Call for Papers - IFAC HMS
Special Session on Haptic Shared Control

Conventional engineering solutions to overcome human errors in manual control are to either fully automate a (sub)task or to support the human with alerting systems. Recently, an alternative solution is receiving increased attention: that of haptic shared control. In the haptic shared control paradigm, an intelligent system continually shares the control authority with the human controller, through forces on the control interface. The idea behind shared control is to keep the human operator in the direct manual control loop, while providing continuous support. Haptic shared control has been investigated for a wide range of applications, for example during the direct control of automobiles and aircraft, or during tele-operated control to support grasping, surgery, micro-assembly or the steering of unmanned aerial vehicles.

The aim of this special session is to reflect the most recent advances in the design and evaluation of haptic shared control systems, and increase the awareness of the human factors community at large on this promising and relatively novel approach to human-machine interaction. We welcome submissions reporting theoretical or empirical results in the field of shared control.

Topics of interest include, but are not limited to:

- Design and evaluation issues
- Computational Modeling of the Human Controller
- System Identification of the Human Controller
- Learning and adaptation
- Haptic perception
- Neuromuscular control
- Different Application domains for shared control
- Haptic driver support systems
- Cobots
- Physical Human-Robot Interaction
- Robot-assisted surgery/assembly
- Rehabilitation robotics
- Prosthetics

For more information about the IFAC-HMS 2010 conference:
http://www.univ-valenciennes.fr/IFACHMS2010/

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