



Intel ISEF

Highlights from Intel ISEF 2002

A Week of International Competition

Fair Honors Young Scientists From Around the World

Many finalists believe that participating at Intel ISEF is their ultimate goal, only to find that Intel ISEF is really a platform that helps them define their next scientific and technological challenge.

Meet the Intel Foundation Young Scientist Winners

After a week of intense judging, meeting with prominent scientists, and making new friends from around the world, three high school innovators were presented the Intel Foundation Young Scientist Award at Intel ISEF 2002. The three finalists each received a US\$50,000 scholarship, a trip to the Nobel Award ceremonies in Stockholm, Sweden, and a high-performance computer.

Meet the Top Five Teachers

Meet science teachers recognized for their excellence in teaching.

Students Have a Blast with Schmitt

Students at Intel ISEF meet with scientist-astronaut Harrison Schmitt, the last man to walk on the Moon.



Intel ISEF

Meet the Winners

Recognizing Tomorrow's Science
and Technology Pioneers

Intel Foundation Young Scientist Award

On Friday, May 17, 2002, three finalists received the highest award of the Intel International Science and Engineering Fair. Each of the finalists received a US\$50,000 scholarship, a trip to the Nobel ceremony in Stockholm, Sweden, and a high-performance computer.

Smaller, Faster, Cheaper

Alexander Mittal, 17, Greenwich High School in Greenwich, Conn. won the award for his chemistry project "Nanoconstruction with Self-Assembling DNG-PNA Complexes." The project has the potential to change the way computer chips are developed, resulting in smaller, faster, and cheaper electronic devices. This is Mittal's third year at Intel ISEF and he conducted his research at the N.Y.U. Department of Chemistry lab. A junior, Mittal loves the whole process of research, experimentation, and discovery and has applied for a patent on his work.



Bubble Evolution

Naveen Sinha, 17, Los Alamos High School, Los Alamos, New Mexico won the award for his Physics project, "Bubble-based Resonance-Doppler Sensor for Liquid Characterization." Sinha, a junior, developed a novel acoustic technique that can monitor the stages of an air bubble's evolution. The project has potential for use as a sensor in the chemical, environmental, food, and medical industries. A passion for science, experimenting, explaining his research, and converting findings into useful technologies is what drives Sinha. He has participated in Intel ISEF for the last two years and has applied for a patent on his most recent work.



Picture This

Nina Vasan, 18, a senior at Parkersburg High School, Parkersburg, West Virginia was selected for her Behavioral and Social Sciences project "A Picture is Worth a Thousand Words: The Timing of Guidance Visual Search." The project investigated the speed and effectiveness with which people learn using pictures versus words. Vasan is a first-time participant in the Intel ISEF and conducted her research at Harvard Medical School in the Brigham and Women's Hospital Center for Ophthalmic Research.





Intel ISEF

Meet the Top Five Science Teachers

Recognizing Excellence in Teaching Science

Meet the Teachers Who Make the Grade

Five high school teachers, finalists for the Intel ISEF Excellence in Teaching Award, were recognized for their teaching excellence. Representing the People's Republic of China, the Philippines, and the United States, these five educators each received a high-performance computer and an all-expense-paid trip to the 2002 Intel International Science and Engineering Fair (ISEF) held in Louisville, Kentucky, May 12-17.

The finalists were:

Pieyu Ye - Shanghai, People's Republic of China

Josette Biyo - Iloilo, Philippines

Julie Grady - Blacksburg, Virginia

Ernest Schiller - Donnellson, Iowa

Susie Stevens - Ada, Oklahoma

To be considered for the Intel ISEF Excellence in Teaching Award, entrants submitted a description of their respective teaching methods and a proposal for implementing these methods with a larger community of teachers. The entries are judged both on the current success of the method and its potential to benefit teachers and students in their community. Applicants must also demonstrate dedication to students, a positive attitude, and enthusiasm for teaching.

The teachers shared their innovative teaching methods during a special presentation to the many educators who attended the Intel ISEF. The finalists also participated in final judging interviews during the week and on Friday May 17, the Intel ISEF Excellence in Teaching Award was announced. The winner received a US\$5,000 cash award and a US\$20,000 teaching grant to extend her teaching method with educators and students in their community.



And the winner is ...

Josette Biyo teaches Science Research at Philippine Science High School. To teach students the research process, Biyo often takes her class on scientific adventures, which are field trips to research institutes in her region where students interact with practicing scientists. With her proposal, Biyo hopes to open the minds of teachers and students to a wide array of research topics through intensive science research workshops for teachers in the Western Visayas.

Read about the [Intel ISEF Excellence in Teaching Award](#) 



Intel ISEF

Students Have a Blast with Schmitt

Students Meet with Astronaut Harrison Schmitt

A Trip to the Moon and Beyond

Probably most adult Americans can name the first man to set foot on the Moon (go to the Astronaut Hall of Fame on the Web if you need a brush-up course), but who was the last man to walk on the Moon?

This year marks the 30th anniversary of Apollo 17's visit to the Moon, the last by humans. Harrison "Jack" Schmitt served as Lunar Module Pilot on Apollo 17—the only scientist (Schmitt has a Ph.D. in geology from Harvard) and the last of 12 men to step on the Moon.

Schmitt, who served as a judge at this year's Intel ISEF, spoke to a standing room only crowd of students and teachers. His spellbinding presentation was enlivened by his personal reminiscences of the historic mission and his reflections on the future of space travel, and was spiced with beautiful photos the crew took during the flight and their excursions on the Moon.



In 1965, Schmitt was selected by NASA as part of its first group of scientist-astronauts. While scientific experimentation was a secondary focus in the earlier space missions, science became a major focus of the program after the successful Apollo 11 Moon landing. Schmitt convinced NASA to move from laboratory training to more realistic simulations of the conditions humans would find on the Moon. For example, he and his Lunar Rover partner, Gene Cernan, navigated the volcanic soil of Schmitt's home state of New Mexico to prepare for their excursions on the lunar surface.

Because he was not a pilot, as all previous astronauts had been, Schmitt attended a year-long flight training program. Apollo 17 launched on December 7, 1972 and three days later Schmitt and Commander Cernan landed their ship the Challenger in a valley named Taurus-Littrow while Ron Evans orbited overhead in the Command Module America. Formed some four billion years ago and deeper than the Grand Canyon, the target landing space is ringed by mountains that reach an elevation of 7,000 feet.

Cernan and Schmitt spent about 75 hours on the surface of the Moon; 22 hours were spent doing 3 excursions aboard the Lunar Rover. Along the way, the two astronauts collected a variety of rock samples and planted one of 6 United States flags still waving on the surface of the Moon. During his talk, Schmitt showed detailed photos of the lunar surface, including shots of his own footprints that will stay on the Moon's surface for some 2 million years, and breathtaking shots of the Earth, shining colorfully some 240,000 miles away.

The scientist-astronaut, who obviously enjoyed his interaction with the young scientists at the Intel ISEF, ended his presentation by reminding the audience that the people who made the Apollo moon landings possible were in their twenties. Why? "They were not afraid to look for creative solutions to problems and they had no real conception of the possibility of failure." Good advice for our 1,200 Intel ISEF finalists in Louisville.



Intel ISEF

Excellence in Teaching Award

Awarding Excellence

The Intel® Innovation in Education initiative is focused on strengthening mathematics, science, and engineering education in more than twenty nations on five continents. As part of this objective, the Intel Foundation offers the "Intel ISEF Excellence in Teaching Award" for high school teachers worldwide. "The Intel ISEF Excellence in Teaching Award rewards science teachers for their enthusiasm and provides an opportunity for the teachers to share best known methods with their peers," said Carlene Ellis, Intel Vice President of Diversity and Education. "Dedicated teachers add magic to the education formula encouraging students, such as the 1200 Intel ISEF participants, to excel."

To be considered for the Intel ISEF Excellence in Teaching Award, entrants submit a description of their respective teaching methods and a proposal for implementing these methods with a larger community of teachers. The entries are judged both on the current success of the method and its potential to benefit teachers and students in their community. Applicants must also demonstrate dedication to students, a positive attitude, and enthusiasm for teaching. The winning teachers will receive cash awards, a high-performance computer, and an all-expense paid trip to the 2003 Intel International Science and Engineering Fair (ISEF) to be held May 12-17, 2003 in Cleveland, Ohio.

High school teachers from China, the Philippines, and the U.S., were recognized for their excellence in teaching science at 2002 Intel ISEF. The grand prize winner was Josette Biyo who teaches Science Research at Philippine Science High School Western Visayas in Iloilo, Philippines. In addition to winning the cash award of US\$5,000 and a high-performance computer, she also won a US\$20,000 cash award to enable her to expose teachers and students to a wide array of research topics through intensive science research workshops in the Western Visayas.