

Educator astronaut tackles a new frontier

LAUNCHING HER

By Mike Journee

A LITTLE OVER A YEAR AGO, BARBARA MORGAN, NASA'S EDUCATOR ASTRONAUT, HAD A HAM RADIO QUESTION-AND-ANSWER SESSION FROM SPACE WITH ELEMENTARY SCHOOL CHILDREN IN MCCALL, IDAHO.

**THE FINAL EXCHANGE WENT LIKE THIS:
LINDSAY IN MCCALL: "IF YOU HAD TO CHOOSE ONE, WOULD YOU BE AN ASTRONAUT OR A TEACHER?"**

MORGAN: "DO I HAVE TO CHOOSE ONE, OR CAN I DO BOTH ... PLEASE?"

With one phrase, Morgan summarized an amazing career that has made history by bridging the gap between the classroom and space. And at its essence, her next challenge will be exactly the same – even if it lacks g-forces, weightlessness and views of the Earth from space. As Boise State's Distinguished Educator in Residence, Morgan's role will be to act as an ambassador for science, technology, engineering and mathematics (STEM) education – and build on her success as an educator astronaut.

BARBARA MORGAN, educator astronaut, visits with students during a demonstration at NASA's Johnson Space Center Houston.

the experience and the charm to do a job like this. Barbara's definitely one of them. It is really a coup that we were able to bring someone of Barbara's caliber here to Boise State."

"It's an entirely new position created specifically for a uniquely qualified person," says Cheryl Schrader, dean of the College of Engineering. "There are few people with



NEXT ENDEAVOR



photo provided by NASA

With a dual appointment in the colleges of engineering and education, Morgan will help focus the university's development of STEM-related programs, help raise awareness of the need for scientific literacy in the community and push for the enhancement of STEM learning at all levels of education in Idaho. Also, she will direct Boise State's efforts to bring NASA education programs to area school districts and NASA-related research to Boise State. She'll also serve as a guest lecturer and student mentor in departments across campus.

Morgan's focus on STEM is essential because of a growing shortage of technical expertise in the U.S. workforce, according to Schrader.

"The economic prosperity and global competitiveness of our nation depends on the technical literacy of its citizens and the exceptional promise of its engineers and scientists," Schrader says. "The engineering workforce shortage is a well-documented national crisis that will personally affect every one of us. Boise State University, located in the seat of government in an up-and-coming high-tech city, has a unique opportunity to lead the state of Idaho and the nation in STEM research and education."

But building a technically literate society goes beyond offering more of those types of classes at the college level. It starts much earlier. It starts with those kids from McCall-Donnelly Elementary School on the ham radio with Morgan last August. That's why Schrader and Diane Boothe, dean of the College of Education, have teamed up

to tackle STEM-related issues, and why Morgan has a dual appointment.

"Barbara is a unique combination of scholarly educator and caring individual," says Boothe. "Her engaging and inspiring presence motivates both her students and her colleagues to participate and excel, and she provides outstanding models of excellence for the teaching profession. She's very approachable and her ability to translate her experiences at NASA into educational practices is remarkable."

For most people, Morgan's 24 years as an elementary school teacher are overshadowed by her place in history as an astronaut, culminating last summer in a 305-hour mission aboard the space shuttle Endeavour and the International Space Station.

But for Morgan, those few moments she spent on the ham radio stimulating the minds of the students at McCall-Donnelly Elementary School is where the action really is. Perhaps it is no accident that her NASA moniker is "educator astronaut" and not the other way around.

"Teaching is its own reward," Morgan said in a NASA interview just before her 14 days in space last August. "It's challenging. It's inspiring. It's invigorating. And it's rewarding to create an environment where you are trying to help every single individual... reach his or her best, greatest potential. It's an enormous responsibility, it's an enormous challenge and it's enormously rewarding."

Morgan's technical expertise and her ability to communicate its ins and



ASTRONAUT BARBARA MORGAN, STS-118 mission specialist, and students look at displays at the Johnson Space Center.

outs to audiences ranging from NASA engineers to grade-schoolers was a central reason behind Boise State's decision to award Morgan only the sixth honorary doctorate in university history this past spring. But the respect she commands because of her experience, as well as her high profile and popularity throughout the country, also means that when she speaks people – officials, politicians, teachers, parents and their children – will listen.

"We live in a time when our state needs a strong voice to advocate for the importance of science, technology, engineering and math education to benefit our children, our economy and our nation," says Boise State President Bob Kustra. "As a respected teacher, mission specialist and astronaut, Barbara is uniquely qualified to provide



DID YOU KNOW?

**In Greek, astro means star and naut means sailor.
An astronaut is someone who sails among the stars.**

this voice and this leadership.”

Mark Rudin, Boise State’s vice president for research, said that even though Morgan will not be doing research directly, her ability to draw attention to high quality research already happening on campus will help attract more funding for future research projects and infrastructure.

“It allows us to take another step down the road as a metropolitan research university,” Rudin says. “It doesn’t always have to be a bench researcher that helps us get there.”

Ultimately, it is the respect Morgan commands and her likeability that will prove most effective for her unique charge. That became clear to Schrader after two trips in recent months to the Johnson Space Center in Houston to meet with Morgan and some of her NASA colleagues.

“I was struck by the overwhelming respect and support shown for Barbara across that esteemed organization where phenomenal people and discoveries are commonplace,” Schrader says.

But it was during a downlink with children at the Discovery Center of Idaho during Morgan’s shuttle mission last summer that Schrader first got a taste of what it would be like to work with Morgan.

“It was one of the most inspirational moments of my life. I was overwhelmed with my place in history and renewed in my quest for discovery. From that moment I felt a deep connection with Barbara that I am grateful has blossomed into working together as colleagues and, I sincerely believe, as friends.”



AFTER RECEIVING AN HONORARY DOCTORATE, Barbara Morgan speaks to graduates at May commencement.



photo provided by NASA

FROM TEACHER IN SPACE TO EDUCATOR ASTRONAUT

As NASA’s first educator astronaut, Morgan logged more than 305 hours in space aboard shuttle Endeavour’s STS-118 assembly mission to the International Space Station in August 2007.

She operated the shuttle and station robotic arms to install hardware, inspect the orbiter and support spacewalks. Morgan also served as loadmaster for the transfer of supplies between the shuttle and station, taught lessons from space to schoolchildren on Earth and served on the flight deck during re-entry and landing.

“Barbara has served NASA and the Astronaut Office with distinction over the course of her career,” Astronaut Office chief Steve Lindsey says. “From the Teacher in Space Program to her current position as a fully qualified astronaut, she has set a superb example and been a consistent role model for both teachers and students.”

But it was a long road, almost blocked completely by tragedy.

Morgan previously served as the backup to payload specialist Christa McAuliffe in the Teacher in Space Program. McAuliffe and six fellow astronauts lost their lives in the Challenger accident on Jan. 28, 1986.

Morgan, who was an elementary school teacher in McCall before being selected as McAuliffe’s backup, returned to teaching after the accident while still speaking on NASA’s behalf across the country. In 1998, she was selected to train as a mission specialist and in 2002 was named to the STS-118 crew.

Ed Champion was a NASA public affairs officer working on the Teacher in Space program. Now news chief at NASA’s Goddard Space Flight Center, he sent this e-mail to friends offering his personal thoughts the day before Morgan’s flight on Endeavour:

“She has endured more media attention and public scrutiny than most politicians or celebrities have to bear and through it all she has stayed true to her beliefs. She could have made herself out to be a victim or tried to make money in some tell-all book or just walked away and tried to resume a quiet normal life but she believed in what the teacher-in-space concept could do. She recognized the potential the program had for inspiring youth. She has carried that promise for the last 7,861 days.”