

The AAE Fall 2007 Colloquium Series

Commercial Human Spaceflight

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Executive Director

Personal Spaceflight Federation

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3:00 P.M.

ME 261

Abstract

The Personal Spaceflight Federation is the industry association of leading businesses and organizations working to make commercial human spaceflight a reality, including commercial developers and operators of spaceships, spaceports, and orbital spaceflight facilities. The Personal Spaceflight Federation is governed by a board of directors comprising entrepreneurs and CEO-level officers of the member companies, and serves as the primary forum for industry leaders to meet on a regular basis to address industry-wide issues.

Personal spaceflight is already here – ever since the \$10,000,000 Ansari X PRIZE was won by SpaceShipOne in 2004, a number of entrepreneurs and private investors have been steadily building the future of space transportation. These include PayPal founder Elon Musk (SpaceX), Virgin Group's Richard Branson (Virgin Galactic), Amazon.com founder Jeff Bezos (Blue Origin), and id Software founder John Carmack (Armadillo Aerospace). With hundreds of millions of dollars of combined investment committed to these efforts, these captains of industry are determined to both decrease costs and increase the safety of spaceflight by orders of magnitude.

Efforts to achieve commercial, human spaceflight are historically unique – systems designed specifically for people, developed with a majority of private funds, to serve a variety of markets including tourism, science, education, and government needs. Suborbital flights to space will offer an experience of several hours including a few minutes of weightlessness, while orbital flights could last for weeks at a time. R&D is continuing at a vigorous pace, with test flights continuing into 2008 and the first commercial flights expected in 2009. But while private companies are taking the lead in the development of the technologies and business models necessary for the industry to succeed, several critical issues remain, including crew and participant training and medical concerns, the use of airspace, new FAA regulations and safety standards, liability issues, insurance, and the response to a first accident.

Bio

John Gedmark is the Founding Executive Director of the Personal Spaceflight Federation. He previously served as the first Director of Operations for the X PRIZE Cup, where he managed the operations of a diverse array of rocket activities for both the 2005 and 2006 events –including the first ever flights of a vehicle under an experimental permit by Armadillo Aerospace.

John has worked as an intern at Aerojet, Ball Aerospace, and TRW, working in the areas of rocket propulsion analysis and systems engineering. John graduated from the Purdue University School of Aeronautics and Astronautics in 2003 with a BS in Aerospace Engineering, with a focus on propulsion. His senior year he served as propulsion group lead for AAE 450 Spacecraft Design and as Program Manager for AAE 590A, where he led a team of 10 students to work from scratch to design, manufacture, and test a 250 lbf thrust peroxide/kerosene rocket engine, completing the project in a single semester with more than 140 engine firings. John received the Herbert F. Rogers scholarship upon graduation and is a National Merit Scholar. John also received a MS in Aerospace Engineering from Stanford University in 2005, with an emphasis on multi-disciplinary design optimization. While at Stanford, John also co-founded the Roosevelt Institution, a new non-partisan public policy think tank with student chapters on more than 100 university campuses nationwide. John serves as a board member and adviser on science and technology policy to the Roosevelt Institution's headquarters in Washington, DC.

An informal coffee & cookie reception will be held prior to the lecture at 2:30 p.m. in the AAE/ARMS undergraduate lounge (directly in front of ARMS 3rd floor elevators)

COLLOQUIUM