

Darlene Black: One more torch to pass By Kaye Collier

Imagine that you're on top of a mountain in California on a soft, star-filled summer evening. You and around 60 other people are there for a star party and picnic. Several of the number are astronomers – stargazers extraordinaire who have with them not only a variety of high-tech high-powered telescopes, but also a vast store of knowledge about the universe that they share with you and others.

Nineteen of the “others” are teachers, like yourself, who are in the Golden State for the same reason you are: they are among a select group of educators tapped to attend the 2006 ASEC Summer Institute and to receive training in the use of classroom materials developed by NASA.

This star party is but part of the frosting on the cake.

Coveted Honor

Darlene Black, a fifth-grade science teacher at Marlow Elementary School, recently returned from California, where she participated in the ASEC Summer Institute, a four-day program that provides America's grade school teachers with hands-on training in the use of classroom materials developed by the Airspace Systems Program of the National Aeronautics and Space Administration.

Darlene was one only 20 award-winning teachers from the nation's K-12 classrooms selected by NASA to join a nationwide network of teacher-mentors to help inspire the next generation of explorers.

Educators tapped for the Airspace Systems Education Cohort (ASEC) received their special training July 19-22 at NASA Ames Research Center in Moffett Field, Calif.

The ASEC was created at NASA Ames under the sponsorship of the Airspace Systems Program as part of its commitment to NASA's mission to “inspire the next generation of explorers” to pursue careers in science, math, engineering and technology.

Now in its second year, the ASEC program uses a train-the-trainer model of professional development to engage participants in scientific inquiry at the leading edge of education and technology.

In order to be accepted in the program, Darlene underwent a rigorous and competitive selection process that included a review by a committee of NASA researchers, educators and program managers.

“The teachers selected for the program have an impressive array of skills, interests and backgrounds that will serve NASA well as they return to their districts,” noted Liza Coe of the education division at NASA Ames.

Curriculum

Classes at Ames were conducted in a historic supersonic wind tunnel.

“It was the same classroom where I attended training at NASA when I was there during the Galileo Project in 1995,” Darlene stated.

The first day's schedule included tours of flight simulators for a moon lander, a helicopter, a fighter jet, a space



shuttle and a 747.

“I sat in the pilot seat of the 747 and made a perfect landing,” she recalled. “I think it was actually an automatic landing but it was still exciting.”

On a given evening during the course of the program, approximately 60 people attended a star party and picnic on the crest of a mountain in the Monte Bello preserve located in the Santa Cruz mountains.

“About a dozen astronomers were there with various-sized telescopes,” Darlene remembered. “Several had 12-inch mirrors and many different filters and eyepieces, and two of the telescopes were operated by remote control. The astronomer typed in the star or planet, then the telescope rotated and zoomed to that spot.”

The astronomers imparted a great deal of information and told “star stories” during the evening, she added.

The teacher-trainees also toured a simulation of an air traffic-control tower. The project in the tower at the time of tour was the redesign of Chicago's O'Hare airport.

Afterward, participants were shown a genuine 360-degree photo taken on Mars from the Pathfinder.

“That was such a different experience,” Darlene said. “It felt like you were walking on Mars. And when we put on 3-D glasses, it looked like we could reach out to touch the rocks.”

The trainees also toured the robotics lab and another lab where astronauts practice driving robots for the exploration of Mars.

Participants made gliders, enhanced their skills on the software products, and received free materials for their classrooms.

Also included in the curriculum were lectures and workshops.

The teachers also shared with each other ideas and information regarding foldables, grant opportunities, websites, books published, and space and science week activities. Darlene discussed her Instasnow activity.

The highlight of the institute was a banquet at the Hiller Aviation Museum, for which astronaut Dr. Janice Voss was keynote speaker. Voss has taken part in five space shuttle missions and presently serves as science director of the Kepler spacecraft at NASA Ames. Kepler will be launched on a Delta II, Darlene Advised, in quest of earth-sized planets revolving around distant stars.

Passing the torch

Darlene and the other 19 educators have returned to their educational communities to train others in the use of NASA-developed classroom materials.

In addition to training other educators in the Marlow school system, Darlene has obligated herself to train teachers at the annual convention of the Oklahoma Education Association (OEA) in October, as well as at the Conference for the Advancement of Science Teachers (CAST) scheduled for November.

In fact, early-on, even as she applied for acceptance into the program, the ASEC asked Darlene to sign a letter of commitment to the following responsibilities, among others, during the 2006-'07 school year:

- making a half-hour presentation before her local education community at an event such as a departmental meeting or a staff meeting;

- being an active member of ASEC's online community;

- conducting one or more workshops offering in-depth, hands-on training for more than two hours, with at least 15 other teachers participating;

- conducting one or more workshops, each with a minimum length of 50 minutes, with at least 60 other instructors in attendance; and

- ensuring that program leaders were notified of any alterations in teaching assignments or contact data that may occur prior to the completion of her workshop commitments.

Out of this world

Darlene's interest in – no make that love for – all things aerospace goes back a number of years. The seed was planted when she attended the Oklahoma Aerospace Academy's "Teaching Tomorrow Today" program at the University of Oklahoma when it was under the direction of Freda Deskin, one of the top 10 NASA-appointed instructors in the Teachers in Space program.

Later, during a special tour associated with lunar certification at the Johnson Space Center in Houston, Darlene was in the presence of Ron Howard and Tom Hanks as they were filming Apollo 13.

She has visited NASA Houston six times, but during the first five visits, the space shuttle was in flight. Because of this, security was tight and she therefore had never had an opportunity to see the space administration's mission-control area.

However, on a recent Level Nine tour, her group was

accorded an unusual honor – to go inside the historic control room "and even sit in the flight director's chair," she pointed out.

"I had chill bumps go all over me as we entered mission control and I thought of the conversations that had gone on there during the landing of the first man on the moon, the first space shuttle flight, and the problems during the Apollo 13 mission," she elaborated.

Past Accomplishments

Darlene has an impressive resume. A national board-certified teacher, she holds a master of education degree. She has been named Marlow's Teacher of the Year and has received the Teacher of Today Award conferred by the Masonic Lodge.

In addition to her most recent pursuit and others already mentioned, she has been awarded scholarships to attend many renowned summer institutes. This includes the NASA educational workshop for elementary teachers in California; another at the advanced science and technology center in Oklahoma City University; a program centered on Colonial Williamsburg in Virginia; Project Atmosphere sponsored by the American Meteorology Association in Missouri; and an earth storm seminar and another on space shuttle photography, both at the University of Oklahoma.

Darlene has also taken part in programs focused on NASA mission geography, this one staged at Texas A&M University; on agriculture in the classroom sponsored by Oklahoma State University; on K-8 science and math (KSAM) at

SWOSU; and on Progressive American Citizenship Education (PACE) sponsored by the Oklahoma Bar Association.

Other programs in which she participated included one presented by the Oklahoma Alliance for Geographic Education held at OU; Great Expectations with Charlie Hollar; and the Harry K. Wong effective teaching workshop.

Teaching Philosophy

Looking back on her learning venture at the Ames Research Center in California, Darlene had this to say: "I am a teacher dedicated to making learning fun, relevant, rewarding and successful. Students should be able to explore, discover and think their way through learning while feeling successful.

"My teaching style involves lots of hands-on, fun and motivating projects," she continued. "These new NASA Airspace System software products do that using technology."

Some of Darlene's favorite classroom projects have been a hot-air balloon launch, a space shuttle simulation, dry-ice investigations, the designing of film canister rockets, a mini-space camp, a rain forest simulation, and the making of solar nachos and slime.

She attempts to instill a motto for studying into the minds of her students: "So much to learn, so much to explore, so many exciting challenges, and opportunities galore."

"It takes only one person to influence a child's life," she said in summation. "I could be that person. Christa McAuliffe said it best: 'I touch the future...I teach.'"