



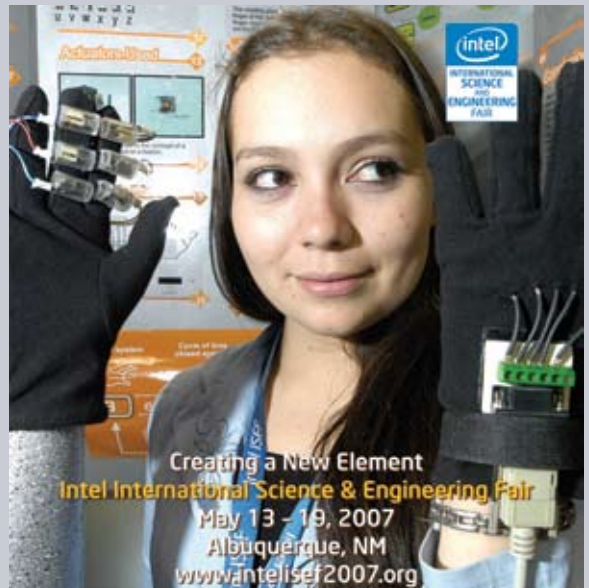
FOCUS ON EDUCATION

FALL 2006

MEETING AN EDUCATIONAL CHALLENGE

Sandia National Laboratories' vision is to be "the provider of innovative, science-based, systems-engineering solutions to our nation's most challenging national security problems." To successfully achieve this vision, Sandia needs the best and brightest scientists and engineers, yet nationally the number of high school graduates going into these technical fields is rapidly declining. To help reverse this trend, Sandia offers a wide variety of educational partnerships and programs to strengthen our future through the success of our children. While we are currently involved in over 15 programs, we will highlight a few here.

THE INTEL INTERNATIONAL SCIENCE AND ENGINEERING FAIR



A student with her project at the Intel International Science and Engineering Fair.



A STAR student presents her research on the growth of biofilms at the 2006 SNL Student Symposium.

For additional information on these and our other programs, including volunteer opportunities, call 284-5200 or visit the Adventures in Science and Knowledge web site at www.sandia.gov/ASK.

For the first time in 25 years, Albuquerque will host the International Science and Engineering Fair (ISEF) during the week of May 13–19, 2007. ISEF is the world's largest pre-college science fair and a celebration of science. Almost 1,500 high school students from the U.S. and 40 other countries will compete for nearly \$4 million in scholarships, tuition grants, and internships at the Intel sponsored ISEF. Sandians are needed as judges (1,200 are needed!) or as general volunteers. For more information, to sign up as a judge, or to volunteer please visit <http://www.sciserv.org/isef/>.



Sandia National Laboratories

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2006 SCHOOL SUPPLY DRIVE

Scientists and engineers need the proper tools and equipment to do their jobs to the best of their abilities. To enable many Albuquerque elementary school children to perform their “jobs,” generous Sandians donated 27,671 pencils, erasers, crayons, pens, backpacks, glue sticks, and other related school supply items. Eight Albuquerque elementary schools, the APS Homeless Project, and two community programs were the happy recipients of this year’s mountain of school supplies.



Just a small part of the almost 28,000 school supply items donated by Sandians.

WHAT'S GOING ON THIS YEAR?

- The Write Thing to Do - October 20, 2006 (essays due)
- Sandia Student Science Symposium (S⁴) - November 7, 2006
- Middle School Science Bowl - December 2, 2006
- Lil' Al's Lab - Opens Dec. 16, 2006 at the NAM Museum
- High School Science Bowl - February 10, 2007
- School to World - March 10, 2007
- Pi Awards - April 25, 2007
- International Science and Engineering Fair - May 13 - 19, 2007
- MANOS - Spring 2007
- Dream Catchers - June 2007
- HM Tech - June 2007

HANDS-ON, MINDS-ON TECHNOLOGIES PROGRAMS

Celebrating its 20th Anniversary in 2006, HMTech Summer Science Program continues to encourage African American students to pursue technical careers by offering a four-week, hands-on, science and engineering experience. The Dream Catchers Program seeks to inspire American Indian students. Both programs are held in the summer, for middle and high school students, are open to students of other races and offered at no charge, and encourage parental involvement to assist course instructors. The Manos Program is offered in the spring and serves Hispanic students attending public schools in the West Mesa and Rio Grande clusters. Over the past six years, the three programs have reached over 3,000 students and were supported in 2006 by over 140 volunteers. In 2003, these programs were presented with a Department of Energy's Best Practices Award.



Hands-On, Minds-On Technologies (HMTech) utilizes a hands-on approach to encourage students to pursue technical degrees.

STRENGTHENING QUALITY IN SCHOOLS

Strengthening Quality in Schools (SQS), a partnership between the Governor's Business Executives for Education, New Mexico Public Education Department, and Sandia National Laboratories, is designed to teach educators and school administrators a systems approach to continuous improvement guided by the criteria of the Baldrige National Quality Program. SQS offers training workshops in Albuquerque, Alamogordo, Aztec, Farmington, Las Cruces, and Shiprock.

COMMUNITY INVOLVEMENT

LIL' AL'S LAB

On Saturday, December 16th, the National Atomic Museum will launch a new exhibition area called Lil' Al's Lab. Al's Lab is designed for children, and it features exciting, science-based interactive exhibits and hands-on "discovery boxes." Children of all ages can use the Lab to explore some basics of science and engineering, while learning at their own pace.



While riding his remotely operated tricycle, Lil' Al Einstein's head pivots and his mouth moves along with his many words of wisdom.

The centerpiece of the Lab is Lil' Al, a robot that resembles Albert Einstein and recites inspirational quotes on science, knowledge, and learning. The Museum will offer in-house and mobile outreach curriculum for kindergarten through second-grade classes during the 2006–2007 school year. Look for an all new museum, renamed the National Museum of Nuclear Science and History, at the southwest corner of Eubank and Southern in the fall of 2008.

SANDIA STUDENT SCIENCE SYMPOSIUM

The Sandia Student Science Symposium (S⁴) is an exciting evening event that challenges local high school students to think scientifically. Members of Sandia's Advanced Concepts Group select and lead group discussions on scientific topics that affect us now or in the near future. After an opening talk by Vice President Gerry Yonas, the potential scientists, mathematicians,

and engineers from high schools across the city divide into teams to brainstorm various topics.

According to one past participant, "The symposium was an incredibly worthwhile event in which we were able to discuss future problems facing our own generation's policymakers."

THE WRITE THING TO DO

Sandia's The Write Thing to Do annual essay competition seeks to encourage our future engineers and scientists to become better writers, to think scientifically, and to spark their enthusiasm for the sciences. The participating high school students choose one of four questions and answer it in 750 words or less. The five winning students are awarded a \$2,000 U.S. Savings Bond.

FAMILY SCIENCE NIGHTS

Family Science Night is geared towards the youngest potential scientists, engineers, and their parents. A Family Science Night is an evening program of hands-on science activities held at area elementary schools that provides an opportunity for students and their families to work together to conduct simple inquiry-based, age-appropriate science activities.

During the 2005-2006 school year, over 3,200 elementary students at over 40 local schools participated in Family Science Nights. Instructions are provided in both English and Spanish.



Family Science Nights get everyone involved in scientific discovery.

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BACK TO SCHOOL VOLUNTEER OPPORTUNITIES



CroSSLinks - Volunteers share their love of science in local elementary school classrooms using provided inquiry-based science kits. Contact Amy Tapia, 284-5207 or astapia@sandia.gov.

Valle Vista Math Tutors - Volunteers tutor 4th and 5th graders once a week for one hour at Valle Vista Elementary School. Training and materials are provided. Contact Norb Tencza, 284-5450 or nftencz@sandia.gov

Albuquerque Reads - Volunteers tutor kindergarten student's once a week for one hour to help them learn to read at Bel-Air, Wherry, and Atrisco Elementary Schools. Contact Patty Zamora, 844-2146 or pgzamor@sandia.gov.

Rocket Reader - Volunteers tutor first and second grade students once a week for one hour to help them learn to read at Montezuma, Sierra Vista and Oate Elementary Schools. Contact Peggy Mahon, 842-8787 or pmahon@campfire.org.

Visit us at <http://www.sandia.gov/about/community/index.html> or call **(505) 284-5200** for more information.

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