



Call for Papers: SS05 - Special Session on Fuzzy Robotics

Submission Deadline: January 15, 2011



Fuzzy set theory and fuzzy logic have been making significant impact and contribution to robotics and its applications in the past four decades since Lotfi Zadeh introduced fuzzy sets. However most of existing fuzzy approaches fall in fuzzy controller design, fuzzy inference system and etc. for conventional robotics though contribution have been made from the perspectives of combing learning methodologies such as evolving fuzzy rules. The state of the art in intelligent robotics, from robotics and computational intelligence communities, have shown that there is a strong need to boost novel fuzzy methodologies and lessons learned in applied applications due to fast-developed intelligent robotics and tremendous request for robots with human capabilities.

Particularly, the priority of the session is given to the state of the art in solving tasks that are difficult to be accomplished by an individual robot in the existence of incomplete information, distributed control, and asynchronous computation. The performance of multiple robots systems in redundancy and co-operation contributes to task solutions with a more reliable, faster, or cheaper way. However, many challenges exist in such systems, including allocating tasks, communication, conflicting interaction, coordinating actions, team reasoning, etc. It requests robots to learn from, and adapt to their operating environment and their counterparts. It is expected that computation intelligence will shed light on the solutions to the challenges.



This special session aims to attract researchers' attention to interdisciplinary quality research on fuzzy robotics and to highlight recent advances and future research directions in fuzzy set theory and its applications to intelligent robotics. It is also to serve as a focused technical forum and emphasize the link amongst fuzzy community, robotics community and other relevant communities.

Authors are invited to submit their original and unpublished work in the areas including (but not limited to) the followings:

- * Fuzzy-robot Vision
- * Biological-inspired Robotics Computing
- * Multi-robot Coordination and Control
- * Robot Manipulation
- * Human-robot Interaction
- * Nature-inspired Behaviours
- * Real World Applications in Robotics
- * Robot Mapping and Localization
- * Approximate Reasoning
- * Intelligence Control

Paper Submission:

For the submission guideline, please refer to the following "Instruction for Authors <http://fuzzieee2011.nutn.edu.tw/instructions.htm>"; and in the submission webpage, please be sure to select "**SS05 - Special Session on Fuzzy Robotics**"

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