

# ISRR 2009, 14th International Symposium on Robotics Research

August 31 - September 3, 2009, Astoria Hotel, Lucerne, Switzerland

<http://www.isrr2009.ethz.ch/>

## Sunday August 30, 2009

19:00 Welcome Reception

Hotel Astoria - 7th floor, room 2

## Monday August 31, 2009

08:30 Navigation

Hotel Astoria - 7th floor, room 2

"Reciprocal n-body Collision Avoidance"

Jur van den Berg, Stephen Guy, Ming Lin, Dinesh Manocha - UNC Chapel Hill

"Unifying Geometric, Probabilistic and Potential Field Approaches to Multi-Robot Coverage Control"

Mac Schwager, Jean-Jacques Slotine, Daniela Rus - MIT

"Design and Development of an Optimal-Control-Based Framework for Trajectory Planning, ..."

Sterling Anderson, Steven Peters, Tom Pilutti, Karl Iagnemma - MIT

"Learning Landmark Selection Policies for Mapping Unknown Environments"

Wolfram Burgard - Freiburg University

10:00 Coffee Break

10:30 Terrain Navigation

Hotel Astoria - 7th floor, room 2

"Gait Transitions for Quasi-Static Hexapedal Locomotion on Level Ground"

Galen Haynes, Fred Cohen, Daniel Koditschek - University of Pennsylvania

"Stable Dynamic Walking over Rough Terrain"

Ian Manchester, Uwe Mettin, Fumiya Iida, Russ Tedrake - Umea University

"Learning to Fly Like a Bird"

Russ Tedrake - MIT

"Environment modeling for cooperative air/ ground robotic systems"

Simon Lacroix, Teresa Vidal, Cyrille Berger, Joan Sola - LAAS-CNRS

12:00 Lunch at Conference Place

13:30 Human Robot Interface

Hotel Astoria - 7th floor, room 2

"Social Learning Mechanisms for Robots"

Andrea Thomaz - Georgia Tech

"Real-Time Photorealistic Virtualized Reality Interface For Remote Mobile Robot Control"

Alonzo Kelly, Erin Capstick, Daniel Huber, Herman Herman, Pete Rander, Randy Warner - CMU

"Robot audition with two or eight microphones"

Hiroshi Okuno - Kyoto University

"Learning Visual Representations for Interactive Systems"

Justus Piater - University of Liege

15:00 Coffee Break

15:30 Robotic Manipulation

Hotel Astoria - 7th floor, room 2

"Towards the Robotic Co-Worker"

Sami Haddadin, Michael Suppa, Stefan Fuchs, Alin Albu-Schaeffer, Gerd Hirzinger - DLR

"Haptography: Capturing and Recreating the Rich Feel of Real Surfaces"

Katherine Kuchenbecker - University of Pennsylvania

"Reinventing the Wheel: Mobile Manipulation in Unstructured Environments"

Oliver Brock - TU Berlin

"Soft Robotics Design and Control"

Alin Albu-Schaeffer - DLR

18:30 Departure for Evening BBQ

Hotel Astoria, Lobby

## Tuesday September 1, 2009

**08:30 Humanoid**

**Hotel Astoria - 7th floor, room 2**

"Enhanced Mother Environment with Humanoid Specialization in IRT Robot Systems"

Masayuki Inaba - University of Tokyo

"Cybernetic Human HRP-4C: A humanoid robot with human-like proportions"

Shuuji Kajita - AIST

"Developing cognitive skills on a child humanoid robot: the iCub"

G. Sandini, D. Vernon, G. Metta, L. Natale, F. Nori, P. Dominey, J. Santos-Victor, A. Ijspeert - Italian Inst. of Tech., Genova

"From Sensorimotor Primitives to Manipulation and Imitation Strategies in Humanoid Robots"

Tamim Asfour - University of Karlsruhe

**10:00 Coffee Break**

**10:30 Learning**

**Hotel Astoria - 7th floor, room 2**

"Learning Mobile Robot Motion Control from Demonstrated Primitives and Human Feedback"

Brenna Argall, Brett Browning, Manuela Veloso - CMU

"Perceptual Interpretation for Autonomous Navigation through Dynamic Imitation Learning"

Silver David, J. Andrew Bagnell, Anthony Stentz - CMU

"An inverse control approach to human motion modeling"

Katja Mombaur, Jean-Paul Laumond, Anh Truong - LAAS

"Learning Motor Skills in Robotics"

Jan Peters - Max Planck Institute for Biological Cybernetics

**12:00 Individual Lunch**

**City of Lucerne**

**IFRR Board Meeting**

**IFRR Officers**

**13:40 Boat trip to Alpnach**

**Boat Station Lucerne Bahnhofquai**

**15:50 Travel to Mount Pilatus**

**Mountain Railway Alpnachstad**

**16:30 Welcome Drink**

**Mount Pilatus**

**17:00 Blue Sky Session**

**Mount Pilatus**

*Hugh Durrent Whyte* - Sensor Fusion

*Vijay Kumar* - Multi-robot coordination

*Brad Nelson* - Micro and Nano-Robotics

*Stefan Schaal* - Robot Learning

*Sebastian Thrun* - Probabilistic Robotics

*Makoto Kaneko* - Human Centered Robotics

**19:30 Conference Banquet**

**Mount Pilatus**

**23:30 Return to Hotel**

**Mountain Railway and Bus**

## Wednesday September 2, 2009

### 08:30 Mapping

Hotel Astoria - 7th floor, room 2

"Autonomy through SLAM for an Underwater Robot"

John Folkesson, John Leonard - MIT

"Toward Life Long Mapping"

Paul Newman, Gabe Sibley, Mark Cummins, Mike Smith, Alastair Harrison, Christopher Mei, Ian Reid - University of Oxford

"Error Driven Densification of Multi-scale Gaussian Maps"

Manuel Yguel, Dizan Vasquez, Olivier Aycard - INRIA

"Towards Lifelong Navigation and Mapping in an Office Environment"

Gordon Wyeth - University of Queensland

### 10:00 Coffee Break

### 10:30 Vision

Hotel Astoria - 7th floor, room 2

"Estimating Ego-Motion in Panoramic Image Sequences with Inertial Measurements"

Felix Schill, Robert Mahony, Peter Corke - ANU

"Reconstruction and Verification of 3D Object Models for Grasping"

Zoltan Marton, Lucian Goron, Radu Rusu, Michael Beetz - TUM

"Robust 3-D Visual SLAM in a Large-scale Environment"

In So Kweon - KAIST

"Large-Scale Visual Mapping and Localization"

Marc Pollefeys - ETHZ

### 12:00 Lunch at Conference Place

### 13:30 Tracking and Sensor Network

Hotel Astoria - 7th floor, room 2

"Efficient Strategies for Collecting Data from Wireless Sensor Network Nodes using Mobile Robots"

Onur Tekdas, Nikhil Karnad, Volkan Isler - University of Minnesota

"Place-Dependent People Tracking"

Matthias Luber, Gian Diego Tipaldi, Kai Arras - University of Freiburg

"Combining Laser-Scanning Data and Images for Target Tracking and Dynamic Scene Modeling"

Hongbin Zha - Peking University

"Sensing and Control on the Sphere"

Peter Corke, Robert Mahony - CSIRO

### 15:00 Coffee Break

### 15:30 Complex Motion

Hotel Astoria - 7th floor, room 2

"Floating Visual Grasp of Unknown Objects Using an Elastic Reconstruction Surface"

Lippiello Vincenzo, Fabio Ruggiero, Bruno Siciliano - UNINA

"Motion Planning under Uncertainty for Robotic Tasks with Long Time Horizons"

Hanna Kurniawati, Yanzhu Du, Wee Sun Lee, David Hsu, Shao Wei Png, Sylvie C. W. Ong - MIT

"Generality and Simple Hands"

Matthew Mason, Siddhartha Srinivasa, Andres Vazquez - CMU

"Scansorial Landing and Perching"

Mark Cutkosky - Stanford University

"Design and analysis of hybrid systems with applications to robotic aerial vehicles"

Claire Tomlin - UC Berkeley

### 18:00 Individual Dinner

City of Lucerne

### 21:00 Video Session, Wine and Cheese

Hotel Astoria - 7th floor, room 2 - Sponsored by MAXON

## Thursday September 3, 2009

### 08:30 Multi-Robot Systems

Hotel Astoria - 7th floor, room 2

"Coordinating Construction of Truss Structures using Distributed Equal-mass Partitioning"  
Seungkook Yun, Mac Schwager, Daniela Rus - MIT

"Synthesis of Controllers to Create, Maintain, and Reconfigure Robot Formations with Com. Con."  
Nora Ayanian, Vijay Kumar, Daniel Koditschek - University of Pennsylvania

"Planning and Control for Cooperative Manipulation and Transportation with Aerial Robots"  
Jonathan Fink, Nathan Michael, Soonkyum Kim, Vijay Kumar - University of Pennsylvania

"Towards a Ten Thousand Mobile Robot Warehouse"  
Raffaello D'Andrea - ETH Zurich

### 10:00 Coffee Break

### 10:30 Micro/Nano Robots

Hotel Astoria - 7th floor, room 2

"Design and Fabrication of the Harvard Ambulatory Micro-Robot"  
Andrew Baisch, Robert Wood - Harvard University

"On-chip Robotics for Biomedical Innovation"  
Fumihito Arai - Tohoku University

"Assembly and Disassembly of Magnetic Mobile Micro-Robots towards 2-D Reconf. Micro-Systems "  
Chytra Pawashe, Steven Floyd, and Metin Sitti - CMU

### 12:00 End of Conference