NDSU Research and Discovery Grand Challenge Initiative

Request for Proposals

A fundamental theme of NDSU’s strategic vision is an enriched approach to research and discovery on campus, one that recognizes the university’s position as the state’s flagship land-grant research university with a Carnegie Classification as a Research University/Very High Research.

The plan emphasizes three Grand Challenge areas that both build on the strengths of the university and have relevance to the lives of the citizens of North Dakota. Through this Request For Proposals (RFP), the Offices of the Provost and Vice President for Research and Creative Activity begin the process of implementing the research directives of the strategic vision. This RFP outlines the Guiding Principles and Initiative requirements.

The **Guiding Principles** of the Research and Discovery Grand Challenge Initiative:

- The Initiative will leverage current and emerging strengths of NDSU researchers and align the university with the needs of the state, the nation, and the world;
- Faculty will provide primary leadership in determining which areas of research will be developed;
- The Grand Challenge themes are interdisciplinary and must be addressed with creativity, collaboration across colleges and diversity [i.e., expertise, demographic, junior to senior faculty ratio, etc.];
- The Initiative must align and be integrated with the teaching and service/outreach missions of the university;
- The implementation of the Initiative will be a shared responsibility between academic and administrative units on campus.

**PROPOSAL PROCESS AND REQUIREMENTS**

NDSU will strategically invest in student, faculty and staff hires with the intent of achieving national and international recognition as a premier public Research University, committed to solving complex and evolving Grand Challenges Themes in the interdisciplinary areas of:

- Food Systems and Security,
- Healthy Populations and Vital Communities, and
- Sustainable Energy, Environment, and Societal Infrastructure.

Funding for the Research and Discovery Grand Challenges Initiative will come from both existing and new resources at the central, collegiate and departmental level. Proposals must:

1. Be led by tenured/tenure-track faculty [though a complete team may include research and other staff necessary to be successful];
2. Specifically address at least one of the three Grand Challenge Theme areas;
3. Build a case for interdisciplinary or transdisciplinary research that spans at least three colleges and synergistically leverages the resources of the participating colleges.
4. Describe the organizational and management structure for the interdisciplinary research program including how it will operate;
5. Be supported by the Deans and fit the mission, vision, goals and priorities of the respective colleges;
6. Build collaboratively on existing faculty strengths;
7. Integrate research and discovery with the land-grant mission of the university; in particular, the proposal must demonstrate that the training of students is integrated into the theme area.
Strengthening existing Ph.D. programs and/or the development of new Ph.D. programs would be priorities;
8. Demonstrate potential for future large-scale impact and scalability and provide evidence of how the proposed research theme is going to create new opportunities; while university funds cannot go to external partners, proposers should describe how sustainable external partnerships will be built;
9. Address sustainability of the project once the funds have been expended; and
10. Provide an assessment plan for determining the success of the project.

Funding

An initial allocation of $1 million/annum of central funds will be provided for this initiative. One to two proposals are expected to be funded. Future RFPs for this effort will be contingent on additional new dollars in subsequent biennial budgets. Smaller amounts may be available for seed grants for meritorious proposals not selected for the larger funding amount. Proposals must leverage central dollars with collegiate or departmental dollars. Participating colleges must demonstrate that the necessary facilities are in place for the implementation of the proposed research. Budgets must address the needs of the proposed initiative in its entirety, including such items (as needed):

1. New tenured and tenure-track faculty lines. These new faculty lines must provide expertise that fills a gap in the existing NDSU faculty strength. Faculty lines will be cost-shared at a 1:1 [appropriated funds and/or a current line] with central pools of funds;
2. Research staff, including students, post-docs, research associates, lab assistants, program director, administrative assistants;
3. Library resources;
4. High performance computing resources;
5. CORE facilities resources [EML, AIM, CORE Biology and CORE Synthesis and Analytical Services];
6. Lease of research space;
7. Equipment;
8. Operational funds;
9. Start-up funds;
10. Travel funds;
11. Summer salary [limit 1 summer month per person except for new hires. New hires would be eligible for two summer months].

Proposal submission

Proposals [signed and in PDF format] are due to the Deans of the respective colleges by November 1st, 2015 for review and selection. Each Dean may forward three proposals for consideration, but may support as many proposals as deemed meritorious. The Department Chairs of the participating departments must acknowledge review of the proposal via a signature on the cover page. This signature does not constitute a ranking of the proposals.

Proposals submitted for consideration must use the adobe fillable cover sheet [not yet available] available at https://www.ndsu.edu/provost/strategic_planning/ and include the following:

1. Cover page, fully signed before submission [Adobe fillable form];
2. Executive Summary – one page;
3. Proposal body – ten pages [maximum; 11-point font, 1” margins; references cites are not included in this page limit]:
   a. Proposed initiative – which Grand Challenge Themes it fits within, its uniqueness.
b. Importance of this initiative

c. How does it build on existing strengths and what new areas are being proposed [including graduate programs]?

d. How does this initiative impact the university/state/region/nation?

e. How will this interdisciplinary initiative be able to grow beyond the individual disciplines involved [i.e., scalability, future center proposal]?

f. Sustainability – plan for leveraging external funding sources.

g. Assessment Plan including metrics for assessment – what are the important metrics for this initiative that will show progress over time? How will the metrics be measured? How often will data be collected for the metrics?

h. Mitigation Plan – how will potential challenges be handled?

4. Initiative Organizational Structure including Key Personnel and Resources – two pages

a. Initiative composition – existing faculty [rank, department, college, research foci] and new hires [number of new hire requests, rank of new hires, targeted department and targeted research foci].

b. Existing resources/match – faculty lines from colleges, labs, equipment, office space, graduate students, post-docs, technical support [this section describes the match from the three colleges].

c. Facilities needs – space and infrastructure needed including location.

d. If new faculty hires are being requested, there must be a recruitment plan submitted with the proposal. This must include a mentoring plan, which includes how new hires will become successful lead-PIs on major external grants.

5. Budgets – budgets must be self-contained [see funding section; yearly and cumulative budget; direct costs only].

6. Proposal submission and funding history of all faculty participants for the past five years [no page limit].

PROPOSAL REVIEW

Proposals will be evaluated by the Research Advisory Council. Those evaluations will be forwarded to the Council of Deans for further evaluation. An external review process may be implemented in addition to the internal process to allow for complete technical evaluation. Care will be taken to avoid conflicts of interest during the proposal review process. Criteria for evaluation will include:

1. Quality and intellectual merit of the proposal
2. Level of commitment from departments and colleges
3. Degree of integration with strategic vision
4. Adequacy of sustainability plan
5. Quality of metrics proposed for assessment
6. Quality of mitigation plan
7. Likelihood of continued collaborative effort across colleges [and likelihood of generating new opportunities – i.e., center proposals]
8. Sophistication of plan in addressing likely challenges, including promotion and tenure for multidisciplinary scholars, placement of graduate students, etc.

ASSESSMENT AND EVALUATION

Initiatives will be required to provide annual reports, which will be assessed on the following criteria:

1. Are team members fulfilling their roles and responsibilities?
2. Is the budget being utilized effectively to ensure sustained success of the initiative?
3. Is there an increase in scholarly output?
4. Has the initiative led to further internal collaborations?
5. Has the initiative led to leveraged collaborations external to the institution?
6. Has the initiative led to leveraged, external funding?
7. Has the initiative led to intellectual property?
8. Has the initiative led to a positive impact on the state, region, and nation?
9. Has the initiative strengthened the national visibility and reputation of NDSU as a public research institution?
10. Have new hires been fully integrated into the team?
11. Has the team integrated across the outreach and teaching missions of the institution?
12. Impact on graduate education [particularly Ph.D.].

The first-year review will include a written report. The second-year review will include an assessment of areas that need improvement or re-thinking. The first- and second-year reports will be reviewed and assessed by the respective department chairs and Deans with a recommendation [continue funding, recommendations for changes to the direction of the program, etc.] made to the Provost and VPR. During the third year, the team will go through an extensive presentation and written review [in front of a panel] to determine potential future success of the initiative or removal of funds due to lack of progress. During each annual review, an analysis will be performed for all new hires to determine whether s/he has been integrated into the initiative. If the new faculty have chosen a different line of inquiry, the funding responsibility of the position will revert to the department/college.