## Spacemen Land At USGA

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United States Golf Association

Far Hills, N.J. -- The USGA welcomed a unique pair of visitors on May 9. Brian Duffy, currently a vice president of Lockheed Martin Space Operations and a former NASA astronaut with four Space Shuttle missions under his belt, and Tim Terry, the simulation supervisor with United Space Alliance, visited Golf House. The two toured the USGA's facilities and spoke to groups of local grade-schoolers about what it's like to live and work -- and golf, of course -- in outer space.

Brian Duffy, left, and Tim Terry entertained and educated at Golf House on May 9. (Kevin McManemin/USGA)

"Hi kids. Guess what we're here to talk about today?" baited NASA Astronaut Brian Duffy, speaking to a roomful of sixth-graders in the USGA's auditorium.

"Golf?" guessed one boy.

"No-space!" replied Duffy. The response drew chuckles.

## **Touring Golf House**

Duffy and Terry began the day by touring the USGA's Test Center, where technical analyses are conducted on golf balls and clubs used in the United States. As men with extensive engineering backgrounds, (Terry holds a degree in electrical engineering) they took a keen interest in the technology. Though perhaps not as impressive as the equipment used by NASA to send people into space, the USGA's testing facility utilizes the state-of-the-art, custom-designed equipment. Duffy and Terry observed lab tests for a driver's 'spring-like effect,' a ball's initial velocity at the indoor testing facility, and even witnessed a few shots by 'Iron Byron,' the mechanical golfer that tests golf balls for distance.

Since both Duffy and Terry are avid golfers, the next stop on the tour proved especially memorable. The two got a rare chance to have their swings analyzed at the USGA's biomechanics laboratory. They donned special outfits fitted with sensors, then hit balls into a screen while cameras and computers whirred away, capturing their swing motions. Computers calculated the swing speed and loft angles at which they were hitting the ball, and digitally mapped the motion of their strokes.

After the tour, Duffy and Terry presented a program to local school kids in the USGA's auditorium. Their messages were clear: going to space is a team effort, and anyone who dreams of taking part in the adventure of space travel can make it happen.

Terry talked about his job training the flight and ground

crews for shuttle missions. He spoke of the importance of getting the teams to learn to work together, to communicate effectively and solve problems quickly. Duffy explained what life is like orbiting the Earth, and fielded a barrage of questions from the curious kids.

"Ever land on the wrong spot?" asked one. Another child, perhaps more interested in lunch, asked if the astronauts had ever "eaten chicken, turkey or fried chicken in space."

After the programs were finished, the astronauts enjoyed a USGA staff reception, followed in the next few days by a pleasant fringe benefit of association with the game's governing body -- rounds of golf at two top courses in the area.

## The Shuttle Putter

The pair first got involved with the USGA through the notorious 'shuttle putter' incident. This 'spectacle' of space golf occurred during the 1996 voyage of the space shuttle Endeavour, NASA mission STS-72, in which Brian Duffy served as a crew member.

Terry knew that Duffy was a devoted golfer, and arranged to have a modified putter and golf ball "smuggled" on board the Endeavour. The crew surprised Duffy by presenting him with the gift on the flight deck, while orbiting Earth.

Duffy took some time out from the mission (repairing a Japanese Microgravity Research Unit) to study the effects of zero gravity on his golf game.

"It's much more difficult to putt in space than on Earth," Duffy admitted. "Here there are only two dimensions to worry about; in space, you can also miss up or down."

The two decided to donate the 'Shuttle Putter' to the USGA to add to its growing golf bag of space-clubs (the USGA Museum already possesses the modified moon-rake 6-iron Alan Shepard used to shag golf balls into moon craters). Both clubs are currently on display.

Hopefully, the 'shuttle putter' will serve to inspire those who see it that dreams can be achieved – whether those dreams involve playing the U.S. Open or traveling to space.

"It's great to work with kids, to see the wheels of curiosity turning in their minds," said Duffy. "I hope one of them is inspired by our program to take an interest in math and science, or to follow a dream they didn't think was possible."