



REQUEST FOR JOINT CONCEPT WHITE PAPERS
Issued: January 11, 2017
DEADLINES: Letter of Intent: Noon, February 15, 2017
EXTENDED TO Noon, February 23, 2017
Stage 1 : Noon, April 11, 2017

www.ndepscor.ndus.edu

TO: Researchers in the Sciences, Technology, Engineering, and Mathematics at NDSU and UND
FROM: Kelly Rusch, Project Director/Principal Investigator, ND EPSCoR
Mark Hoffmann, Associate Project Director/Co-PI, ND EPSCoR - UND Office
Jean Ostrom-Blonigen, Project Administrator/Co-PI, ND EPSCoR - NDSU Office
RE: 2019-2024 ND EPSCoR Research Infrastructure Improvement (RII) Proposal

UND and NDSU researchers are invited to submit a **Joint** Concept White Paper to compete for inclusion as a Strategic Research Initiative (SRI) in the 2019-2024 ND EPSCoR NSF Research Infrastructure Improvement (RII) Track-1 proposal. A two stage competition, each involving panel review, is planned:

- **Stage 1:** Submission of Joint Concept White Papers - Failure to submit or to adhere to eligibility requirements (outlined below) will preclude further participation. Up to eight (8) Joint Concept White Papers will be selected to go forward to Stage 2. *A result of Stage 1 (in an effort to improve overall jurisdictional competitiveness) ND EPSCoR may request white paper authors to combine their papers, or components thereof, in Stage 2.* Joint Concept White papers of no more than 15 pages (not including budget (direct costs only) of \$2 Million/year for 5 years and bio pages – outlined below) should consist of:
 - Research and Education Plan (10 pages) in any NSF-fundable Science, Technology, Engineering and Mathematics (STEM) area. *Recent NSF criticisms have pointed to a lack of collaboration between ND's research universities (RUs); thus, the research team should consist of an equal number of researchers from NDSU and UND. In addition, the Team Lead and co-Lead for this research must be from different RUs (i.e.: if the Lead is from UND, the co-Lead must be from NDSU and vice versa).* The Joint Concept Paper must also include research activities at the five tribal Colleges (TCs) and four Primary Undergraduate Institutions (PUIs).* To include:
 - Research and Education Program
 - Workforce Development
 - Seed Funding and Emerging Areas
 - NSF-specific Programmatic Elements/Broader Impacts (5 pages) The Joint Concept Paper must include broader impact activities at each of the five TCs and four PUIs.* To include:
 - Diversity plan [*ND's largest diverse group is the American Indian (2015: 5.5%), followed by Hispanic/Latino (2015: 3.5%) both include high percentages of potential first-generation college students*]
 - Partnerships and collaborations
 - Communication and dissemination plan of research to stakeholders (including NSF, the state of ND and its citizens).
 - Sustainability plan

**For the education, workforce development, diversity, and partnerships and collaborations sections, please draw from ND EPSCoR's White Paper on Broader Impacts for ND's four Primarily Undergraduate Institutions (PUIs) and the five Tribal Colleges (TCs) located in ND: <https://www.ndepscor.ndus.edu/funding-opportunities/opportunities-researchers-and-nd-industry/rii-2019-24-white-paper/>*
- **Stage 2:** Re-submission of Joint Concept White Papers – Up to 15 additional pages (not including budget and bio pages) with expanded comprehensive descriptions of research and education programs (up to 10 pages) and program elements/broader impacts (up to 5 pages). One (1) Joint Concept White Paper will be selected for a full RII proposal to NSF. The final proposal will be a collaborative effort by ND EPSCoR and selected team. The final budgets will be compiled by ND EPSCoR to verify that all required elements are included/funded and to insure balance.

Timeline

Noon, February 15, 2017 Letter of Intent to Apply (include proposed topic and team membership)
Noon, April 11, 2017 Stage 1 Joint Concept White Papers due
May 11, 2017 Up to eight (8) Joint Concept White Papers selected to go forward to Stage 2
Noon, July 11, 2017 Stage 2 Joint Concept White Papers due
August 11, 2017 White Paper finalist selected for development of a full proposal to NSF

July 1, 2018
August 1, 2018

Tentative Due Date for Letter of Intent to NSF
Tentative Due Date for Full Proposal to NSF

Background on the NSF Infrastructure Improvement Award

Our current RII award expires July 31, 2019. *In 2016, three (3) of nine (9) jurisdictions successfully competed for a Track-1 award. In 2017, 11 jurisdictions are posed to compete for a Track-1 award. ND's cohort contains an additional six (6) jurisdictions that will be included in the 2018 Track-1 competition. In August/September 2016, NSF will conduct a site visit of our current Track-1.* The ND EPSCoR executive leadership team is expecting to submit a new proposal to NSF sometime in early August, 2018. The tenure of the new ND EPSCoR award, if we are successful, is expected to be from August 1, 2019, through July 31, 2024. The most current NSF RII Program Solicitation (NSF 16-557) is available at https://www.nsf.gov/publications/pub_summ.jsp?WT.z_pims_id=503429&ods_key=nsf16557.

Please refer to it for additional background to understand NSF EPSCoR RII program goals and objectives. Important information about ND EPSCoR can be found at www.ndepscor.ndus.edu

This Call begins the identification process of an important *component* of the RII proposal — tightly focused Strategic Research Initiatives that address the key points of:

- Collaborative interdisciplinary research in cutting-edge science that becomes nationally competitive and self-sustaining.
- Grand Challenges in science and engineering described by NSF.
- Fidelity with North Dakota's Technology Based Economic Development goals and programs.**
- Fidelity with ND EPSCoR's White Paper on Broader Impacts (*see the link provided above*)***

**Fidelity with the state's identified research and economic development priorities was an important evaluation criterion in our previous RII competitions. RII is designed to pursue academic excellence and spur R&D, new technology and job creation, and to help broaden the state's economy through science and technology innovation.

***In recent years, jurisdictions have become increasingly unsuccessful in obtaining NSF EPSCoR Track-1 funding due, in part, to a failure to adequately balance the research components of their proposal with innovative Broader Impacts in the project elements of diversity, education and workforce development and strategic avenues for future sustainability (partnerships and collaborations).

Eligibility Information:

Eligibility is limited to North Dakota research institutions that offer doctoral degrees in science, technology, engineering and mathematics **[This is a Joint Call for NDSU and UND research teams, to be comprised of an equal number of UND and NDSU researchers, who comprehensively cover all the research and education and programmatic elements of recent NSF RII solicitations]. Each joint concept paper team must be self-contained. In other words, the team must be comprised of all faculty needed to cover the scientific [research and education] and programmatic elements of the proposed work.** Current ND EPSCoR centers and those centers from the prior two funded NSF Track-1 awards are not eligible. Priority will go to researchers who have not previously served as lead/senior personnel in prior Track-1 awards.

Lead/Co-lead Eligibility Limit:

A researcher can be the Lead [Co-lead] of only one Joint Concept White Paper. However, researchers may be team members in more than one Joint Concept White Paper. The overall Project Director/Principal Investigator of the final submitted proposal will be Dr. Kelly Rusch, ND EPSCoR State Project Director. Per NSF EPSCoR regulations, the Project Director and Principal Investigator must be the same person.

Primary Evaluation Criteria:

- Standard NSF criteria described in the Grant Proposal Guide (GPG) (i.e., research and education, broader impacts/program elements, etc.) and NSF 16-557.
- State Fidelity, i.e., the relevance to long-term North Dakota research initiatives expressed by the governor, the state legislature, and the congressional delegation.
- Cutting edge or transformative research addressing the Grand Challenges of science.
- Extent of collaborative efforts between NDSU, UND, TCs and PUIs. Additional collaborations involving national laboratories or other investigators from within (i.e.: ND's community colleges) or outside North Dakota are also encouraged. However, funds cannot be requested to support investigators from outside North Dakota or at a national laboratory.

Additional evaluation criteria

- Potential for proposed activities to achieve self-sustaining status within five years.
- Nature and quality of the multi-institutional interactions; including level of attention given to meeting the diverse needs of the PUIs and TCs.

- Capabilities of the leadership including managerial and organizational ability of the lead PI and the proposed leadership team.

Checklist Requirements **Submit electronic copy**

Proposal Electronic Copy: **Must be** double-spaced, one-sided pages, margins $\geq 1"$, with no less than a 10-point font. A complete proposal in a single PDF file in the following order:

1. ND EPSCoR Cover Page – Available from <https://www.ndepscor.ndus.edu/funding-opportunities/opportunities-researchers-and-nd-industry/rri-2019-24-white-paper/> (no more than one *additional* separate page).
2. Research and Education Plan (no more than ten pages).
3. Programmatic Elements/Broader Impacts (no more than five pages).
4. Management Plan (no more than one *additional* separate page).
5. Summary Budget (no more than one *additional* separate page)– Available from <https://www.ndepscor.ndus.edu/funding-opportunities/opportunities-researchers-and-nd-industry/rri-2019-24-white-paper/> Budget total (direct costs only) not to exceed \$10M (\$2/year for five years; Budget Explanation/Justification (no more than one *additional* separate page).
6. Appendices (20-page maximum) limited to and in the following order:
 - a) Interdepartmental support letters if specific collaboration is proposed.
 - b) Biographical sketches with current and pending support of all participants; two page maximum for each participant.

Submit completed proposals in a single PDF file to: **Project Director/Principal Investigator via e-mail attachment [Kelly Rusch]; with copies to:**

- Associate Project Director Mark Hoffmann
- Project Administrator Jean Ostrom-Blonigen

Submittals not complying with the Checklist, including format requirements, will be rejected without review.

Please direct your questions to:

- Kelly Rusch at 701.231.6542 or Kelly.Rusch@ndsu.edu
- Mark Hoffmann at 701-777-2492 or Mark.Hoffmann@und.edu
- Jean Ostrom-Blonigen at 701-231-7516 or Jean.Ostrom-Blonigen@ndsu.edu

For information about ND EPSCoR and other funding opportunities, please visit the Web site at www.ndepscor.ndus.edu