

Issued: July 27, 2021

All Proposals Due to ND EPSCoR: Noon, September 21, 2021

Award Start Date: October 16, 2021

ND EPSCoR State Office Announcement for Participating Campuses

The ND EPSCoR State Office's mission is to support efforts of participating institutions of higher education across the state that result in increased STEM faculty capacity and competitiveness, a stronger STEM pathway that produces our next generation workforce, educators, and researchers, and, an informed citizenry that values the STEM ecosystem and economy.

Thus, the ND EPSCoR State Office is now accepting proposals to fund STEM activities at EPSCoR participating institutions: research universities (RUs, NDSU and UND), master's college/university (MCU, Minot State University), primarily undergraduate institutions (PUIs, Dickinson, Mayville, and Valley City State Universities), and the tribal colleges/universities (TCUs, Cankdeska Cikana Community College, Nueta Hidatsa Sahnish College, Sitting Bull College, Turtle Mountain Community College, and United Tribes Technical College).

A. Proposal Categories

1. **Equipment.** Proposals will be accepted for pieces of equipment (up to \$40,000) that help advance scientific inquiry and R&D. Preference will be given to proposals that: 1) show collaborative use across multiple institutions/colleges/departments, 2) request equipment not currently available on the proposer's campus, and 3) engage a large number of undergraduate and graduate students in research and learning. Proposals must contain: 1) introduction, justification, and description of the equipment to be purchased, 2) users (i.e., institutions, colleges, departments, etc.) of the equipment including an approximate number of students who would be trained per year, 3) statement of whether this equipment is redundant with other pieces of equipment on campus, and 4) discussion of how this equipment would lead to more proposals to external funding agencies. An allowable budget does not include non-capitalized equipment (<\$5,000) or consumable supplies (even if they are required for the operation of the equipment).
2. **Equipment repair.** Researchers are often limited in performing certain experiments/analyses due to faulty/broken equipment. Many times, small investments in the repair of equipment is all that is needed. Proposals will be accepted from faculty researchers for the repair of equipment (up to \$5,000) currently located in research laboratories. Preference will be given to proposals that demonstrate a high usage rate of the piece of equipment to be repaired. Proposals must contain: 1) introduction, 2) justification, and description of the equipment to be repaired, 3) users (i.e., institutions, colleges, departments, etc.) of the equipment including an approximate number of students who would be trained per year if the equipment worked, and 4) discussion of how this equipment would lead to more proposals to external funding agencies.
3. **Undergraduate research.** Data show that engaging undergraduate students in research leads to better retention and success of the student. The proposal must contain: 1) a short introduction (and significance of) to the research topic, 2) goals and objectives of the specific proposed research, 3) innovation of the research, 4) approach/methods, and 5) references. The student's faculty advisor/mentor must submit a letter supporting the research and certifying that he/she will be

providing space/resources and mentoring to the student during the course of the research. Awards up to \$5,000 will be provided. The faculty member must be the PI on the proposal [and submit the proposal]. Students hired under this award are required to complete responsible conduct of research (RCR) training in their first pay cycle. Undergraduate student must be identified to ND EPSCoR by October 1, 2021.

4. Seed awards for faculty to collect preliminary data for the preparation of **federal** STEM proposals. Funding will be provided to researchers for the specific purpose of gathering preliminary data needed for proposal preparation and submission to a federal agency. Funds may be used for materials and supplies, student support (undergraduate and graduate), operating services (e.g., recharge center fees), travel within North Dakota to collect samples, publishing and lab technician support. Proposals must contain: 1) an introduction and justification for the research, 2) description of the research and data to be collected, 3) the specific federal agency RFP to which a proposal will be submitted, and 4) a short biosketch (2 page) for all participating researchers. Priority will be given to collaborative, interdisciplinary teams/research. Awards of up to \$15,000 will be provided. Funding may not be used to support faculty salary (unless at an MCU, PUI, or TCU), postdocs, visiting scholars, or non-support personnel (i.e.: researchers) serving in the lab technician role. Students hired under this award are required to complete responsible conduct of research (RCR) training in their first pay cycle.
5. External proposal review for large, collaborative and interdisciplinary STEM efforts. The competition for federal research dollars has grown substantially over the past decade. In addition, federal agencies are placing a significant focus on interdisciplinary, cross-cutting efforts. Funds for external peer review will be provided to large, interdisciplinary teams/efforts to help position researchers for even greater success in receiving federal awards. Proposals must contain: 1) list of researchers/affiliations, 2) title of proposal, 3) executive summary of proposal, 4) funding amount, 5) federal agency/program and proposal due date, and, 6) short biosketch (2 page) of all participating researchers. Requests must be received at least four months in advance of the proposal due date so reviewers/review entity can be arranged. Most reviews take approximately one month once the review entity receives the proposal. Awards up to \$5,000 will be made. ND EPSCoR will contract directly with the external review entity for this service.
6. Seed awards for faculty and students to engage K-12 in STEM outreach activities. Strengthening and broadening the STEM pathway is a core goal of ND EPSCoR. Proposals will be accepted that focus on activities that build stronger partnerships with K-12 STEM education in the state. Of particular interest are activities that engage underrepresented/underserved students and result in an increased awareness and interest in STEM careers. Proposals must contain: 1) introduction and justification for the activity (i.e., is it grounded in a best practice), 2) description of the activity, 3) description of the K-12 partner entity, 4) a statement whether this is a new or existing activity with this partner, 5) target audience (i.e., grade level, student demographics, etc.), 6) is this a formal or informal activity program, and 7) short biosketch (2 page) of each participating faculty. If an IRB will be needed, proof of an exemption and/or active IRB number will be needed prior to releasing funds. Awards up to \$6,000 will be made. Of particular interest will be the development of virtual/online activities. Students hired under this award are required to complete responsible conduct of research (RCR) and IRB (if required) training in their first pay cycle.
7. Development of online/virtual modules for STEM courses. The COVID-19 pandemic illuminated the need to increase our online/virtual presence with respect to training STEM students in a variety of learning settings (classroom, laboratory, etc.). Students are not always able to participate in practical activities that connect practice to theory. Proposals will be accepted that focus on the development of virtual hands-on STEM classroom and laboratory experiences (up to \$6,000) to replace and/or

enhance the face-to-face STEM classroom or laboratory experience. Proposals must contain: 1) introduction and justification for the activity (course title and number), 2) description of the classroom or laboratory exercise that will result from the award, and, 3) description of the dataset that will be created and provided to students as part of the online STEM classroom or laboratory exercise (and analysis, interpretation, and reporting requirements of the students). Students hired under this award are required to complete responsible conduct of research (RCR) training in their first pay cycle.

ND EPSCoR is particularly interested in proposals that continue to build capacity for the online/virtual implementation of activities to better position ND for the ongoing COVID pandemic and future crises.

8. Seed award for community-based STEM research. Funding in this category allows faculty/researchers to engage members of ND communities that are traditionally underrepresented and underserved in (could be individuals, NGOs, associations, community entities, etc.) in community-based STEM research. These community-based STEM research (CBSR) projects must focus on issues impacting their local communities (they must be issues/topics that NSF would fund). Proposals must contain: 1) introduction and justification for the CBSR research (i.e., community need), 2) description of the CBSR research, 3) description of the partnering entity, 4) a statement whether is this a new or existing partner, 5) targeted partner/community demographics, and, 6) a short biosketch (2 page) of each proposing faculty. If an IRB will be needed, proof of an exemption and/or active IRB number will be needed prior to releasing funds. Awards up to \$15,000 will be made. Students hired under this award are required to complete responsible conduct of research (RCR) and IRB (if required) training in their first pay cycle.
9. Electronic STEM data sets. Rapid changes in technology and faculty/researcher time constraints mean that throughout our participating institutions, STEM research data sets remain in written format or in file formats that have become obsolete. This category provides funding (up to \$5,000) to hire personnel (i.e., student workers) convert STEM data sets that are important to North Dakota into an electronic format, a precursor to larger data mining/manipulation efforts. Proposals must contain: 1) introduction and justification for the conversion of the STEM data set(s) to an electronic format, 2) description of the size, timespan, and current format of the STEM data set(s), 3) a statement regarding the importance of the data set, and, 4) a short biosketch (2 page) of each proposing faculty.

B. **Eligibility**

EPSCoR-participating institutions - All tenure-track and tenured faculty or faculty/instructors at a tribal college are eligible to apply for funding. Applicants with past due final reports on other current ND EPSCoR-awarded projects are not eligible to compete.

C. **Priority**

The intent of this funding is to build research infrastructure and capacity across the state. In addition, funding priority will be to applicants who did not receive an EPSCoR award in the same category in 2019, 2020, or 2021.

D. **Proposal Submission Deadline**

Proposals are due to the ND EPSCoR office no later than noon on September 21, 2021. Please check with your institution for internal routing deadlines. Proposals for external review of large collaborative and interdisciplinary efforts follow the submission guideline given under section A, item #5.

The state office has a limited amount of funds to disburse, thus, the submission of a proposal does not automatically guarantee funding.

E. Funding Availability

It is anticipated that funds will be released by October 16, 2021 and may be used through May 31, 2022. No extensions will be granted.

F. Proposal Preparation Guidance

The proposal narrative should be no longer than four pages. In addition to the category specific information noted for each category in section A, the narrative must also contain a section on ***how the research/activity fits into the strategies outlined in the North Dakota Science and Technology Plan (the July 1, 2018 version)***. This section must include references to specific strategies. The current ND Science and Technology Plan can be found at:

<https://www.ndepscor.ndus.edu/fileadmin/ndus/ndepscor/documents/NDSTPlanFINALJune2018.pdf>

Each proposal must contain a cover page and budget (and justification).

- Cover page is at:

<https://www.ndepscor.ndus.edu/fileadmin/ndus/ndepscor/STEM/CovSheetSTEM2021.pdf>

- Budget form is at:

<https://www.ndepscor.ndus.edu/fileadmin/ndus/ndepscor/SeedAwards/2020NDEPSCoRStandardBudgetForm.xlsx>

G. Proposal Submission

Applicants from the primarily undergraduate institutions, master's college/university, and tribal colleges/universities. Please follow your institution's standard process for routing and approving proposals submitted to external agencies. **Each institution may have a different internal deadline for routing purposes.**

Applicants from UND. Your proposal requires review and approval through your normal proposal routing process, including the UND Division of Research and Economic Development. The UND Research Office has set an internal deadline of September 14.

Applicants from NDSU. Your proposal requires the signatures of the Department Chair/Dean. **Once you have those signatures, you will submit your proposal straight to the ND EPSCoR office.**

All applicants. Please submit your proposal electronically as a single, searchable PDF to ndepscor@ndus.edu (and a copy to Jean Ostrom-Blonigen, jean.ostrom@ndus.edu) with the subject heading of "2021 STEM RFP."

If you have any questions, please contact Kelly A. Rusch kelly.rusch@ndsu.edu or Jean Ostrom-Blonigen (jean.ostrom@ndus.edu).

H. Proposal Evaluation

Proposals will be evaluated for fit with the ND EPSCoR State Office mission, the ND S&T Plan, and national priorities related to broadening participation in the STEM ecosystem.

I. Award Requirements

www.ndepscor.ndus.edu

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All awards require: 1) an end of award report submitted to ND EPSCoR within 30 days of the award expiration date, 2) acknowledgement of the ND EPSCoR State Office as the funder, and, 3) presentation of the activity/results at the ND EPSCoR Annual State conference (this is for proposals funded in categories 3, 4, 6, 7, and 8).