



Mechanical Engineering Graduate Seminar

The Space Elevator and Our Future

Dr. Bryan E. Laubscher
President, Odysseus Technologies, LLC

Friday, June 3rd, 2011 544/644 Baldwin Hall 11:00 am

Abstract

The Space Elevator is a radical technology for accessing space. The concept was first published in 1960 and was subsequently popularized in science fiction stories. After the discovery of carbon nanotubes in 1991 and subsequent calculation of their theoretical strength, the Space Elevator concept moved from the realm of science fiction to science possibility. Now there are small groups of researchers and enthusiasts working to develop the concept and further the development of the Space Elevator.

After introductory concepts, the economic motivation for building the Space Elevator will be discussed. Then the major components and deployment scenario of the Space Elevator will be presented. Next, the promise of the space elevator: creating a bright future on Earth, will be outlined. Specific examples of the future with Space Elevator technology will be mentioned such as space-based solar power satellites, Earth remote sensing, astronomy/space exploration science missions and manned exploration.

Biography

Current Position: President, Odysseus Technologies, LLC

Experience: Dr. Laubscher founded and leads the three-year old startup company, Odysseus Technologies, LLC (OT), with the dual mission to research alternative concepts of space access and to develop high strength carbon nanotube materials. Before OT, Bryan spent 17 years at Los Alamos National Laboratory (LANL), first as a contractor, then as a staff member and finally as a project leader. For seven years at LANL, Dr. Laubscher conceived, obtained funding for and led diverse research and development projects broadly addressing the nonproliferation of weapons of mass destruction. His experience includes astronomy, optics, space mission design, science team and system engineering team participation on spacecraft and development of space physics instrumentation for NASA space missions.

Positions: Bryan Laubscher founded Odysseus Technologies, LLC and has been President of this small business since 2008. For one year spanning 2009 and 2010 Bryan was a Lockheed Martin member of the Space Radiation Analysis Group at Johnson Space Center. From 1994 to 2008 he was a staff member/project leader at the Los Alamos National Laboratory where he evolved concepts into technologies used for the mission of nonproliferation of weapons of mass destruction (WMD). From 1990 to 1996 Bryan worked with Amparo Corporation as a scientific consultant contracted to LANL. From 1987 to 1990 he worked for Rockwell International on Kirtland AFB as a research engineer specializing in optical experimentation.

Recognition: Dr. Laubscher is author or co-authored of numerous technical publications, conference presentations and has led the organization of five scientific conferences. He is a member of the American Astronomical Society, AIAA, The International Professional Society for Optical Engineering (SPIE), International Space Elevator Consortium. Bryan is a Vice President of the Space Engineering and Science Institute. Bryan has received the LANL Distinguished Performance Award for CALIOPE Project, LANL Certificate of Merit for Global GeoSpace Science Project, LANL Certificate of Merit for Multispectral Thermal Imager Project and the NASA Group Achievement Award for the POLAR CAMMICE Team.

Education: Dr. Bryan Laubscher earned his BS in Physics from Ohio University and his MS and PhD degrees in Physics, with a concentration in Astrophysics, from the University of New Mexico.