



University of Central Florida
College of Engineering and Computer Science
Internet Science and Technology Fair (ISTF)
Pre-College Student Team Winners Announced

Friday, June 10, 2011

Since October 2010, two hundred and fifty three student teams (representing 948 students) were enrolled in this year's ISTF competition. At the end of February 2011, 120 student teams submitted their research findings in a website format. Following the preliminary round of judging, 60 teams advanced to the final round with nine student teams emerging to capture top awards in the 14th annual [Internet Science and Technology Fair \(ISTF\)](#). These student teams will be receiving "Meritorious Achievement" certificate awards from the National Medal of Technology and Innovation at the US Department of Commerce.

The ISTF program challenges students to research how [National Critical Technology \(NCT\)](#) applications may be used to solve real-world problems. They use information technology tools while adhering to guidelines based on national science content standards. Students develop critical thinking, research and reading/writing skills as they work on-line with practicing professionals and publish their final research findings in a webpage format for preliminary and national rounds of judging.

The nine student teams that won our ISTF program's highest honors are from:

- Mainland High School, Daytona, Florida, where a student team investigated the design of a closed system that will reprocess spent nuclear fuel.
- Blaine High School, Minnesota, where a student team researched a design for a possible medical dispenser that would signal elderly persons when it is time to take a medication.
- Danbury Math Academy, Connecticut, where a high school student team researched an application of data compression "by focusing on audio and image compression, which are essential parts of everyday computing."
- Sterling Park Elementary, Casselberry, Florida, where:
 - one student team explored the design of a water conservation system which will help save and reuse water in homes and businesses, and
 - a second team researched the possible development of blanket that could radiate bursts of heat to eliminate dreaded bed bugs.
- Bergen County Academies, Hackensack, New Jersey, where:
 - a middle school team focused their research on the design of a critical care device to assist persons during an emergency, and
 - another middle school team investigated the design of a bracelet that could sense brain chemical imbalances for patients with Bipolar Disorder.

- Osborn High School, Manassas, Virginia, where a student team explored combining energy efficient lighting applications.
- Oakridge International School, Hyderabad, India, where a high school team investigated a product that could reduce energy wastage via a standby mode in appliances (mainly TV's).

In addition, eleven other teams earned Honorable Mention Certificates from the University of Central Florida's (UCF) College of Engineering and Computer Science (CECS), host institution for the ISTF. All finalists, award recipients, and links to winning projects from this year and past years are viewable on the [Winners](#) page.

The ISTF challenges students to work as a team and learn how to communicate on a long-duration project. At the same time, they learned about what it means to engage in research that leads to innovating new products and processes. The following are some thoughts on what the students experienced per their project assessments.

Communication is vital to group work: without it, the group will succumb to failure. The more our group worked together, the more we understood each other. When we got to know one another better, we understood how to best communicate with each group member. - We also learned that although you may be able to think of a good idea, figuring out how to put it in words can prove to be very challenging. Not only do you have to understand your topic, but also, you have to be able to explain it to others. - It was difficult at times to find current information and we frequently found that we had to discard previous research due to a discovery of more updated data. Our extensive investigations proved to be imperative in developing the unique twist that made our product original.

The ISTF experience is made possible by the pioneering teachers and educators who support the students throughout the program. Their dedication and continued commitment (with some who have participated for multiple years involving hundreds of students) recognize the ISTF program as a learning experience that combines both theory and practice in a way that complements classroom and after school activities. The following are some teachers' thoughts on participating in the ISTF.

It shows the students all the applications of science/technology and also helps them to see the process of peer evaluation that scientists go through. - The focus on a problem, the brainstorming of solutions and the analysis of these ideas makeup the essential parts of scientific inquiry; students are forced to do this in a sophisticated manner increasing their ability to think critically. - The kids learn a lot about working as a team, and guiding themselves through problem solving. It starts off as a big struggle for most of them, but they really benefit from the chance to learn on their own.

Our ISTF program is also most grateful to the many scientists, engineers and other technical professionals who share their expertise and support. The 15th annual ISTF competition officially starts in September 2011. Interested teachers, technical professionals and parents are encouraged to support students' interested in participating. Those who are new to the ISTF process should visit the [Newcomers Section](#) as it provides a good starting point to become familiar with our program.

UCF's College of Engineering and Computer Science thanks the many students, teachers, technical professionals and parents who continue to support our ISTF program and we wish our winners and all who participated every success with their continuing education.

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