For Immediate Release

Media Contact: Claire LaBeaux
claire@prclaire.com
925-337-0244

Incredible STEM Research Garners Scholarships for Young Scientists at National JSHS "Science Fair"

Army, Navy, and Air Force Honor Top Science, Technology, Engineering, and Mathematics (STEM) Students at National Junior Science & Humanities Symposium

Washington, D.C. — May 12, 2015 — Top honors and educational scholarships have been awarded to a select group of elite Science, Technology, Engineering, and Mathematics (STEM) high school students for their winning research projects at the U.S. Army, Navy and Air Force's annual STEM competition, the National Junior Science & Humanities Symposium (JSHS).

"Every year I'm blown away by the depth of research presented here at JSHS as well as the work done at the regional competitions," said Ms. Mary J. Miller, Deputy Assistant Secretary of the Army for Research and Technology. "I am continually impressed by both the quality and level of work that students bring to this event. This is a group of young adults that have ignored the limitations that society often attributes to the 'younger generation.'"

"The United States has become a global leader, in large part, through the genius and hard work of its scientists, engineers and innovators. Welcome to that select group," Miller told the students. "While the U.S. is being challenged by others across the world, you are posed to make the difference. We need bright minds like yours to help keep the U.S. dominant in our global economy. We need bright minds like yours to keep our Armed Forces superior to all others."

To earn a spot at JSHS, students first had to be one of the top three winners at one of 46 regional events. At the National competition, they presented their research papers and posters to judges who are actively engaged in research and development at Department of Defense (DoD) and university laboratories. The first place winner in each category earned a $12,000 scholarship; second place, $8,000; and third place, $4,000.

"These regional and national science events are so beneficial for all students. There's no substitute for being in a group of high-performing peers who challenge you to do your best work," said Dr. Abel Bult-Ito,

Professor at the University of Alaska Fairbanks and a director and mentor in the Alaska JSHS program. "Students who come here are inspired by each other. And they each earned the right to attend by doing real new science, which they conceived and performed themselves and whose findings are examined by others."

Even as the 53rd Annual JSHS concludes, teachers and students should plan ahead for the regional Junior Science and Humanities Symposia that will be held across the country beginning in winter, 2016. Science teachers and students can visit http://www.jshs.org/getinvolved.html to learn more about JSHS regional and national events so they can participate next year.

The winning projects in each category are:

3RD PLACE
Environmental Science
Ethan Novek, Connecticut JSHS
Novel Low Grade Waste Heat Recovery System with Simultaneous Electricity Generation, Carbon Sequestration and Urea Production

Life Sciences
Moez Hayat, Louisiana JSHS
A Novel Platform for the Measurement of Hydrogen Sulfide

Medicine & Health
Erica Lin, New York Metro JSHS
Epithelial Mesenchymal Transition: A Novel Target for Perineural Invasion Inhibition in Pancreatic Adenocarcinoma

Mathematics & Computer Science
Jessica Li, New Jersey at Rutgers JSHS
On the Modeling of Snowflake Growth Using Hexagonal Automata

Physical Sciences
Matthew Sturm, Hawaii JSHS
Observational Detection of Solar g-mode Oscillations Using Doppler Velocity Signals

Chemistry
Carolyn Jons, North Central JSHS
Improved Efficiency of Seawater Steam Generation Using Carbon Nanoparticles

Engineering
Christopher Romanoski, Tennessee JSHS
A Mathematical Analysis of the Wright Brothers' Wind Tunnel Tests

2nd PLACE

Environmental Science

Deepika Kurup, Northern New England JSHS

Integrating Filtration with an Advanced Oxidation Process for Degrading Organics and Inactivating Bacteria in Wastewater

Life Sciences

Piyush Pillarisetti, Philadelphia JSHS

Identification of Multi-Functional Anti-Cancer Compounds Using Computational Analysis

Medicine & Health

Amol Punjabi, Southern New England JSHS

Rethinking Drug Discovery: New Algorithms for Virtual Drug Screening

Mathematics & Computer Science

Sasank Vishnubhatla, Kentucky JSHS

An Asymmetric Elliptic Curve Algorithm to Increase Entropy and Decrease Computation Time of Iris Recognition

Physical Sciences

Josh Ludwigsen, Southwest JSHS

Testing and Finite Element Modeling of Head Impacts in Sports

Chemistry

Mokshin Suri, Texas JSHS

Analysis of Structural Fabrication and Performance in Dye Sensitized and Perovskite Solar Cells

Engineering

Jared Adams, South Carolina JSHS

A New Approach to Treating Gait Disabilities in Children

1st PLACE

Environmental

Ian Fleming, Alaska JSHS

Survival of Hatching Coho Salmon (Oncorhynchus kisutch) in Relation to the Application of Glyphosate Based Herbicides.

Life Sciences:

Alon Millet, New Jersey Monmouth JSHS

Phytobiological Responses to Cellulose Binding Domain: Mechanisms, Implications, and Commercialization

Medicine & Health

Juliet Ivanov, Upstate New York JSHS

Investigating the Protective Effects of Interleukin 22 on Intestinal Epithelium: Potential Graft-versus-Host Disease Treatment

Mathematics & Computer Science
Melissa Yu, Tennessee JSHS
Developing an Automatic Nonrigid Image Registration Algorithm for Nanoscience Research

Physical Sciences
Arjun Dhawan, Indiana JSHS
Object Recognition for the Visually Impaired

Chemistry
Jessica Kim, New York (Long Island) JSHS
Improving the Efficiency of Inverted Organic Photovoltaics with Gold Functionalized Reduced Graphene Oxide and Phase-Separated Polymer Morphology

Engineering
Dhruv Iyer, Arizona JSHS
Development and Optimization of a Multimodal Natural User Interface for use by People with Severe Motor Disabilities to Play Computer Games

Poster session winners at the 53rd National JSHS are as follows:

Simone Braunstein, Metro New York JSHS ($1,000 cash award)
A Novel Controller for Soft Robots: An Experimental Usage of Linear Temporal Logic Mission Planning (LTLMoP) with an Optimized Elastomeric Actuator

Swamov Pujari, Upstate New York JSHS ($800 cash award)
Solving the Energy Crisis One Step at a Time

Quinn McCormick, Alabama JSHS ($500 cash award)
Modifiers of Apis mellifera Flight Muscle Metabolism, a Field Study in a Working Aviary

Michael Kaden-Hoffman, Alaska JSHS ($300 cash award)
Phylogenetic Analysis of DNA Sequences Supports Three Reciprocally Monophyletic Species in Dwarf rosebay - Therorhodion (Ericaceae)

Rachel Han, New Jersey Monmouth JSHS (IPad mini)
Celecoxib Off Label: Melanoma and Wound Healing

Ishita Kamboj, North Central JSHS ($100 cash award)
Methamphetamine Compromises the Phagocytic Activity of BV2 Murine Microglia without Compromising Cellular Viability

Marissa Sumathipala, Virginia JSHS
The Transgenerational Epigenetic Effects of Environmental Stressors -- Herbicide and Microgravity-- in Drosophila Melanogaster Model

Ashley Wyrick, Missouri JSHS
To Choose or Not to Choose: Investigating the Trophic Effects of Thiamethoxam on Euplectrus comstockii when Parasitizing Trichoplusia ni-Year Two

The Army, Navy, and Air Force congratulate these students for their achievements in STEM!

About JSHS

The JSHS is a tri-service program funded by the Army, Navy and Air Force that encourages high school students to conduct original research in STEM. JSHS sponsors include: Office of the Assistant Secretary of the Army (Acquisition, Logistics & Technology); Office of Naval Research, Arlington, VA; and Air Force Office of Scientific Research, Washington, DC, in cooperation with higher education. The National JSHS Program is administered by the Academy of Applied Science, a non-profit educational organization located in Concord, New Hampshire. Details on the JSHS Regional and National events are available at http://www.jshs.org/.

About AEOP

The Army Educational Outreach Program (AEOP) is comprised of Army-sponsored research, education, competitions, internships and practical experiences designed to engage and guide students as well as teachers in science, technology, engineering, and mathematics (STEM). From elementary school through graduate school, students of all proficiency levels, interests, ethnic, economic and academic backgrounds are encouraged to participate in real world experiences involving these important disciplines. More information is available at http://www.usaeop.com/, at the Twitter handle @USAEOP and at www.facebook.com/goAEOP.

About AAS

The Academy of Applied Science was founded in 1963 as a non-profit 501 (c)(3) to operate exclusively for charitable, educational and/or scientific purposes. The Academy has demonstrated over 50 years' experience in the effective delivery and administration of youth science outreach programs designed to support and encourage the future pool of trained STEM talent available to contribute to the nation's scientific and technological progress and to the military's research enterprise. The Academy supports students and teachers nationwide to achieve success in STEM through competitions, STEM enrichment activities for students and teachers, curriculum support for teachers, publications, mentorships, and awards programs.

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