morning workshop

Crossing the Reality Gap: Control, Human Interaction and Cloud Technology for Multi- and Many- Robot Systems

Room: S426

Website: http://www.arscontrol.unimore.it/icra14/

9.00 - 9.10	**Welcome**
9.10 - 10.30	**Session 1: Cloud and communication technologies for Multi- and Many- Robot Systems** Chair: L. Sabattini 9.10 - 9.30 **Dezhen Song** (Texas A&M Univ., USA) Cloud Mediated Nature Observation 9.30 - 9.50 **Norihiro Hagita** (ATR, Japan) Robotic Services for Super-Aging Society Service Development with Cloud Networked Robotics Technologies 9.50 - 10.10 **Edwin Olson** (Univ. of Michigan, USA) Multi-Robot Systems and Communications Limits 10.10 - 10.30 **Joey Durham** (Kiva Systems, USA) Controlling Many Robots in Many Warehouses
10.30 - 11.00	**Coffee Break & Interactive Session** (program below)
11.00 - 12.20	**Session 2: Control of and interaction with Multi- and Many- Robot Systems** Chair: J. Durham 11.00 - 11.20 **Tim Chung** (Naval Postgraduate School, USA) Advanced Concepts and Field Experimentation of Large-Scale Aerial Many-Robot Systems 11.20 - 11.40 **Cristian Secchi** (Univ. of Modena and Reggio Emilia, Italy) Passivity-based Teleoperation of Multi-Robot Systems with Time-Varying Topology 11.40 - 12.00 **Sarthak Misra** (Univ. of Twente, Netherlands) Wireless Control of Micro-Sized Magnetic Agents 12.00 - 12.20 **Lorenzo Sabattini** (Univ. of Modena and Reggio Emilia, Italy) Decentralized Control of Networked Systems for Setpoint Tracking
12.20 - 12.30	**Concluding remarks**

Organizers:

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afternoon workshop

On the Centrality of Decentralization in Multi-robot Systems: Holy Grail or False Idol?

Room: S426
Website: http://homepages.laas.fr/afranchi/events/icra2014mrs/

14.00 - 14.10	**Welcome**
14.10 - 15.30	**Keynote Session 1:** 14:10-14:50 **Alcherio Martinoli** (EPFL, Switzerland) Modeling and Control of Distributed Stochastic Robotic Systems 14:50-15:30 **Kostas Bekris** (Rutgers University, USA) Properties of Planning Methods for Multi-Robot Systems
15.30 - 16.00	**Coffee Break & Interactive Session** (program below)
16:00 - 17:20	**Keynote Session 2:** 16:00-16:40 **Kejian Wu** (presenter) / **Stergios Roumeliotis** (University of Minnesota, USA) Decentralized multi-robot cooperative localization under communication constraints 16:40-17:20 **Filippo Arrichiello** (presenter) / **Gianluca Antonelli** (University of Cassino and Southern Lazio) Experiences of (de)centralized behavioral control for multi-robot systems
17:20 - 18:00	**Panel discussion**

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both workshops
Interactive Sessions

Room: S426
Time: 10.30 - 11.00 and 15.30 - 16.00 (during the coffee break)

1. **R. Grieder, J. Alonso-Mora, C. Bloechlinger, R. Siegwart and P. Beardsley** (ETH Zurich, Disney Research center Zurich)
   Multi-robot Control and Interaction with a Hand-held Tablet
2. **S. Kim, S. J. Guy, W. Liu, D. Wilkie, R. W. H. Lau, M. C. Lin and D. Manocha** (Univ. of North Carolina, Univ. of Minnesota, City University of Hong Kong)
   Predicting Pedestrian Trajectories for Robot Navigation
3. **D. Sofge, M. Kuhlman, N. Sydney and D. Paley** (Naval Research Laboratory, UMD)
   Mobile Autonomous Navy Teams for Information Surveillance and Search (MANTISS)
4. **V. Digani, L. Sabattini, C. Secchi and C. Fantuzzi** (Univ. of Modena and Reggio Emilia)
   Decentralized coordination enhanced by centralized information: multiple AGVs in industrial application
5. **R. K. Williams, A. Gasparri, and G. S. Sukhatme** (Univ. Southern California, Univ. Roma 3)
   Rigid Networks for Feasible Collaboration and a Taxonomy of Interconnected Systems
6. **G. Gioioso, A. Franchi, G. Salvietti, S. Scheggi and D. Prattichizzo** (University of Siena, Italy; IIT, Italy; LAAS-CNRS)
   A Tele-operated Swarm of UAVs for Cooperative Grasping and Manipulation
7. **E. Castello, T. Yamamoto, Y. Nakamura and H. Ishiguro** (Osaka University; CiNet)
   Foraging in Real and Simulated environments for a Robotic Swarm based on an Adaptive Response Threshold Model
8. **P. Stegagno, C. Massidda, and H. H. Bülthoff** (MPI for Biol. Cybernetics)
   Object Recognition in Swarm Systems: Preliminary Results