



AFCEA Educational Foundation Announces The 2007 National High School Science Fair Grand Prize Winner

Winning Project Focuses on Nanotechnology

For Immediate Release

FAIRFAX, Va./EWorldWire/June 12, 2007 --- The AFCEA Educational Foundation is pleased to announce that Franz Sauer is this year's grand prize winner for the 2007 AFCEA National High School Science Fair Award for the best high school science project related to communications, intelligence or information systems. The winning project was selected from science fairs nationwide and will be displayed at AFCEA and the U.S. Naval Institute's Transformation Warfare conference and exposition, June 19-21, 2007, at the Virginia Beach Convention Center. The award includes a cash prize and a trip to Virginia Beach for the winner and his family.

Sauer is a junior at High Technology High School in Lincroft, New Jersey. His project, entitled, "Towards Making the Smallest Tool Machine for Nanotechnology: Engineering an Aberration Corrector for Focused Ion Beam (FIB) Microscopes," aims to use advances in nanotechnology to create better equipment to protect soldiers in the field.

A corrector was designed to reduce spherical aberration in focused ion beam (FIB) microscopes by condensing the ion beam with a positively charged funnel-shaped cylinder before entering the final objective lens. This corrector can significantly reduce the size of the ion beam's "tool tip" and greatly improve microscope imaging capabilities for nanotechnology. Reducing spherical aberration is necessary for better resolution for FIB microscopes and can help scientists break the resolution barrier and image materials that have never before been seen.

Through the Liberty Science Partners in Science program, Sauer was introduced to his mentor, Dr. Nan Yao from the Princeton Institute for the Science and Technology of Materials at Princeton University. He introduced the student to the field of ion optics and Sauer was hooked. Sauer plans to continue his research this summer with Dr. Yao and design correctors for other aberrations in focused ion beam microscopes.

Other awards that Franz and his science project have won this year include first place in Engineering at the New Jersey Academy of Science and an invitation to attend the American Junior Academy of Science Conference in 2008 first place award in Engineering and Top Project award in Engineering from the Institute of Electronics and Electrical Engineers (IEEE) at the Jersey Shore Science Fair first place at the Monmouth Junior Science Symposium (MJSS) winning a four year scholarship to Monmouth University and an invitation to compete at the National Junior Science & Humanities Symposium and bronze medalist of the Marie Curie Fair at the Delaware Valley Science Fair winning a four year scholarship to Drexel University, the Yale University Science and Engineering Award and an invitation to attend the ISEF in Albuquerque, New Mexico and compete at the NANODAY@Penn Fair at the University of Pennsylvania.

Sauer's passions are physics and engineering, and he was selected as the 2006 U.S. Physics Young Ambassador to the International Physics Young Ambassador Symposium in Taiwan. He was featured as a student scientist with Bill Nye, the Science Guy in his new video series "Greatest Inventions: Transportation." Through his high school he is involved in the National Honor Society, Model United Nations, and Robotics Club, and volunteers with the Stars Challenge program at Monmouth University which promotes sciences to

middle school students and encourages them to pursue scientific research. In his spare time he fences foil for the local fencing club and organizes fencing tournaments. He enjoys funny movies, computer games, and spending time with his friends.

Also attending the Transformation Warfare conference and exposition is the Science Fair's First Honorable Mention winner, Gregory Hirshman, a senior at La Jolla Country Day School, San Diego, California. He will be exhibiting his project "Differential Cryptanalysis of MD-5: Unscrambling the Hash Bit by Bit." For a listing of all the 2007 AFCEA Science Fair winners, go to '<http://www.afcea.org/education/scholarships/sciencefairwinners07.htm>'.

The AFCEA Educational Foundation promotes excellence in education with scholarships, awards, grants and prizes, awarded annually to students studying the scientific and technical disciplines that support communications, intelligence and information systems. AFCEA International, established in 1946, is a non-profit membership association serving the military, government, industry, and academia as an ethical forum for advancing professional knowledge and relationships in the fields of communications, IT, intelligence, and global security. For more information, please visit '<http://www.afcea.org>'.

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KEYWORDS: defense, military, government, IT, homeland security, national security, conference, exposition, exhibits, science, technology, high school, science fair, education, engineering

SOURCE: AFCEA International