Inspiration and education in New Mexico

White Sands Test Facility employees inspire local students from second grade to college

By Cheerie R. Patneaude
White Sands Test Facility

"…inspire the next generation of explorers…"

Employees at Johnson Space Center's White Sands Test Facility (WSTF), near Las Cruces, N.M., have taken this line of the NASA Mission to heart. WSTF employees regularly take time out of their schedules to work with schools in their community and inspire kids about science, math and space.

"These kids are our future leaders," said Barry Plante, Chief of WSTF's Engineering Office. "I wouldn't be surprised if one of them becomes a next-generation space explorer."

On May 9, Plante presented a NASA certificate and a medal to each member of Patricia Mihok's second-grade class at Jornada Elementary School for their work on an outstanding research project. The class spent weeks collecting data on the wildlife in the Chihuahuan Desert, where Las Cruces is located, before compiling a report that was "graded" by professionals at JSC as part of the NASA Student Improvement Program.

Below are just a few of the other recent education events of which WSTF was a part.

Ed Cruse supervises a group of students as they perform a simulated Space Shuttle mission with software he developed.
Photo courtesy of the White Sands Test Facility

Simulated Shuttle missions teach teamwork

Ed Cruse, an electronics technician for Honeywell Technology Solutions Inc. at WSTF, has spent the last five years perfecting a computer program that simulates a Space Shuttle mission from launch to landing. Cruse is a longtime member of the Science Advisors (SciAd) Program, where experienced math, science and technology experts work with teachers to promote student interest in science and an appreciation of a technical career.

"Kids want grownups to pay attention and to work with them," Cruse said. "With the simulator, this is easy to accomplish, and at the same time, they learn about the space program."

The objective of Cruse's simulated mission is to launch the Shuttle, repair a satellite's propellant leak and return safely to Earth. Students must complete the mission before running out of their resources – oxygen, hydrogen, fuel and oxidizer. The program puts the responsibility of completing the mission squarely on the student's shoulders. If they take too much time or are not paying attention, the Shuttle crew will run out of resources and not survive.

"When they have completed a successful mission, the kids feel they have accomplished something very difficult and have learned the value of working as a team," Cruse said.

Engineer participates in Alliance for Minority Participation

Jo Leyva, a Honeywell mechanical engineer at WSTF, was a panelist for a discussion held this year at New Mexico State University (NMSU). The panel was sponsored by the New Mexico Alliance for Minority Participation (AMP), and addressed students in a NMSU course entitled SMET 101: Introduction to Science, Math, Engineering and Technology. AMP designed SMET 101 for community college transfer students and incoming freshmen who are uncertain about their career goals, but who are interested in SMET fields.

Leyva was joined by other local SMET experts, including a civil engineer and a range scientist, as well as by Dr. Ricardo Jacquez, the Director of AMP.

Leyva's advice to SMET students was not to worry about "cultural barriers," always apply business ethics and values in the workplace, and study hard because "'winging it' is a trap to career stagnation and regret."

"Good grades plus the determination to succeed is the way to go," Leyva said to the students.

Jo Leyva, far left, participates in a panel discussion that was sponsored by the New Mexico Alliance for Minority Participation (AMP). The panel consisted of Leyva, a WSTF mechanical engineer; Vivie Todacheene, a range scientist; Jose Terrones, a civil engineer; and Dr. Ricardo Jacquez, Director of AMP.
Photo courtesy of the White Sands Test Facility

WSTF women inspire young students

The "Girls Can!" Career Awareness Conference was held March 1 at Lynn Middle School for more than 140 sixth-grade girls from the Las Cruces and surrounding communities. The event was sponsored by the American Association of University Women and provided an array of careers for the girls to consider.

Sonja Wood, Cheerie Patneaude and Moira Romansky, all from WSTF, helped guide 12 girls through a simulated Space Shuttle mission at the conference – using the program designed by Cruse, another WSTF employee.

In an adjoining room, another demonstration was performed by WSTF women. Deb Chowning, Mary Burke and Jill Rollings demonstrated the effects of liquid nitrogen on flowers, and of a vacuum environment on balloons and marshmallow treats.

Each demonstration and discussion in the conference gave the attending girls a glimpse of a possible career – perhaps one that they had not considered before.

Among the women representing their careers were a veterinarian, archaeologist, pharmacist, wildlife biologist, artist, architect, editor, lawyer, engineer and a firefighter. Workshops for the girls' parents were also provided.

"This fair has helped me choose a science career for my profession," said Kelsi Plante, daughter of Jan and Barry Plante (NASA WSTF) and a student at Vista Middle School.