Academic Year 2018-19 Junior Science & Humanities Regional Symposia (JSHS) – Request for Proposal

Proposals are sought from qualified educational institutions to conduct and administer a Regional Symposium, under the Junior Science & Humanities Symposia (JSHS) Program, a U.S. Army, Navy and Air Force sponsored STEM competition. Generally, qualified institutions include an institution of higher education or private, non-profit institution/organization. An institution of higher education is one that is determined by the Secretary of Education to meet the requirements of 34 CFR Section 608.2.

Founded by the Army in 1958 and joined by the Navy and Air Force after 1995, the primary aim of JSHS is to encourage students at the high school level to engage in original STEM research in preparation for future STEM career pathways. Under the authority 10 U.S.C. section 2192 (Improvement of education in technical fields: general authority regarding education in science, mathematics and engineering), the U.S. Army, Navy and Air Force designed JSHS to expose students to and educate them about STEM research opportunities across the Defense Industrial Base, while advancing the nation's scientific and technological progress. The participation in regional and national JSHS symposia enables students to present their research in a forum of peer researchers and practicing researchers from government (in particular Department of Defense or DoD), industry and academia. In addition, JSHS students receive public recognition and awards for their research achievements, while competing for scholarship funds.

JSHS is designed to:

- Promote research and experimentation in STEM at the high school level;
- Recognize the significance of research in human affairs and the importance of humane and ethical principles in the application of research results;
- Search out talented youth and their teachers, recognize their accomplishments at symposia, and encourage their continued interest and participation in the sciences, mathematics, and engineering;
- Recognize innovative and independent research projects of youth in regional and national symposia;
- Expose students to academic and career opportunities to STEM and to the skills required for successful pursuit of STEM;
- Expose students to STEM opportunities and careers in DoD laboratories; and
- Increase the future pool of talent capable of contributing to the national's scientific and technological workforce.

A total of forty-eight regional symposia are held nationwide and annually reach approximately 8,400 high school students and teachers throughout the United States, Puerto Rico and in cooperation with the Department of Defense Dependents Schools of Europe and the Pacific. As a result of research paper competition held at the regional symposia level, students qualify for military-sponsored scholarships and may progress to the annual National JSHS. The National JSHS is held in late April or early May of each year.

U.S. Army, Navy and Air Force STEM Programs

The Army continues its long tradition and strong commitment to the advancement of STEM education and literacy through the Army Educational Outreach Program (AEOP). Leveraging its most valuable assets—world-class scientists and engineers and research facilities—AEOP offers our Nation's youth and teachers a continuum of meaningful, real-world STEM enrichment activities, competitions and apprenticeship programs. For more information, please visit: www.usaeop.com

The Department of the Navy focus on STEM is threefold: 1) to inspire, engage, and educate the next generation of scientists and engineers; 2) to employ, retain, and develop our civilian technical workforce; and 3) to collaborate across the Naval STEM enterprise and with other agencies to maximize benefits to the DON. STEM programs are mission-critical investments in the DON current and future workforces and are critical to meet present and future war-fighting challenges. For more information, please visit: navalstem.navylive.dodlive.mil/.

The Air Force STEM program helps to provide employment to the over 15,000 high-caliber, civilian scientists, analysts, and engineers that work for the Air Force in laboratories, test facilities, and development/support centers around the country. If you are a technical individual interested in developing state-of-the-art technologies and weapon systems, there may be a place for you! For more information, please visit: www.afciviliancareers.com/.

For more information about DoD's Science, Mathematics And Research for Transformation (SMART) Scholarship for Service Program, please visit: smart.asee.org/

JSHS – STATEMENT OF WORK

The host institution is responsible for the management and administration of the regional symposium, including the conduct of the judging process to select students who will progress to the National JSHS. The host institution is required to assign a Program Director who is responsible for the overall management and administration of the regional symposium. This individual should possess sufficient knowledge and experience to organize and administer a scientific symposium for high school students and teachers.

Tasks required for the conduct and administration of a JSHS regional symposium include:

- Identify students, G9-12, with potential talent or demonstrated abilities in STEM disciplines. Suggested factors to include in the recruitment and selection process include (1) interest or demonstrated ability in conducting research; (2) potential for successful pursuit of scientific and technological areas as indicated from overall achievements, interests or creative abilities; (3) previous demonstrated abilities and interest in science (for example, extracurricular activities such as science clubs, science fairs); and (4) recommendations of high school teachers and administrators.

- Conduct outreach to a diverse audience of 9-12 grade high school students to participate in a regional JSHS symposium. Maximize representation from underrepresented populations.

- Utilize JSHS central registration tool for Regional Symposia. The registration tool allows the program to collect common metrics from all sites, and also allows regional sites to customize local data collection.

- Facilitate data collection in support of JSHS program assessment efforts by encouraging program participants to complete surveys and to participate in focus groups, if requested.

- Solicit and review the written reports of research conducted by high school students. A pre-symposium review is conducted to select those students who merit recognition at the regional level and to provide an opportunity for students to orally present the results of their research to the regional audience. Based on the pre-symposium review and the review of students' oral presentations at the symposium, the recipients of the U.S. Army, Navy and Air Force scholarships and other awards are selected.

- Submit a nomination for one regional student (11th grader) to be considered for the U.S. Presidential Scholars Program. Department of Education is looking to JSHS for nominations to widen their search to students who may qualify using other methods from academic rigor. Nominee need not to be a regional winner (national finalist), but should fit established criteria (to be provided), to include: involvement in service (in school or community); leadership and character; writing samples; academic achievements; and discretionary points for extraordinary achievement such as heavy workload, family responsibilities or obstacles overcome.

- Expose attending students and teachers to research opportunities in the academic, industrial and governmental communities. Interaction with practicing researchers is provided through visits to research and development laboratories, discussion groups, presentations by keynote speakers, and the judging of students' research projects. Expose JSHS participants to DoD assets and facilitate interaction with DoD scientists and engineers, if any are available in the respective geographic area or in a virtual space.

  Coordinate and oversee the administrative details involved with hosting a symposium. These include meeting space, housing, food services, transportation, communications with symposium participants, program publications, registration process, arrangement for emergency medical services, and supervision and chaperonage. Additionally, the program director oversees the financial administration of the subgrant award and the preparation of year-end financial and program reports.

- Leverage regional JSHS Alumni and integrate into local programming where possible. Support program effort in establishing National JSHS Alumni database.

- Assist students who are selected to attend the National symposium with registration details and with the preparation for the National JSHS competition.

- Report the recipients of the 1) Teacher Awards Program, 2) Scholarships, and 3) National winners within ten days of the conclusion of the regional symposium. Contact information for the award recipients is required.

- Educate regional JSHS participants about additional STEM opportunities offered by the Army through the AEOP, the Navy and the Air Force.

- Inform regional JSHS participants about the channels and processes for their research accomplishments to be highlighted as part of AEOP's communications and social media initiatives, per guidance from AAS.

FUNDING

Funding for the JSHS program, to include National JSHS, scholarships and regional symposia, is provided by the U.S. Army, Navy and Air Force under a cooperative agreement award with the U.S. Army Research, Development and Engineering Command. The Academy of Applied Science, a 501(c)(3) in Concord, NH, currently administers the JSHS Program as a member of the Army Educational Outreach Program (AEOP) Consortium. Proposals are sought each year from qualified educational institutions to conduct the regional symposia on behalf of the U.S. Army, Navy and Air Force's JSHS Program.

Upon approval, direct funding will be provided by the AEOP subgrantee for JSHS to selected educational institutions for the conduct of the JSHS Regional Symposium. Available funds support direct costs of the symposium for approx. 150-200 high school students and teachers. Administrative costs are restricted to $3,000; no indirect or overhead expenses are paid due to the recruitment benefits for the cooperating universities.

Payment of awards to student research finalists are provided through the AEOP subgrantee. To claim the award, each regional symposium is required to report details on the student and teacher recipients within 10 days of completion of the regional symposium.

Tri-service sponsored awards for JSHS regional symposia include the following (based upon the availability and release of funding):

For 48 teachers

- A $500 award to one teacher at each of the 48 regionals, honoring the individual teacher's contributions to advancing student participation in research.

For the regional student finalists...

- An expense-paid trip to the National JSHS, awarded to five finalists at each regional symposium. The National brings together over 360 participants in a program of educational and scientific exchange.
- An invitation to present their original research investigation at the National JSHS, in either oral or poster competition.
- A $2,000, $1,500, and $1,000 undergraduate tuition scholarship is awarded to each of the 1st, 2nd and 3rd place finalists of the regional symposium respectively. (Note: The scholarship is payable upon matriculation and upon meeting the JSHS scholarship conditions)

For the national student finalists…

- A $12,000 undergraduate tuition scholarship is awarded to each of the 1st place finalists in the seven National research paper competition categories.
- An $8,000 undergraduate tuition scholarship is awarded to each of the 2nd place finalists in the seven National research paper competition categories.
- A $4,000 undergraduate tuition scholarship is awarded to each of the 3rd place finalists in the seven National research paper competition categories.

JSHS PROPOSAL – FORMAT AND INSTRUCTIONS

Proposals for JSHS funding in FY 18 are requested by September 1, 2018 to provide sufficient lead time for host universities to recruit high school participation in JSHS. All proposals should include:

1) A technical proposal responding to the below requirements for the conduct of the JSHS regional symposium. Proposals should be a maximum of five pages and include a short biography for the proposed JSHS Regional Director, or Principal Investigator. (The biography is not included in the five page limit).

2) A cost proposal and description of how funding will be utilized by categories are required. The template for the cost proposal is attached. (The cost proposal is not included in the five page limit.)

3) A proposal cover sheet identifying technical and financial points of contact.

PROPOSAL SUBMISSION – DEADLINE AND CONTACT

Thank you for your interest in supporting the JSHS Program and contributing to the encouragement of our youth as future STEM leaders. Please submit technical and cost proposals prior to September 1, 2018. During this re-solicitation of the JSHS program. Please submit proposals as a PDF file to AAS and Battelle:

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Questions may be addressed to Doris Cousens, as above.

TECHNICAL PROPOSAL REQUIREMENTS

1. Cover Sheet, Technical Proposal - See Attachment 1. Please input information directly into this cover sheet or address all requirements in a separate Microsoft Word or PDF file**.**

2. Host Institution. Describe the credentials of the host institution and state philosophy and experience with the conduct of STEM educational outreach programs or competitions.

3. Describe proposed methodology and geographic reach to publicize JSHS to area high schools.

Example: *[University] will invite 9-12 grade high school students who engage in research to submit articles/reports on their research. Information about the symposium will be provided to principals, assistant principals, teachers and students via the university-hosted website, general electronic mailings, and personal electronic communications utilizing statewide list serves. A combination of data collected through partnerships with [named organizations/programs] and [State] Department of Education, and [Name] Science & Engineering Fair that the university organized and hosted will be used to invite public, private and parochial high schools. Letters to principals, assistant principals, and teachers will describe the symposium and its benefits for their students and schools.*

Note:
Host institutions will reference DoD STEM and career opportunities in marketing the JSHS program.
Host institutions will include the AAS in the distribution list for regional symposia announcements or call for papers that are distributed to high schools in the region to provide AAS situational awareness.
Host institutions will report demographic data on the students and teachers who apply and enroll in the JSHS. (See Attachment 2.)

4. Describe outreach plan to publicize JSHS Regional Symposium to area high school students, teachers, and schools.

Example: *Printed announcements, call for papers to schools, websites, State Department of Education list serves, any professional conferences such as science teachers association.*

5. Describe any proposed efforts to reach out to entities which mentor academically motivated students from underrepresented populations to help prepare those students for successful competition in STEM and JSHS. Describe any additional efforts to recruit (and enroll) students or teachers who are considered underrepresented in STEM.

Note*: Definition of underserved populations: Underserved populations include students from low-income families; students belonging to race and ethnic minorities that are historically underrepresented in STEM (i.e., Alaska Natives, Native Americans, Blacks or African Americans, Hispanics, Native Hawaiians and other Pacific Islanders); students with disabilities; students with English as a second language; first-generation college-bound students; students in rural, frontier, or other Federal targeted outreach schools; and females in certain STEM fields (e.g., physical science, computer science, mathematics, or engineering).*

6. Describe the selection and application process required for student participation. (i.e. application form, abstract, paper) Present the process in bullet form with timetable of due dates for nominations of students by high school teachers, direct application by students to a centralized AEOP registration system, submission of abstract and final research paper).

7. Describe efforts to integrate DoD STEM professionals and resources in the JSHS regional symposium and to expose students and teachers to DoD STEM career opportunities. *(The services will assist JSHS regional symposia in identifying available local DoD support.)*

8. Describe efforts to promote additional STEM opportunities offered through AEOP and DoD to JSHS participants. *(AEOP and DoD published materials and electronic resources will be provided as available to support JSHS regional symposia in marketing AEOP and DoD STEM opportunities.)*

9. Describe or list the program activities planned during the symposium (i.e. Student paper competition, oral and/or poster sessions, Career panels; Lab visits-On campus or off campus; Keynote speakers/themes; Humanities component; Speaker orientation for student presenters; Any teacher workshops or exchanges; Any student team building activity; Other).

10. Describe the process to select the five (5) student delegates for the trip to the National JSHS, and attach regional judging criteria. Note the categories of competition and how the categories relate to the National JSHS format.

Example: *There will be two levels of judging and evaluation. The first level will be a review of the submitted research reports to select semi-finalists for the oral presentations. The seven areas of competition at the National JSHS will be closely followed.*

1. *Life sciences (including natural sciences, microbiology, molecular/cellular, biochemistry)*
2. *Medicine & health (including behavioral sciences, neurobiology, biomedical, physiology)*
3. *Environmental sciences*
4. *Chemistry (including geochemistry, energy-alternative fuels, materials science)*
5. *Physics and astronomy*
6. *Mathematics and computer sciences*
7. *Engineering*

A group of approximately [xx] reviewers will evaluate the students' research and rank them according to the criteria of the National JSHS. Approximately [xx] semi-finalists from every discipline – depending on the number of submissions – will be recommended for oral presentation during the final round of evaluations. For those reports not selected, every attempt will be made by the reviewers to provide feedback to the students on how they may improve their research.

The "semifinalists" will be invited to present their research during a 12-minute oral presentation followed by a 6-minute question and answer session. The symposium will take place on [date]. Each presentation will be evaluated

by 3-5 judges. Each judge will complete an evaluation. Results will be tabulated and the regional symposium finalists will be selected.

11. Describe the process to recruit, train and support volunteer symposium judges and reviewers.

Example: *College or university faculty and professionals will be invited to serve as judges during the symposium and to evaluate the submitted articles reports. The invitations will be sent to all [University] faculty and to the professionals associated with partnering organizations. Non-university faculty be invited through professional contacts and associated. It is expected that [50] college faculty and other professionals will be recruited to serve.*

The judges will be made aware of their responsibilities in two phases. The first phase will be on-line orientation. Each judge, upon signing on as a volunteer, will be made aware of their responsibilities and the criteria by which the students' research is evaluated. The second phase of training/orientation will be delivered on the morning of the symposium.

12. Project management and personnel.

Example*: [Faculty member] will have overall responsibility and coordination of the JSHS regional symposium. He/she will coordinate with [Admissions, Continuing Education, Conference Services – dependent upon university] to facilitate the administrative arrangements for the symposium. [Faculty member] will provide the faculty leadership for the symposium. He/she will be in charge of faculty, students, and other professional recruitment to serve as judges and reviewers representing multiple academic departments or colleges. (Name additional departments, colleges, etc., who may contribute.)*

An organizing committee of [number] [faculty, high school teachers, high school administrators, military laboratories, and/or other sponsors] will have the responsibility for the overall organization and preparation for the symposium. Specifically the committee will:

- *Prepare announcements and invitations to symposium participants*
- *Recruit keynote speakers, lab tours, and/or other symposium activities.*
- *Organize the systems to receive student articles/reports*
- *Recruit symposium volunteers*
- *Organize and manage the review and selection process for the student presenters.*
- *Organize, manage and supervise the evaluations of the symposium presenters and the selection of the representatives for the National symposium.*
- *Organize, manage and supervise the training of the judges and the student assistant including the selection of the semi-finalists and the finalists*
- *Organize and manage the symposium's website and on-line activities*

13. Compliance with AEOP/JSHS Evaluation Requirements

Sites will administer or distribute evaluation tools (IRB forms, surveys) developed under AEOP and are encouraged to incorporate their own assessments of student learning into the program. Sites will participate in evaluation visits during the JSHS program and will help coordinate interviews or focus groups with JSHS students and adult mentors on site.

COST PROPOSAL – REQUIREMENTS AND GUIDELINES

The template for preparation of the cost proposal is presented at Attachment 2.

Subgrant section. An authorized representative of the subcontracting institution must sign this form. The National JSHS office's acceptance of the subgrantee's proposal, as submitted by completion of the Regional Financial Statement and Technical proposal, results in the issuance of a subgrant that serves as a mutual agreement between the subgrantee and the Academy of Applied Science (AAS).

A Total "Actual" Direct Expense that exceeds the Total "Budgeted" Direct Expense must have prior approval from the AAS for reimbursement. Such requests for increased expenditures should include information regarding the level of proposed effort, changes in key personnel or symposium scheduling,

Due to the student recruitment benefit offered through the JSHS program, the policy regarding payment of overhead, and/or indirect expenses (administrative service fees) for the U.S. Army, Navy, and Air Force sponsored JSHS Program is that overhead and/or indirect costs are not authorized and will not be reimbursed. Military funding is provided as per accounts listed on the Regional Financial Statement and are outlined below:

Both in budget and actual, Total Administrative Expenses (labor) may not exceed $3,000 or 25% of Total Direct Expenses, whichever is less.

Operational Expenses include expenses for meeting space, housing, food services, transportation, communications with symposium participants, program publications, the registration process, arrangement for emergency medical services, and supervision and chaperonage. Additionally, the program director oversees the financial administration of the subgrant award and the preparation of budgets and year-end financial reports.

The following expense categories are listed on the Regional Financial Statement:

- speakers – payment of honoraria and other expenses related to securing symposium speakers
- food- payment and reimbursement of food expenses for symposium participants
- lodging- payment and reimbursement of lodging expenses for symposium participants
- travel- payment and reimbursement of travel expenses for speakers, judges, staff, other; symposium transportation
- costs for buses or other ground transportation (Note: Due to budget constraints, reimbursement to schools for travel expenses may not be possible. This is a regional symposium decision that must be based upon the availability of funds. Any travel support required to engage underrepresented students should be presented in the proposal.)

- office operations- payment of direct expenses for supplies, postage, telephone, fax, etc., in support of symposium administration
- printing- payment of printing expenses related to printing symposia information
- facility rental- meeting room expenses and audio-visual support
- miscellaneous- a general-catch all for expenses that do not relate to the above expense categories; however, miscellaneous expenses may not exceed 5% of Total Direct Expenses in either budgeted or actual expenses.

The intended use of subgrant funding is to cover the costs of administering a JSHS Regional Symposium that is rich in program and provides the best educational experience for the students. Expenses for hardware, software, clothing, gifts and other expenses outside of the above categories are not allowed.

The final Regional Financial Statement is due to the AEOP subgrantee no later than 90 days following the conclusion of the regional symposium. Final payment will be made upon the completion of all technical and financial reporting.