SOLICITATION OF WHITE PAPERS – Vermont jurisdiction
NSF EPSCoR Research Infrastructure Improvement (RII) Track-1

Announcement date: December 18, 2020
White Paper deadline: January 15, 2021 by 12:00 am (midnight) EST

Anticipated NSF deadline: July 2021

EPSCoR jurisdictions may submit **only one proposal** in response to the NSF EPSCoR Research Infrastructure Improvement (RII) Track-1 solicitation. In anticipation of our eligibility to submit a proposal in July 2021, interested parties are invited to submit a white paper on key research topics that would be competitive for an NSF EPSCoR RII Track-1 project. Note that the NSF RII Track-1 proposal is required to address a comprehensive, integrated, trans-disciplinary statewide focus that creates substantial academic research infrastructure and involves participants from colleges, universities, and non-academic partners throughout the state. It is NOT designed for individual, single institution, or small group faculty research.) The research must be of importance to the Vermont, the nation, and have an economic impact on the state and region.

The University of Vermont Office of Research Development will manage the submission and review process on behalf of the Vermont Technology Council. This call for white papers is open to all eligible researchers/research institutions in Vermont. The Vermont Technology Council will meet to review the proposals and the expert comments and make the final decision on the project put forward to NSF.

Please review the NSF EPSCoR program page for further information.
https://www.nsf.gov/od/oia/programs/epscor/

You may also find it helpful to review the expired 2020 NSF EPSCoR RII Track-1 funding solicitation, which explains program expectations, requirements, and proposal preparation instructions in detail. Based on prior years, we anticipate that the 2021 funding solicitation will be published in May 2021. (NSF 20-571: https://www.nsf.gov/pubs/2020/nsf20571/nsf20571.pdf)

SUMMARY OF NSF EPSCoR RII TRACK-1 PROGRAM:
The purpose of the NSF EPSCoR RII Track-1 program is to provide support for sustainable improvements in a jurisdiction's academic research infrastructure that lead to increased research capacity and competitiveness. Specifically, the program aims to improve jurisdictional capacity in areas of STEM research and education that are supported by the National Science Foundation and aligned with the jurisdiction's science and technology priorities.

WHO MAY SERVE AS PRINCIPAL INVESTIGATOR:
This call for white papers is open to all eligible researchers/research institutions in Vermont. The Project Director and Principal Investigators of proposed EPSCoR projects must be affiliated with research

universities, agencies, or organizations within the submitting EPSCoR-eligible jurisdiction. In addition, the Project Director must be the Principal Investigator and be employed by the fiscal agent/proposing organization.

WHITE PAPER PREPARATION AND SUBMISSION INSTRUCTIONS:

White Paper Requirements:

The white paper is limited to **5 pages** maximum (excluding cover page, references, and biographical sketches).

1. **Cover Page and Abstract (1-page limit)**
   Please provide a project title, list of key team members indicating the proposed project director, submitting institution/organization, and provide an abstract. The abstract should summarize the proposed idea, and address the scope, research, education, and workforce development activities, as well as the broader impacts of the proposal.

2. **White Paper (5 pages maximum)**
   NSF EPSCoR RII Track-1 proposals are unique in their jurisdiction-wide scope and complexity; in their integration of individual researchers, institutions, and organizations; and in their role in developing the diverse, well-prepared, STEM-enable workforce necessary to sustain research competitiveness and catalyze economic development and growth in the jurisdiction.

   In your white paper, please describe the following elements of the proposed project and how they align with the specific research priorities or topical areas in the Vermont State Technology Plan.

   - **Research Program:** Research conducted as part of an RII Track-1 project should be hypothesis- and/or problem-driven. Research in areas of recognized national or global interest is encouraged. Appropriate research topics are those that benefit from a comprehensive and integrative approach, typically relating to a scientific area of significant regional or jurisdictional importance. Please provide a concise description of the proposed research theme, including goals and intellectual focus. State any innovative or transformative aspects of the research. Provide enough information to enable the intellectual merit to be assessed. The proposed research theme/program is the centerpiece of the RII Track-1 project. It must be of national importance and have the potential to improve Vermont's future research and development competitiveness. *The Research Program is the primary element evaluated during NSF RII Track-1 merit review.*

   - **Education and Workforce Development:** One of the goals of the NSF EPSCoR program is to establish sustainable Science, Technology, Engineering, and Mathematics (STEM) education, training, and professional development pathways that advance jurisdiction-identified research areas and workforce development. Please provide a brief description of the STEM education and workforce development activities that you propose. Please explain any innovative or creative approaches you will employ to enhance your education and workforce objectives. These activities should integrate with the theme of your research program.

   - **Alignment with the Vermont Science and Technology Plan:** State how the proposed project will improve academic research competitiveness in the State and how the project's research activities with the Vermont S&T Plan. Please describe the potential for the proposed research, education, and workforce development activities to result in meaningful impacts within the State of Vermont. The Vermont S&T Plan can be found at: https://www.vermonttechnologycouncil.com/about

- **Proposed Partnerships/Collaborations:** Please list and describe the proposed role of potential partners that will contribute to the attainment of project goals. Where possible, please be specific in naming collaborators at the partner organizations/institutions. (Please note that partnership agreements do not need to be final at the time of white paper submission.)

3. **References Cited** (no page limit)
   All references cited in the white paper should be included. While there is no page limit for references, this section must include bibliographic citations only. Do not include information that should be included in the white paper, or could be perceived as circumventing the page limit.

4. **NSF-format Biographical sketches**
   Please include biosketches for all key/senior personnel, according to standard NSF formatting guidelines.

Submission:

The white paper should be submitted as a single pdf file via UVM's InfoReady Review portal: https://uvm.infoready4.com/

Submissions must be uploaded prior to the 12:00 am (midnight) deadline on January 15, 2021.

REVIEW CRITERIA AND REVIEW PROCESS:

Review Criteria:

White papers will be evaluated based on the NSF standard merit review criteria: Intellectual Merit and Broader Impacts. In addition, reviewers will be asked to evaluate white papers based on the following specific aspects of intellectual merit and broader impacts that are specific to the NSF EPSCoR RII Track-1 solicitation AND appropriate to the early stage of the projects at the time of white paper submission:

- **Research Capacity** – What is the potential of the project to advance the relevant fields of science and engineering while simultaneously enhancing research competitiveness and developing research capacity and infrastructure (including physical, cyber, and human resources) in the jurisdiction? How will the proposed activities contribute to the national and international recognition of the project participants and participating organizations? What is the potential of the project to increase the capacity of the participating organizations and capability of project participants to propose and implement research activities in the future? How will the diversity of institutional types within the jurisdiction benefit from the proposed enhancement of research capacity?

- **Jurisdictional Impacts** – How well aligned are the project's research activities with the STEM research priorities described in the jurisdiction's S&T Plan? What is the potential to achieve meaningful and sustained impacts within and throughout the jurisdiction with respect to education capacity (including workforce preparation), economic development (including innovation, technology transfer, and potential commercialization), and quality of life? How do the proposed activities promote organizational connections and linkages within the jurisdiction, as well as between private and public sectors? How well do the proposed partnerships and collaborations advance the project goals? How well does the project leverage past accomplishments and existing resources, especially those from prior RII funding and NSF, jurisdictional, and regional investments?

- **Workforce Development** – What is the potential to enhance research and education capacity through the recruitment, mentoring, and professional development of students, junior

researchers, and faculty (including early career)? How effectively will the range of project participants (including diverse populations and organizations) be engaged in the research and education activities? What is the potential to prepare a new cadre of competitive researchers, innovators, and educators, especially in the proposed area(s) of research? What novel and effective ways are proposed to broaden the participation of women and minorities underrepresented in STEM (also: persons with disabilities, students who are in the first generation of the family to attend college, or those from economically disadvantaged or rural populations), especially in the proposed area(s) of research? How well will the project enhance participation and research capacity at non-research intensive and minority-serving institutions, including primarily undergraduate institutions (PUIs), 2-year institutions, Historically Black Colleges and Universities (HBCUs), Hispanic Serving Institutions (HSIs), and Tribal Colleges and Universities (TCUs)?

- **Integration of Project Elements** – How well are the project elements (especially education, workforce development, and diversity) aligned and integrated with the research activities? What added value and benefits can be realized through the integration of the project elements with research as part of an RII project? What is the potential of the project to reach its education and workforce development goals and objectives as a result of the proposed research, and vice versa? What is the level of integration among shared facilities and research partners? In addition, reviewers will be instructed to consider the feasibility of the proposed activities, and in particular whether sufficient and accurate baseline data have been provided regarding the proposed project goals.

Review Process:

The University of Vermont Office of Research Development will manage the submission and review process on behalf of the Vermont Technology Council. The Vermont Technology Council will solicit reviews from relevant experts who have experience with the NSF EPSCoR program. White papers will be reviewed against NSF review criteria as described above. The Vermont Technology Council will meet to review the proposals and the expert comments, and will make the final decision regarding the project that will be invited for full proposal development and submission to NSF.

Anticipated Timeline	
Call for White Papers	Dec 18, 2020
White papers due	Jan 15, 2021
External review completed	Jan 29, 2021
White paper team selected by VT Tech Council	mid-Feb, 2021
Full proposal development begins	Feb, 2021
Solicitation released by NSF	early May 2021*
Proposal due to NSF	mid-July 2021*
Notification of Awards	Spring 2022
Awards made	Summer 2022

* Based on FY20 dates

CONTACTS:

If you have questions about the review and selection process, please contact:

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