



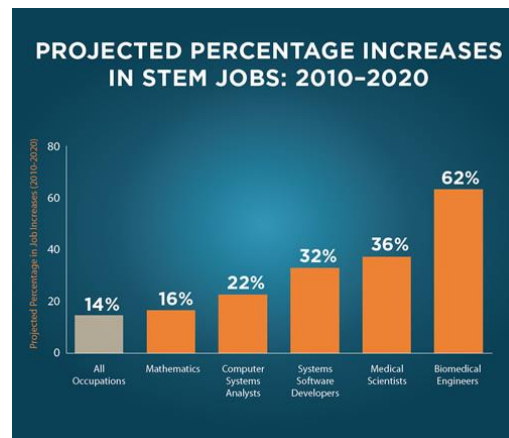
DTRA CB JSTI ARTICLE

August 19, 2015

## DTRA Mentors the Nation's Next Generation of Scientists at Annual STEM Event

In an effort to mentor the next generation of scientists, this year's Joint Science and Technology Institute (JSTI), a science, technology, engineering and mathematics (STEM) residential research program, was successful in finding, training and motivating America's future experts in the sciences. The annual event, sponsored by the Defense Threat Reduction Agency and held at the Army's Edgewood Chemical Biological Center (ECBC), is part of the larger Department of Defense STEM program that aims to develop a highly competent STEM workforce crucial to the DoD's ability to defend the nation.

President Obama articulated a clear priority for STEM education stating within a decade American students must "move from the middle to the top of the pack in science and math." Yet today, few American students pursue expertise in STEM fields, and our nation has an inadequate pipeline of teachers skilled in those subjects, inciting the administration to prioritize increasing the number of students and teachers who are proficient in these vital fields.



To support this effort, this year's JSTI selected 40 of 220 high school applicants from around the world to attend the STEM residential research program, which focuses on engineering, computer programming, 3D modeling, chemistry and biology. The two-week, all-expenses paid, residential program seeks to spark interest in STEM fields to improve the necessary skills for long-term national defense needs.

Midway through the program, DoD STEM leaders visited the students for a day of face-to-face engagement. Ms. Karen Saunders, director of the STEM Development Office for the Under Secretary of Defense for Acquisition, Technology and Logistics commented on how impressed she was with the level of interagency and academician cooperation displayed for this event; a great business model to benchmark STEM programs after. Also, Ms. Kim Day, Department of Defense Education Activity, Science Lead remarked on how well the students were able to clearly articulate real world applications for their projects.

The program provides students with an opportunity to work in groups on a research project under the mentorship of DoD scientists and highlights career possibilities they are typically not exposed to during their high school and college years. "We have some of the best scientists in the world working to combat weapons of mass destruction," said Dr. Ronald Hann, DTRA CB director. "But the scientists that will work for them and eventually replace them are still teenagers. STEM camps help us develop the next generation of scientists that will work to keep our troops, citizens and allies safe from the threat of WMD."

Scientists from DTRA, ECBC, Navy Research Laboratory and universities participated at this year's event as mentors for hands-on projects including 3D printing, modeling, water quality, microbial resistant materials, Arduino and Raspberry Pi programming and robotics.

In addition to student mentoring, four teachers were selected and, under the supervision of DTRA and ECBC scientists, were given the opportunity to increase research experience, depth of knowledge as well as gain knowledge of current career fields available to students. They will now return to the classroom with a renewed interest and excitement for STEM as well with tools to inspire the next generation of the STEM workforce. The information obtained by the teachers will reach an additional 400 students once the school year is in full swing.

High school students and teachers interested in attending next year's JSTI, and those who know of promising students that could benefit from the program, can find more information at <http://www.ora.u.org/center-for-science-education/events/jsti/default.html> or contact Dr. Morgan Minyard, [morgan.l.minyard.civ@mail.mil](mailto:morgan.l.minyard.civ@mail.mil) and Mr. Dale Taylor, [dale.e.taylor4.civ@mail.mil](mailto:dale.e.taylor4.civ@mail.mil).



Participants in the JSTI 2015 included 40 students (including 20 military dependents), 4 teachers, and 7 mentors. To date, 99 students and 13 teachers have participated in the JSTI program.

*DTRA is the U.S. Department of Defense's official Combat Support Agency for countering weapons of mass destruction, addressing the entire spectrum of chemical, biological, radiological, nuclear and high yield explosive threats. The U.S. Strategic Command Center for Combating Weapons of Mass Destruction (SCC-WMD) synchronizes Combating WMD efforts across our military's geographic commands and leverages the people, programs and interagency relationships of DTRA at a strategic level. The Standing Joint Force Headquarters for Elimination (SJFHQ-E) provides a command and control element for a Geographic Combatant Commander or Joint Task Force responsible for the elimination of WMD in hostile or uncertain conditions. The SJFHQ-E is a military unit commanded by the SCC-WMD Deputy Director. We work with the military services, other elements of the United States government, and countries across the planet on nonproliferation, counter-proliferation, consequence management and WMD reduction issues with one goal in mind: Making the World Safer.*