The Reese T. Prosser Mathematics Lecture Series Presents

Dr. William (Bill) Taber is the Technical Group Supervisor for the Mission Design and **Navigation Software Group at the Jet** Propulsion Laboratory in Pasadena, CA. His group is responsible for the development and maintenance of JPL's core navigation and trajectory design software.

Wednesday, October 2, 2013 7:00 - 8:00 PM LSC 100 - LSC Arvo J. Oopik 1978 Auditorium **Class of 1978 Life Sciences Center**



On August 5, 2012, scientists and space enthusiasts from around the world held their breath and watched in real time as the Curiosity rover plunged through the thin atmosphere of Mars to its targeted landing site inside Gale Crater. We rejoiced as the words from mission control announced "We are safe on Mars."



A lot of things had to happen before the first pictures were broadcast from Gale crater. A group of scientists had to formulate a mission. NASA had to approve and authorize funding for the mission. A small army of scientists, engineers and support staff were assembled to build and test the vehicle, its instruments and the software to control them. A group of physicists, astrodynamicists, and mathematicians had to plan the route from Cape Canaveral to a safe landing site inside Gale Crater.

Woven through all of this activity is mathematics. Indeed, without it and associated mathematical software, a flight to Mars would be impossible. In this talk we'll take a tour through some of the mathematics that makes humankind's expeditions to the planets possible.

The Reese Prosser Memorial Lectures were inaugurated in 2002 by the Department of Mathematics at Dartmouth College to honor their long time colleague Reese Prosser. This lecture series, endowed by the late Nancy Prosser and her family, is intended to introduce the general public to mathematical research related to their daily lives.

Free and open to the public.

A Flight of Curiosity a Mathematician's Tale