

# Co-op students bring enthusiasm to JSC, get experience in return

By Lisa Tidwell

**K**aren Nyberg still recalls how she entered the gates of Johnson Space Center excited, but a little overwhelmed, to begin her work as a Cooperative Education (co-op) student.

It was January 1991 and the University of North Dakota junior was joining the Automation and Robotics group. Upon arrival, she was given a project: The Robot Friendly Probe and Socket Assembly. It eventually led to a patent.

After her success here at JSC, that co-op went on to earn her doctorate and, nine years later, started Astronaut Candidate Training in August 2000.

This is just one of the numerous success stories to come from the JSC Cooperative Education Program in its 41-year history. However, students are not the only ones who benefit from the program; JSC team members also benefit from the talents of young minds.

"The students' enthusiasm helps JSC continue to be a great place to work," said Kim Wilson, a three-time co-op mentor in Human Resources. "It is an outstanding program that produces loyal JSC employees."

Since its conception, NASA has relied heavily on its co-op program as a source of potential employees. Co-ops are vital to the Center's continuing commitment to technological advancement and excellence.

## A valuable JSC resource

The JSC Cooperative Education Program began in March 1961. Today, Co-op Program Manager Bob Musgrove runs it with the assistance of Sharon Evans. Approximately 160 students, representing more than 50 schools, are in the program.

The majority of co-ops are undergraduates majoring in engineering, although a limited number of business and computer science students, as well as graduate students, are in the program. The application and interview process is highly competitive: Typically more than 800 resumes are received each year for 50 new co-op positions.

To qualify, an applicant must be a full-time student at a four-year college or university and maintain at least a 3.0 grade point average with the usual GPA being closer to 3.5. "Most of our co-ops are overachievers," Musgrove said.



NASA JSC 2002e33647 photo by Bill Stafford  
**Bob Musgrove (right) and Sharon Evans coordinate the Cooperative Education Program. Here, they are shown being honored by the students for their hard work and dedication.**

treadmill problem is being developed by student Dean Blom, while Public Affairs co-op Julie Burt develops content for the *Horizons*, a spokesperson's guide for the ISS.

The students work in entry-level positions in human resources, public affairs, mission operations, crew training and every aspect of science and engineering. Musgrove said co-ops typically change divisions at JSC with each tour, which helps them find the best place for them at the Center. After graduation, co-ops can go on to many roles within NASA.

"(Co-oping) gave me an opportunity I might not otherwise have had," said former co-op and current JSC Newsroom Chief Eileen Hawley. "The Center thinks highly of the people that come into the co-op program."

Students have worked hard over the years to gain that respect. "The co-ops tend to exceed our expectations of a student employee," Musgrove said.



NASA JSC 2002e33645 photo by Bill Stafford  
**Co-op Louis Malone II, left, works with his mentor Mike Belansky in the Space Station Training Division Project Office. Prior to his JSC co-op opportunity, Malone was a computer science instructor at University of Houston-Downtown. 'I will never forget how much credibility the people in my area placed upon me,' Malone said.**



NASA JSC 2002e33644 photo by Bill Stafford  
**Jaime Strandmark, at right, an aerospace engineering and mechanics senior at the University of Minnesota, is completing her third and final tour at JSC. Besides helping train the crew of STS-110/8A for their space walk activities, the two-time world champion trampolinist Strandmark is currently training for the 2004 Olympics in Athens. She is pictured here with her mentor, Dana Weigel, and Astronaut Michael Lopez-Alegria (Captain-USN).**

## A special bond

Co-ops could not do all of these projects alone: Mentors are the key to success for the co-op program. The students in the program are paired with mentors to help them navigate through their tours. Mentors help foster a positive learning experience for their students.

This relationship benefits the mentor as well as the student. The mentor develops coaching skills important to success as a supervisor, and gains satisfaction from developing new talent. Through mentoring, employees can shape the future of their organization and influence a co-op's career path.

To show their appreciation, co-ops can nominate their mentor for a mentor award.

The selected mentors are included in the Co-op Mentor Hall of Fame, which is located at <http://coop.jsc.nasa.gov/mentor/halloffame.htm>.

"It is a win-win situation," said former co-op Brad Strong of the Systems Training Branch. "Not only do the students get a great experience, they produce products." ❖

To learn more about the co-op program, visit <http://coop.jsc.nasa.gov/>

## The life of a co-op

A co-op also must be available to complete three rotations at JSC prior to graduation. Those work tours provide the student with valuable, hands-on work experience in between semesters at school.

For example, co-op students Nick Skytland and Jessica Bicks are developing a better way for astronauts to shower during their stay aboard the International Space Station. New hardware to fix the ISS's

A CLOSER LOOK: ASTRONAUT JANICE VOSS



NASA JSC S99-10566

Janice Voss worked with parachute pyrotechnics when she started at NASA as a Cooperative Education student in 1973.

Shortly after starting, she was moved to Bldg. 16 and the Shuttle Avionics Integration Lab (SAIL) where she wrote code to simulate the environment that the shuttle would see in flight. Voss worked five co-op tours while obtaining her bachelor's degree from Purdue.

In 1991, after earning her doctorate from the Massachusetts Institute of Technology, Voss was selected as an astronaut. Today she flies in the SAIL facility where her environmental code is still used. Dr. Voss has stayed involved with the co-op program by renting rooms in her home to students.

"The main difference is the program is more socially organized, there is more bonding between the students," she said.

Even after nearly 30 years since working as a co-op, Dr. Voss said, "The jobs are very similar; the students are still doing real work."

Get to know our co-op students! Read their biographies at: <http://coop.jsc.nasa.gov/biography/biographies.htm>

# Safety & Total Health Day is right around the corner

**J**ohnson Space Center's Seventh Annual Safety & Total Health Day will be Wednesday, Oct. 23. This year's theme is "Be safe, for the health of it."

The event will include various speakers, shows and booths to help JSC employees work – and live – safely. One of those scheduled speakers is Center Director Lt. Gen. Jefferson Davis Howell, Jr. While Howell believes JSC has "a wonderful safety record," he stressed that there is always room for improvement. He called Safety and Total Health Day "a reminder to us, sort of like the booster shot you take from time to time, to make us reflect on what it takes to really be a top-running, safe organization."

In addition to the activities on Oct. 23, Safety & Total Health Day will be given a kick-start by a few events the week before. Below is a schedule of the activities:

## Wednesday, Oct. 16

11:30 a.m., Teague Auditorium. Dr. Robert Conn: "Changing Behavior to Avoid Injuries." Dr. Conn, a former pediatric heart surgeon, founded the SmartRisk Foundation and now speaks publicly about injury prevention.

7 p.m., Gilruth Center Ballroom: SmartRisk Foundation's HEROES program. HEROES is an innovative road show designed to encourage young people to take risks, but to do it safely. JSC civil servant and contractor employees are encouraged to bring their families to this event. Entry to the Gilruth Center is through Gate 5.

## Thursday, Oct. 17

7 p.m., Gilruth Center Ballroom: SmartRisk Foundation's HEROES program. (See Oct. 16 listing for details.)

## Wednesday, Oct. 23

11:30 a.m.-3:30 p.m., JSC's mall area: booths providing information on safety, health and the environment.

11:30 a.m., Teague Auditorium: Center Director Jefferson Howell. Opening remarks.

12 p.m., Teague Auditorium: Lt. Col. Graham Buschor, Chief of Safety of the 106th Rescue Wing, New York Air National Guard. Buschor was one of the pilots responsible for a dramatic rescue at sea featured in the novel *The Perfect Storm*. He will recount the event and provide information on boating safety.

1 p.m., Teague Auditorium: Billy Robbins. Robbins lost both of his hands in an accident with a power line, and now uses his experience in his presentations about accident prevention. Robbins uses a humorous yet direct approach when speaking about achieving an accident-free workplace.

2:30 p.m., Teague Auditorium: Daren Brooks, founder and CEO of Health Restoration Systems. Brooks will speak about stress. In addition to maintaining a rehabilitation center for chronically ill patients, Brooks teaches stress management sessions at NASA and at Wyle Laboratories.

3:30 p.m., Gilruth Center: JSC Health Run/Walk. Directorates compete for the George W. S. Abbey Award. If interested, sign up through the Safety and Total Health Day Web site: <http://www4.jsc.nasa.gov/safety/index2.htm>.

# Lunar rocks land at White Sands Test Facility

By Cheerie R. Patneau

A portion of NASA's lunar rocks and soil sample collection from the Apollo Program has been housed in a super-clean, secure vault at Brooks Air Force Base in San Antonio for many years. This was done to provide an alternate storage location in the unlikely event a disaster was to befall the primary collection at Johnson Space Center in Houston.

However, the Air Force base is being deactivated and the samples must be relocated later this year. When selecting a new home for the collection, many factors had to be considered, such as seismic activity, susceptibility to hurricanes or tornadoes and physical security.

In the end, NASA Johnson Space Center's own White Sands Test Facility (WSTF) near Las Cruces, N.M., was given the honor.

A secure keeping room consisting of a 10-by-12-foot vault and an attached 8-by-16-foot Class 1000 cleanroom were constructed inside an existing building to house and secure this 52-kilogram portion of the full 382-kilogram collection. Slated for storage at the test facility is 4.5 percent of the total NASA samples.

Justin Kerr, Lisa Vidonic and Jack Warren are a few of the NASA JSC personnel working with WSTF engineers to ensure the integrity of these priceless specimens for many generations to come.

Dr. Gary Lofgren, NASA Lunar Curator at JSC, said the WSTF lunar facility "is a joint effort between JSC and the test facility in a collaborative effort to maintain the integrity of the lunar samples."

The diverse collection at WSTF will never be on display. The rocks and soil samples to be stored there are kept in hermetically sealed, triple-wrapped Teflon bags. These bags are packed into gallon-sized stainless-steel containers with bolted tops, purged with dry nitrogen and stored in a stainless-steel cabinet inside the bank-like, double-locked reinforced concrete and steel vault.

"The stored lunar collection will be secured at the test facility as a precaution against a catastrophe – such as hurricane, theft, vandalism, physical abuse, a chemical reaction due to exposure to Earth's atmosphere – and to prevent contact with terrestrial matter," said Richard Von Wolff, who is the NASA WSTF Project Manager for construction of the secured lunar storage facilities.

Even though most of them will never see the collection, all WSTF team members still have something to get excited about.

"A large museum-grade Moon rock will be on temporary display for the test facility personnel, with an accompanying story board," Von Wolff said.

If JSC needs the samples for experiments or any other reason, Von Wolff said the collection would be shipped back and opened under a glove-box operation to maintain the integrity of the samples. The items are catalogued by Moon landing site and collection point, with a numbering scheme distinguishing soils from rocks.

"Many people may think the rocks and soil samples are a dull Moon-dust color, judging by the color of the Moon itself. However, the lunar samples actually do have some color and many contain crystals," Von Wolff said.

These samples won't be the state's first lunar samples.

"The New Mexico Museum of Space History at Alamogordo currently has a larger lunar rock on public display, courtesy of NASA," Von Wolff said, "and there is another on public display in the Museum of Natural History at Albuquerque." ❖

## Even after three decades, they continue to captivate

"The lunar collections are still exciting to us 30 years later," Dr. Gary Lofgren, NASA Lunar Curator at JSC, said.

Today, around the world, between 50 and 60 scientists research the samples. Currently, there are 300 to 400 samples sent out for scientific study each year, Lofgren said.

The results of these studies are presented annually at the Lunar and Planetary Conference in Houston. Of the 12 to 13 scientific sessions each year, typically two or three of them are devoted to the study of lunar samples, he added.

"NASA also asks the National Academy of Science for recommendations on future missions," Lofgren said. "The academy has recommended that NASA send a mission to the Moon to collect more samples.

"The academy gave this mission a high priority, and this mission would also provide a good opportunity to test techniques for collecting samples on Mars. Perhaps a lunar robotic mission can be a possibility in five to seven years."

A CLOSER LOOK: THE LUNAR SAMPLES

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SPACE CENTER  
**Roundup**

# Profiles

## Hispanic Heritage Month Observance

Sept. 15- Oct. 14

### Gerard D. Valle

**Time at JSC:**

15 years

**Organization:**

EB2: Project Development Branch

**Position title:**

TVIS 1.1 Project Manager

**Education:**

Bachelor's of Science in Aerospace Engineering, Texas A&M University

**Place of birth:**

San Antonio, Texas

**Hobbies:**

Family activities, sports and riding my motorcycle.

**What does Hispanic Heritage Month mean to you?**

Being proud of my heritage.

**Favorite words of wisdom:**

Have fun and do the right thing.



NASA JSC 2002e34384

### Natalie V. Saiz

**Time at JSC:**

17 years

**Organization:**

Human Resources Office

**Position Title:**

Chief, Human Resources Management Branch

**Education:**

Bachelor's of Business Administration, University of New Mexico  
M.A. in Human Resources Management, University of Houston-Clear Lake

**Place of birth:**

Albuquerque, New Mexico

**Hobbies:**

Working on Creative Memories scrapbooks for my three children, beginning yoga, reading all the Harry Potter books

**What does Hispanic Heritage Month mean to you?**

I think about my grandmother, who raised five children on her own. My grandfather died from tuberculosis in his 30s since he worked in the potash and copper mines early in his life. I think about my grandmother's encouragement and faith she had in me. She has been my rock and someone I always look up to. My grandmother is very wise and instilled a sense of pride about my culture. She was also very progressive and always encouraged me to reach for the stars. I thank you, Tana, for being the most wonderful grandmother in the world!

**Favorite words of wisdom:** It's very important to keep a balance between your family and work life.



NASA JSC 2002e33845

### Yolanda G. Garza

**Time at JSC:**

Five years

**Organization:**

University of Texas-El Paso/  
NASA Office

**Position Title:**

Management Assistant

**Education:**

Currently attending the University of Texas-El Paso

**Place of birth:**

San Antonio, Texas

**Hobbies:**

Traveling and painting

**What does Hispanic Heritage Month mean to you?**

It means that we celebrate and recognize the many accomplishments Hispanics have achieved and contributed in the building of this nation. We should be grateful to our Hispanic forefathers as they laid the groundwork for us. They suffered through tough times to ensure their offspring reaped the benefits of their work and that Hispanics gained recognition as an equal amongst men.

**Favorite words of wisdom:**

"The tragedy of life doesn't lie in not reaching your goal. The tragedy lies in having no goal to reach." – Benjamin Mays



NASA JSC 2002e14055

### Beto Sanchez

**Time at JSC:**

22 years

**Organization:**

Mission Operations Directorate, DA8/Flight Director Office

**Position title:**

Assistant for Program Integration

**Education:**

B.S. in Mechanical Engineering, University of Texas

**Place of birth:**

Columbus, Wisconsin

**Hobbies:**

Travel, sailing, windsurfing and bicycling

**What does Hispanic Heritage Month mean to you?**

It gives me some good reminders of things that my grandparents and parents might have seen, known, done and been.

**Favorite words of wisdom:** You have to be strong enough in order to be able to afford to absorb the cost of being good and doing the right thing.



NASA JSC 2002e34382

### Frank Moreno

**Time at JSC:**

17 years

**Organization:**

Space Shuttle Program

**Position title:**

Payload Integration Manager

**Education:**

B.S.E. in Electrical Engineering, University of Houston

**Place of birth:**

Houston, Texas

**Hobbies:**

Reading, traveling, running, training with weights

**What does Hispanic Heritage Month mean to you?**

To me it means having Spanish blood in your lineage. With it comes a heritage of unfortunate misdeeds but also a heritage of the greatest explorers that have ever lived. These explorers extended Spanish presence to every part of the world and were instrumental in the development of western civilization. Our racial diversity is the spice of life; we come in all colors but all speak Spanish and are strong in faith. There is a basic instinct to enjoy (gozar) our families and life itself that is ingrained in each of us.

**Favorite words of wisdom:** "Be strong in faith" and "Life is what you make of it."



NASA JSC 2002e33844

Photos by Bill Stafford

## SPACE CENTER Roundup

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