.5 million in research awards in Fiscal Year 2024.

As a land-grant, a critical part of research – generating knowledge – is translating that knowledge into innovation for an impact. In other words, translation. The aforementioned high research activity is part of a larger innovation lifecycle and what EDRF allows for is investment in areas of the lifecycle that would not otherwise receive the support needed to further faculty and student ideas, as well as support industry through research and workforce experiences.

This funding matters as it: 1) provides a catalyst for the translation of university research into innovative products, services, and technologies; 2) attracts collaborative investments and university-industry partnerships, 3) invests in new ideas through seed programs and collaborations with other North Dakota higher education institutions; 4) provides workforce readiness opportunities for students, and 5) allows for our institutions to leverage other resources.

With the current biennium funding, NDSU has invested in regional partnerships and programs that focus on R&D to tackle issues that are unique to our communities and in doing so, drive economic growth and improve quality of life in our region. NDSU designed a suite of programs across a "Innovations to Practice" pathway. These programs included the following: 1) an Infrastructure Program to support acquisition of instrumentation and equipment that creates industry engagement, furthers research, and provides student training opportunities; 2) a Faculty Development Program designed to increase faculty research competitiveness and develop new partnerships; 3) a Technology Acceleration Program to fast-track ideas and technologies toward commercialization; and 4) an Experiential Learning Program that supports students through undergraduate research opportunities, community-engaged programs, and other professional development opportunities, such as the Bison to the Bakken program.

In addition, we partnered with UND to create the University Collaboration Research Program (UCRP). This initiative has funded collaborative projects involving faculty from across North Dakota. NDSU faculty member Ryan McGrath will present testimony from a funded collaboration project. Institutions collaborating with the research institutions include North Dakota State College of Science, Valley City State University, Mayville State University, Minot State University, Nueta Hidatsa Sahnish College, Cankdeska Cikana Community College, Lake Region State College, United Tribes Technical College, Dickinson State University, and Turtle Mountain College.

Information on all of the projects funded by NDSU can be found at: [www.NDSU.edu/research/edrf](http://www.NDSU.edu/research/edrf).

Looking forward, with continued and increased EDRF funding, NDSU will focus on the themes of Partnerships, Translation, and Workforce.

Cross-sector partnerships are pivotal to this program, whether it be industry, non-profits, federal, state, and local governments, or other higher education institutions. These collaborations leverage each other's strengths in solving problems and driving innovation, resulting in new technologies, products and services. Investments will include: 1) interdisciplinary research efforts to address complex problems in current and emerging strategic priority areas of significance to North Dakota; 2) collaborations with other NDUS institutions to stimulate state-wide, economic activity through innovation capacity development and student research opportunities; and 3) instrumentation, tools, resources, and human infrastructure that support and align with strategic priorities and emerging opportunities.

As mentioned previously, EDRF allows for investments in areas of the innovation lifecycle that would not otherwise be supported – namely translation. This funding is a catalyst for bridging the gaps between academic research and clinical or practical applications. With partnerships that bring user-needs, market knowledge and expertise to a project, NDSU will invest in 1) entrepreneurship programs and projects that focus on translation of academic research. Funding would be used for items like validation of product ideas, scale-up production, or development of prototypes and testing capabilities; and 2) project management and technology transfer expertise to support the innovation cycle.

Experiential learning opportunities for students align directly to workforce readiness. These experiences allow students to become proficient in the use of technology, to develop critical thinking and communication skills, and deepen knowledge of their academic work. NDSU will invest in student learning opportunities, to give students practical experience that prepares them for an evolving workforce.

In closing, technology has and will continue to be an opportunity for rural America. From health innovations to automation and robotics, to smart infrastructure, North Dakota has unique capabilities and resources that can serve as a model for place-based innovation. These EDRF resources are an important component to solidify the role of North Dakota's higher education institutions in creating new knowledge and solving complex problems for the future economic vitality of the state.