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****** please send to interested colleagues ******

Call for Contributions to the Special Session on
Multi-Robot Systems: Applications and Theory (MRSAT),
as part of the *International Work Conference on Artificial Neural Networks*, to be
held in Palma de Mallorca (Spain) next 10-12 June, 2015.
<http://iwann.ugr.es>

Motivation

Multi-robot systems provide a great number of advantages compared to single robot-systems when a few agents must interact and cooperate to solve a practical problem. This fact has caused that the interest in this topic has increased in recent years. Currently, a large number of issues are likely to be studied and treated in the field from both theoretical and practical point of view. Most of the approaches unfolded in order to address the aforementioned issues can be classified, in terms of the behavior of the agents/robots that form the system, mainly in the following two groups: swarm and negotiation. Despite researchers from both approaches develop, apparently, very different algorithms the underlined theoretical background is pretty similar and it is based, among others, on Markov decision processes, partially observable Markov decision processes, game theory, probabilistic robotics, fuzzy logic, neural networks, etc.

The main goal of this Special Session is to provide a forum where researchers that develop different multi-robot paradigms exchange new ideas in order to identify common points and new research lines and opportunities of collaboration. This forum is also open to researches working in nearby disciplines to the multi-robot field, such as multi-agent systems and machine learning, which are interested in contribute to the development of the area by means of novel ideas.

The topics of interest include, but are not limited to:

- Swarm Robotics
- Auction Mechanisms for Multi-robot Systems
- Market Robotics
- Cooperative Robotics
- Multi-Robot Systems
- Theoretical Foundations of Multi-Robot Systems and Applications to Multi-Robot Systems from:
 - Probabilistic Robotics
 - Decision Making
 - Fuzzy Logic
 - Markov Decision Processes
 - Stochastic Processes
 - Neural Networks
 - Game Theory

Contribution and participation

Potential contributors to this SS are invited to contact the organizers (see contact details below) sending an abstract of their proposal, including a title and short description about issues or examples they would like to present.

Relevant and previously unpublished sound research results related to any of the topics of the session are expected. We plan to allocate 15'-20' presentation time to the selected papers (subject to the number of contributions).

Should your proposal be accepted for presentation, you will be invited to send a paper following the submission guidelines to be found at

<http://iwann.ugr.es/2015>

> Contributions > Authors Information

Important dates

December 10th, 2014 – Prospective Abstract

December 19th, 2014 – Invitation to participate

February 6th, 2015 – Submission of manuscript

March 21th, 2015 – Notification of acceptance

April 2nd, - Final paper submission

June, 10-12th, IWANN Conference

Organizers

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