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NJ Physics Professor Has the 'Right Stuff'

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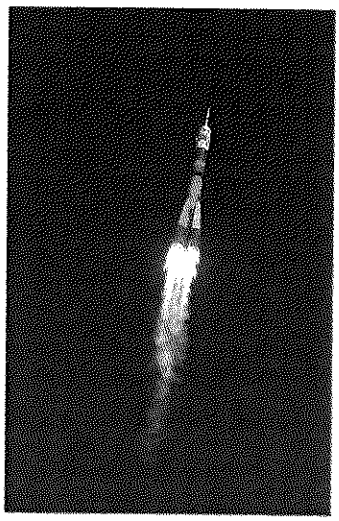
(Adapted by ReadWorks)



Dr. Greg Olsen is a college physics professor and inventor. In 2005, he became the third person ever to travel into outer space as a private citizen, and not an astronaut. Unlike astronauts, he bought his own ticket into space. He paid about $20 million for his ticket. The ticket was for a ten-day trip on a Russian rocket called the 'Expedition 11,' headed to the International Space Station. Greg also took responsibility for his own training. The space flight was the achievement of a lifetime for him.

Greg's deep interest in outer space began when he was still a boy. He was born in 1945, years before it became possible to travel in space. In fact, people did not really begin exploring space until the Cold War. This was the time period of competitiveness between Russia and America, following World War II. During this period, both countries fought to win the race to space.

The Race to Space

In 1957, Russia took the lead in the race to space. It sent Sputnik, the world's first man-made satellite, into space. But by 1962, U.S. President John F. Kennedy made it clear that the U.S. would not let Russia outdo them. "We choose to go to the moon in this decade... because that challenge is one that we are willing to accept, one we are unwilling to postpone, and one which we intend to win," he said.

When asked why he loved space travel, Greg talked about the professional astronauts who went to space with him. He went with one astronaut from the U.S. and one from Russia. Greg

said all three of them love space travel for the same reason - "To be weightless, to see the awesome sight of earth from space."

Spaceflight Training School

Going to space school to train for his space trip "was also like being a college student again," said Greg. The main difference was that some of the training involved flying without any gravity and spinning around at incredibly high speeds in a machine. However, most of Greg's training was spent in classrooms and in flight simulations, or pretend flight situations. Greg needed to know his way around the rocket and the space station. He also had to help with day-to-day routines. But Greg did not need to handle any major responsibilities during the space flight.

For Greg, the most physically challenging part of the training was practicing landing the spacecraft in water. This is a difficult and dangerous method of landing. To prepare for the tough task, Greg and his crewmates wore wet suits and other protective survival gear. During just two hours of practice, he sweated so much that he lost more than three pounds.

Learning Russian

Many parts of Greg's training tested his endurance, or his ability to stay strong over time. But still, Greg described the physical training as the easiest part of preparing for the space trip. He said that the hardest part was trying to learn to speak Russian. "I love Russians and the Russian culture... but I've never been good at languages since I was a young person," Greg says.

Greg learned Russian well enough to connect with his Russian crewmate and trainers. "I'm just in awe of them," he said. When he watched them operate the spacecraft and simulators, they seemed to know every tiny part of the rocket. "I just tried to soak up the knowledge."

Getting over any fear was no problem for Greg. He was "very, very confident" about space travel on the Russian rocket. "It has a great safety record," he said, so he had no worries at all about flying on it. The main goal of the space mission to the International Space Station was to switch crews, and to replace the emergency escape pods that must always be attached to the space station.

A Smooth Launch

The rocket was launched from a space launch station south of Russia. The launch went smoothly. Greg said that one of the most unforgettable highlights of his whole trip was the experience of lifting off the earth. He was also awed by the sight of the earth passing by in the

rocket's window, and by the feeling of floating around the space station.

Radio Broadcast from Space

Greg spoke to students in New Jersey from space using a radio. In the first of three broadcasts from the International Space Station, he said, "Welcome to space. It's really nice here. It's nice and roomy."

"In some ways it's like camping out, because we have no running water, no sinks, and we kind of have to fend for ourselves for food," said Greg. He stated that the professional astronauts had made him feel welcome at the space station.

During his radio broadcast from space, Greg thanked many of his teachers, coworkers, and family. He thanked his professors at the university where he earned a Master's Degree in Physics. He also thanked his students and his former classmates at the school where he earned his second degree. It was with their support that he was able to first build the tool that became the basis for his company, Sensors Unlimited. The tool Greg built was a spectrometer. It uses light to help astronomers and astronauts collect information. With this tool, astronauts can learn a lot about an object in space. They can figure out its temperature and the direction it's moving. They can also determine its speed and weight, and find out what it is made of.

Scientific Studies from Space

Greg had planned to take one of the spectrometers built by his company with him on his space trip. However, the tool was not allowed to leave the country, so the project had to be put aside. Instead, Greg ran three experiments to study how the human body changes without any gravity. He also conducted studies on how bacteria grows without gravity, and on how flying in space affects people's lower back and inner ear. He gave his findings to the European Space Agency.

The Journey Home

During Greg's trip back to earth, there were problems with the air pressure on the rocket. The crew had to overcome difficulties when they descended to the earth. It was a fairly serious and dangerous situation. Getting through these problems tested the astronauts' skill, emotional strength, and intelligence. Fortunately, disaster was avoided because the astronauts all kept their cool and paid close attention to the issues as the rocket got close to the earth. All three space travelers wore special spacesuits, a standard safety measure, for an extra layer of protection, said Greg.

"At no time was there panic or alarm, or anything of that sort," Greg said about the pressure problems. He added that at one point during the descent, he needed to add more oxygen into the spacecraft's cabin. "We had practiced this many times during simulation practice, and I thought everyone handled it like pros." Ten days after the rocket launch, the crew landed safely back on earth.