

Friday, May 29, 2009

During fall of 2009, one hundred and fifty eight elementary, middle and high school student teams were enrolled to participate in the 2008-2009 ISTF Program. Following the preliminary round of judging, 60 teams advanced to the final round. Eight student teams emerged to capture top awards in the 12th annual [Internet Science and Technology Fair \(ISTF\)](#). The ISTF program challenges students to research the use of [National Critical Technology \(NCT\)](#) applications as they solve real-world problems using information technology tools. Students develop critical thinking 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 eight student teams that won the highest honors are from:

- Mainland High School, Daytona, Florida, where a student team researched "the need for extensive effective communication during disasters - between first responders, their local leadership, and the national response infrastructure".
- Bergen County Academies, Hackensack, New Jersey, where:
 - a middle school team focused their research on "limitations that quadriplegics have with motion and performing essential daily tasks"
 - a high school team researched how to "create a protective barrier for the lungs through the use of nano vaccines", and
 - a second middle school team researched a device that would alert an Alzheimer's patient when they have strayed beyond a certain distance.
- Sterling Park Elementary, Casselberry, Florida, where the student team researched the development of an "alternative fuel made from marine algae, otherwise known as seaweed".
- Don Bosco Prep High School, Ramsey, New Jersey, where a student team researched a system that would "recycle grey water and forms of water in the common household."
- Oakridge International School, Hyderabad, AP (India), where a student team researched if "genetically modified (GM) seeds (are) the only solution to the global food crisis".
- Dearborn Center for Math, Science and Technology, Dearborn, Michigan, where a high school student team researched the possible use of an "implant that would be inserted into the eye and it would communicate with a contact lens/camera to send visual messages to the brain, allowing the patient to see."

In addition, eight 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. As one student team reported,

"Without this strong communication, teamwork would not have been possible. Likewise, a product would have been impossible. It was the key to the team's success."

Regarding what a team learned about research and innovation.

"The members became more patient from the need to read the same article over and over until the information made sense. The team improved their researching skills as well, seeing that it was necessary to find legitimate sources. Most importantly, the members learned how to apply their new knowledge to solve real world problems."

Practicing professionals (such as scientists, engineers and medical technologists) participated as on-line subject matter experts, some reviewed the technical content of student teams' proposed innovations and others were final round judges. Below are remarks from two of the technical reviewers.

"The team took an approach that was generated through brainstorming. I noted some problems with the early concepts and they took a different tack. I let them run with it after that. It was their project and my early advise was taken to heart just fine."

"I believe they became more aware that before the start a research project they need to know literature about their project, state a sound hypothesis and list aims for their study. They became aware of many of the challenges any project may face during its execution, including science, feasibility and budget. Regardless if the teams is selected among best or not, I believe this training by itself should be considered a great accomplishment for the students."

Each year, the student teams that participate, owe their ISTF experience to the dedication of one or more pioneering teachers at their schools. Most teachers recognize the program as a learning experience that combines both theory and practice in a way that complements classroom activities. As one teacher indicated in his/her final analysis,

"ISTF provided the opportunity to research and practice science, technology, and other communities. They also benefited from improved communication skills through the team work, mentor/technical advisor interaction, and component completion. Perhaps most importantly, it enabled them to develop better social skills by working as a team."

The 13th annual ISTF competition officially starts in September 2009. 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.

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