



West Virginia Science, Technology and Research (STaR)

NSF Eddie Bernice Johnson INCLUDES Alliance: Expanding the First2 STEM Success Network Institutional Team Support

Purpose: This concept paper will be used by First2 to seek additional funding for institutional teams, including student leaders. First2 has limited current National Science Foundation (NSF) funding that can be used to support student leadership next year, and the First2 Network is working to bring more funding, including from the NSF, to network partners. Proposals from institutions will guide these efforts.

Target Submission Date: Priority deadline March 22, 2024

Target Review and Meetings with Institutional Teams: March 25 - April 5, 2024.

Contact Information

For questions, please contact Erica Harvey (eharvey@fairmontstate.edu) or the program officer: Dr. Heather Arnett, First2 Program Coordinator (heather.arnett@wvresearch.org)
West Virginia Science & Research | WV Higher Education Policy Commission
304-352-6350

Eligibility

- **Organizations:** Public and private 2- or 4-year colleges and universities in West Virginia and Kentucky are eligible to apply.
- **PI Eligibility:** Faculty or administrator who is a full-time employee of the institution. The endorsement of the Provost or Chief Academic Officer will be required to signify institutional approval of the award.
- **Limit on Number of Proposals:** One from any eligible institution.

Award Information

- **Type of Award:** Contract invoiced quarterly
- **Anticipated Award Date:** September 1, 2024
- **Award Period:** through August 31, 2025
- **Estimated Number of Awards:**
- **Maximum Annual Funding per Award:** Up to \$49,500
- **Cost Share Requirement:** minimum of 20% cash and/or in-kind.

Program Description

The First2 Network is an expanding group of people and organizations working to increase the number of college graduates in science, technology, engineering, and math (STEM) to strengthen our communities and

drive an innovation economy in West Virginia and beyond. First2 focuses on first-generation, low-income, rural, and other underrepresented STEM students, making sure all our students can succeed. First2 works in true partnership with student leaders, tests and learns with stakeholders to share and scale high-impact practices, and aspires to drive systemic change through informed policy and resource allocation.

We are inviting institutions to submit preliminary proposals to, if funds are available, receive support to be First2 Member Campuses for the period September 1, 2024 - Aug. 31, 2025. These grants would be given for institutional advancement and to develop and support students as leaders and partners.

- a. Institutional Advancement: Non-student support to engage in systems change activities to increase STEM student persistence at your institution.
- b. Student Leadership: Support for at least two student directors at each institution, student participation in institutional teams, student travel, and club funding.

First2 Network Priorities for 2024-2025:

1. **Student involvement in Institutional Teams** is a priority for the First2 Network. First2 Institutional Teams are made up of STEM students, faculty, deans, chairs, career services personnel, student success professionals, academic affairs professionals and other administrators who are all actively engaged in learning about rural, first-generation and underrepresented STEM students as well as supporting the success of these students on their campus.

Institutional Teams:

- test high impact change ideas as identified by First2 through improvement science methodology consisting of [Plan-Do-Study-Act \(PDSA\) cycles](#),
 - share their findings with other institutional teams,
 - support the collective effort to scale promising practices to improve retention and graduation of rural, first-generation and underrepresented STEM majors.
 - participate in significant coaching for this work through the First2 Improvement Science Team.
2. **Scaling promising practices and policies** is important to the First2 Network. Financial support will be offered as awards to institutional teams who submit successful proposals that describe plans to execute and test change ideas, collect and share data, and communicate results to the First2 Network and the national INCLUDES Network. Change in policy becomes improvement science when a policy is introduced or changed, and the impact of that change is measured.
 3. **Collecting and sharing data across the network** is critical to the success of First2 Network. The award will allow First2 to collect similar data at all partner campuses. The results will be shared with campus administrators to support the value of Institutional Teams and their efforts to improve persistence through improvement science.
 4. **Progress towards sustainability** is also important to the First2 Network. Proposals will describe progress toward institutionalizing their teams post NSF funding.

Deliverables:

The deliverables listed below are required of all teams, but the ways in which they incentivize their teams can be different for each institution. Institutions are encouraged to incorporate some of these roles into people's existing jobs, in which case the award can be used to contribute to that person's salary or

can be made available to support other First2 initiatives.

1. **Identify an institutional team:** Support is contingent on forming a campus First2 institutional team and identifying its members. Please provide narrative explanation in the proposal and also download, fill in and attach the following spreadsheet, [Institutional Team Worksheet for RFCP](#), including:
 - **Identification of an institutional liaison.** This will be a non-student leader for First2 on your campus, and a leader on the Institutional Team. This person will be the main point of contact between the institution and First2 Network. The institutional liaison may serve on the Steering Committee to represent your institution or delegate that role. We encourage campuses to dedicate part of FTE or give course release for existing campus leaders to take on this important and critical role
 - **Identification of an institutional representative to the Steering Committee.** Note that this may be the same person as the institutional liaison or a different person and both roles can also be split between two or more people.
 - **Identification of at least two Student Directors:** These Student Directors serve on and assist with the improvement science activities of the Institutional Team, including helping the First2 Club Advisor coordinate club activities, providing outreach to fellow students, engaging in K-12 outreach, and engaging with faculty and administrators. They meet regularly with other student directors to advance the aims of the First2 Network. Student Directors are selected by the Institutional Team. Identify current student directors on your application, even if new Student Directors will be selected for the upcoming year.
 - **Identification of a Campus Club Advisor** who also serves as the PDSA lead for the Campus Club PDSA; should be a STEM faculty member who has or is willing to develop expertise in STEM educational and career pathways. Club Advisors are committed to supporting student-led regular (typically weekly or every two weeks) meetings.
 - **Identification of an IRB liaison** responsible for acquiring and updating IRB approvals for improvement science work and sharing of data with First2 Network. Support from First2 is available for this person, who can also be the same as the institutional liaison and/or Steering committee representative. This person will also work with the WVU First2 research team to coordinate administration of the WVU-led research survey for STEM majors at your institution, including associated IRB review or IAA.
 - **Identification of an Administrative Leader** who will provide a letter of commitment for this proposal. They need to have authority to sign a grant agreement and Memorandum of Understanding with the First2 Network. They will have the ability to influence work flow/requirements for participating faculty and staff, and be willing to read and act on regular institutional reports from your First2 Institutional Team and First2. They will attend or send a representative to a conference of administrative leaders organized by First2. We recommend your Administrative Leader is a President, Vice President, Provost, Dean, etc.
 - Names of **additional participating faculty, staff and student members**

Application:

Please email the proposal and supporting materials (budget, budget justification, senior personnel documents) to heather.arnett@wvresearch.org. The proposal application should contain the following

components.

1. **Project Summary:**
2. Provide a one-page summary that includes a heading and the project abstract. The heading should include the title of the proposed endeavor and the names of the submitting institution and Principal Investigator, your history with First2 Network, project overview, and commitment to the purpose of the First2 Network.
3. **Project Requirements:**

In 4 pages or less, describe:

- A. **Overview of institutional team approach.** Detail who is serving in each key role and why, how the team will work together, structure (planned meeting schedule, who organizes), key planned outcomes of the team for the year, how students are involved/recruited, how faculty and staff are involved/recruited, and how student directors will help lead. Explain how you will support your student leaders through faculty and staff involvement.
 - i. If you dedicated FTE or course release for your institutional liaison or other First2 roles, how much time will this person have to dedicate to First2?
 - ii. Does your institution provide financial and professional incentives and rewards to faculty and staff to engage in testing and scaling promising practices? How so? These can be modest and include financial stipends, release time, building First2 into a job description, letters for tenure files, or other support.
 - iii. Please tell us anything else about professional development and learning your faculty, staff, and students would benefit from.
- B. **Institutional team participation in First2 Network learning.** This includes your institutional team contributing to and taking advantage of the First2 Network learning community (including the national NSF INCLUDES network) to scale promising practices across institutions to drive systems change across the network. This includes participation in the First2 annual conference (May 16-18, 2024; spring 2025 dates TBD as funding allows).
- C. **Institutional demographics and persistence.** Report overall institutional persistence data, persistence/retention for first-generation and other underrepresented students, including Pell-eligible students and STEM majors, if available, or describe how you will get them for reporting. Clarify STEM disciplines included, number of STEM majors at the institution in those disciplines, institutional percentage of first-generation STEM majors and percentages of any other underrepresented students, including Pell eligibility (and those percentages among STEM majors, if available, or how you will get them for reporting). Data tables can be provided as an addendum if desired, and would not count in the page limits.
- D. **Student Leadership.** Active and effective participation in First2 Network program requirements by all First2-funded students. Some of these requirements include participation in the Institutional Team's improvement science work, regularly scheduled meetings of the Institutional Team, and the First2 network-wide monthly All-Students meetings. Additional participation by Student Directors in weekly network-wide Student Director meetings and helping to plan for and co-lead the Institutional Team with the institutional Liaison Some questions to consider include: How/were students involved in the plans for this proposal? How will student directors help lead your institutional team and improvement science activities? How/will other students be involved in your institutional team? What structures will support student involvement and participation? How will you collect and use feedback from students? How will your proposed activities target and select first-gen and underrepresented students majoring in traditional STEM majors? What percent of your rural, first gen and other

underrepresented students will be addressed directly by your recruiting efforts?

- E. **Six high-impact change idea tests** (practices or policies), **affecting significant numbers of people**, that will be tested and scaled through improvement science.
- i. A network-standard Campus Club PDSA each semester. This PDSA must be aligned to provide cross-network data and will require quarterly cross-network meetings. See the PDSA template: [w *First2_Campus_Clubs_PDSA_Template.docx](#) These clubs help plan and execute activities for first-generation and other underrepresented STEM students on a **broad scale** on their campus, provide wrap-around support for students in need, and provide activities to bring in and provide support to first- and second-year rural, first-gen and other underrepresented STEM students. [Learn more about campus clubs here.](#)
 - ii. At least four additional tests of [change ideas](#) (could include a repeated test each semester or a summer program), following the established Improvement Science Team process. Teams can adopt a change idea from another campus to test and scale. If you are interested in testing new policy changes, please describe how the policy change aligns with the First2 theory of change [Driver Diagram](#). Policy change ideas can include a proposal to reallocate resources, including time and/or financial resources, in a new way.
- F. **Data Collection.** First2 needs to compare the impact of your work against baseline data at your institution. Describe your results from prior First2 support in the following areas and plans to collect and report:
- i. PDSA data and results recorded in the PDSA templates, including numbers of students who participate.
 - ii. Institutional data on all student persistence in STEM majors with first gen status. (Include persistence on other underrepresented students if available.)
 - iii. Institutional data on student persistence in STEM majors for all students impacted by First2 PDSA work with first-gen or underrepresented status.
 - iv. First2 WVU Research Survey (J. Stewart) administered to all STEM majors. This survey collects data on the various factors that affect persistence in STEM degrees. [First2 Research Survey FAQ Spring 2024](#)
 - v. IRB approvals required, with documentation in First2 Drive:
 1. improvement science (PDSA) IRB approval(s) and/or continuations.
 2. cross-institutional data sharing protocol IRB approval to allow First2 to aggregate PDSA data across institutions.
 3. IRB approval for First2 WVU Research Survey (J. Stewart).
- G. **Dissemination** of the work of your institutional team and the results of the institution's PDSAs through your campus media outlets, to decision makers at your institution, in your relevant professional/disciplinary networks, and with the First2 Network communications team. **Sustainability Plan**, workflow, and funding strategy to sustain the Institutional Team post NSF funding, working with support from the First2 backbone and leadership groups. Sustainability plans will measure progress along a timeline towards independent funding.

3. Budget & Budget Justification: Use the First2 [budget template](#) (with separate guidance document) to show the total non-student support, the total student support and the cumulative budget which sums those two components. Provide a [standard budget justification](#). Contact the STaR office with budget questions.

- a. Name at least 1 Senior personnel and include a salary and benefits at your institutional rate. This will be the person responsible for reporting the award deliverables. For

example, your institutional liaison and/or Steering Committee representative may serve as the person responsible.

- b. The remainder of the budget can be allocated as needed (salary or stipend for other personnel, events, speakers, materials and supplies, resources for a data analyst for data heavy PDSAs, communications, etc.) providing that deliverables are in the scope of work.
- c. Indirect Cost Limitations: Overhead costs are allowed at your institution's federally negotiated indirect cost rate.
- d. Identify cost-share being provided by the institution.

4. Biographical Sketches: Please provide the following documents for each Senior Personnel. **NB Make copies of these documents to use and rename with your institution -**

[Collaborators and other affiliations \(COA\)](#)

[NSF Biosketch](#)

[Current and Pending Support](#)

Review and Award Procedures:

Proposals will be reviewed, and awards will be made based on availability of funds, with an anticipated timeline for announcing a minimum of Student Director 2024-2025 funding by April 15, 2024. Other awards will be made on a rolling basis as multi-institution grants are awarded to the First2 Network.

Reporting Requirements:

Quarterly narrative performance reports to the First2 Network are required. Depending on funding that is received, recipients may also be required to provide a written report to an additional entity. Financial reporting and invoicing should be done quarterly and shall be on a reimbursement basis. Invoices should reflect expenses by budget item. No additional financial reporting is required by High Rocks for student support that is paid directly by High Rocks.