



Séminaire ISIR

Paolo Robuffo Giordano

Mardi 4 juin 2013 à 16h30

Campus Jussieu, 4 place Jussieu, Paris
Salle de réunion H20

Title : An overview of recent results in the bilateral shared control of multiple mobile robots

Abstract :

This talk will give an overview of some recent theoretical and experimental results in the field of shared control of multiple remote mobile robots, with a special attention to the case of flying robots such as Unmanned Aerial Vehicles (UAVs). In these applications, a human operator partially controls the behavior of a semi-autonomous group of mobile-robots by means of one or more force-feedback interfaces, and receives back a force cue informative of the swarm tracking performance and of additional properties of the surrounding environment (e.g., presence of obstacles or loss of connectivity).

These kinds of systems are designed in order to enhance the telepresence of the operator and the quality of the human robot interaction, especially when applied to practical scenarios like search and rescue, surveillance, exploration and mapping of remote/unaccessible sites.

The talk will illustrate the nature and kind of problems addressed within this research line, by focusing on both theoretical analyses and experimental implementations, and then discuss some future research directions.

Bio:

Paolo Robuffo Giordano is a CNRS researcher at IRISA/INRIA in Rennes since December 2012. He received the M.Sc. degree in Computer Science Engineering and the Ph.D. degree in Systems Engineering from the Dipartimento di Informatica Sistemistica, Università di Roma "La Sapienza", in 2001 and 2008. He was a PostDoc at the Robotics Institute of the German Aerospace Center (DLR) from 2007 to 2008, and then moved to the Max Planck Institute for Biological Cybernetics in Tübingen, Germany, as Project Leader of the group Human-Robot Interaction from 2008 to 2012.

His interests are in the general areas of robotics and nonlinear control. In particular, he has been working on kinematic and dynamical modeling of physical systems, motion control of fixed and mobile manipulators, visual servoing, nonlinear state estimation, nonholonomic systems, control design for VR applications, motion simulation technologies, aerial robotics, bilateral teleoperation, and multi-robot systems.

Sous la co-tutelle de