

Invited Session on Human Adaptive Mechatronics (HAM)

2011 International Conference on Advanced Mechatronic Systems (ICAMechS, <http://www.tuat.ac.jp/~deng/icamechs2011/icamechs2011.html>) will be held during 1-13, August 2011, in Zhengzhou, China. The ICAMechS 2011 aims to bring together engineers and scientists from academia, research institutes and industry so that they can discuss the latest developments and requirements in the general area of automation, control mechatronics and robotics. In consultation with the conference organizer, the invited session on Human Adaptive Mechatronics is being proposed, and this call for contributions provides further information on the special session.

Human adaptive mechatronics is intelligent electrical-mechanical systems that are able to adapt themselves to the human's skill in various environments and providing assistance in improving the skill, and overall operation of the combined human machine system to achieve the improved performance. It is clear that humans have strong and extremely adaptive natural mechanisms that are able to accommodate external environmental disturbances under which internal life cycle operations can still be regulated very effectively. It has been a significant attraction for human beings to apply similar biologically inspired mechanisms to man-made systems such as mechatronically built robots, unmanned air vehicles, airplanes, auto pilot steering systems, engineering ergonomics, and enormous examples encountered in autonomous systems. It aims to study automata from an engineering perspective and to serve the purpose of controlling advanced engineering systems. The improvement in human-machine interfaces has made advanced intelligent machines possible without special education and training.

The invited session aims to bring the researchers in this emerging field together to present new results and learn about the latest developments – theories/technologies/methodologies and applications in the field of Human Adaptive Mechatronics are welcome. The invited session covers, but is not limited to, the following topics:

Robotics and Mechatronics
Intelligent Computing,
Adaptive and Intelligent Control
Human-Machine, Computer and Mechatronics Interface
Medical Applications of Robotics and Mechatronics
Sensors and Actuators
Networked Control Systems

For further enquiries, please contact co-chairs:

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