

## Mission Automatisée de Maintenance en Orbite des Satellites (AMOOS)

International Space University (ISU) – Space Studies Program (SSP) 2014

# Invitation Conférence

Le LASSENA est heureux de vous convier à une conférence internationale dans le cadre du projet AMOOS de l'ISU SSP 2014

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Lundi le 23 juin 2014

Salle A-1150 (Amphithéâtre)

De 17h00 à 18h00

*En anglais*

## [Guy de Carufel, Odyssey Space Research](#)

### **Flight Path and Design Considerations for an Orbital Rendezvous**

The presentation will focus on different consideration that goes into the planning and design of an orbital rendezvous. General orbital maneuvers common to orbital rendezvous will be discussed. Specific examples of visiting vehicle to the space stations (HTV and Cygnus) flight paths will be presented. A general phased approach flight path will be presented with explanations of decision points, abort considerations and approach strategies. Examples of Monte Carlo simulations, demonstrating safety of approach, abort and departure maneuvers will be shown. Different design considerations such as navigation sensors, physical fixture and hatch locations, communication and control limitations will be discussed.

**Guy de Carufel** has been working for Odyssey Space Research in Houston Texas for the last 4+ years where he worked on various projects related to orbital trajectory analysis, GNC simulation and flight software development. In the context of the Orbital Sciences Cygnus ISS visiting vehicle, he helped design a key departure maneuver for which Cygnus would perform a safe departure from the ISS with validation from the use of simulation models developed at Odyssey. Guy also developed several high fidelity simulation models of GPS systems, space environment models and propulsion systems. Lately, he has been involved in the development of flight software for the next generation of safety critical NASA space vehicles.



*L'École de technologie supérieure (ÉTS) et HEC Montréal accueillent la 27<sup>e</sup> édition du programme d'études spatiales (SSP14) de l'International Space University (ISU) du 9 juin au 8 août 2014.*