A Special Lecture at

Carnegie Mellon

Presented by:

SPACEX

Tuesday, September 14, 2010

5:00 p.m. in Rashid Auditorium, Hillman 4401

SpaceX is a US based rocket company founded by Elon Musk the former co-founder of PayPal. Musk is currently the residing CEO and CTO at SpaceX and also the Chief Product Architect and CEO of Tesla Motors.

SpaceX builds rockets from the ground up; including electronics, software, vehicle structures, and engines. In house development includes nearly all flight critical custom components amounting to approximately 80% of the vehicle by value.

At SpaceX we cut through the noise and believe in the essentials of hands-on, hardcore engineering.

We build it, test it, and fly it.

ECE, CS and other interested academic areas are cordially invited to a short briefing to cover the following:

OVERVIEW:

Presented by Dolly Singh - Manager, Talent Acquisition

1. Who is Elon Musk - why is he relevant?
2. What is the SpaceX mission and vision - why should you care?
3. How our engineering eco-system is different - why is it bleeding edge?

TECHNICAL DISCUSSION:

Presented by Dr. Andrew Howard – Chief Architect: Guidance, Navigation and Controls

Dr. Howard is a Senior GNC Engineer with SpaceX and Adjunct Assistant Professor at the University of Southern California. Prior to joining SpaceX, he was a Senior Member of Technical Staff with the Robotics and Mobility Systems Section at JPL, and Research Assistant Professor at the USC Center for Robotics and Embedded Systems.

Dr. Howard received his Ph.D. in Engineering from the University of Melbourne in 1999, and his B.Sc. (Hons.) in Theoretical Physics from the University of Melbourne in 1991. He has extensive experience with a wide range of terrestrial robotics programs, including DARPA BigDog, Crusher and Urban Grand Challenge, ARL Robotics Collaborative Technology Alliance SafeOps and the Navy/ONR Unmanned Surface Vessel programs. Dr. Howard is a member of the Editorial Board for the Journal of Field Robotics and Associate Editor for International Journal of Robotics Research; he has also served on the program committees of numerous robotics conferences, including ICRA, IROS, FSR and RSS.

Dr. Howard is currently working on autonomous vision and LIDAR-based navigation for the SpaceX Dragon spacecraft.

Topic: State Estimation for Automated Spacecraft Docking

Subtopics:

1. Precision Guidance and Precision Control
2. Sensors: Radar, Lidar, Flash Lidar and Vision
3. Algorithms
4. Design Concepts

Food and Drinks will be provided.