

Applicant PartnerInstitution

REAP Director/PI Name REAP Director/PI Phone Number REAP Director/PI Email

2021 REAP Program Information Number of Apprentices requested Name(s) of proposed Mentors

Check that all is included with application:

Technical Proposal (not to exceed 5 pages) Addendum- project description (included in 5 page limit) REAP Director/PI Resume or CV and names of potential mentors Financial proposal



Army Educational Outreach Program

2021 REAP Request for Proposal





The Research & Engineering Apprenticeship Program (REAP) is an Army Educational Outreach Program (AEOP) effort which provides high school students, especially those from underserved populations in STEM, a summer apprenticeship opportunity at Army research facilities and partner academic institutions. Student apprentices contribute to the research activities in a laboratory research setting under the supervision and guidance of a qualified mentor.

This Request for Proposals seeks to identify host institutions to participate in REAP in FY2021. This RFP is for a one-year period with an optional one-year extension. REAP is administered by the Rochester Institute of Technology (RIT). RIT is a member of the AEOP Consortium formed by the AEOP cooperative agreement award, a group assembled to provide and/or oversee STEM programs designed to support the goals and mission of the AEOP. The lead organization for the consortium is Battelle Memorial Institute, a non-profit research and development organization with a strong commitment to STEM education.

Point of Contact

Nicole Viggiano

Director of Apprenticeships and Career Development Army Educational Outreach Program Rochester Institute of Technology Nxvk12@rit.edu

Donna Burnette

Executive Director, PI K12 University Center Rochester Institute of Technology Dabk12@rit.edu

Army Educational Outreach Program

The United States has long recognized that a scientifically and technologically literate citizenry is our nation's best hope for a secure, rewarding a successful future. For over 50 years, the Army has supported a wide range of educational opportunities in STEM for our youth, college and graduate students, as well as teachers.

Our nation's economy has greatly benefitted from the technological achievements of the last century and is destined for greater achievements throughout the 21st century. The demand for STEM literate citizens has become increasingly high, and STEM talent increasingly valuable and necessary, as it will continue to play a dominant role in all aspects of life. For this reason, the Army created the Army Educational Outreach Program (AEOP), which provides a portfolio of Army STEM educational opportunities for the future generations of America's workforce and their teachers.

The AEOP is a portfolio of opportunities composed of competitions, unique experiences, research apprenticeships, and teacher resources designed to spark inspiration, explorations, and achievement in STEM literacy as well as foster a STEM literate 21st century workforce. From elementary through undergraduate, students of all proficiency levels, interests, social and economic backgrounds are encouraged to take advantage of real-world STEM experiences at Army research organizations and partner universities while also engaging with mentors from STEM professionals in the field.

Research & Engineering Apprenticeship Program (REAP)

AEOP offers a suite of research apprenticeship opportunities to high school and undergraduate students at Army research facilities and partner academic institutions. The Research & Engineering Apprenticeship Program (REAP) is one of those opportunities for high school students from underserved and underrepresented (U2) populations in STEM (see page 7 for qualifying criteria). Student apprentices conduct a minimum of 200 hours of research over a 6-8 week period during the summer months. They receive a stipend in recognition of their work. Student apprentices contribute to research activities under the supervision and guidance of a qualified mentor. This hands-on research experience is intended to develop student understanding of the process of research; to spark their curiosity and understanding of work in the sciences, technology, engineering or mathematics (STEM); to introduce them to DoD research and STEM careers, and to broadly contribute to the future pipeline of talent capable of contributing to the nation's future STEM workforce. At the end of each REAP apprenticeship, students are required to submit an abstract of their summer research project and complete an evaluation. In addition, students are encouraged to create a research poster or presentation that captures their summer laboratory experience.

- Apprentices in University-based programs can receive stipends of \$2,000-\$3,000 based on the number of apprenticeship hours (200-300 hours). Universities may receive a stipend of \$1,000 to support the cost of materials and other supplies in support of the student apprentice.
- Universities may submit proposals for up to two student apprentices; however, the university stipend will remain capped at \$1,000. If a prospective host institution has the capacity to serve more than two students, a request must be submitted and will be reviewed on a case-by-case basis pending available funding. *Please note, since the awards are stipends, universities cannot charge overhead.*
- Partner institutions must participate in AEOP evaluation efforts, and may receive request from evaluators to be onsite, or to conduct telephone interviews of participants (students, mentors, and directors). AEOP evaluations are critical to AEOP's program sustainability (see <u>https://www.usaeop.com/about/our-impact/</u>).

Program Goals Request for Proposal

On behalf of the US Army Educational Outreach Program (AEOP), the Rochester Institute of Technology (RIT) is soliciting a 1-year proposal from universities or other qualified educational institutions to participate in REAP. This proposal may be extended for a second year at the discretion of RIT and AEOP, contingent upon a successful first year and continued availability of funding.

Funding for REAP is provided under a cooperative agreement between the US Army CCDC and Battelle Memorial Institute. Rochester Institute of Technology, a private university in Rochester, NY, administers REAP as a member of the Army's Educational Outreach Program Consortium and under the sub-award agreement with Battelle. Program implementation is contingent upon the availability of Army funding.

REAP funding must be used in support of REAP apprenticeships and not to supplement a university's existing STEM summer programs. Universities must ensure that REAP is a free program to all apprentices. No application, registration or other fees can be charged to participants in the program.

RIT requests proposals from qualified educational institutions to administer REAP and provide a mentorship experience for high school students. Once awarded funding, partner institutions are required to designate a REAP Director (PI) who will be responsible for the overall management and administration of the local REAP effort.

University proposals should include:

- Priority Alignment- Please describe your how your organization aligns with the priorities of the DoD/Army and the mission and goals of the AEOP <u>https://www.army.mil/standto/archive/2019/10/17/index.html#:~:text=The%20six%20Army%2</u> <u>Omodernization%20priorities,and%20Soldier%20lethality%20%E2%80%93%20remain%20constant</u>. Please list current and past participation in other Army/DoD apprenticeship programs and state success and challenges experienced. Also, include links to any other current high school apprenticeship and/or STEM outreach programs you administer.
- 2. Program Marketing and Outreach- Describe how your institution will market and promote AEOP and the Army-funded REAP to eligible students, specifically in underserved communities, and the types of media and materials you plan to use. REAP sites are encouraged to widely publicize REAP to local high schools and work with high school staff to identify underserved students interested in STEM. Please include a list of schools and organizations you work directly with.
- 3. Mentor Identification- Identify potential mentor(s) and describe their role in supervising and guiding the mentoring of the apprentice and work assignment. The REAP Director (PI) CV/resume should be included in the proposal. Please also include how the mentor will work with the apprentice if a virtual apprenticeship is necessary. Mentors will be required to register via the AEOP registration link provided.
- 4. Student selection- Describe the selection process to recruit and select student(s) for REAP. Identify the skills necessary required to participate in the university's summer program. Student selection, in part, should be based on the criteria outlined on page 7. Please indicate if you anticipate the selection process being different if a virtual apprenticeship is necessary.

- 5. **Protection of Minors** Please describe the processes for insuring protection of minors wile on campus and/or while participating in programs at your institution. Please include information on background checks, and training of staff, and reporting procedures and policies
- 6. **Apprentice Project Description** *As an addendum to the technical proposal*, please describe the research project in which the apprentice will be working, desired deliverables, and anticipated research outcomes. Include proposed start and end dates as well as tentative daily hours. Identify the science disciplines so the apprentice will be able to choose an apprenticeship that falls within their area of interest. Also, include any required pre-requisite courses or prior experience the student must have. Please describe how the apprenticeship will be conducted virtually if necessary.
- 7. **Apprentice on-boarding** Describe the apprentice orientation process and laboratory protocol. Please include information for both in-person and virtual.
- Anticipated Outcomes- Identify the gains for the apprentice and the laboratory (i.e. technical skills, engineering skills, publication opportunities etc.). Please discuss plans, specifically, to help the apprentices prepare research for the AEOP's Junior Science and Humanities Symposium (JSHS) https://www.usaeop.com/program/jshs/. Follow-up opportunities and relationships for the apprentice within the lab are encouraged.
- 9. **Apprentice Development**-Identify how the mentor will support the apprentice's future development in STEM (future coursework, competitions, publications etc.) Explain how the apprentice will continue research, if applicable, once the summer apprenticeship ends.
- 10. Education about AEOP Opportunities and DoD STEM Careers- Apprentices will have the opportunity to participate in weekly webinars offered by AEOP in which we will discuss STEM careers, college and career readiness etc. Please describe how you will plan the apprenticeship experience to accommodate this opportunity? Explain how the mentor will ensure that the apprentice is educated about other AEOP opportunities and DoD STEM careers.
- 11. **Program End Event** Describe how REAP Director (PI) will coordinate or contribute to participation in an end of program event to bring REAP (and other AEOP participants if applicable) together to share experiences and celebrate AEOP STEM opportunities. This can be for an individual university site event or participation in a larger REAP virtual gathering of multiple sites. Please include plans for virtual events if necessary.

Student Recruitment Process and Selection Criteria

The basic criteria for the selection of a REAP apprentices is the desire and potential for pursuing careers in the sciences, technology, engineering or mathematics (STEM). Additional factors to be considered include:

- Previous demonstrated abilities or interest in STEM
- Potential for a successful career in the field as indicated from overall scholastic achievement and/or high school teacher recommendations
- Student's statement on the application form
- Interview conducted by the Director or Mentors
- Student must meet REAP eligibility criteria (underserved and underrepresented in STEM)
- Student must be a US Citizen or permanent legal resident.
- Student <u>must</u> meet the qualifications of underserved and underrepresented (U2) as defined by the AEOP.

Applicants must meet two or more of the criteria listed below to meet the U2 qualification for REAP:

- Student qualifies for free or reduced lunch/ is low income
- Student is a minority historically underrepresented in STEM (Alaskan Native, Native American, Black or African American, Hispanic, Native Hawaiian or other Pacific Islander)
- Student is a female pursuing research in physical science, computer science, mathematics, or engineering.
- Student attends a rural, frontier, or other Federal-targeted outreach schools (per NCES data)
- English is a second language for the student
- Student has a disability (including learning disability)
- Student is a potential first-generation college student (parents did not attend college)
- A dependent of a military service member or veteran.
 - Military child dependents of members of the Active Duty Armed Forces
 - Military-connected military child plus the dependents of members of the National Guard and Reserves
 - o Military-affiliated military-connected plus the dependents of Veterans
 - Military-connected schools schools where a minimum of 15% of the student population is military-connected

REAP host sites must conduct local outreach and encourage all interested students to apply to the program through the website (<u>www.usaeop.com</u>). RIT will review all applications and then forward those that meet the minimum program criteria to the appropriate university for the final interview and selection process. *Students cannot be placed in a REAP apprenticeship unless they have applied through the AEOP website and been competitively selected. Any institution that does not follow this process will forfeit funding and participation in the program.*

It is strongly encouraged that the REAP apprenticeships be awarded competitively to students that do not have a prior affiliation with the PI, mentor, or laboratory. REAP is designed to provide opportunities for students that otherwise might not have a chance to work in that laboratory and should not be used as a way to pay a stipend to a student already engaged with that laboratory or related to someone within the laboratory.

REAP Outreach, Recruitment and Selection Timeline

Benchmarks	Dates
Application Opens: Student apply to REAP via <u>www.usaeop.com</u>	January 2021
Universities conduct outreach to area high school students to recruit applicants	January- March
Application closes	March 1
RIT forwards applications to universities.	March 1-15
Universities review applications and conduct interviews	March 15-31
Universities notify students of acceptance	April 1-15
Universities notify RIT of accepted and confirmed students	April 1-15
RIT notifies non-accepted students of outcome	April 16-30
Apprentice and Mentor Orientation and onboarding	April 16-30
REAP Director Onboarding Webinar	May 15-31

Deliverables

Partner Institutions- Prior to the start of the apprenticeship program, REAP Directors must submit

- o REAP Terms and Conditions
- Acknowledgement of PII Guidance
- o REAP Site Profile Form
- Apprentice Selection Form
- Mentor(s) must complete registration (link will be provided)
- Each month of the apprenticeship, the REAP Director (PI) will submit the Stipend Payment form to the Program Coordinator by the stated due date.
- Support apprenticeship participation in weekly AEOP webinars

REAP Apprentice-

- The Apprentice is required to complete an abstract of their research.
- Apprentices are also required to complete an on-line evaluation of their experience during the last week of the apprenticeship.
- Apprentices should also be encouraged to prepare and present a poster of work to their peers.
- Apprentices are also requested to view weekly AEOP skill development webinars

Proposals

Proposals for REAP funding for 2021 are required by November 25, 2020. Mentors are encouraged to contact RIT for further information on REAP and AEOP.

Proposal and Program Cycle	
Proposal Announcement	October 15, 2020
Proposal Submission due to RIT	November 25, 2020
Award Notification	December 15, 2020
Period of Performance	October 1, 2020-Septmeber 30, 2021
Final deliverables - student and mentor	September 15, 2021

All proposals should include:

- 1. The REAP RFP Cover Sheet
- 2. A technical proposal responding to the criteria reviewed in this RFP. Included with the technical proposal as an addendum, a project description as described on page 6. Proposals with addendum should be a maximum of five pages, and include a CV for the Director (PI) and the names of possible mentors and their CVs. (CV is not included in the 5-page limit).
- 3. A financial proposal, which states 1) the amount requested for university stipend and briefly explains how it will be used and 2) the amount requested for student stipend(s) Please detail how student stipend is calculated (based on \$10.hr etc.). (not included in the 5-page limit)

Please submit your proposals via email in pdf format to:

Nicole Viggiano Director, AEOP Apprenticeships and Career Development Rochester Institute of Technology aeopapprenticeships@rit.edu