The Field Robotics Center

Seminar Series

Wednesday, 4th Nov NSH 1305 3:00 – 4:00pm

Food will be served

Ed Belbruno

Astrophysicist and Artist

Painting The Way To The Moon Using Chaos for Solar System Travel

Abstract: Kepler discovered that orbits are ellipses. For decades, the only way to fly from one world to another was to connect ellipses. A revolutionary new approach called weak stability boundary theory exploits bodies other than the origin and destination to make the same trip with vast fuel savings. This is the first systematic application of chaos theory to spaceflight. Miraculously, it succeeded in its first attempt by rescuing an under-fueled spacecraft to an orbit around the moon. The presentation will also feature the author's artistic inspirations from engaging in these deep mathematical and scientific queries.

Speaker Bio: Ed Belbruno is both an astrophysicist and artist. He is a recognized painter, with a recent exhibition at Lincoln Center and a painting in NASA's executive collection in Washington. Ed is affiliated with Princeton University. He received his doctorate in mathematics in 1980 from the Courant Institute of New York University. His research interests are in celestial mechanics, dynamical systems, astrodynamics, astrophysics and cosmology. He is a research collaborator at the department of astrophysical science at Princeton University, director of the research company Innovative Orbital Design, and a visiting scholar at New York University, Courant Institute. He consults regularly with NASA and leading aerospace organizations.




For further information please contact: Michael Kaess, kaess@cmu.edu

www.frc.ri.cmu.edu