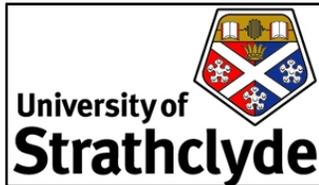


**YORK UNIVERSITY  
CENTRE FOR RESEARCH IN EARTH AND SPACE SCIENCE**



# **INVITED SPEAKER**

**Dr. Mark Post**

**Space Mechatronics Systems Technology Laboratory  
University of Strathclyde**

## **Agribot: Enabling Agricultural Robotics with Space Hardware Technology**

Worldwide, it is now accepted that agricultural productivity will have to increase by 25% to allow limited arable land to meet a doubling of demand by 2050, and agricultural robotics is essential to allow real-time and accurate monitoring and response for increasing yields, lowering production overheads, and maintaining the environment. To meet the significant challenge of autonomously roving and tending large fields with robots, we are now making use of technology conceived for space robotics and autonomous planetary surveying tasks to create an automated robotic system known as “Agribot” that includes the use of a ground station, unmanned ground vehicle, and unmanned aerial vehicle. The main tasks of the Agribot are to autonomously map and visually monitor large farm areas, to obtain high-density soil spectrometry measurements via a portable LIBS system, and allow farmers to interact with plants via a tele-operated haptic arm. The current challenge for the Agribot is to improve farming practices in China, which due to its population density is in critical need of technologies to lower fertilizer and pesticide use while increasing environmental awareness.

Dr. Post received his B.A.Sc. degree in electrical engineering from the University of Toronto in 2004 and his M.Sc. and Ph.D. degrees in Space Science and Engineering from York University in 2008 and 2014. He is currently a research lecturer in the Space Mechatronics Systems Technology Laboratory (SMeSTech) at the University of Strathclyde. His research interests and experience include machine vision for navigation and recognition, embedded architectures for intelligent sensing and control of mobile rovers, and design of mechatronic systems in both Earth and Space environments.



**DATE: Thursday, June 30, 2016**

**TIME: 2:00 p.m.**

**LOCATION: Petrie 317**

Refreshment will be served at 2:00 p.m.