I.   Overview of the Funding Opportunity

Washington Headquarters Services / Acquisition Directorate (WHS/AD)
on behalf of
The Office of the Under Secretary of Defense,
Research and Engineering – Laboratories and Personnel OUSD(R&E)/L&P

Funding Opportunity Announcement (FOA) for the National Defense Education Program
(NDEP) for Science, Technology, Engineering, and Mathematics (STEM), and Biotechnology
Education, Outreach, and Workforce Initiative Programs and Enhanced Civics Education Fiscal
Year 2021

FUNDING OPPORTUNITY NUMBER: *HQ0034-21-S-F001*
==**Amendment 04 –** *Changes Highlighted in Yellow*==

CATALOG OF FEDERAL DOMESTIC ASSISTANCE (CFDA) NUMBER: *12.006*
National Defense Education Program

ANNOUNCEMENT TYPE:
Initial Announcement
Issue Date: 10 December 2020

KEY DATES

White papers must be received by the government (osd.dodstem@mail.mil) no later than
29 January 2021 (Friday) at 11:59 PM Eastern Time

Full Technical Application Invitations will be sent by the Government to accepted recipients by
15 March 2021 (Monday) at 11:59 PM Eastern Time

Technical Applications must be submitted to Grants.gov no later than
28 April 2021 (Wednesday) at 11:59 PM Eastern Time

Notification of Award
June 2021

DESCRIPTION OF FUNDING OPPORTUNITY
The Department of Defense (DoD) seeks innovative applications for the National Defense
Education Program (NDEP) in: (1) Science Technology Engineering Mathematics (STEM)
education, outreach, and workforce development initiatives; (2) Biotechnology education
and workforce initiatives; and (3) Enhanced Civics education pilot program. DoD intends to
award multiple grants, subject to the availability of funds. Maximum grant awards will vary
from $2,000,000 to $6,000,000 for a period of two (2) to four (4) years.

Anticipated Funding Type: STEM Programs, Research, Biotechnology, Other Education
Activities – Enhanced Civics

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COMPONENT/OFFICE ISSUING ANNOUNCEMENT

II.   Funding Opportunity Description

A.   *Short Description of Funding Opportunity*

The Department of Defense (DoD) National Defense Education Program (NDEP) seeks innovative applications on mechanisms to implement Science, Technology, Engineering, and Mathematics (STEM) education, outreach, and/or workforce initiative programs, here onto referred as STEM activities. NDEP also seeks innovative applications on mechanisms to specifically implement Biotechnology outreach and workforce development, which here onto will be referred as Biotech activities. Additional NDEP efforts also includes a pilot program in Enhanced Civics education.

The Department intends to award multiple grants in STEM activities, Biotech activities, and Enhanced Civics subject to the availability of funds. Applications for larger amounts may be considered on a case-by-case basis.
1. For STEM activities, there will be two (2) award levels:
   - (i)   STEM activities with maximum award of $3,000,000 over 3 years;
   - (ii)   Scalable STEM activities with maximum award of $6,000,000 over four *(4)* years.
2. For Biotech activities, awards will have a maximum award of $3,000,000 over three (3) years.
3. For Enhanced Civics education, there will be one award, with a maximum of $2,000,000 for a period of two (2) years.

This FOA has a two-step application process, starting with a **MANDATORY** white paper submission. Note: White Papers shall be emailed to: osd.dodstem@mail.mil. Selected applicants will be **invited by the Government via email** to submit a full technical application on Grants.gov for evaluation and possibly award consideration. White papers that fail to address the areas listed in the Funding Opportunity Description will not be evaluated and will not receive an invitation to submit a full technical application.

NOTE: Respondents are not required to address all three focus areas, but should direct their responses to one of the areas, 1 (STEM), 2 (Biotech), or 3 (Enhanced Civics Education), listed above. Background information is provided below. If applicants want to respond to multiple foci, they must submit separate responses following the instructions in the submission requirements (Section V).

B.   *Background*

The Federal STEM Strategy states, "The pace of innovation is accelerating globally, and with it the competition for scientific and technical talent. Now more than ever the innovation capacity of the United States—and its prosperity and security—depends on an

effective and inclusive STEM education ecosystem[1]". In addition, the National Defense Strategy has called for the Department of Defense to make significant investments in science and technology modernization priority areas to meet key capability and capacity needs. DoD is the largest employer of scientists and engineers in the United States. Therefore, the Department must maintain a robust pipeline of STEM talent by investing in pre-kindergarten through undergraduate and graduate STEM activities to ensure the DoD has enduring access to the best and brightest talent. The National Defense Education Program (NDEP) enables the DoD to cultivate and access the high-quality STEM personnel vital to national defense now and in the future. This solicitation seeks innovative approaches to support DoD STEM and Biotech education, outreach, and workforce development that aligns with DoD[2] and Federal STEM Strategic Plans.

C.   *Program Description*

In accordance with 10 USC §2192, *Improvement of education in technical fields: general authority regarding education in science, mathematics, and engineering*, NDEP (pre-K-graduate STEM education and outreach) is seeking a broad range of programs to support the DoD STEM mission to, "attract, inspire, and develop exceptional STEM talent across the education continuum to enrich the current and future DoD workforce to meet defense technological challenges". The goal of any proposed effort must provide solutions that will establish and maintain a STEM talent pool with an aptitude for innovation, diversity of thought, and the technical agility to sustain the Department's competitive edge.

Additionally, in accordance with Section 234 of the FY2020 National Defense Authorization Act, NDEP shall carry out a pilot program to provide Enhanced Civics education in areas such as critical thinking and media literacy, and interest in employment, and careers, in public service. This includes the improvement of students' abilities with respect to research and information fluency, problem solving skills, technology operations and concepts, and information and technological literacy.

The Department seeks to complement its portfolio of programs (https://dodstem.us/participate/opportunities/) while maintaining and/or increasing its focus on underserved populations to include military-connected children and student veterans. This announcement explicitly encourages projects that improve the capacity of education systems and communities to create impactful STEM educational experiences for students and teachers, and prepare the 21st century technical workforce. Funding efforts will be targeted primarily towards programs, both formal and informal, that are aligned with the Federal STEM Education Strategy's vision for a future where all Americans will have lifelong access to high-quality STEM education, and the United States will be the global leader in STEM literacy, innovation, and employment. This consists of strategic partnerships, convergence, and building computational literacy, and aligns with DoD STEM's mission. Additional funding efforts will

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[1] America's Strategy for STEM Education - https://trumpwhitehouse.archives.gov/wp-content/uploads/2018/12/STEM-Education-Strategic-Plan-2018.pdf
[2] Department of Defense STEM Strategic Plan - https://dodstem-assets.dodstem.us/files/DoD_STEM_Strategic_Plan_2015.pdf

encompass novel and innovative approaches to promote Biotechnology and Enhanced Civics. This includes, but is not limited to, programs that:

- Address the use of digital platforms for teaching and learning to enable asynchronous learning;
- Address geographic disparities, equity, and access to broaden participation for underrepresented and underserved communities;
- Target military-connected students (only using this definition - dependents from preschool through college of an active Military Service member) and provide this unique population with the resources and encouragement to pursue careers in STEM;
- Support student veterans' pursuit of STEM and biotech careers;
- Consider early academic education activities from pre-kindergarten through middle school to generate introductory awareness in STEM, biotech, and/or civics subjects and supplement understanding of foundational concepts in these areas;
- Build STEM, biotech, and/or civics skills and literacy in an evidence-based and innovative manner;
- Utilize project-based learning opportunities such as STEM challenges, science fairs, and competitions;
- Promote multiple STEM disciplines and careers through traditional and non-traditional pathways;
- Foster family and community support systems to encourage STEM learning and understanding;
- Increase awareness of DoD science and technology priorities such as artificial intelligence/machine learning, biotechnology, and cyber to prepare for careers in national security and DoD science and technologies.

(1) STEM Education, Outreach, and Workforce Development (STEM Activities)

STEM education and workforce development is a priority of the Department, and the DoD seeks methods in which it can more effectively cultivate a diverse, agile, and world-class STEM workforce. Through effective programming, the DoD supports the transformation of a STEM talent pool that will lead the Department and the Nation into the future. The Department fully encourages future workforce development initiatives that align with the strategic, operational, and tactical needs of our nation's defense. By encouraging a broad range of innovative education and workforce development programs, the DoD hopes to put the 21st century STEM workforce in a position for success in an ever-changing and increasingly competitive world.

Project scope may range in size and complexity. Efforts may have an emphasis on hands on-problem based learning activities, mentor-centered programming, education outcomes, and/or an awareness of the multiple STEM disciplines, and/or career pathways/opportunities in DoD. The following efforts are especially encouraged:
- Engaging students where disciplines converges, including programs that meaningfully integrate science, technology, mathematics, and engineering within

- each individual STEM subject as well as other disciplines such as the arts & humanities (i.e. transdisciplinary learning);
- Innovative remote learning experiences, for Augmented Reality/Virtual Reality (AR/VR) to teach mathematics, computer science, and data science;
- Students gaining real world experience in STEM fields relating to DoD S&T priority areas resulting in technical certifications;
- Mentorship opportunities at DoD for high school, undergraduate, and graduate students;
- Develop and implement activities that seeks to advance computational thinking and digital literacy.
- Encourage partnerships or consortia approaches to implement STEM education and outreach programs with a holistic approach to understanding real-world applications;
- Develop larger cohesive STEM education and outreach activities that strengthen the capacity of regional/local communities and stakeholders to leverage partnerships;
- Building strategic partnerships around local industry, connecting entrepreneurship and innovation, and/or invention education;
- Professional development in STEM disciplines for education majors, including students pursuing STEM degrees;
- Programming aimed to fill gaps in schools that lack necessary infrastructure and novel interventions to address student achievement gaps in STEM;
- Culturally relevant STEM curriculum;
- Develop and implement programs that seek to make STEM learning more meaningful and inspiring to students by focusing on complex real-world problems and challenges that require initiative and creativity;
- Develop and implement programs that support DoD Modernization priority areas (https://www.cto.mil/modernization-priorities/);
- Implement a manufacturing education program at the pre-college level that prepares participants for realistic job previews.

Additionally, applicants should address their efforts' flexibility and adaptability in program delivery and execution in response to any disruption to the educational systems (e.g. global pandemic).

Submissions are encouraged to consider including education and outreach activities that will support the future mission of the DoD; provide students and teachers with exposure to DoD research and career opportunities; and enhance the educational experiences of underrepresented, military dependent from pre-kindergarten – college students, their parents, and teachers, and student veterans.

All applicants applying for STEM funding must submit a white paper (Section V. B.) for the $3,000,000 over three (3) years award level. To be considered for the larger scale-up award level for STEM activities, applicants must complete an additional Scale-up Capacity section in the white paper and will be competitively selected and invited to apply for the scale-up award. Applicants not chosen to apply for the scale-up award level may still be invited to apply for the lower level award. **Competitive applicants for the scale-up award must have an existing**

program with successfully proven outcomes. The program design must have the capacity to expand and can be scaled up to broaden its reach. Applicants must clearly illustrate the proposed effort's historical program effectiveness with sound evaluation and/or assessment efforts and must articulate a comprehensive plan to scale efforts. Efforts may span any of the topics or scopes described above and can target any student demographic such as K-12, 2-year community college, or 4-year undergraduate education.

(2) Biotechnology Education and Workforce Development (Biotech Activities)

To ensure enduring US leadership in the bioeconomy[3] it is critical to support education and training in biotechnology to develop a robust bioindustrial workforce. The Department seeks to enhance its portfolio of programs by focusing on Biotech activities by explicitly encouraging proposals that improve capability of education systems and communities to create impactful Biotech educational experiences for students and teachers and prepare the 21st century technical workforce. Funding efforts will be targeted primarily towards programs, both formal and informal, with a vision for a future where all Americans will have lifelong access to high-quality Biotech education, and the United States will be the global leader in bio-citizenry, innovation, and employment. Applicants should include how proposed efforts connect to this vision. The DoD recently awarded BioMade[4], which includes biomanufacturing education and workforce development aspects. Funding efforts proposed in this announcement should focus on biotech activities that include more broad experiences. Additionally, applicants should address their efforts' flexibility and adaptability in program delivery and execution in response to any disruption to the educational systems (e.g. global pandemic).

Applicants are encouraged to consider the following scope areas:
- *K- 12 Biotech education, both formal and informal, which includes, but is not limited to:*
    - Early academic education activities from pre-kindergarten through high school to generate introductory awareness in Biotech and supplement understanding of foundational concepts in Biotech;
    - Building Biotech skills and literacy in an evidence-based and innovative manner;
    - Utilizing project-based learning opportunities such as competitions, challenges, and science fairs;
    - Development of biotech internship opportunities for high school students and teachers

   K-12 Biotech teacher training, which includes, but is not limited to:
    - Development of cross-discipline approach for teacher training to support Biotech classroom experience;
    - Development of Biotech activities that support critical thinking, data analysis, communication and problem solving

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[3] https://www.whitehouse.gov/wp-content/uploads/2019/10/Summary-of-White-House-Summit-on-Americas-Bioeconomy-October-2019.pdf
[4] https://www.defense.gov/Newsroom/Releases/Release/Article/2388087/dod-approves-87-million-for-newest-bioindustrial-manufacturing-innovation-insti/

T*raining / Retraining, which includes, but is not limited to:*

- o Development of continuing Biotech knowledge and skill acquisition opportunities and activities to ensure current Biotech workforce has expertise in the current state-of-the-art in the field;
- o Retraining opportunities for the current biotechnology workforce to increase skills in biotechnology cross-disciplinary areas, such as computer science, statistics, and engineering;
- o Retraining opportunities for the non-biotechnology workforce to develop biotechnology skills to become part of biotechnology workforce;
- o Development of trade school or college level Biotech internship and apprenticeship opportunities.

(3) Enhanced Civics Education

WHS/AD is requesting applications that address the requirement to establish a pilot program on enhanced civics education, as directed by Section 234 of the National Defense Authorization Act (NDAA) for Fiscal Year 2020. The purpose of the pilot program is to provide enhanced civics education in collaboration with Department of Defense Education Activity (DoDEA) and / or Junior Reserve Officers' Training Corps (JROTC) on the following topics:

- Critical thinking and media literacy;
- Voting and other forms of political and civic engagement;
- Interest in employment, and careers, in public service;
- Understanding the United States law, history, and Government;
- The ability of participants to collaborate and compromise with others to solve problems.

Specifically, these capabilities or programs should contribute to the types of support authorized under this pilot, including:

- The development or modification of curricula relating to civics education;
- Classroom activities, thesis projects, individual or team projects, internships, or community service activities relating to civics;
- Collaboration with government entities, nonprofit organizations, or consortia of such entities and organizations to provide participants with civics-related experiences;
- Civics-related faculty development programs;
- Recruitment of educators who are highly qualified in civics education to teach civics or to assist with the development of curricula for civics education;
- Presentation of seminars, workshops, and training for the development of skills associated with civic engagement;
- Activities that enable participants to interact with government officials and entities;
- Expansion of civics education programs and outreach for members of the Armed Forces, dependents and children of such members, and employees of the Department of Defense;
- Opportunities for participants to obtain work experience in fields relating to civics.

Such support as described can only be provided to eligible entities, which are limited to either a local education agency that hosts a unit of JROTC, or a school operated by DoDEA (or some combination of these two).

Applicants to Enhanced Civics education are encouraged to address the feasibility of the pilot program implementation in geographic areas of CA, TX, NC, VA, FL, GA, WA, SC, CO, and NY, as well as Purple Star program locations in AR and OH.

*Note: Applicants for the Enhanced Civics Education do not have to directly apply to (1) STEM Activities or (2) Biotech Activities. Proposals should focus on the bullets on page 6 that pertain to civics and align to FY20 NDAA Section 234.

Applicants MUST submit a separate white paper for consideration in more than one NDEP grant award (STEM Activity, Biotech Activity, and Enhanced Civics)**. White papers should:**
- Be innovative and novel to address the program description;
- Demonstrate potential to make a substantial impact as related to the objectives described above;
- Create meaningful content and participant experiences that meet DoD STEM education and workforce priorities including an awareness of DoD internships, fellowships, and STEM careers;
- Collect a set of program-specific measures of performance to include capture of participation rates and measures of effectiveness appropriate to the goals of the project; and,
- Contain a strategy for program sustainability, such that following the completion of DoD STEM's investment under this funding opportunity, the effort will have a clear financial path and leave enduring organization capability.

D. *Deliverables*

Reports – The Applicant must acknowledge that the following reports are required under a DoD funded STEM effort:

1. Monthly Reports

    Monthly Financial Reports: The Government will provide a template to each starting grant. This report will include information on current expenses and invoices for the time period. This report will be submitted 30 days after the reporting period ends.

2. Quarterly Reports

    Interim Research Performance Progress Reports (RPPR): The Grantee shall provide Interim RPPR to the Government Sponsor and the Government Technical Representative, **no later than 30 calendar days after the close of each quarter period.** – The Government will provide a template to each starting grant. These reports shall detail the period's research activities,

intermediate results, progress toward goals and other specific information and any issues that may impact completion of the planned work on schedule. If findings or discoveries are made that the grantee feels are of sufficient importance that they would mitigate or impact naval operations, OUSD(R&E) should be notified immediately. This report will be submitted for three quarters and an annual report (see below) for the fourth quarter.

Interim Federal Financial Report (SF 425): SF425 is required within 30 calendar days after the end of reported quarter period: 3/31, 6/30, 9/30, and 12/31 and must include in the remarks the location of financial records and a point of contact for the Government to obtain access to the financial records associated with this Grant.

Federal Financial Report (SF 425): SF425 is required if receiving advance payments; the Grantee shall submit a Report of Federal Cash Transactions (SF 425) within 15 calendar days following the end of each quarter. The Grantee shall provide forecasts of Federal cash requirements in the "Remarks" section of the report.

3. Annual Reports

Annual Research Performance Progress Report (RPPR): The Grantee shall provide an Annual RPPR to the Government Sponsor and the Government Technical Representative, **to be submitted annually from the date the grant was awarded.** The Government will provide a template to each starting grant. A complete annual Performance Progress Report is mandated by DoD. This reports shall detail the period's research activities, intermediate results, progress toward goals and other specific information and any issues that may impact completion of the planned work on schedule. If findings or discoveries are made that the grantee feels are of sufficient importance that they would mitigate or impact naval operations, OUSD(R&E) should be notified immediately.

Invention Reports: Submit interim DD882 at least annually, within 60 calendar days of the grant anniversary. Negative reports required.

Annual DoD STEM Program Data Call Form: The Government will provide a manual and template to each starting grant. These forms will include information about the organization and program specifics (overview, metrics, budget information, accomplishments, etc.).

4. Final Reports

Final Report: Detail the full programmatic accomplishments summarized from prior reports and a forecast for ongoing program sustainability and contribution to DoD STEM, Biotech, or Enhanced Civics education and

workforce needs as the funding ends. Include, as feasible, examples of educational materials produced, success stories, accomplishments, links to digital materials, and other resultant material from the award.

Final Federal Financial Report (SF 425): SF425 is required within 90 calendar days of the completion date for the term of this Grant and must include in the remarks the location of financial records and a point of contact for the Government to obtain access to the financial records associated with this Grant.

Invention Report: Submit final DD882 within 90 calendar days after the expiration of the grant. Negative reports required.

Grants do not include the delivery of software, prototypes, and other hardware deliverables.

DEPARTMENT OF DEFENSE REQUIREMENT

To evaluate compliance with Title IX of the Education Amendments of 1972 {20 U.S.C. A§ 1681 Et. Seq.), the Department of Defense is collecting certain demographic and career information to be able to assess the success rates of women who are proposed for key roles in applications in STEM disciplines. To enable this assessment, each application must include the following forms completed as indicated (Forms are located at https://www.grants.gov/forms/r-r-family.html).

Research and Related Senior/Key Person Profile (Expanded) form:

The Degree Type and Degree Year fields on the Research and Related Senior/Key Person Profile (Expanded) form will be used by DoD as the source for career information. In addition to the required fields on the form, applicants must complete these two fields for all individuals that are identified as having the project role of PD/Pl or Co-PD/Pl on the form. Additional senior/key persons can be added by selecting the "Next Person" button.

Research and Related Personal Data form:

This form will be used by DoD as the source of demographic information, such as gender, race, ethnicity, and disability information for the Project Director/Principal Investigator and all other persons identified as Co-Project Director(s)/Co-Principal Investigator(s). Each application must include this form with the name fields of the Project Director/Principal Investigator and any Co-Project Director(s)/Co-Principal Investigator(s) completed; however, provision of the demographic information in the form is voluntary. If completing the form for multiple individuals, each Co-Project Director/Co-Principal Investigator can be added by selecting the "Next Person" button. The demographic information, if provided, will be used for statistical purposes only and will not be made available to merit reviewers. Applicants who do not wish to provide some or all of the information should check or select the "Do not wish to provide" option.

E.   *Authorization*

This publication constitutes a Funding Opportunity Announcement (FOA) as contemplated in the Department of Defense Grants and Agreements Regulations (DoDGARS) 32 CFR 22.315(a). The Washington Headquarters / Service Acquisition Directorate (WHS/AD) will not issue paper copies of this announcement. WHS/AD reserves the right to select for award- all, some, or none, of the applications in response to this announcement. WHS/AD provides no funding for direct reimbursement of application development costs. Technical applications and budgets (or any other material) submitted in response to this FOA will not be returned. It is the policy of WHS/AD to treat all applications as sensitive competitive information and to disclose their contents only for the purposes of evaluation.

This FOA is intended for applications that provide strategic solutions to defense challenges and that meet the evaluation criteria specified in this FOA.

Awards will take the form of individual grants, not cooperative agreements. Any assistance instrument awarded under this announcement will be governed by the award terms and conditions that conform to DoD's implementation of OMB circulars applicable to financial assistance. Terms and conditions of new awards made after December 26, 2014, will include revisions to reflect DoD implementation of new OMB guidance in 2 CFR Part 200, "Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards." The DoD Terms and Conditions are located at https://www.onr.navy.mil/work-with-us/manage-your-award/manage-grant-award/grants-terms-conditions.

This FOA has a two-part application process starting with a **MANDATORY** white paper. Only **invited** applicants will compete in the second part of the process, submission of an application. All applicants should be aware of the following:

- Information regarding application packages can be found at: https://www.grants.gov/web/grants/applicants/apply-for-grants.html
- A project abstract is required with the application and must be publically releasable as specified in the following section of this FOA: Section V. B. 3. b. Responses to the Representations indicated in Section VIII, 2 thru 4 of this FOA are required with the application.
- Grant applications will be reviewed only if they (1) are invited, (2) meet the criteria specified by this document, and (3) are submitted through https://www.grants.gov/web/grants/home.html
- There is approximately a 30-day turnaround from invitation to submit a technical application and the due date for the technical application. Please consider drafting the sections of the technical application before receiving an invitation (See Significant Dates and Times).

III.   Award Information

A.   *Funding Amount and Period of Performance*
The Department intends to award multiple grants in STEM activities, Biotech activities, and Enhanced Civics subject to the availability of funds. Applications for larger amounts may be considered on a case-by-case basis.
   1. For STEM activities, there will be two (2) award categories:
      (i) STEM activities with maximum award of $3,000,000 over 3 years;
      (ii) Scalable STEM activities with maximum award of $6,000,000 over four (4) years.
   2. For Biotech activities, awards will have a maximum award of $3,000,000 over 3 years.
   3. For Enhanced Civics education, there will be one award, with a maximum of $2,000,000 for a period of two (2) years.

DoD expects projects to be completed within the performance period of the specified award. Any requests for no-cost extensions must be fully justified and submitted to the Grants Officer no later than 60 days before the end of the period of performance. Submission does not guarantee approval. Per 2 CFR 200.339, an award can be terminated for several reasons: failure to comply with terms and conditions of the award, for cause (meaning non-performance), by consent of the two parties; and the awardee can likewise initiate a termination.

B.   *Peer Reviews*
DoD may utilize peer reviewers to assist in the evaluation of white papers and applications, and periodic appraisal of performance under the awards, as outlined in ONR Instruction 3966.1A. Such periodic program reviews monitor the cost, schedule, and technical performances of funded efforts. The reviews are used in part to determine which basic research projects will receive continued funding. Peer reviewers who are not U.S. Government employees must sign nondisclosure agreements before receiving full or partial copies of applications/applications and reports submitted by the performers.

IV.   Eligibility Information

A.   *Eligible Applicants*
All responsible sources from industry, non-profit institutions, institutions of higher education, state and/or local educational agencies, or consortia of such institutions and/or industry may submit white papers under this FOA. Foreign entities will not be considered.

Current and past awardees from this initiative, or previous versions of this initiative, are eligible to submit a white paper/application under this FOA.

Defense laboratories, military universities, and warfare centers, as well as other Department of Defense and civilian agency laboratories, are not eligible to receive awards under this FOA. If any such organization is interested in the program

described herein, the organization may contact DoD STEM at osd.dodstem@mail.mil, to discuss potential projects. The subject line of the email shall read "NDEP Potential Project Inquiry."

Federally Funded Research & Development Centers (FFRDCs), including Department of Energy National Laboratories, are not eligible to receive awards under this FOA. However, teaming arrangements between FFRDCs and eligible principal applicants are allowed so long as they are permitted under the sponsoring agreement between the Government and the specific FFRDC.

University Affiliated Research Centers (UARC) are eligible to submit white papers under this FOA, unless precluded from doing so by their Department of Defense UARC contract.

To prevent the bias and unfair competitive advantage resulting from conflicting rules, Applicants must identify in their application any organizational conflict of interests (OCI) which may exist. If an Applicant has an actual or potential OCI, their application must identify the OCI and the mitigation plan to address it. Silence on this topic in an application will be understood to mean there is no OCI with the Applicant.

B.   *Cost Sharing or Matching*

The primary basis for selecting applications for award will be technical merit, relevance to the subject of the solicitation, proposed cost realism and reasonableness, and the availability of funds to support the effort. If offered, voluntary cost sharing may be considered as a demonstration of an offeror's commitment to their proposed project. Any proposed cost sharing becomes a binding term of any award. WHS/AD reserves the right to request and require additional supporting information and documentation after it makes the selection determination. WHS/AD reserves the right to remove Applicants from award consideration if the parties fail to reach agreement on award terms, conditions, or cost/price within a reasonable time; or if the Applicants fail to provide requested or required additional information in a timely manner.

C.   *Other*

Required, if applicable

Defense Science, Technology, Engineering, and Mathematics (STEM) Education Consortium (DSEC) partners are eligible to apply. However, applications must be stand-alone, innovative, and novel approaches to STEM activities. Scale up of current DSEC efforts will not be considered.

Registration in System of Award Management

To apply for grants and other funding opportunities the proposing agency must be registered in the System of Award Management (SAM). Applications will not be accepted, either through grants.gov or other method, unless the proposing agency is registered in SAM. Registration in SAM now included the acceptance of Certifications and Assurances. SAM may be accessed at: https://beta.sam.gov.

V.   Application and Submission Information

This FOA competition is implemented in two stages:

First - Applicants **must** submit a white paper by the designated deadline; and

Second - Based on assessment of the white paper, selected applicants will be invited to submit a grant application by the designated deadline.

All STEM Activity applicants will be considered for the $3,000,000 over three (3) years award category. To be considered for the scale-up effort of $6,000,000 over four (4) years, applicants must follow the instructions and complete the Scale-up Capacity section in the White Paper.

NOTE TO APPLICANTS: The Government seeks only white papers that are relevant and responsive to the Funding Opportunity Description in Section II. Applicants MUST submit a separate white paper for each NDEP award consideration (STEM Activity, Biotech Activity, and Enhanced Civics). Applications that fail to address the areas listed in the Funding Opportunity Description will be rejected and not considered further.

Submission of White Papers: As mentioned prior, white papers are a **MANDATORY** component of a two-part submission process. White papers must NOT be submitted through the Grants.gov application process. Instead, white papers are to be submitted via email to DoD STEM at osd.dodstem@mail.mil as a PDF file. The subject line of the email shall read "NDEP White Paper Submission." **There is an email size limit of 5 MB per email.**

DO NOT SEND: Hardcopies (including facsimiles)
DO NOT SEND: ZIP files
DO NOT SEND: Password protected files.

*Only email submissions will be accepted and reviewed.

The due date and time for receipt of white papers is **29 January 2021 (Friday) at 11:59 PM Eastern Time**. White papers received after the due date and time will not be considered under any circumstance. Time of receipt will be determined by the date and time the email is received in the DoD STEM email inbox. Some submitters have experienced significant transmission delays when submitting white papers. Early submission is encouraged. Submitters may request verification of receipt.

White Paper Evaluation/Notification: Once the initial evaluation of white papers is completed, applicants will be notified via email of their project's status on or about **15 March 2021 (Monday) at 11:59 PM Eastern Time**.

Submission of Applications: Applications may only be received electronically through

https://www.grants.gov/ no later than **19 April 2021 (Monday) at 11:59 PM Eastern Time**. Applications are NOT to be submitted via email.

You are responsible for making sure your application is submitted, received, and validated by Grants.gov before the application deadline. If your application package is submitted late, your application will be ineligible for consideration.

Award Notification: It is anticipated that final selections for award will be made on or about **June 2021**. See Section V.C. for "Significant Dates and Times."

A. *Address to Request Application Package*

All relevant materials are available with the FOA on Grants.gov.

B. *Content and Format of White Papers/Applications*

White papers and applications submitted under this FOA must seek to address unclassified efforts. As a corollary, no classified white papers or applications shall be submitted. White papers and application submissions will be protected from unauthorized disclosure in accordance with applicable laws and DoD regulations.

IMPORTANT NOTE: Titles given to White papers/Applications should be descriptive of the STEM efforts they cover and should not be merely a copy of the title of this announcement.

(1) White Paper Format

White Paper Format:

- Paper Size – 8.5 x 11 inch paper
- Margins – 1 inch
- Spacing – single spaced
- Font – Times New Roman, 12 point
- Page limit – 7 pages, Curricula Vitae (CV) and References are not included in the total page limit. Only include the CV of the lead PI. If the Applicant would like to be considered for the STEM scale-up award, the White Paper may be 9 pages.
- Submitted files must be in a .pdf format.

White Paper Content

White Papers must include the following sections:

- **Cover Page (1 Page Maximum)** – The Cover Page shall be labeled "WHITE PAPER", and shall include "HQ0034-21-S-F001", proposed title, Applicant's DUNS number (see Section V. 6. a. 1), Applicant's administrative and technical points of contact, telephone numbers, facsimile numbers, and email addresses. **MUST** indicate for which NDEP award to be considered for (STEM, Biotech,

Enhanced Civics).

- **Summary (1 Page Maximum)** – A summary of the proposed effort. Proposed public benefit must be expressly addressed.

- **Technical Concept (3 Page Maximum)** – A description of the proposed effort and how it advances the DoD STEM mission. The *project idea*, *technical rationale*, and approach must identify a problem(s), arguments to substantiate the claims made, and *proposed approach* to address the issue. The Applicant's capacities must be discussed as they relate to achieving success in the project, to include effective program evaluation and sustainability plans. The project must address the Funding Opportunity Description stated in Section II.

- **Scale-up Capacity (Optional, 1 Page Maximum)** – All STEM Activity White Papers will be assessed for the $3,000,000 over three (3) years category. However, if an Applicant would like to be considered for the scale-up award, this section is required. Included should be a description of the proposed effort and how it effectively expands ongoing programming. Proven evaluation and assessment metrics of the programming to be scaled-up should be provided.

- **Rough Order of Magnitude Cost (1 Page Maximum)** – White papers shall include a rough order of magnitude cost showing requested funding per year and total cost, and which suggests spending priorities to satisfy Section II. This includes, but is not limited to, a rough explanation of anticipated costs including indirect, direct, administrative, overhead, labor, travel, and sub-contracting costs. To be considered for the STEM scale-up award, one additional page for an expanded budget may be included. The program's sustainability plan should also be included in this section.

- **DoD STEM Relevance (1 Page Maximum)** – A description of potential Education and DoD STEM relevance and contributions of the effort to the Department's specific mission. This section should also address alignment or support of Federal STEM Strategy.

- **CV and References:** The CV of the lead PI, as well as any accompanying references, should be included at the end of the document.

White papers submitted under this FOA must seek to address unclassified efforts. As a corollary, no classified applications shall be submitted. White paper submissions will be protected from unauthorized disclosure in accordance with applicable laws and DoD regulations.

IMPORTANT NOTE: Titles given to the Applications should be descriptive of the STEM efforts they cover and should not be merely a copy of the title of this announcement.

(2) Applications

Content and Form of Application:

Prospective applicants must complete the mandatory forms in accordance with the instructions provided on the forms and the additional instructions below. Files that are attached to the forms must be in Adobe Portable Document Format (.pdf) unless otherwise specified in this announcement.

NOTE: Do not use a generic email address as contact information. Email address should go directly to the POC listed.

Submit **Technical Applications** using the following format:

- Paper Size – 8.5 x 11-inch paper
- Margins – 1 inch
- Spacing – single spaced
- Font – Times New Roman, 12 point
- Page limit – The technical application shall not exceed 28 pages.

Broken out as follows:
   Cover Page – 1 page
   Table of Contents – 1 page
   Technical Approach and Justification – no more than 8 pages
   Project Schedule and Milestones – no more than 2 pages
   Financial Breakdown – no more than 2 pages
   Reports – no more than 1 page
   Management Approach – no more than 1 page
   Metrics and Evaluation – no more than 2 pages
   Qualifications – no more than 1 page
   Responsibility – no more than 2 pages
   Facilities & Equipment – 1 page
   Work Plan – no more than 6 pages

EXCLUDED from the Technical Application 28-page limit are: resumes, curricula vitae, references, letters of support, and current and pending projects.

Technical Applications exceeding the page limit may not be evaluated.

Submit **Budgets** using the following format:

- Paper Size – 8.5 x 11-inch paper
- Margins – 1 inch
- Spacing – single spaced
- Font – Times New Roman, 12 point
- Page limit – There is no page limitation to the Budget

NOTE: The electronic file name for all documents submitted under this FOA must not exceed 68 characters in length, including the file name extension.

(3) Required Forms

(a) SF-424 Form (RESEARCH & RELATED) (Mandatory)

The SF-424 (R&R) form must be used as the cover page for all applications. Complete all required fields in accordance with the "pop-up" instructions on the form and the following instructions for specific fields. Please complete the SF-424 first, as some fields on the SF-424 are used to auto-populate fields on other forms.

The completion of most fields is self-explanatory with the exception of the following special instructions:

- Field 3 - Date Received by State: The Date Received by State and the State Application Identifier are not applicable to research. Leave blank.

- Field 4a - Federal Identifier: Enter "HQ0034".

- Field 4b - Agency Routing Number: Enter "332 [DoD STEM]".

Applicants who fail to provide an Agency Routing Number may receive a notice that their application is rejected.

- Field 4c - Previous Grants.gov Tracking ID: If this submission is for a Changed/Corrected Application, enter the Grants.gov tracking number of the previous application submission; otherwise, leave blank.

- Field 7 - Type of Applicant: Complete as indicated. If the organization is a Minority Institution, select "Other" and under "Other (Specify)" note that the institution is a Minority Institution (MI).

- Field 9 - Name of Federal Agency: List the Department of Defense as the reviewing agency. This field is pre-populated in Grants.gov.

- Field 16 - Is Application Subject to Review by State Executive Order 12372 Process? Choose "No". Check "Program is Not Covered by Executive Order 12372."

- Field 17 – Certification: All awards require some form of certifications of compliance with National Policy Requirements. By checking the "I agree" box in field 17, and attaching the representation to Field 18 of the SF424 (R&R) as part of the electronic application submitted via Grants.gov, the Grant Applicant

is providing the certification on lobbying required by 32 CFR Part 28 and representation regarding an unpaid delinquent tax liability or a felony conviction under any federal law – DoD appropriations.

(b)   R&R Form: Project Abstract Form (Mandatory)

The project abstract must identify the problem and objectives, technical approaches, anticipated outcome of the effort, if successful, and impact on DoD capabilities. Use only characters available on a standard QWERTY keyboard. Spell out all Greek letters, other non-English letters, and symbols. Graphics are not allowed and there is a 4,000 character limit including spaces. Abstract must be submitted in MS Word format.

Do not include proprietary or confidential information. The project abstract must be marked by the applicant as "Approved for Public Release". Abstracts of all funded projects will be posted on the public DTIC website: https://dodgrantawards.dtic.mil/grants

(c) R&R Form: Research and Related Other Project Information (Mandatory)

- Fields 1 and 1a - Human Subject Research: If the application plans to involve human subjects in its research, it must address human subject involvement by completing Fields 1 and 1a of the R&R Other Project Information form. For applications containing activities that include or may include research involving human subjects as defined in DoDI 3216.02, after award, the Applicant must submit documentation as stated within DoDI 3216.02 and the National Policy Requirements. (Section IX. F.).

- Fields 2 and 2a – Vertebrate Animal Subject Research: If an application plans to involve animal subjects in its research, the application must address animal research protocols by completing Fields 2 and 2a of the R&R Other Project Information form. If animals are to be utilized in the research effort proposed, the Applicant must submit the documents as described in DoDI 3216.01 and the National Policy Requirements. (Section IX. F.).

- Fields 4a through 4d - Environmental Compliance: Address these fields and briefly indicate whether the intended research will result in environmental impacts outside the laboratory, and how the applicant will ensure compliance with environmental statutes and regulations.

  Federal agencies making grant or cooperative agreement awards and recipients of such awards must comply with various environmental requirements. The National Environmental Policy Act of 1969 (NEPA), 42 U.S.C. Sections 4321- 4370 (a), requires that agencies consider the environmental impact of "major Federal actions" prior to any final agency decision. With respect to those awards which constitute "major Federal actions," as defined in 40 CFR 1508.18, federal agencies may be required to comply

with NEPA and prepare an environmental impact statement (EIS), even if the agency does no more than provide grant funds to the recipient. Questions regarding NEPA compliance should be referred to the technical point of contact. Most research efforts funded by ONR will, however, qualify for a categorical exclusion from the need to prepare an EIS. Navy instructions/regulations provide for a categorical exclusion for basic and applied scientific research usually confined to the laboratory, if the research complies with all other applicable safety, environmental and natural resource conservation laws.

- Field 7 – Project Abstract: Leave Field 7 blank; complete Form SF424, Project Abstract.

- Field 8 – Project Narrative: Describe clearly the project, including the objective and approach to be performed, keeping in mind the evaluation criteria. Attach the entire Technical Application narrative to R&R Other Project Information form in Field 8. To attach a Project Narrative in Field 8 click on "Add Attachment" and attach the technical application as a single PDF file. (Save the file as "Technical Application", as typing in the box is prohibited).

(4)   Technical Application Content

A complete application must include all components in the following section which will be the criteria for how the application will be evaluated (Section VI). The technical application must describe the effort by the following:

Cover Page – This must include the words "Technical Application" and the following:
- (a) FOA Number: HQ0034-21-S-F001;

- (b) Title of Application;

- (c) Identity of prime Applicant and complete list of sub-awards, if applicable;

- (d) Technical contact (name, address, phone/fax, electronic mail address);

- (e) Administrative/business contact (name, address, phone/fax, electronic mail address);

- (f) Proposed period of performance (identify both the base period and any options, if included); and

- (g) Total proposed budget.

Table of Contents – A listing of the sections within the application, including corresponding page numbers.

Technical Approach and Justification – The application must consist of a clear description

of the technical approach being proposed. The potential DoD STEM relevance and contribution to the Department's STEM outreach and workforce must be made clear. The application should expound on the technical concept and in particular:

1. Discuss scientific and technical merits of the application;
2. Discuss the potential to achieve the objectives of the program, including the extent to which the proposed effort would enhance current capabilities;
3. Identify proposed efforts for increasing or maintaining the educational pathway and the potential of the proposed program to educate future scientist and engineers in STEM disciplines critical to the DoD mission;
4. Discuss increased or enhanced opportunities to disseminate information on DoD STEM programs and careers; and
5. Discuss the potential and extent to which the proposed program could potentially engage Defense laboratories as active participants in program.
6. **FOR CIVICS ONLY: Applications should focus on bullets on p. 6 that pertain to CIVICS and align to FY20 NDAA Section 234.**

Applications must include a strategy for program sustainability, such that following the completion of DoD STEM's investment under this funding opportunity, the effort will have a clear financial path and leave enduring organization capability.

Project Schedule and Milestones – A summary of the schedule of events and milestones.

Financial Breakdown – The application must include a cost proposal detailing direct labor, administrative and clerical labor, fringe benefits and indirect costs, travel, subawards / subcontracts, consultants, materials and supplies, recipient acquired equipment of facilities, and other direct costs.

The cost proposal, which is a *narrative* explaining and justifying budget figures in enough detail so the government can determine reasonableness. It must include *all figures, calculations, and supporting documentation for determining cost allowability, allocability and reasonableness.* Justifications for costs must be explicitly stated.

Additional information may be requested, if needed. If composite rates are used, provide the calculations used in deriving the composite rates. A Negotiated Indirect Cost Rate Agreement (NICRA) may be required in order for an awardee to invoice for indirect costs. If the Offeror does not currently hold a NICRA, describe the current status of the organization's request for such an agreement with its cognizant agency.

IAW 2 CFR §200.414(f), any non-Federal entity that has never received a negotiated indirect cost rate, except for those non-Federal entities described in Appendix VII to 2 CFR §200, may elect to charge a de minimis rate of 10% of modified total direct costs (MTDC) which may be used indefinitely.

For STEM Applicants: If an Applicant submitted a White Paper for the maximum award of up to $3,000,000 over 3 years, the Technical Application should reflect this budget amount. If an

Applicant submitted a White Paper for the Scale-up with a maximum award of up to $6,000,000 over 4 years, the Technical Application should reflect this budget amount.

NOTE: *Failure to adequately provide detailed cost data will require the Grants Officer to contact the proposing organization for the requisite information. All Offerors are required to submit a thoroughly detailed cost breakdown. The Grants Officer must be able to determine that all proposed costs are allowable and reasonable. A detailed budget will facilitate this cost analysis.*

Reports – The Applicant must acknowledge that the following reports are required under a DoD funded STEM effort:

1. Monthly Reports

> Monthly Financial Reports: The Government will provide a template to each starting grant. This report will include information on current expenses and invoices for the time period. This report will be submitted 30 days after the reporting period ends.

2. Quarterly Reports

> Interim Research Performance Progress Reports (RPPR): The Grantee shall provide Interim RPPR to the Government Sponsor and the Government Technical Representative, **no later than 30 calendar days after the close of each quarter period.** – The Government will provide a template to each starting grant. These reports shall detail the period's research activities, intermediate results, progress toward goals and other specific information and any issues that may impact completion of the planned work on schedule. If findings or discoveries are made that the grantee feels are of sufficient importance that they would mitigate or impact naval operations, OUSD(R&E) should be notified immediately. This report will be submitted for three quarters and an annual report (see below) for the fourth quarter.

> Interim Federal Financial Report (SF 425): SF425 is required within 30 calendar days after the end of reported quarter period: 3/31, 6/30, 9/30, and 12/31 and must include in the remarks the location of financial records and a point of contact for the Government to obtain access to the financial records associated with this Grant.

> Federal Financial Report (SF 425): SF425 is required if receiving advance payments; the Grantee shall submit a Report of Federal Cash Transactions (SF 425) within 15 calendar days following the end of each quarter. The Grantee shall provide forecasts of Federal cash requirements in the "Remarks" section of the report.

3. Annual Reports

> Annual Research Performance Progress Report (RPPR): The Grantee shall

provide an Annual RPPR to the Government Sponsor and the Government Technical Representative, **to be submitted annually from the date the grant was awarded.** The Government will provide a template to each starting grant. A complete annual Performance Progress Report is mandated by DoD. This reports shall detail the period's research activities, intermediate results, progress toward goals and other specific information and any issues that may impact completion of the planned work on schedule. If findings or discoveries are made that the grantee feels are of sufficient importance that they would mitigate or impact naval operations, OUSD(R&E) should be notified immediately.

Invention Reports: Submit interim DD882 at least annually, within 60 calendar days of the grant anniversary. Negative reports required.

Annual DoD STEM Program Data Call Form: The Government will provide a manual and template to each starting grant. These forms will include information about the organization and program specifics (overview, metrics, budget information, accomplishments, etc.).

4. Final Reports

Final Report: Detail the full programmatic accomplishments summarized from prior reports and a forecast for ongoing program sustainability and contribution to DoD STEM, Biotech, or Enhanced Civics education and workforce needs as the funding ends. Include, as feasible, examples of educational materials produced, success stories, accomplishments, links to digital materials, and other resultant material from the award.

Final Federal Financial Report (SF 425): SF425 is required within 90 calendar days of the completion date for the term of this Grant and must include in the remarks the location of financial records and a point of contact for the Government to obtain access to the financial records associated with this Grant.

Invention Report: Submit final DD882 within 90 calendar days after the expiration of the grant. Negative reports required.

Grants do not include the delivery of software, prototypes, and other hardware deliverables.

Management Approach – Describe the overall management approach and provide rationale for participation of key team members. Describe the planned relationships with any sub-awardees or collaborators.

Metrics and Evaluation – Discuss the metrics and evaluation plans for this project. Metrics and evaluation components must include but not be limited to:
- Logic models and program operating guidelines.
- Anticipated data collection and results.

- Data instruments as feasible.

Letter(s) of Support – There is no specified format or content required for the letter(s) of support other than being authored by the appropriate representative and supporting commitment to the applicant and his or her project. Commitment may include (but is not limited to) funding, related materials and/or computer investments, technical advisement, and organizational or infrastructure support. The letter(s) can include any and all commitments and investments made by the representative towards the applicant and the overall statement about the relevance of the project to DoD STEM goals. Letters of support are required for submission of Technical Application.

References – Literature citations.

Current and Pending Project and Application Submissions – Applicants are required to provide information on all current and pending support for ongoing projects and applications, including subsequent funding in the case of continuing contracts, grants, and other assistance agreements. Concurrent submission of an application to other organizations will not prejudice its review by DoD. Applicants shall provide the following information of any related or complementary application submissions from whatever sources (e.g., DoD, Federal, State, local or foreign government agencies, public or private foundations, industrial or other commercial organizations):

1. Title of Application and Summary;
2. Source and amount of funding (annual direct costs; provide contract and/or grant numbers for current contracts/grants);
3. Percentage effort devoted to each project;
4. Identity of prime Applicants and complete list of sub-awards, if applicable;
5. Technical contact (name, address, phone/fax, electronic mail address);
6. Administrative/business contact (name, address, phone/fax, electronic mail address);
7. Period of performance;
8. The proposed project and all other projects or activities requiring a portion of time of the Project Director / Principal Investigator and other senior personnel must be included, even if they receive no salary support from the project(s);
9. The total award amount for the entire award period covered (including indirect costs) must be shown as well as the number of person-months or labor hours per year to be devoted to the project, regardless of source of support; and
10. State how projects are related to the proposed effort and indicate degree of overlap.

Principal Investigator Qualifications – A discussion of the qualifications of the proposed Project Director / Principal Investigator and any other key personnel. Include resumes or curricula vitae for the Project Director / Principal Investigator, other key personnel and consultants. The resumes / curricula vitae shall be attached to the application.

For all personnel proposed as key personnel applicants must submit an SF424 Research and Related (R&R) 4040-001 Senior/Key Person Profile (Expanded) form.

Responsibility – Applicants must provide the following information to DoD in order to assist in DoD's evaluation of the applicant's responsibility:

1. Describe how you have adequate resources or the ability to obtain such capability as required to complete the activities proposed; Describe how you have the ability to comply with the grant conditions, taking into account all existing and currently prospective commitments of the applicant, nongovernmental and governmental;

2. Describe your performance history; specifically, your record in managing Federal awards and the extent to which any previously awarded amounts will be expended prior to future awards;

3. Describe your record of integrity and business ethics;

4. Describe qualifications and eligibility to receive an award under applicable laws and regulations; and

5. Describe your organization, experience, accounting, and operational controls and technical skills, or the ability to obtain them (including as appropriate such elements as property control systems, quality assurance measures, and safety programs applicable to the services to be performed).

Facilities & Equipment – Describe facilities available for performing the proposed effort and any additional facilities or equipment the organization proposes to acquire at its own expense. Indicate government-owned facilities or equipment already possessed that will be used. Justify the need for each equipment item. (Additional facilities and equipment will not be provided unless the proposed effort cannot be completed by any other practical means.)

Work Plan – Applicants must submit a Work Plan following the format in Attachment 1 (page 46-48) to this funding opportunity announcement (see the last section of this document). The Work Plan will become part of the resulting award if the application is selected to be funded.
Please fill in the information for the blank portions and include all of the verbiage from these sections: Acknowledgement of Support, Review for Sensitive Information, Copies for OUSD(R&E), and Reporting Requirements. A completed Work Plan is required for selected application to receive funding.

(5)   R&R Form: Research & Related Budget
The applicant must use the Grants.gov forms from the application package template associated with the BAA on the Grants.gov web site located at https://www.grants.gov/. If options are proposed, the budget must provide the pricing information for the option periods; failure to include the proposed costs for the option periods will result in the options not being included in the award.

A separate Adobe .pdf document should be included in the application that provides appropriate justification and/or supporting documentation for each element of cost proposed. This document shall be attached under Section K. "Budget Justification" of the Research and Related Budget form. Click "Add Attachment" to attach.

The itemized budget should include the following:

- Direct Labor – Individual labor categories or persons, with associated labor hours and unburdened direct labor rates. Provide escalation rates for out years.

- Administrative and Clerical Labor – Salaries of administrative and clerical staff are normally indirect costs (and included in an indirect cost rate). Direct charging of these costs may be appropriate when a major project requires an extensive amount of administrative or clerical support significantly greater than normal and routine levels of support. Budgets proposing direct charging of administrative or clerical salaries must be supported with a budget justification which adequately describes the major project and the administrative and/or clerical work to be performed.

- Fringe Benefits and Indirect Costs (F&A, Overhead, G&A, etc.) – The application should show the rates and calculation of the costs for each rate category. If the rates have been approved/negotiated by a Government agency, provide a copy of the memorandum/agreement. If the rates have not been approved/negotiated, provide sufficient detail to enable a determination of allowability, allocability and reasonableness of the allocation bases, and how the rates are calculated. Additional information may be requested, if needed. If composite rates are used, provide the calculations used in deriving the composite rates.

- Travel – The proposed travel costs must include the following for each trip: the purpose of the trip, origin and destination if known, approximate duration, the number of travelers, and the estimated cost per trip must be justified based on the organizations historical average cost per trip or other reasonable basis for estimation. Such estimates and the resultant costs claimed must conform to the applicable Federal cost principals.

- Subawards / Subcontracts – Provide a description of the work to be performed by the subrecipient / subcontractor. For each subaward, a detailed budget is required to be submitted by the subrecipient(s). An application and any supporting documentation must be received and reviewed before the Government can complete its cost analysis of the application. DoD's preferred method of receiving subcontract information is for this information to be included with the Prime's application. However, a subcontractor's budget can be provided via email directly to the Grants Officer (Ms. Chrissandra Smith, chrissandra.smith.civ@mail.mil) at the same time the prime application is submitted. The email should identify the application title, the prime Applicant and that the attached application is a

subcontract.

- Consultants – Provide a breakdown of the consultant's hours, the hourly rate proposed, any other proposed consultant costs, a copy of the signed Consulting Agreement or other documentation supporting the proposed consultant rate/cost, and a copy of the consultant's proposed statement of work if it is not already separately identified in the prime contractor's application.

- Materials & Supplies – Provide an itemized list of all proposed materials and supplies including quantities, unit prices, and the basis for the estimate (e.g., quotes, prior purchases, catalog price lists).

- Recipient Acquired Equipment or Facilities – Equipment and/or facilities are normally furnished by the Recipient. If acquisition of equipment and/or facilities is proposed, a justification for the purchase of the items must be provided. Provide an itemized list of all equipment and/or facilities costs and the basis for the estimate (e.g., quotes, prior purchases, catalog price lists). Allowable items normally are limited to research equipment not already available for the project. General purpose equipment (i.e., equipment not used exclusively for research, scientific or other technical activities, such as personal computers, laptops, office equipment) should not be requested unless they will be used primarily or exclusively for the project. For computer / laptop purchases and other general purpose equipment, if proposed, include a statement indicating how each item of equipment will be integrated into the program or used as an integral part of the research effort.

- Other Direct Costs – Provide an itemized list of all other proposed other direct costs such as Graduate Assistant tuition, laboratory fees, report and publication costs, and the basis for the estimate (e.g., quotes, prior purchases, catalog price lists).

- Fee / Profit – Fee / profit is unallowable under assistance agreements at either the prime or subaward level but may be permitted on subcontracts issued by the prime awardee.

(6)   Grants.gov Application Submission and Receipt Procedures

NOTE: White Papers must **NOT** be submitted through the Grants.gov application process. **White paper submissions must be emailed directly to osd.dodstem@mail.mil**. The subject line of the email shall read "NDEP White Paper Submission." White paper format requirements are found in Section V. B. 1.

How to Register to Apply through Grants.gov

a. *Instructions:* Applicants should read the registration instructions carefully and prepare the information requested before beginning the registration process. Reviewing and assembling the required information before beginning the registration process will alleviate last-minute searches for required information.

The registration process can take up to four weeks to complete. Therefore, registration should be done in sufficient time to ensure it does not impact your ability to meet required application submission deadlines.

If individual applicants are eligible to apply for this grant funding opportunity, refer to: https://www.grants.gov/applicants/applicant-eligibility.html

Organization applicants can find complete instructions here: https://www.grants.gov/web/grants/applicants/organization-registration.html

(1) *Obtain a DUNS Number*: All entities applying for funding, including renewal funding, must have a Data Universal Numbering System (DUNS) number from Dun & Bradstreet (D&B). Applicants must enter the DUNS number in the data entry field labeled "Organizational DUNS" on the SF-424 form.

For more detailed instructions for obtaining a DUNS number, refer to: https://www.grants.gov/web/grants/applicants/organization-registration/step-1-obtain- duns-number.html

(2) *Register with SAM*: In addition to having a DUNS number, organizations applying online through Grants.gov must register with the System for Award Management (SAM). All organizations must register with SAM in order to apply online. Failure to register with SAM will prevent your organization from applying through Grants.gov.

For more detailed instructions for registering with SAM, refer to: https://www.grants.gov/web/grants/applicants/organization-registration/step-2- register-with-sam.html

(3) *Create a Grants.gov Account*: The next step in the registration process is to create an account with Grants.gov. Applicants must know their organization's DUNS number to complete this process. Completing this process automatically triggers an email request for applicant roles to the organization's E-Business Point of Contact (EBiz POC) for review. The EBiz POC is a representative from your organization who is the contact listed for SAM. To apply for grants on behalf of your organization, you will need the Authorized Organizational Representative (AOR) role.

For more detailed instructions about creating a profile on Grants.gov, refer to: https://www.grants.gov/web/grants/applicants/organization-registration/step-3-username-password.html

Authorize Grants.gov Roles: After creating an account on Grants.gov, the EBiz POC receives an email notifying them of your registration and request for roles.The EBiz POC will then log in to Grants.gov and authorize the appropriate roles, which may include the AOR role, thereby giving you permission to complete and submit

applications on behalf of the organization. You will be able to submit your application online any time after you have been approved as an AOR.

For more detailed instructions about creating a profile on Grants.gov, refer to: https://www.grants.gov/web/grants/applicants/organization-registration/step-4-aor-authorization.html

5) *Track Role Status*: To track your role request, refer to: https://www.grants.gov/applicants/registration/track-role-status.html

b. *Electronic Signature*: When applications are submitted through Grants.gov, the name of the organization's AOR that submitted the application is inserted into the signature line of the application, serving as the electronic signature. The EBiz POC **must** authorize individuals who are able to make legally binding commitments on behalf of the organization as an AOR; **this step is often missed and it is crucial for valid and timely submissions.**

(7)   How to Submit an Application via Grants.gov

Grants.gov applicants can apply online using Workspace. Workspace is a shared, online environment where members of a grant team may simultaneously access and edit different web forms within an application. For each funding opportunity announcement (FOA), you can create individual instances of a workspace.

Below is an overview of applying on Grants.gov. For access to complete instructions on how to apply for opportunities, refer to: https://www.grants.gov/web/grants/applicants/apply-for-grants.html

a. *Create a Workspace*: Creating a workspace allows you to complete it online and route it through your organization for review before submitting.

b. *Complete a Workspace*: Add participants to the workspace, complete all the required forms, and check for errors before submission.

1. *Adobe Reader*: If you decide not to apply by filling out webforms, you can download individual PDF forms in Workspace so that they will appear similar to other Standard or WHS/AD forms. The individual PDF forms can be downloaded and saved to your local device storage, network drive(s), or external drives, then accessed through Adobe Reader.

NOTE: Visit the Adobe Software Compatibility page on Grants.gov to download the appropriate version of the software at: https://www.grants.gov/web/grants/applicants/adobe-software-compatibility.html

2.   *Mandatory Fields in Forms:* In the forms, you will note fields marked with an asterisk and a different background color. These fields are mandatory fields that must be completed to successfully submit your application.

3. *Complete SF-424 Fields First*: The forms are designed to fill in common required fields across other forms, such as the applicant name, address, and DUNS number. To trigger this feature, an applicant must complete the SF-424 information first. Once it is completed, the information will transfer to the other forms.

c. *Submit a Workspace*: An application may be submitted through workspace by clicking the Sign and Submit button on the Manage Workspace page, under the Forms tab. Grants.gov recommends submitting your application package at least 24-48 hours prior to the close date to provide you with time to correct any potential technical issues that may disrupt the application submission.

d. *Track a Workspace*: After successfully submitting a workspace package, a Grants.gov Tracking Number (GRANTXXXXXXXX) is automatically assigned to the package. The number will be listed on the Confirmation page that is generated after submission.

For additional training resources, including video tutorials, refer to: https://www.grants.gov/web/grants/applicants/applicant-training.html

Applicant Support: Grants.gov provides applicants 24/7 support via the toll-free number 1- 800-518-4726 and email at support@grants.gov. For questions related to the specific grant opportunity, contact the number listed in the application package of the grant you are applying for.

If you are experiencing difficulties with your submission, it is best to call the Grants.gov Support Center and get a ticket number. The Support Center ticket number will assist the ONR with tracking your issue and understanding background information on the issue.

1. You must register with grants.gov prior to submission. This process may take as long as 15 working days. For instructions go to: https://www.grants.gov

2. The Data Management Plan will describe the data that is collected through the course of the proposed research and information on how the data will be shared, organized, and, preserved. In instances where this is not possible, The Data Management Plan must explain why it is not possible or scientifically appropriate. The Data Management Plan should not exceed two pages and included under the generic "Other Attachments" field 12 of the RR Other Project Information form. Information on the Data Management Plan can be found in DoDI 3200.12, Section 3.c. of Enclosure 3. (https://www.esd.whs.mil/Portals/54/Documents/DD/issuances/dodi/320012p.pdf?ver=2019-04-30-073122-220).

C. *Submission Dates and Times*

Timely Receipt Requirements and Proof of Timely Submission

a. *Online Submission.* All applications must be received by 11:59pm Eastern time on the due date established. Proof of timely submission is automatically recorded by

Grants.gov. An electronic date/time stamp is generated within the system when the application is successfully received by Grants.gov. The applicant AOR will receive an acknowledgement of receipt and a tracking number (GRANTXXXXXXXX) from Grants.gov with the successful transmission of their application. Applicant AORs will also receive the official date/time stamp and Grants.gov Tracking number in an email serving as proof of their timely submission.

When WHS/AD successfully retrieves the application from Grants.gov, and acknowledges the download of submissions, Grants.gov will provide an electronic acknowledgment of receipt of the application to the email address of the applicant with the AOR role. Again, proof of timely submission shall be the official date and time that Grants.gov receives your application. Applications received by Grants.gov after the established due date for the program will be considered late and will not be considered for funding by WHS/AD.

Applicants using slow internet, such as dial-up connections, should be aware that transmission can take some time before Grants.gov receives your application. Again, Grants.gov will provide either an error or a successfully received transmission in the form of an email sent to the applicant with the AOR role. The Grants.gov Support Center reports that some applicants end the transmission because they think that nothing is occurring during the transmission process. Please be patient and give the system time to process the application.

b. *Application Receipt Notices*. After an application is submitted through Grants.gov, the Authorized Organization Representative (AOR) will receive a series of three emails. It is extremely important that the AOR <u>watch</u> for and <u>save</u> each of the emails. You will know that your application has reached WHS when the AOR receives email Number 3. You will need the Submission Receipt Number (email Number 1) to track a submission. The three emails are:

Number 1 – The applicant will receive a confirmation page upon completing the submission to Grants.gov. This confirmation page is a record of the time and date stamp that is used to determine whether the application was submitted.

Number 2 – The applicant will receive an email indicating that the application has been validated by Grants.gov within two days of submission (This means that all of the required fields have been completed). After an institution submits an application, Grants.gov generates a submission receipt via email and also sets the application status to "Received." This receipt verifies the Application has been successfully delivered to the Grants.gov system. Next, Grants.gov verifies the submission is valid by ensuring it does not contain viruses, the opportunity is still open, and the applicant login and applicant DUNS number match. If the submission is valid, Grants.gov generates a submission validation receipt via email and sets the application status to "Validated." If the application is not validated, the application status is set to "Rejected." The system sends a rejection email notification to the institution, and the institution must resubmit the application package. Applicants can track the status of their application by logging into Grants.gov.

Number 3 – The third notice is an acknowledgment of receipt in email form from WHS/AD within ten days from the application due date, if applicable. The email is sent to the authorized representative for the institution. The email for applications notes that the application has been received and provides the assigned tracking number.

Significant Dates and Times

Schedule of Events		
Event	**Date**	**Time**
Questions Regarding White Papers	*6 January 2021	11:59 PM Eastern
White Papers Due	29 January 2021	11:59 PM Eastern
Notification of Evaluations of White Papers	**Week of 15 March 2021	
Questions Regarding Technical Applications	*2 April 2021	11:59 PM Eastern
Technical Applications Due	**28 April 2021	11:59 PM Eastern
Notification of Selection for Award	***June 2021	
Estimated award date of grant	***July to September 2021	

* Questions submitted after the Q&A deadline as noted in the table above may not be answered. The due date for submission of application will not be extended.

QUESTIONS MUST BE SUBMITTED TO: osd.dodstem@mail.mil. The Government will make every attempt to answer all of the questions received on time, however the Government is not under obligation to answer all questions received.

** Due to the approximately 30-day turnaround from invitation to submit a technical application and the due date for the technical application, consider drafting the sections of the technical application before receiving an invitation.

*** These dates are estimates as of the date of this announcement.

D. *Funding Restrictions*

Resultant grants will not allow reimbursement of pre-Federal award costs. Profit or fee is not permitted.

E.   Certifications and Assurance

1. SAM registration and annual renewal now require attestment to general certification and assurances, as found on the current SF-424B. This verification only states that the Applicant will abide by the laws stated in the listing. Applicants are still required to submit the SF-LLL, documents on delinquent Federal taxes and any convictions within the past 24 months, if applicable, with their applications. DoD has the right to request additional information for any of these actions.

2. During the transition to this new requirement Applicants may be requested to submit these certifications and assurances even if they have submitted the annual renewal. All potential conflicts of interest, including financial, that could cause bias or lack of fairness in determining the application, evaluation, selection, or administration of a notice of funding.

VI. Application Review Criteria

A. *Evaluation Criteria*

Awards under this FOA will be made to Applicants on the basis of the evaluation criteria listed below. The white paper will be used to down select applications for further consideration. The primary basis for selecting applications for award will be technical merit, relevance to the subject of the solicitation, proposed cost reasonableness, sustainability plan, and the availability of funds to support the effort. If offered, voluntary cost sharing may be considered as a demonstration of an offeror's commitment to their proposed project. Any proposed cost sharing becomes a binding term of any award. WHS/AD reserves the right to request and require additional supporting information and documentation after it makes the selection determination.

WHS/AD reserves the right to remove Applicants from award consideration if the parties fail to reach agreement on award terms, conditions, or cost/price within a reasonable time; or if the Applicants fail to provide requested or required additional information in a timely manner.

Applications will be evaluated against the following criteria:

1. Overall technical merits of the applicant's proposal shall clearly describe its creativity, innovation, feasibility, and efficacy to achieve the FOA objectives. Also considered is:
    a. The quality of the program's plan to execute proposed activity and assess effectiveness of the program and participant outcomes;
    b. The Applicant's capabilities, related experience, facilities, techniques or unique combinations of these which are integral factors for achieving the application objectives; and
    c. The qualifications, capabilities and experience of the proposed Project Director / Principal Investigator, team leader and key personnel who are critical to achieving the application objectives.

2. Relevance and Alignment (Section II):
   a. STEM Activity – Address overall impact on STEM education, how it aligns to the DoD STEM Strategic Plan and to the Federal STEM Education Strategic Plan, and consider the scope areas in Section II.C.1.
   b. Biotech Activity – Application must address relevance and overall impact in developing a robust bioindustrial workforce, alignment to DoD STEM Strategic Plan, and consider the scope areas in Section II.C.2.
   c. Enhanced Civics Education – Application must address capabilities and programs in Section II.C.3. and alignment to the FY20 NDAA Section 234

3. A cost analysis will be performed to determine reasonableness of the proposed budget. Long-term sustainability plan will also be evaluated under this criterion. The availability of funds to support the effort and long term sustainability of the project will also be considered.

The above criteria will be weighted in the evaluation process as follows:

Criteria 1 = 60%   Criteria 2 = 20%   Criteria 3 = 20%

B. Review and Selection Process

(1)   Review Process

Applications will not be evaluated against each other since they are not submitted in accordance with a common work statement. The ultimate recommendation for award of applications is made by DoD's scientific / technical community. Recommended applications will then be forwarded to WHS/AD to conduct cost analysis, determine the Applicant's responsibility, confirm whether funds are available, and to take other relevant steps necessary prior to making the award.

Options
The Government will evaluate options for award purposes by adding the total cost for all options to the total cost for the basic requirement. Evaluation of options will not obligate the Government to exercise the options during grant performance. The Government may elect to divide any resulting grant award into option periods or may elect to combine proposed option periods at the discretion of the Government.

Evaluation Panel
Technical details and budgets submitted under this FOA will be protected from unauthorized disclosure. The cognizant Program Officer and other Government subject matter experts will perform the evaluation of technical applications. Restrictive notices notwithstanding, one or more support contractors may be utilized as subject matter expert technical consultants. Each support contractor employee that has access to technical and cost applications submitted in response to this FOA will be required to sign a nondisclosure statement prior to receipt of any application submissions.

(2)   Handling of Selection Information

Generally, submission information will not be disclosed except as necessary for evaluation.

(3)   Federal Awardee Performance and Integrity Information (FAPIIS)

Per 41 U.S.C. 2313, as implemented 2 CFR § 200.205, prior to making an award above the simplified acquisition threshold, this office is required to review and consider any information available through the designated integrity and performance system (currently FAPIIS). Awardees have the opportunity to comment on any information about themselves entered in the database, and this office will consider any comments, along with other information in FAPIIS or other systems prior to making an award.

DoD REQUIRED ELEMENTS
In accordance with 2 CFR 200.205 DoD will conduct a risk assessment of all potential recipients. In addition to the elements listed in 2 CFR 200.205, DoD components may include other criteria to determine various types of risk, such as protocols for the protection of intellectual property from intellectual property, controlled information, key personnel, and information about critical technologies relevant to national security, human subjects and Personally Identifiable Information (PII), as listed in the notice of funding opportunity.

VII. Award Administration Information

A. Federal Award Notices

Applicants whose applications are recommended for award may be contacted by a Contract or Grant specialist to discuss additional information required for award. This may include representations and certifications, revised budgets or budget explanations, certificate of current cost or pricing data, subcontracting plan for small businesses, and/or other information as applicable to the proposed award.

The notification e-mail must not be regarded as an authorization to commit or expend funds. The Government is not obligated to provide any funding until a Government Contracting Officer or Grants Officer, as applicable, signs the award document.

The award document signed by the Grants Officer is the official and authorizing award instrument.

Applicants who did not receive an award are not entitled to a de-brief.

WHS/AD award/modification documents are only available via the Department of Defense (DoD) Electronic Document Access System (EDA) within the Wide Area WorkFlow e-Business Suite (https://wawf.eb.mil/). EDA is a Web-based system that provides secure online access, storage and retrieval of awards and modifications to DoD

employees and vendors.

***IMPORTANT*:** In some cases, EDA notifications are appearing in recipients' Junk Email folder. If you are experiencing issues receiving EDA notifications, please check your junk email. If found, please mark EDA notifications as "not junk."

If you do not currently have access to EDA, you may complete a self-registration request as a "Vendor" via https://wawf.eb.mil/ following the steps below:

> 1. Click "Accept"
> 2. Click "Register" (top right)
> 3. Click "Agree"
>
> 4. In the "What type of user are you?" drop down, select "Vendor"
> 5. Select the systems you would like to access (iRAPT at a minimum)
> 6. Complete the User Profile and follow the site instructions

Allow five business days for your registration to be processed. EDA will notify you by email when your account is approved.

To access awards after your registration has been approved, log into https://wawf.eb.mil/, select "EDA", select either EDA location, Select "Contracts", select your search preference, enter the Contract Number (or, if applicable, enter the Grant Number in the Contract Number field), and select "View".

Registration questions may be directed to the EDA help desk toll free at 866-618-5988, commercial at 801-605-7095, or via email at disa.ogden.esd.mbx.cscassig@mail.mil (Subject: EDA Assistance).

B. Administrative and National Policy Requirements

DoD REQUIRED ELEMENTS

Institutions of higher education must certify compliance with 10 U.S.C 983, Institutions Of Higher Education That Prevent ROTC Access Or Military Recruiting On Campus: Denial Of Grants And Contracts From Department Of Defense, Department Of Education, And Certain Other Departments And Agencies, and 32 C.F.R. 216 Military Recruiting And Reserve Officer Training Corps Program Access To Institutions Of Higher Education.

C. Reporting

If the Federal share of any Federal award may include more than $500,000 over the period of performance, the post award reporting requirements, Award Term and Condition for Recipient Integrity and Performance Matters (2 U.S.C. 200 Appendix XII), is applicable as follows:

Reporting of Matters Related to Recipient Integrity and Performance

(1) General Reporting Requirement. If the total value of your currently active grants, cooperative agreements, and procurement contracts from all Federal awarding agencies exceeds $10,000,000 for any period of time during the period of performance of this Federal award, then you as the recipient during that period of time must maintain the currency of information reported to the System for Award Management (SAM) that is made available in the designated integrity and performance system (currently the Federal Awardee Performance and Integrity Information System (FAPIIS)) about civil, criminal, or administrative proceedings described in paragraph 2 of this award term and condition. This is a statutory requirement under section 872 of Public Law 110-417, as amended (41 U.S.C. 2313). As required bysection 3010 of Public Law 111-212, all information posted in the designated integrity and performance system on or after April 15, 2011, except past performance reviews required for Federal procurement contracts, will be publicly available.

(2) Proceedings About Which You Must Report. Submit the information required about each proceeding that:

  a. Is in connection with the award or performance of a grant, cooperative agreement, or procurement contract from the Federal Government;

  b. Reached its final disposition during the most recent five-year period; and

  c. Is one of the following:

    (i) A criminal proceeding that resulted in a conviction, as defined in paragraph 5 of this award term and condition; A civil proceeding that resulted in a finding of fault and liability and payment of a monetary fine, penalty, reimbursement, restitution, or damages of $5,000 or more;

    (ii) A civil proceeding that resulted in a finding of fault and liability and payment of a monetary fine, penalty, reimbursement, restitution, or damages of $5,000 or more;

    (iii) An administrative proceeding, as defined in paragraph 5 of this award term and condition, that resulted in a finding of fault and liability and your payment of either a monetary fine or penalty of $5,000 or more or reimbursement, restitution, or damages in excess of $100,000; or

    (iv) Any other criminal, civil, or administrative proceeding if:

      (a) It could have led to an outcome described in paragraph 2.c.(i), (ii), or (b) of this award term and condition;

      (b) It had a different disposition arrived at by consent or compromise with an acknowledgment of fault on your part; and

(c)   The requirement in this award term and condition to disclose information about the proceeding does not conflict with applicable laws and regulations.

(3) Reporting Procedures. Enter in the SAM Entity Management area the information that SAM requires about each proceeding described in paragraph 2 of this award termand condition. You do not need to submit the information a second time under assistance awards that you received if you already provided the information through SAM because you were required to do so under Federal procurement contracts that you were awarded.

(4) Reporting Frequency. During any period of time when you are subject to the requirement in paragraph 1 of this award term and condition, you must report proceedings information through SAM for the most recent five year period, either to report new information about any proceeding(s) that you have not reported previously or affirm that there is no new information to report. Recipients that have Federal contract, grant, and cooperative agreement awards with a cumulative total value greater than $10,000,000 must disclose semiannually any information about the criminal, civil, and administrative proceedings.

(5) Definitions. For purposes of this award term and condition:

a.   Administrative proceeding means a non-judicial process that is adjudicatory in nature in order to make a determination of fault or liability (e.g., Securities and Exchange Commission Administrative proceedings, Civilian Board of Contract Appeals proceedings, and Armed Services Board of Contract Appeals proceedings). This includes proceedings at the Federal and State level but only in connection with performance of a Federal contract or grant. It does not include audits, site visits, corrective plans, or inspection of deliverables.

b.   Conviction, for purposes of this award term and condition, means a judgment or conviction of a criminal offense by any court of competent jurisdiction, whether entered upon a verdict or a plea, and includes a conviction entered upon a plea of nolo contendere.

c.   Total value of currently active grants, cooperative agreements, and procurement contracts includes:

  (i)   Only the Federal share of the funding under any Federal award with a recipient cost share or match; and

  (ii)   The value of all expected funding increments under a Federal award and options, even if not yet exercised.

VIII. Federal Awarding Agency Contact(s)

When contacting the POC below, please include in the subject line of the email, "HQ0034- 21-S-F001"

Questions about **technical** nature and / or **funding** should be submitted to:

DoD STEM

Office of the Under Secretary of Defense for Research and Engineering
4800 Mark Center Drive
Alexandria, VA 22311
Email: osd.dodstem@mail.mil

Questions of a contractual nature should be submitted to:

Ms. Chrissandra Smith
Title: Grants Officer
Washington Headquarters Services (WHS) / Acquisition Directorate (AD)
4800 Mark Center Drive
Alexandria, VA 22311
Email: chrissandra.smith.civ@mail.mil

IX. Other Information

A. Federal Funding Accountability and Transparency Act of 2006
The Federal Funding Accountability and Transparency Act of 2006 (Public Law 109-282), as amended by Section 6202 of Public Law 110-252, requires that all agencies establish requirements for recipients reporting information on subawards and executive total compensation as codified in 2 CFR Part 170. Any company, non-profit agency or university that applies for financial assistance as either a prime or sub-recipient under this FOA must provide information in its application that describes the necessary processes and systems in place to comply with the reporting requirements identified in 2 CFR Part 170 Appendix A. Entities are required to meet reporting requirements unless an exception or exemption applies. Refer to 2 CFR Part 170, including Appendix A, for a detailed explanation of the requirements, exceptions, and exemptions.

B. Certification regarding Restrictions on Lobbying
Grant and Cooperative Agreement awards greater than $100,000, as well as OTAs not under 10 U.S.C. 2371b, require a certification of compliance with a national policy mandate concerning lobbying. Grant applicants shall provide this certification by electronic submission of SF424 (R&R) as a part of the electronic application submitted via Grants.gov (complete Block 17). The following certification applies likewise to each Cooperative Agreement and normal OTA applicant seeking federal assistance funds exceeding $100,000:

a. No Federal appropriated funds have been paid or will be paid by or on behalf of the applicant, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any

agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the Federal contract, grant, loan, or cooperative agreement, the applicant shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

c. The applicant shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, title 31, U.S.C. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

C. Representation Regarding an Unpaid Delinquent Tax Liability or a Felony Conviction Under any Federal Law - DoD Appropriations

All grant applicants are **required to complete** the "Representation on Tax Delinquency and Felony Conviction" and attaching the representation to Field 18 of the SF424 (R&R) as part of the electronic application submitted via Grants.gov. The representation reads as follows:

a. The applicant represents that it_____**is/ is not**_____a corporation that has any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not being paid in timely manner pursuant to an agreement with the authority responsible for collecting the tax liability.

b. The applicant represents that it_____**is/ is not**_____a corporation that was convicted of a felony criminal violation under any Federal law within the preceding 24 months. NOTE: If an applicant responds in the affirmative to either of the above representations, the applicant is ineligible to receive an award unless the agency suspension and debarment official (SDO) has considered suspension or debarment and determined that further action is not required to protect the Government's interests. The applicant therefore must provide information about its tax liability or conviction to the agency's SDO as soon as it can do so, to facilitate completion of the required consideration before award decisions are made.

D. Representation Regarding the Prohibition on Using Funds with Entities that Require Certain Internal Confidentiality Agreements

Agreement with the representation below will be affirmed by checking the "I agree" box in Field 17 of the SF424 (R&R) as part of the electronic application submitted via Grants.gov. The representation reads as follows:

By submission of its application or application, the applicant represents that it does not require any of its employees, contractors, or subrecipients seeking to report fraud, waste, or abuse to sign or comply with internal confidentiality agreements or statements prohibiting or

otherwise restricting those employees, contractors, subrecipients from lawfully reporting that waste, fraud, or abuse to a designated investigative or law enforcement representative of a Federal department or agency authorized to receive such information.

Note that, as applicable, the bases for this representation are the prohibition(s) as follow:

1. Section 743 of the Financial Services and General Government Appropriation Act, 2015 (Division E of the Consolidated and Further Continuing Appropriations Act, 2015, Pub. L. 113-235).

2. Section 101(a) of the Continuing Appropriation Act, 2016 (Pub. L. 114-53) and any subsequent FY2016 appropriations act that extends to FY2016 the same restrictions as are contained in section 743 of Division E, title VII of the Consolidated and Further Continuing Appropriations Act, 2015 (Pub L. 113-235).

3. Pub. L. 114-223, Continuing Appropriations Act, 2017, or any other Act that extends to fiscal year 2017 funds the same prohibitions as contained in section 743, Division E, title VII, of the Consolidated Appropriations Act, 2016 (Pub. L. 114-113).

4. Any successor provision of law on making funds available through grants and cooperative agreements to entities with certain internal confidentiality agreements or statements.

The prohibitions stated above do not contravene requirements applicable to Standard Form 312, Form 4414, or any other form issued by a Federal department or agency governing the nondisclosure of classified information.

E. Code of Conduct

Applicants for grants, cooperative agreements, or other transaction agreements as applicable are required to comply with 2 CFR 200.318(c), Codes of Conduct, to prevent real or apparent conflicts of interest in the award and administration of any contracts supported by federal funds. This provision will be incorporated into all assistance instruments awarded under this FOA.

F. Human Subject Research

1. You must protect the rights and welfare of individuals who participate as human subjects in research under this award, and comply with the requirements of the DoD Instruction 3216.02, Protection of Human Subjects and Adherence to Ethical Standards in DoD-Supported Research (2020).

2. For proposals containing activities that include research involving human subjects as defined in DoDI 3216.02, after award, the Applicant must submit documentation as requested by a DoD Human Research Protection Official (HRPO), outlined in the DoDI 3216.02.

3. Research involving human subjects must not commence until a HRPO has reviewed and

approved the proposed human subject research. *NOTE: Institutional Review Board (IRB) approval isn't required for the Technical Application. However, upon notification of the award, applicants should start the process for IRB approval. Applicants selected for award must obtain an approved IRB 90 days after the start of the award and submit the IRB to HRPO. This includes IRB approved Human Research exemptions.

The following forms are required by HRPO and located under the "Related Documents" tab of this solicitation on Grants.gov:
1. The Human Research Protocol Submission Form
2. ORP Form

Non-approval of an IRB will be subject to the Prohibition of Use of Human Subjects (see page 49) which will delay the start of the grant.

4. Animal Use Research and other activities
Research or other activities involving animals must comply with DoDI 3216.01, "Use of Animals in DoD-Conducted and DoD-Supported Research and Training", all Federal Regulations, National Policy Requirements. Animal use activities must not commence until an Institutional Animal Care and Use Committee (IACUC) and appropriate DoD Component oversight office has reviewed and approved the proposed protocol articulating the animal use activity.

5. Use of Recombinant DNA or Synthetic Nucleic Acid Molecules:
Proposals which call for experiments using recombinant or synthetic nucleic acid molecules must include documentation of compliance with NIH Guidelines for Research Involving Recombinant or Synthetic Nucleic Acid Molecules (NIH Guidelines), approval from the local registered Institutional Biosafety Committee (IBC), and copies of the DHHS Approval of the IBC letter.

G. Institutional Dual Use Research of Concern
As of September 24, 2015, all institutions and United States Government (USG) funding agencies subject to the United States Government Policy for Institutional Oversight of Life Sciences Dual Use Research of Concern must comply with all the requirements listed therein. If your research application directly involves certain biological agents or toxins, contact the cognizant Technical Point of Contact. U.S. Government Science, Safety, Security (S3) guidance may be found at https://www.phe.gov/s3/dualuse.

H. Department of Defense High Performance Computing Program
The DoD High Performance Computing Program (HPCMP) furnishes the DoD S&T and RDT&E communities with use-access to very powerful high performance computing systems. Awardees of WHS/AD contracts, grants, and other assistance instruments may be eligible to use HPCMP assets in support of their funded activities if WHS/AD Program Officer approval is obtained and if security/screening requirements are favorably completed. Additional information and an application may be found at https://www.hpcmo.hpc.mil/.

I. Project Meetings and Reviews
Individual program reviews between Program Office, DoD STEM, and the performer may be

held as necessary. Department of Defense colleagues may participate in these reviews. Program status reviews may also be held to provide a forum for reviews of the latest results from programs and any other incremental progress towards the major demonstrations. These meetings will typically be held at the Applicant's facility or in Alexandria, VA. Interim meetings are likely, but these will be accomplished via video telephone conferences, telephone conferences, or via web-based collaboration tools.

J. NDAA Section 889 Compliance
See Section 11 of the National Policy Article IV. Other national policy requirements. (September 2020) Section A. Cross-cutting requirements, of the DoD R&D General Terms and Conditions September 2020.

Attachment 1
WORK PLAN
for
Proposal Submitted in response to HQ0034-21-S-F001

Grant#:
Offeror:
Principal Investigator:
Project Title:
Proposed Period of Performance:
Public Benefit:
Project Abstract:
Proposed
Research:
Research Scope:
Research Questions and Objectives:
Technical Approach (Methodology):
Applying the Approach:
Acknowledgment of Support: The grantee is responsible for assuring that an acknowledgment of National Defense Education Program (NDEP) for Science, Technology, Engineering, and Mathematics (STEM) Education, Outreach, and Workforce Initiative Programs support is made in any publication (including World Wide Web pages) of any material based on or developed under this project, in the following terms: "This material is based upon work supported by the National Defense Education Program (NDEP) for Science, Technology, Engineering, and Mathematics (STEM) Education, Outreach, and Workforce Initiative Programs under Grant No. <Insert Grant # HQ0034-21-1-XXXX >. The views expressed in written materials or publications, and/or made by speakers, moderators, and presenters, do not necessarily reflect the official policies of the Department of Defense nor does mention of trade names, commercial practices, or organizations imply endorsement by the U.S. Government."
Review for Sensitive Information: Prior to the public release of these materials, the grantee is responsible for assuring that the Technical Representative is provided access to an electronic version of every publication of material based on or developed under this award, clearly labeled with the award number and other appropriate identifying information, so that the content can be assessed for proper release of sensitive information.
Copies for OUSD(R&E): Promptly after publication, the grantee will provide the Technical Representative access to an electronic version of every publication of material based on or developed under this award, clearly labeled with the award number and acknowledgement of support (see above).

REPORTING REQUIREMENTS

1. Monthly Reports

> Monthly Financial Reports: The Government will provide a template to each starting grant. This report will include information on current expenses and invoices for the time period. This report will be submitted 30 days after the reporting period ends.

2. Quarterly Reports

Interim Research Performance Progress Reports (RPPR): The Grantee shall provide Interim RPPR to the Government Sponsor and the Government Technical Representative, **no later than 30 calendar days after the close of each quarter period.** The Government will provide a template to each starting grant. These reports shall detail the period's research activities, intermediate results, progress toward goals and other specific information and any issues that may impact completion of the planned work on schedule. If findings or discoveries are made that the grantee feels are of sufficient importance that they would mitigate or impact naval operations, OUSD(R&E) should be notified immediately. This report will be submitted for three quarters and an annual report (see below) for the fourth quarter.

Interim Federal Financial Report (SF 425): SF425 is required within 30 calendar days after the end of reported quarter period: 3/31, 6/30, 9/30, and 12/31 and must include in the remarks the location of financial records and a point of contact for the Government to obtain access to the financial records associated with this Grant.

Federal Financial Report (SF 425): SF425 is required if receiving advance payments; the Grantee shall submit a Report of Federal Cash Transactions (SF 425) within 15 calendar days following the end of each quarter. The Grantee shall provide forecasts of Federal cash requirements in the "Remarks" section of the report.

3. Annual Reports:

Annual Research Performance Progress Report (RPPR): The Grantee shall provide an Annual RPPR to the Government Sponsor and the Government Technical Representative, **to be submitted annually from the date the grant was awarded.** The Government will provide a template to each starting grant. A complete annual Performance Progress Report is mandated by DoD. This reports shall detail the period's research activities, intermediate results, progress toward goals and other specific information and any issues that may impact completion of the planned work on schedule. If findings or discoveries are made that the grantee feels are of sufficient importance that they would mitigate or impact naval operations, OUSD(R&E) should be notified immediately.

Invention Reports: Submit interim DD882 at least annually, within 60 calendar days of the grant anniversary. Negative reports required.

Annual DoD STEM Program Data Call Form: A manual and templates will be provided to each starting grant. These forms will include information about the organization and program specifics (overview, metrics, budget information, accomplishments, etc.).

4. Final Reports:

        <u>Final Report</u>: Detail the full programmatic accomplishments summarized from prior reports and a forecast for ongoing program sustainability and contribution to DoD STEM, Biotech, or Enhanced Civics education and workforce needs as the funding ends. Include, as feasible, examples of educational materials produced, success stories, accomplishments, links to digital materials, and other resultant material from the award.

        <u>Final Federal Financial Report (SF 425)</u>: SF425 is required within 90 calendar days of the completion date for the term of this Grant and must include in the remarks the location of financial records and a point of contact for the Government to obtain access to the financial records associated with this Grant.

        <u>Invention Report</u>: Submit final DD882 within 90 calendar days after the expiration of the grant. Negative reports required.

5. Property Reports:

        The Grantee shall submit annual inventory listing to all equipment in excess of $5,000 acquired under this grant. Only individual items in excess of $5,000 should be reported, not an aggregation of small items which may exceed $5,000 in total cost.

6. Document submission:

        All reporting requirements above shall be sent via email to the Grants Officer and the Government Technical Representative.

7. Other Points of Contact:

        Technical Representative – osd.dodstem@mail.mil
        Grants Office (Grantor) – Ms. Chrissandra Smith at chrissandra.smith.civ@mail.mil

Prohibition of Use of Human Subjects

Research under this award involving the use of human subjects, to include research involving the use of human biospecimens* and/or human data, cannot begin until the USAMRDC's Office of Research Protections (ORP) provides authorization that the research may proceed. The USAMRDC ORP will issue written approval to begin research under separate notification. Written approval to proceed from the USAMRDC ORP is also required for any subrecipient that will use funds from this award to conduct research involving human subjects, human biospecimens, and/or human data.

*This prohibition does not apply to research under this award that **solely** uses **only** one or both of the following types of human biospecimens to accomplish its aims: (1) established/existing commercially available human cell lines; (2) established/existing patient-derived xenograft (PDX) models.

The USAMRDC ORP conducts site visits as part of its responsibility for compliance oversight. Recipients and subrecipients must comply with all applicable human research protections requirements. Accurate and complete study records must be maintained and made available to representatives of the USAMRDC as a part of their responsibility to protect human subjects in research. Research records must be stored in a confidential manner so as to protect the confidentiality of subject information.

The recipient (and subrecipients) must adhere to the following reporting requirements:

Submission of study documents to the USAMRDC ORP for review and approval and provide the following reports: substantive modifications to the approved protocol, continuing review documentation (if applicable), and the final report as outlined in the USAMRDC ORP approval memorandum.

Prompt reporting of the following study events to the USAMRDC ORP HRPO.

(1) All unanticipated problems involving risk to subjects or others.

(2) Suspensions, clinical holds (voluntary or involuntary), or terminations of this research by the IRB, the institution, the sponsor, or regulatory agencies.

(3) Any instances of serious or continuing noncompliance with the federal regulations or IRB requirements.

(4) The knowledge of any pending compliance inspection/visit by the Food and Drug Administration (FDA), Office for Human Research Protections, or other government agency concerning this clinical investigation or research.

(5) The issuance of inspection reports, FDA Form 483, warning letters, or actions taken by any government regulatory agencies.

(6) Change in subject status when a previously enrolled human subject becomes a prisoner must be promptly reported to the USAMRDC ORP HRPO. The report must include actions taken by the institution and the IRB.

Non-compliance with these terms and conditions may result in withholding of funds and/or the termination of the award.

Submission instructions and investigator guidance on DoD requirements for human subjects research, including 32 CFR Part 219, DoD Instruction 3216.02, and USAMRDC ORP Human Research Protection Office submission instructions can be accessed at https://mrdc.amedd.army.mil/index.cfm?pageid=research_protections.hrpo.