

Space Tourism to Rocket in 21st Century, Researchers Predict

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We'll be able to "cruise" into outer space this century, according to UD researcher Fred DeMicco, Aramark Chair in UD's Hotel, Restaurant and Institutional Management program. Credit: Kathy F. Atkinson/University of Delaware

Seeking an out-of-this-world travel destination? Outer space will rocket into reality as "the" getaway of this century, according to researchers at the University of Delaware and the University of Rome La Sapienza.

In fact, the "final frontier" could begin showing up in travel guides by 2010, they predict.

"In the twenty-first century, space tourism could represent the most significant development experienced by the tourism industry," says Prof. Fred DeMicco, ARAMARK Chair, in UD's Hotel, Restaurant and

Institutional Management program.

“With the Earth under attack from a myriad of environmental impacts, including climate change concerns and pollution, outer space is the next viable frontier to explore and make longtime plans for,” he notes. “While there are global policies to be determined relating to private ventures in space, the technology to make space travel safer and cheaper is moving forward.”

DeMicco and Silvia Ciccarelli, a geoeconomist who was a recent visiting scholar at UD, co-wrote “Outer Space as a New Frontier for Hospitality and Tourism,” which is in review for an upcoming issue of the *Hospitality Educator*. Ciccarelli is a consultant to the Italian Association of Aerospace Industries.

What kind of person will be lured to space travel? Is it those of us who've loved “The Jetsons,” “Star Trek,” or peering at the heavens through a telescope?

“This is a destination for the 'extreme tourists'--tourists who want the ultimate new travel adventure and the thrill of outer space,” DeMicco says. “They want something new and interesting--the room with the best view of Earth from space.”

According to surveys of the demand for space tourism undertaken in 2001 and 2006 by Futron, a U.S. consulting company, the average age of the wannabe space tourist is 55 years old, 72% are males and 28% are females, 46% have above average or better fitness, 48% spend a month or more on vacation annually, and 41% work full-time and 23% are retired. The projected demand is 13,000 passengers in 2021, with the ability of the celestial industry to generate revenues of \$700 million annually.

While only a few multimillionaires have been able to afford the current \$20 million pricetag to go up in a Russian rocket for a two-week stay at the International Space Station, shorter, more affordable “suborbital” space flights, costing on the order of \$80,000 per trip, likely will drive space tourism in the near term, according to Ciccarelli.

“During these flights, a spacecraft reaches space, but it does not enter Earth's orbit,” she explains.

Suborbital trips are likely to become available to tourists by 2010-2015, Ciccarelli says, while tourism in space hotels is on a longer trajectory, predicted to become a reality in 2025.

So what will tourists in space do?

“Passengers will enter a world that only astronauts and cosmonauts have experienced--the acceleration of a rocket launch, weightlessness, and a spectacular view of the Earth,” Ciccarelli says.

The low-gravity environment 600 to 2,000 kilometers above Earth would suddenly make Leonardo da Vinci's dreams and drawings of human-powered flight possible, using fabric wings attached to the arms, and tails attached to the ankles, according to Ciccarelli.

“Many recreational and sports activities also could exploit this possibility given a fairly large chamber,” she notes.

A slowly rotating, cylindrical swimming chamber would enable people to become more like 'flying fish'-to swim in low gravity, but then propel themselves out of the water and 'fly' in a central air space, Ciccarelli says.

A safer, cheaper launch system is critical if space travel is to become

more commonplace in the future. An elevator rising tens of thousands of miles into space is one possibility that scientists and entrepreneurs are considering.

“First envisioned some forty years ago, the space elevator will climb an enormous cable, like Jack up the beanstalk, to a terminal where passengers and cargo can board spacecraft for the trip farther out,” Ciccarelli says.

“Until recently this was a fantasy because there were no materials strong enough to build such a cable,” DeMicco notes. “Today, however, so-called carbon nanotubes up to twenty times stronger than steel are approaching mass production, and engineers say a space elevator could be completed within fifteen years.”

The non-profit Spaceward Foundation was formed in 2004 and NASA established a competition in 2005 to accelerate research on the space elevator concept.

While short excursions into outer space may be on the itinerary in the near term, a “space port” currently is being built in Las Cruces, New Mexico, with support from Virgin Galactic and other companies, and hoteliers are scoping out new locations some 238,000 miles above--on the moon.

“Lunar hotels are now being planned,” DeMicco says. “Galactic Suites is known as the first space hotel, and they promote delivering 15 sunrises and sunsets in a single day--for the adventure travelers who are willing to spend approximately \$4 million for a three-day 'stay' in space,” DeMicco says.

In 1967, in an address to the American Astronautical Society, Barron Hilton, then president of Hilton Hotels, described a “Lunar Hilton” with

its entrance on the surface of the moon and most of its rooms located 20 to 30 feet below the surface. The hotel would have an aptly named “Galaxy Lounge.”

More recently, companies such as Japan's Shimizu Corporation have focused on the design of an orbital hotel in space, with rotating rings to provide artificial gravity.

Who will run these space-age hotels?

DeMicco says UD's students will be up to the challenge.

“Our Hotel, Restaurant and Institutional Management students are taught the latest trends in strategic management and forecasting including land, sea, and space among them, and UD is not only a Land Grant, Sea Grant, and Urban Grant university, but also a Space Grant university,” he notes.

“Indeed, they are the global travelers today through UD's study abroad programs, with aspirations for the stars in their hospitality and tourism careers of tomorrow.”

Source: University of Delaware

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