

SAT 1. 5th Workshop on Formal Methods for Robotics and Automation; Room: 123

Time	Event
9:00 - 9:15	Welcome and Overview
	Academia Session
9:15 - 9:35	Talk: Sanjit Seshia (UC Berkeley) , <i>Human-in-the-loop robotics: Specification, verification, and synthesis</i>
9:35 - 9:55	Talk: Necmiye Ozay (University of Michigan) , <i>Correct-by-construction controller synthesis for highly dynamic systems: an application in automotive safety systems</i>
9:55 - 10:15	Talk: Lydia Kavraki (Rice University) , <i>Temporal motion planning for complex dynamical systems: Progress and challenges</i>
10:15 - 10:30	Discussion
10:30 - 11:00	~ Coffee Break ~
	Position Paper Session
11:00 - 11:15	Talk: Scott Livingston , <i>Formal methods enabling systems-level programming environments for robotics</i>
11:15 - 11:30	Talk: Stefan Mitsch, Jan-David Quesel, Andre Platzer , <i>From safety to guilty & from liveness to niceness</i>
11:30 - 11:45	Talk: Damian Lyons, Ronald Arkin, Shu Jiang, Dagan Harrington and Matthew O'Brien , <i>Getting it right the first time: Verification of behavior-based multirobot missions</i>
11:45 - 12:30	Discussion: <i>Discussion of future research challenges and opportunities</i>
12:30 - 14:00	~ Lunch ~
14:00 - 14:30	Industry Spotlight: Jim Kapinski (Toyota Research)
	Tool Session
14:30 - 14:45	Talk: Complan
14:45 - 15:00	Talk: gr1c
15:00 - 15:15	Talk: LTLMoP
15:15 - 15:30	Talk: LTLOPT
15:30 - 16:00	~ Coffee Break ~
	Poster Session
16:00 - 16:15	Poster lightning round
16:15 - 17:15	Poster session
17:15 - 17:30	Closing Remarks

**SAT 2. 5th Workshop on RGB-D Perception: Reconstruction and Recognition;
Room 200**

Time	Event
9:00 - 9:20	Introduction
9:20 - 9:50	Invited Talk: Dieter Fox , <i>Some experiences in RGB-D perception for robotics</i>
9:50 - 10:10	Contributed Talks: 1, 2
10:10 - 10:40	Invited Talk: Martial Hebert , <i>3D Training data for image interpretation</i>
10:40 - 11:00	~ Coffee Break ~
11:00 - 11:30	Invited Talk: Jitendra Malik , <i>Learning rich features from RGB-D images for object detection and segmentation</i>
11:30 - 12:00	Contributed Talks: 3, 4, 5
12:00 - 12:30	Panel Discussion with the Invited Speakers
12:30 - 14:00	~ Lunch ~
14:00 - 14:30	Invited Talk: Derek Hoiem , <i>Interpreting indoor scenes from RGB-D images</i>
14:30 - 14:50	Contributed Talks: 6, 7
14:50 - 15:20	Invited Talk: Noah Snavely , <i>Grounding vision in the real world</i>
15:20 - 15:40	Contributed Talks: 8, 9
15:40 - 16:00	~ Coffee Break ~
16:00 - 16:30	Invited Talk: Raquel Urtasun , <i>Understanding complex scenes and people that talk about them.</i>
16:30 - 17:00	Discussion and Closing Remarks
17:00 - 18:00	Poster Session

**SAT 3. Autonomous Control, Adaptation, and Learning for Underwater Vehicles;
Room 130**

Time	Event
9:00 - 9:15	Welcome & Introduction by the Organizers
9:15 - 9:30	Talk: Geoff Hollinger (OSU) , <i>Human-robot underwater data collection</i>
9:30 - 9:45	Talk: Ryan Eustice (U Mich) , <i>An adaptive active visual SLAM framework for real-time area coverage</i>
9:45 - 10:00	Talk: David P. Williams (NATO CMRE) , <i>Adaptive mine countermeasures using intelligent autonomous underwater vehicles</i>
10:00 - 10:15	Talk: Christopher Clark (Harvey Mudd) , <i>Underwater robot control and estimation developments driven by marine science and archeology</i>
10:15 - 10:30	Talk: Doug Horner (NPS) , <i>Undersea autonomy in extreme environments, part I</i>
10:30 - 11:00	~ Coffee Break ~
11:00 - 11:15	Talk: Noel DuToit (NPS) , <i>Undersea autonomy in extreme environments, part II</i>
11:15 - 11:30	Poster Spotlights
11:30 - 12:30	Poster Session
12:30 - 14:00	~ Lunch ~
14:00 - 14:15	Talk: Franz Hover (MIT) , <i>Oceanographic pursuit: Networked control of multiple vehicles tracking dynamic ocean features</i>
14:15 - 14:30	Talk: Ani Hsieh (Drexel) , <i>Controlling basin breakout for autonomous vehicles in geophysical flows</i>
14:30 - 14:45	Talk: Fumin Zhang (Ga Tech) , <i>Glider CT: Reconstructing flow field through guided motion</i>
14:45 - 15:00	Talk: Ryan Smith (Fort Lewis) , <i>Priors and persistence in aquatic monitoring with autonomous robots</i>
15:00 - 15:30	~ Coffee Break ~
15:30 - 16:45	Government Panel Discussion: SK Gupta (NSF), Jason Stack (ONR), Marc Steinberg (ONR)
16:45 - 17:30	Open Panel Discussion Conducted by the Workshop Organizers

SAT 4. DARPA Robotics Challenge: Lessons Learned and What's Next; Room 110

Time	Event
9:00 - 9:10	Welcome
9:10 - 9:35	Talk: Todd Danko (Lockheed Martin; Trooper) , <i>Team TROOPER: Toward human guided autonomy</i>
9:35 - 10:00	Talk: Patrick Beeson (TRAC Labs) , <i>Team TRAC Labs: A small-business entry into the DARPA robotics challenge</i>
10:00 - 10:25	Talk: Brett Kennedy (NASA JPL; RoboSimian) , <i>RoboSimian and associated technology for mobile manipulation</i>
10:30 - 11:00	~ Coffee Break ~
11:00 - 11:25	Talk: Scott Kuindersma and Maurice Fallon (MIT) , <i>Semi-autonomous disaster response: MIT's approach to the DRC</i>
11:25 - 11:50	Talk: Peter Neuhaus (IHMC) , <i>IHMC and the DARPA Robotics Challenge</i>
11:50 - 12:15	Talk: Peter Neuhaus on behalf of Nicolaus Radford (NASA JSC; Team Valkyrie) , <i>Valkyrie - NASA's newest humanoid robot</i>
12:15 - 13:45	~ Lunch ~
13:45 - 14:10	Talk: Taşkın Padır (WPI; Team WPI-CMU) , <i>An update from the WPI-CMU DRC Team</i>
14:10 - 14:35	Talk: Gill Pratt (DARPA)
14:35 - 15:30	Open Discussion
15:30 - 16:00	~ Coffee Break ~
16:00 - 16:25	Talk: Kris Hauser (Indiana; DRC-Hubo) , <i>Team DRC-Hubo: a DRC trials postmortem</i>
16:25 - 16:50	Talk: Anthony Stentz (CMU; Tartan Rescue) , <i>CHIMP, the CMU highly intelligent mobile platform</i>
16:50 - 17:15	Talk: JunHo Oh (Team KAIST) , <i>Development of DRC-HUBO for the DRC trials</i>
17:15 - 17:40	Talk: David Conner (TORC Robotics; Team ViGIR) , <i>Team ViGIR's approach to the 2013 DARPA Robotics Challenge trials</i>

SAT 5. Distributed Control and Estimation for Robotic Vehicle Networks; Room 20

Time	Event
9:00 - 9:20	Introduction and Overview by Organizers
9:20 - 9:55	Talk: Mark Campbell , <i>Distributed Bayesian estimation over communication networks</i>
9:55 - 10:30	Talk: Silvia Ferrari , <i>Distributed optimal control for target tracking</i>
10:30 - 11:00	~ Coffee Break ~
11:00 - 11:35	Talk: Jay Farrell , <i>Distributed camera control for opportunistic visual sensing</i>
11:35 - 12:10	Talk: Solmaz Kia , <i>Decentralized recursive cooperative localization for groups of mobile robots</i>
12:10 - 13:45	~ Lunch ~
13:45 - 14:20	Talk: Jonathan How , <i>Multi-agent mission planning in contested communication environments</i>
14:20 - 15:30	<p>Poster Preview Spotlight Talks (5-minute presentations)</p> <p>A. Agha-mohammadi, S. Omidshafiei, C. Amato, J. P. How, <i>Graph-based planning to solve multi-agent POMDPs</i></p> <p>R. Hult, G. Campos, P. Falcone, H. Wymeersch (*presented by Alberto Speranzon), <i>Toward optimal coordination of vehicles at road intersections</i></p> <p>N. Trcka, A. Surana, <i>Distributed optimal planning with process algebraic and resource constraints</i></p> <p>V. Cichella, R. Choe, S. Bilal Mehdi, E. Xargay, N. Hovakimyan, V. Dobrokhodov, I. Kaminer, A. M. Pascoal, A. Pedro Aguiar, <i>Safe time-critical cooperative missions for multiple multirotor UAVs</i></p> <p>R. Tron, J. Thomas, G. Loianno, J. Polin, V. Kumar, K. Daniilidis, <i>Vision-based formation control of aerial vehicles</i></p> <p>H. Poonawala, M. Spong, <i>Decentralized estimation of the algebraic connectivity of strongly connected networks</i></p> <p>N. Sydney, D. Paley, D. Sofge, <i>Physics-Inspired robotic motion planning for cooperative Bayesian target detection</i></p> <p>V. Indelman, N. Michael, F. Dellaert, <i>Incremental distributed robust inference from arbitrary robot poses using EM and model selection</i></p> <p>J. Morrison, D. Galvez-Lopez, G. Sibley, <i>Scalable multi-device SLAM</i></p>
15:30 - 16:45	~ Coffee Break (and Poster Session) ~
16:45 - 17:20	Talk: Gaurav Sukhatme , <i>Exploring the ocean with robots: Is communication the challenge?</i>
17:20 - 18:00	Panel Discussion; Featured Panelists: Alberto Speranzon (UTRC)

SAT 6. Human versus Robot Grasping and Manipulation — How Can We Close the Gap?; Room 210

Time	Event
8:45 - 9:00	Opening remarks
	Session I: Hands
9:00 - 10:00	Speakers Humans: Francisco Valero-Cuevas Robots: Aaron Dollar
10:00 - 10:30	Discussion: <i>Towards the right hardware</i>
10:30 - 11:00	~ Coffee Break ~
	Session II: Grasping
11:00 - 12:00	Speakers Humans: Marco Santello Robots: Oliver Brock (presenting a talk co-authored with Antonio Bicchi)
12:00 - 12:30	Discussion: <i>Towards effective grasping</i>
12:30 - 14:00	~ Lunch ~
	Session III: Perception
14:00 - 15:00	Speakers Humans: Michael Arbib Robots: Justus Piater
15:00 - 15:30	Discussion: <i>Towards appropriate perception</i>
15:30 - 16:00	~ Coffee Break ~
16:00 - 17:00	Panel Discussion
17:00 - 18:00	Poster session: <i>Novel directions in grasping and manipulation</i>
18:00 - 18:30	Closing remarks

SAT 7. Human–Robot Collaboration for Industrial Manufacturing; Room 101

Time	Event
9:00 - 9:10	Opening
9:10 - 9:50	Invited Talk: Stefan Batscher (BMW)
9:50 - 10:05	Contributed Talk: Klas Kronander (EPFL), Etienne Burdet (Imperial College of Science, Technology, and Medicine) and Aude Billard (EPFL), <i>Task transfer via collaborative manipulation for insertion assembly</i>
10:05 - 10:20	Contributed Talk: Anahita Mohseni-Kabir (WPI), Sonia Chernova (WPI) and Charles Rich (WPI), <i>Collaborative learning of hierarchical task networks from demonstration and instruction</i>
10:20 - 10:35	Contributed Talk: Jim Mainprice (WPI) and Dmitry Berenson (WPI), <i>Motion planning for human-robot collaborative manipulation tasks using prediction of human motion</i>
10:35 - 11:05	~ Coffee Break ~
11:05 - 11:20	Contributed Talk: Kelsey P. Hawkins (Georgia Tech), Magnus Egerstedt (Georgia Tech) and Aaron F. Bobick (Georgia Tech), <i>Towards rationally safe robots</i>
11:20 - 11:35	Contributed Talk: Russell Toris (WPI) and Sonia Chernova (WPI), <i>Learning of multi-hypothesized task templates from a corpus of noisy human demonstrations</i>
11:35 - 11:50	Contributed Talk: Steven J. Levine (MIT), Shawn Schaffert (Vecna Technologies, Inc.) and Neal Checka (Vecna Technologies, Inc.), <i>Natural user interface for robot task assignment</i>
11:50 - 12:20	Industry Talk: Rainer Bischoff (KUKA)
12:20 - 14:00	~ Lunch and Kuka Demo ~
14:00 - 14:40	Invited Talk: Aude Billard (EPFL)
14:40 - 15:40	Poster Session
15:40 - 16:00	~ Coffee Break ~
16:00 - 17:00	Panel Discussion: Stefan Bartscher (BMW), Aude Billard (EPFL), Jeremy Marvel (NIST), Andrew Tinka (Kiva Systems), Rainer Bischoff (KUKA), <i>Manufacturers meet researchers</i>

SAT 8. Moral, Ethical, and Legal Issues in Robotics; Room 203

Time	Event
8:00 - 8:30	Gather, Coffee
	Session I: Where we are and where we are headed: Real-world capabilities and imminent issues
8:30 - 10:30	Welcome and Introduction by the Organizers (10 minutes) Prof. Illah Nourbakhsh Prof. Ron Arkin Prof. Noel Sharkey Group Discussion: <i>Other issues that should be on the table</i>
10:30 - 11:00	~ Coffee Break ~
	Session II: What philosophical and technical models can help us address societal issues?
11:00 - 12:30	Prof. John Sullins Dr. Kate Darling Dr. Moritz Hardt Group Discussion: <i>Questions from other disciplines to all speakers so far; Input from other workshop speakers and participants</i>
12:30 - 14:00	~ Lunch ~
	Session III: What legal challenges arise and what models can help us address societal issues?
14:00 - 15:30	Prof. Ryan Calo Prof. Bryant Walker Smith Group Discussion: <i>Questions from other disciplines; Discussion of workable legal models</i>
15:30 - 16:00	~ Coffee Break ~
	Session IV: Group Discussion
16:00 - 17:30	<ul style="list-style-type: none"> ● <i>Where we are with regard to ethical and social issues from different perspectives</i> ● <i>The key questions upcoming in the next year, 5 years, and further out</i> ● <i>Goals for different disciplines, working together and separately, in addressing these questions</i>
17:30	Conclusion

SAT 09. Non-parametric Learning in Robotics; Room 220

Time	Event
8:50 - 9:00	Introduction by Rudolph Triebel and Luciano Spinello
9:00 - 9:40	Talk: Ashutosh Saxena
9:45 - 10:30	Talk: Michael Jordan
10:30 - 11:00	~ Coffee Break ~
11:00 - 11:45	Talk: Jonathan How
11:45 - 12:30	Talk: Byron Boots
12:30 - 14:00	~ Lunch ~
14:00 - 14:10	Talk: Neeti Wagle and Eric Frew , <i>Forward adaptive transfer learning for Gaussian processes</i>
14:10 - 14:20	Talk: Trong Nghia Hoang et al. , <i>Nonmyopic ϵ-Bayes optimal active learning of Gaussian processes</i>
14:20 - 14:30	Talk: Nuo Xu et al. , <i>GP-Localize: Persistent mobile robot localization using online sparse Gaussian process observation model</i>
14:30 - 14:40	Talk: Ruofei Ouyang et al. , <i>Multi-Robot active sensing of non-stationary Gaussian process-based environmental phenomena</i>
14:40	Poster Session

SAT 10. Optimization Techniques for Motion Generation in Robotics; Room 213

Time	Event
8:50 - 9:00	Introduction
9:00 - 9:30	Talk: Nathan Ratliff , <i>Planning controlled contacts</i>
9:30 - 10:00	Talk: Sergey Levine , <i>Trajectory optimization under unknown dynamics for policy search</i>
10:00 - 10:30	Talk: Emo Todorov , <i>Synthesis and stabilization of contact-rich behavior with trajectory optimization</i>
10:30 - 11:00	~ Coffee Break ~
11:00 - 11:30	Talk: Katja Mombaur , <i>Models and optimization methods for human and humanoid walking</i>
11:30 - 12:00	Talk: Joan Aguilar , <i>Eigenpostures as a tool to synthesize and analyze near optimal motions for multibody systems and human high-divers</i>
12:00 - 12:30	Talk: Adrien Escande , <i>Lexicographic optimization for robotics</i>
12:30 - 12:40	Poster Teaser
12:40 - 15:00	~ Lunch ~
15:00 - 16:30	Poster Session (with parallel coffee break at 15:30 - 16:00)
16:30 - 17:00	Talk: Anirudha Majumdar , <i>Control and verification of high-dimensional systems with DSOS and SDSOS programming</i>
17:00 - 17:30	Talk: Matthias Gerdts , <i>Optimal control techniques for trajectory generation in autonomous systems</i>
17:30 - 18:00	Discussion and Conclusion

SAT 11. Resource-efficient Integration of Planning and Perception for True Autonomous Operation of Micro Air Vehicles (MAVs); Room 106

Time	Event
	Session I
9:00 - 9:30	Introduction, goals and challenges
9:30 - 10:00	Plenary Talk: Mirko Kovac (Imperial College) , <i>Aerial construction and multi-modal mobility with bio-inspired flying robots</i>
10:00 - 10:30	Contributed Talk: Teodor Tomic, Sami Haddadin , <i>A sense of touch: External wrench estimation, interaction control and collision reflexes for flying robots</i>
10:30 - 11:00	~ Coffee Break ~
	Session II
11:00 - 11:30	Invited Talk: Giuseppe Loianno and Vijay Kumar (UPenn) , <i>Smart phones and flying robots</i>
11:30 - 12:00	Contributed Talk: Markus Achtelik (ETH) , <i>What sucks in MAV research and (attempts) how to fix it</i>
12:00 - 12:30	Contributed Talk: Annett Stelzer, Elmar Mair, Michael Suppa , <i>A scalable landmark data structure for resource-constrained global navigation</i>
12:30 - 15:00	~ Lunch ~
	Session III
15:00 - 15:30	Live Demo Session: Live flight and flying hardware presentations
15:30 - 16:00	Live Demo Session: Live flight and flying hardware presentations with ~ Coffee Break ~
	Session IV
16:00 - 16:30	Invited Talk: Davide Scaramuzza , <i>Towards aggressive flight with vision controlled quadrotors: from frame-based to event-based vision</i>
16:30 - 17:00	Contributed Talk: Stephan Weiss, Roland Brockers, Larry Matthies : <i>Autonomous obstacle avoidance and landing site evaluation for fast-deployable rotorcraft in earth and space science</i>
17:00 - 17:30	Discussion and Conclusion

**SAT 12. Robot Makers: The Future of Digital Rapid Design and Fabrication of Robots;
Room 122**

Time	Event
9:00 - 9:20	Introduction by RoMa Organizers
	Session I: Design/Vision
9:20 - 9:50	Talk: Adam Stokes , <i>Fabrication of soft robotics and integrated soft systems</i>
9:50 - 10:30	10+2-Minute Presentations Joshua Schultz and Peter Hawrylak , <i>Modular actuation systems: A scalable solution for delivering robotic performance</i> Yigit Menguc, Conor Walsh and Robert Wood , <i>Design for manufacturability of soft sensors with discretized stiffness gradients</i> Yash Mulgaonkar and Vijay Kumar , <i>Open-source, printable pico-quadrotor</i>
10:30 - 11:00	~ Coffee Break ~
	Session II: Fabrication
11:00 - 11:30	Talk: Nikolaus Correll , <i>Robotic materials: From smart polymers to computational meta-materials</i>
11:30 - 12:30	Talk: Joseph Greenspun, Daniel Drew and Kristofer Pister , <i>Investigation of atmospheric ion thrusters using rapid prototyping techniques</i> Talk: Michael Wehner, Nicholas Bartlett, Yigit Menguc, Carneil Domkam and Robert Wood , <i>Multimaterial devices expand the design-space for soft robotics</i> Talk: Mauricio Dias and Bruno Silva , <i>Low cost robot design for research and educational purposes</i> Talk: Gregory McCarthy, Daniil Effraimidis, Brian Jennings, Nicholas Corso, Cagdas Onal and Marko Popovic , <i>Hydraulically Actuated Muscle (HAM) exo-musculature</i>
12:30 - 14:00	~ Lunch ~
	Session III: Software
14:00 - 14:30	Talk: Oleg Sokolsky , <i>Architectural modeling for model-based engineering: The AADL perspective</i>
14:30 - 15:00	Talk: Daniel M. Aukes , <i>PopupCAD: A new design tool for developing inherently-manufacturable laminate devices</i>
15:00 - 15:30	Talk: Donal Holland, Evelyn Park, Panagiotis Polygerinos and Conor Walsh , <i>Online resources to support on-demand design and fabrication of soft robotic devices</i> Talk: Matt Bunting and Jonathan Sprinkle , <i>Rapid prototyping of Dmitri, a hexapod robot</i> Talk: Joseph Delpreto, Ankur Mehta and Daniela Rus , <i>Cogeneration of electrical and software designs from structural specifications</i>
15:30 - 16:00	~ Coffee Break ~
	Session IV: Future Directions
16:00 - 16:30	Talk: Mark Yim , <i>Design issues in robotic performance art</i>
16:30 - 16:50	Talk: Kamilo Melo, Manolo Garabini, Giorgio Grioli, Manuel Catalano, Lorenzo Malagia and Antonio Bicchi , <i>Open source VSA-CubeBots for rapid soft robot prototyping</i>
16:50 - 17:50	Discussion
17:50 - 18:00	Conclusion

SAT 13. Workshop on Robotics Methods for Structural and Dynamic Modeling of Molecular Systems; Room 206

Time	Event
8:00 - 9:00	Morning Coffee and Poster Setup
9:00 - 9:05	Welcome and Introductions
9:05 - 9:50	Invited Talk: Greg Chirikjian , <i>Configuration spaces of symmetry-constrained motions in crystals</i>
9:50 - 10:10	Talk: Gregory S. Chirikjian and Bernard Shiffman , <i>Collision-Free configuration-spaces in macromolecular crystals</i>
10:10 - 10:30	Talk: Stephane Redon , <i>Editing molecular structures with smoothed articulated-body accelerations</i>
10:30 - 11:00	~ Coffee Break ~
11:00 - 11:20	Talk: Kevin Molloy, Rudy Clausen and Amarda Shehu , <i>On the stochastic roadmap to model functionally-related structural transitions in wildtype and variant proteins</i>
11:20 - 11:40	Talk: Chinwe Ekenna, Shawna Thomas and Nancy Amato , <i>Adaptive neighbor connection aids protein motion modeling</i>
11:40 - 12:00	Talk: Hyuntae Na and Guang Song , <i>An efficient method for quantitative delineation of how protein breathing motions open ligand migration channels</i>
12:00 - 12:20	Talk: Mojie Duan, Minghai Li, Li Han and Shuanghong Huo , <i>Geometric issues in dimensionality reduction and protein conformation space</i>
12:20 - 14:00	~ Lunch ~
14:00 - 15:00	Invited Talk: Lydia Kavraki , <i>Geometry and robotics-inspired methods for the analysis of protein function</i>
15:00 - 15:15	Talk: Torin Adamson, John Baxter, Kasra Manavi, Bruna Jacobson and Lydia Tapia , <i>Crowdsourced molecular docking using path-planning and haptic devices</i>
15:15 - 15:20	Poster: Mark Moll, Drew H. Bryant, and Lydia E. Kavraki , <i>Functional annotation of proteins through substructure matching</i>
15:20 - 15:25	Poster: Elizabeth Beattie, Edward Steager and Vijay Kumar , <i>Effect of geometry and bacterial collisions on the motion of micro bio robots</i>
15:25 - 16:15	~ Coffee Break (and Poster Session) ~ Poster: Xiaohua Zhang, Sergio Wong and Felice Lightstone , <i>Toward fully automated high performance computing drug discovery: A massively parallel virtual screening pipeline for docking and molecular mechanics/generalized born surface area rescoring to improve enrichment</i> Poster: Denise Wong, Edward B. Steager and Vijay Kumar , <i>Characterizing synthetically engineered cells for sensors in micro bio robots</i>
16:15 - 16:35	Talk: Kasra Manavi and Lydia Tapia , <i>Influence of model resolution on antibody aggregation simulations</i>
16:35 - 16:55	Talk: Aaron Lindsey, Hsin-Yi Yeh, Chih-Peng Wu, Shawna Thomas and Nancy Amato , <i>Improving decoy databases for protein folding algorithms</i>
16:55 - 17:15	Talk: Jing He and Dong Si , <i>Towards de novo folding of protein structures from Cryo-EM 3D images at medium resolutions</i>
17:15	Discussion

SAT 14. Workshop on Women in Robotics; Room 100

Time	Event
9:00 - 10:30	Talk 1: Allison Okamura Talk 2: Julie Shah
10:30 - 11:00	~ Coffee Break ~
11:00 - 12:30	Talk 3: Leila Takayama Poster Session
12:30 - 14:00	~ Lunch ~
14:00 - 15:30	Talk 4: Aude Billard Talk 5: Manuela Veloso
15:30 - 16:00	~ Coffee Break ~
16:00 - 18:00	Talk 6: Nora Ayanian WIE in RAS and IEEE: Laura Margheri Career Panel Discussion, Q&A Conclusion

SUN 1. Affordances in Vision for Cognitive Robotics; Room 100

Time	Event
	Session I: Affordances in Computer Vision
8:45 - 9:30	Talk: Prof. Abhinav Gupta (CMU) , <i>Humans, objects, and actions</i>
9:30 - 9:40	Talk: Mahmudul Hassan and Anuja Dharmaratne (Monash Univ.) , <i>Predicting abnormalities in complex human-object interaction by using object affordance context</i>
9:40 - 10:05	Talk: Martin Giesel and Qasim Zaidi (SUNY) , <i>Rapid sensing of material affordances</i>
10:05 - 10:20	~ Coffee Break ~
10:20 - 10:45	Talk: Jan Tuennermann, Baerbel Mertsching (Univ. Paderborn) , <i>Saliency and affordance in artificial visual attention</i>
10:45 - 11:05	Open Discussion on Papers and Vision for Vision Research
	Session II: Affordances in Cognitive Robotics
11:05 - 11:50	Talk: Prof. Ashutosh Saxena (Cornell Univ) , <i>Physically-grounded Affordances for Perception, Planning and Language</i>
11:50 - 14:50	~ Lunch ~
14:50 - 15:00	Posters QA Session
15:00 - 15:10	Talk: David Inkyu Kim and Gaurav Sukhatme (USC) , <i>Semantic mapping of object affordance by interactive manipulation</i>
15:10 - 15:30	Talk: Vivian Chu and Andrea L. Thomaz (Gatech) , <i>Understanding the role of haptics in affordances</i>
15:30 - 16:00	Talk: Walter A. Talbott and Javier Movellan (UCSD) , <i>A Computational framework for visual perception of inertial affordances</i>
16:00 - 16:20	~ Coffee Break (and Poster Session) ~
16:20 - 16:40	Open Discussion on Papers and Vision for Future Research
	Session III: Psychophysics and Neurobiology of Affordances
16:40 - 17:10	Talk: David Abel, Gabriel Barth-Maron, James MacGlashan, and Stefanie Tellex (Brown Univ.) , <i>Towards affordance-aware planning</i>
17:10 - 17:30	Talk: Ana-Maria Olteteanu and Christian Freksa (Univ. Bremen) , <i>Towards affordance-based solving of object insight problems</i>
17:30 - 17:50	Talk: Sterling Somers (Carleton Univ.) , <i>A symbolic approach to affordances using SGOMS</i>
17:50 - 18:35	Talk: Prof. Jerome Feldman (UC Berkeley) , <i>Affordances, actionability, and simulation</i>
18:35 - 18:45	Closing Remarks

SUN 2. Communication-aware Robotics: New Tools for Multi-Robot Networks, Autonomous Vehicles, and Localization; Room 122

Time	Event
8:25 - 8:30	Opening
8:30 - 9:10	Keynote Talk: Dina Katabi , <i>New approaches for leveraging radio signals in robotics</i>
9:10 - 9:35	Invited Talk: Gaurav Sukhatme , <i>Communication aware robotics: Models and abstractions</i>
9:35 - 10:00	Invited Talk: Romit Roy Choudhury , <i>Mobile infrastructure: Challenges, opportunities, and applications</i>
10:00 - 10:20	~ Coffee Break ~
10:20 - 10:45	Invited Talk: Venkat Padmanabhan , <i>Tracking users indoors: From localization to physical analytics</i>
10:45 - 11:10	Invited Talk: Sonia Martinez , <i>Robot coordination through opportunistic communications</i>
11:10 - 11:50	Roundtable Discussion with Invited Speakers
11:50 - 15:00	~ Lunch ~
15:00 - 15:25	Invited Talk: Vijay Kumar , <i>Cooperative detection, localization and mapping of targets and the environment with heterogeneous robots</i>
15:25 - 16:30	Lightning Round I: Kiran Joshi , <i>Promoting RF signal fadings: A solution for localization and navigation in tunnel-like featureless environments</i> Carlos Rizzo , <i>Sensing and imaging while communicating</i> Ramvijas Parasuraman , <i>A fast radio signal strength prediction algorithm for mobile robots in unknown environments</i> Soon-Jo Chung , <i>Distance optimal target assignment for networked robots with communication and target-sensing limitations</i> James Stephan , <i>Autonomous motion control of robot teams while preserving communication</i>
16:30 - 17:00	~ Coffee Break ~
17:00 - 17:30	Lightning Round I: Christopher Amato , <i>Combined planning under uncertainty for communication and control in multi-robot teams</i> Omur Arslan , <i>A recursive, distributed minimum spanning tree algorithm for mobile ad hoc networks</i>
17:30 - 17:50	Invited Talk: Yasamin Mostofi , <i>Robotics and RF: Opportunities and challenges</i>
17:50 - 18:15	Invited Talk: Bhaskar Krishnamachari , <i>Controlling mobility to improve wireless network performance</i>
18:15	Closing Remarks

SUN 3. Constrained Decision-making in Robotics: Models, Algorithms, and Applications; Room 210

Time	Event
8:20 - 8:30	Welcome Address, Stefano Carpin and Marco Pavone
8:30 - 9:00	Talk: Marco Pavone , <i>Risk-averse and risk-constrained stochastic optimal control</i>
9:00 - 9:30	Talk: Rahul Jain , <i>Risk-aware stochastic optimization</i>
9:30 - 10:00	Talk: Emilio Frazzoli and Pratik Chaudhari , <i>Sampling-based algorithms for risk-constrained autonomous urban navigation</i>
10:00 - 10:30	~ Coffee Break ~
10:30 - 11:00	Talk: Masahiro Ono , <i>Chance-constrained optimal control: From smart grid to Mars EDL and mobility planning</i>
11:00 - 11:30	Talk: Mykel Kochenderfer , <i>A decision theoretic approach for next generation aircraft collision avoidance</i>
11:30 - 15:00	~ Lunch ~
15:00 - 15:30	Poster Session Poster: S.D. Bopardikar, B. Englot, A. Speranzon , <i>Chance-constrained multi-objective path planning under state uncertainty</i> Poster: Y. Cui, J.T. Lane, R. Voyles , <i>Real-time, on-board system health management for resource constrained field robotics</i> Poster: N. Demir, B. Acikmese , <i>Probabilistic density control of swarms of mobile agents with generalized safety constraints</i> Poster: C. Erdogan, M. Stilman , <i>Ensuring buildability of simple machine designs with task-constrained motion planning</i> Poster: S. Feyzabadi, S. Carpin , <i>Risk-aware path planning using hierarchical constrained Markov decision processes</i>
15:30 - 16:00	Talk: Alessandro Pinto , <i>Application of constrained decision processes to mission planning</i>
16:00 - 16:30	Talk: Gaurav Sukhatme , <i>Beyond information gathering: Physical sampling as a constrained decision-making problem</i>
16:30 - 17:00	~ Coffee Break ~
17:00 - 17:30	Discussion and Concluding Remarks

SUN 4. Dynamic Locomotion; Room 220

Time	Event
7:55 - 8:00	Welcome and Introduction: Aaron Ames, Koushil Sreenath
	Session on Dynamics
8:00 - 8:25	Talk: Andre Seyfarth , <i>Conceptual models for real-world locomotion</i>
8:25 - 8:50	Talk: Hartmut Geyer , <i>Decentralized control in natural and artificial legged systems</i>
8:50 - 9:15	Talk: Jonathan Hurst , <i>A case for spring-mass physics in legged robots</i>
9:15 - 9:40	Talk: Katja Mombaur
9:40 - 10:05	Talk: Manoj Srinivasan , <i>Energy optimality in novel locomotion tasks: Experiments, theory, and simple Models</i>
10:05 - 10:20	~ Coffee Break ~
10:20 - 10:40	Talk: Ioannis Poulakakis , <i>Quadrupedal running with torso compliance</i>
	Session on Control
10:40 - 11:05	Talk: Emo Todorov , <i>Estimation and control as dual trajectory optimization problems</i>
11:05 - 11:30	Talk: Anton Shiraev , <i>Dynamical walking with two and more passive degrees of freedom</i>
11:30 - 11:50	Talk: Kaveh Hamed (Jessy Grizzle) , <i>Continuous-time controllers for robust stabilization of 3D bipedal walking</i>
11:50 - 15:00	~ Lunch ~
15:00 - 15:20	Talk: Koushil Sreenath , <i>Control Lyapunov function based quadratic programs for torque saturated bipedal walking</i>
15:20 - 15:40	Talk: Aaron Ames , <i>Dynamic multi-contact bipedal walking</i>
15:40 - 16:00	Talk: Robert Gregg , <i>Virtual constraint control of a powered prosthetic leg: Experiments with transfemoral amputees</i>
	Session on Control
16:00 - 16:20	Talk: Aaron Johnson (Dan Koditschek) , <i>Gait design using self-manipulation</i>
16:20 - 16:35	Talk: Sergey Levine (Pieter Abbeel) , <i>Learning locomotion controllers via trajectory optimization</i>
16:35 - 17:00	~ Coffee Break ~
17:00 - 17:20	Talk: Scott Kuindersma (Russ Tedrake) , <i>whole-body dynamic locomotion planning and control for a hydraulic humanoid robot</i>
17:20 - 17:40	Talk: Siyuan Feng (Chris Atkeson) , <i>Optimization-based full body control for the DARPA Robotics Challenge</i>
17:40 - 18:00	Talk: Cenk Oguz Saglam (Katie Byl) , <i>Biped locomotion as a metastable Markov decision process</i>
18:00 - 18:20	Talk: Pranav Bhousele , <i>Gait planning and control of walking robots based on energy regulation between steps</i>
18:20 - 18:35	Talk: Massimo Vespignani (Auke Ijspeert) , <i>Sensorized foot design for robust locomotion: A study using cheetah-cub</i>
18:35 - 18:50	Talk: John Schulman (Pieter Abbeel) , <i>Learning locomotion controllers with a policy iteration algorithms</i>
18:50 - 18:55	Closing Remarks: Aaron Ames, Koushil Sreenath

SUN 5. Guaranteed Safety for Uncertain Robotic Systems; Room 24

Time	Event
8:00 - 8:30	Opening Remarks
	Session I
8:30 - 9:00	Talk: Anayo Akametalu , <i>A brief history of safe learning</i>
9:00 - 9:30	Talk: Teodor Moldovan , <i>Safe exploration in discrete state spaces</i>
9:30 - 10:00	Talk: Jaime Fernandez-Fisac , <i>A framework for improving guarantees for safe learning under modeling errors</i>
10:00 - 10:20	~ Coffee Break ~
	Session II
10:20 - 10:50	Talk: Anil Aswani , <i>Learning-based model-predictive control</i>
10:50 - 11:20	Talk: Thierry Fraichard , <i>Impossibility of safety guarantees in dynamic environments</i>
11:20 - 11:50	Talk: Aude Billard , <i>Fast reactivity in the face of perturbations</i>
11:50 - 15:00	~ Lunch ~
	Session III
15:00 - 15:30	Talk: Ian Mitchell , <i>Synthesis of robust safe control signals</i>
15:30 - 16:00	Talk: Russ Tedrake , <i>Estimation, identification, and verification for rigid bodies with frictional contact</i>
16:00 - 16:30	Talk: Calin Belta , <i>Approximate synthesis methods for probabilistic large, and partially unknown environments</i>
16:30 - 17:00	~ Coffee Break ~
	Session IV
17:00 - 17:30	Talk: Hadas Kress-Gazit , <i>Synthesis of high-level controllers for robots with complex dynamics</i>
17:30 - 18:00	Talk: Eric Wolff , <i>Controller synthesis for stochastic systems with temporal logic specifications</i>
18:00 - 18:30	Talk: Jie Fu and Ufuk Topcu , <i>Probably approximately correct MDP learning and control with temporal logic constraints</i>
18:30 - 19:00	Panel Discussion: <i>How to certify behavioral specifications (e.g. safety) in uncertain environment</i>

SUN 6. Humans and Sensing in Cyber-Physical Systems; Room 203

Time	Event
7:50 - 8:00	Introduction
8:00 - 9:00	Talk: George Pappas and Nikolay Atanasov (UPenn) , <i>Distributed Information Acquisition with Mobile Sensors</i>
9:00 - 10:00	Talk: Hadas Kress-Gazit (Cornell) , <i>Synthesis and Analysis of High-Level Controllers for Robots with Imperfect Sensing and Actuation</i>
10:00 - 10:30	~ Coffee Break ~
10:30 - 11:30	Talk: Marco Pavone (Stanford) and Pratik Chaudhari (MIT) , <i>On the Societal and Engineering Impact of Autonomous Cars</i>
11:30 - 13:30	~ Lunch ~
13:30 - 14:30	Talk: Rahul Jain (USC) , <i>Decentralized Learning for Multi-Player Systems</i>
14:30 - 15:30	Talk: Edgar Lobaton (NCSU) , <i>Robust Mapping of Unknown Environments using Stochastic Agents</i>
15:30 - 16:30	Talk: Raj Rajkumar (CMU) , <i>Humans and Self-Driving Vehicles</i>
16:30 - 17:00	~ Coffee Break ~
17:00 - 18:00	Talk: Radha Poovendran, Linda Bushnell, and Andrew Clark (University of Washington) , <i>Leader Selection for Multi-Agent Systems</i>

SUN 7. Information-based Grasp and Manipulation Planning; Room 200

Time	Event
8:40 - 8:50	Welcome
8:50 - 9:20	Invited Talk: Prof. Ken Goldberg (UC Berkeley)
9:20 - 9:40	Talk: Sergey Levine (UC Berkeley)
9:40 - 10:00	Talk: Shervin Javdani (CMU)
10:00 - 10:20	<i>~ Coffee Break ~</i>
10:20 - 10:50	Invited Talk: Prof. Hanna Kurniawati (University of Queensland)
10:50 - 11:20	Poster Spotlight Talks (10 posters; 3-minute presentations)
11:20 - 11:50	Poster Session 1
11:50 - 15:00	<i>~ Lunch ~</i>
15:00 - 15:30	Invited Talk: Prof. Ashutosh Saxena (Cornell University)
15:30 - 16:30	Poster Session 2
16:30 - 17:00	<i>~ Coffee Break ~</i>
17:00 - 17:30	Invited Talk: Jur van den Berg (Google)
17:30 - 17:50	Talk: Dylan Hadfield-Menell (UC Berkeley)
17:50 - 18:20	Invited Talk: Prof. Siddhartha Srinivasa (CMU)
18:20 - 18:30	Closing Remarks

SUN 8. Learning Plans with Context from Human Signals; Room 123

Time	Event
9:00 - 9:30	Introduction: Ashesh Jain and Ashutosh Saxena , <i>Learning with humans</i>
9:30 - 10:00	Invited Talk 1: Pieter Abbeel , <i>Learning from demonstrations through the use of non-rigid registration</i>
10:00 - 10:20	~ Coffee Break ~
10:20 - 10:30	Spotlight Talk
10:30 - 10:40	Spotlight Talk
10:40 - 11:10	Invited Talk 2: Maja Mataric , <i>Embodied communication in socially assistive and service robotics</i>
11:10 - 11:20	Spotlight Talk
11:20 - 11:50	Panel Discussion, Maja Mataric , Manuel Lopes and Jan Peters
11:50 - 15:00	~ Lunch ~
15:00 - 15:10	Spotlight Talk
15:10 - 15:40	Invited Talk: Alan Fern , <i>New modes of human-assisted policy learning</i>
15:40 - 15:50	Spotlight Talk
15:50 - 16:20	Invited Talk: Julie Shah , <i>Inferring robot plans from human team meetings</i>
16:20 - 16:30	Spotlight Talk
16:30 - 17:00	~ Coffee Break ~
17:00 - 17:30	Invited Talk: Manuel Lopes , <i>Learning from ambiguous demonstrations</i>
17:30 - 18:00	Invited Talk: Andrea Thomaz , <i>Learning task goals from humans demonstrations</i>
18:00 - 18:30	Panel Discussion, Alan Fern , Ashutosh Saxena , Julie Shah and Andrea Thomaz

SUN 9. Managing Software Variability in Robot Control Systems; Room 206

Time	Event
15:00 - 15:30	Welcome and Introduction
15:30 - 16:30	Tutorial Talk: Davide Brugali , <i>The HyperFlex Toolchain for variability modeling, composition, and resolution</i>
16:30 - 17:00	~ Coffee Break ~
17:00 - 18:00	Tutorial Talk: Christian Schlegel, Dennis Stampfer , <i>The SmartMDSD Toolchain: Supporting dynamic reconfiguration by managing variability in robotics software development</i>
18:00 - 18:30	Open Discussion

SUN 10. Next-Generation Robotics: Academia, Start-ups and Industry; Room 110

Time	Event
8:30 - 8:35	Introduction by the Organizers
8:35 - 9:00	Plenary Introduction Talk: Vijay Kumar
	Session: Robotics in Industry - New Directions
9:00 - 9:20	Talk: Erik Nieves (Yaskawa) , <i>Robotics is changing. Are the industrial guys listening?</i>
9:20 - 9:40	Talk: Rainer Bischoff (KUKA Laboratories GmbH) , <i>Innovation through collaboration – recent KUKA success stories</i>
9:40 - 10:00	Talk: Phil Freeman (Boeing) , <i>Beyond drill-and-fill – The future use of robotics in aerospace</i>
10:00 - 10:20	~ Coffee Break ~
10:20 - 10:40	Talk: Murad Kurwa (Flextronics) , <i>Factory Automation and it's role in IoT</i>
10:40 - 11:00	Talk: Stefan Bartscher (BMW) , <i>Human Robot Interaction – Chances and Challenges for Automotive Manufacturing</i>
11:00 - 11:20	Talk: Paul Millman (Intuitive Surgical) , <i>Technology and Design – Enhancing Surgical Performance</i>
11:20 - 11:50	Panel Discussion , <i>Robotics in industry and academia - New directions, new opportunities</i>
11:50 - 15:00	~ Lunch Break ~
	Session: Robotics Startups
15:00 - 15:20	Talk: Hanns Wolfram Tappeiner (Anki Robotics) , <i>Every day is demo day – Robotics in consumer products</i>
15:20 - 15:40	Talk: Jim Ostrowski (Blue River Technology) , <i>Robots going agro: Opportunities and challenges in cultivating an agrobotics business</i>
15:40 - 16:00	Talk: Matt Williamson (Rethink Robotics) , <i>Safe, cheap, and smart: Collaborative robots in manufacturing</i>
16:00 - 16:20	Talk: Chris Anderson/Brandon Basso (3D Robotics) , <i>Building an open source robotics business</i>
16:20 - 16:50	~ Coffee Break ~
16:50 - 17:10	Talk: Joe Romano (Kiva Systems) , <i>Mo' robots, mo' problems. Experiences transitioning from academia to industry</i>
17:10 - 17:30	Talk: Steve Lavalle (Oculus; UIUC) , <i>Well..How Did I Get Here?</i>
17:30 - 18:00	Panel Discussion: The startup experience - Guts to glory

SUN 11. Self-Driving Vehicles: Technology and Policy; Room 213

Time	Event
8:45 - 9:00	Opening remarks (John Leonard and Jesse Levinson)
	Technology and Systems
8:40 - 10:00	<p>Edwin Olson (University of Michigan), <i>Autonomous cars: safety and human factors</i> Jesse Levinson (Stanford University), <i>Automatic laser calibration, mapping, and localization for autonomous vehicles</i> David Hall (Velodyne), <i>Lidar sensors for autonomous vehicles</i> Philipp Robbel (Bosch), <i>Perception and planning for automated vehicles</i></p>
10:00 - 10:20	~ Coffee Break ~
	Mobility-on-Demand Systems Analysis
10:20 - 10:40	Emilio Frazzoli (MIT) and Marco Pavone (Stanford University) , <i>The value of robotic mobility-On-Demand systems</i>
10:40 - 12:00	<p>Panel on Economic Impacts Frank Levy (MIT) (moderator), Susan Shaheen (UC Berkeley), Ken Laberteaux (Toyota Research Institute), Dan Fagnant (UT Austin)</p>
12:00 - 15:00	~ Lunch ~
	Contributed Technical Presentation on Navigation and Mapping
15:00 - 15:30	<p>Sheng Zhao, Yiming Chen, Jay Farrell (UC Riverside), <i>High precision 6DOF vehicle navigation in urban environments using a low-cost single-frequency GPS receiver</i> Matthew Cornick, Jeffrey Koehling, and Byron Stanley (Lincoln Laboratory), <i>Localizing Ground Penetrating RADAR</i> Avdhut Joshi and Michael R. James (Toyota Research Institute), <i>High-fidelity street maps with multi-component tracking and coarse structural priors</i></p>
	Legal and Safety Aspects
15:30 - 16:40	<p>Bryant Walker Smith (Stanford University), <i>Legal aspects of increasing vehicle automation</i> Jonathan How (MIT), <i>Safety verification for self-driving vehicles</i> Eric Feron (Georgia Tech), <i>Verification and validation for autonomous systems</i></p>
16:40 - 17:00	~ Coffee Break ~
17:00 - 18:15	<p>Panel on Future Outlook and Policy Implications Jane Lappin (US Department of Transportation) (moderator), Steve Shladover (UC Berkeley), Raj Rajkumar (CMU), Brad Templeton</p>
18:15 - 18:30	Wrap-up Discussion

SUN 12. Advances on Soft Robotics; Room 106

Time	Event
8:30 - 8:35	Opening
8:35 - 8:50	Talk: Laura Margheri (The BioRobotics Institute, Scuola Superiore Sant'Anna RoboSoft Project Management) , <i>RoboSoft: A coordination action for soft robotics</i>
8:50 - 9:10	Invited Talk: Adam Stokes (Edinburgh University) , <i>Soft Robotics and integrated soft systems</i>
9:10 - 9:30	Invited Talk: Carmel Majidi (Carnegie Mellon University) , <i>Soft-matter electronics, multifunctional materials, and fabrication methods for soft robots</i>
9:30 - 9:40	Contributed Talk: Conor Walsh (Harvard School of Engineering and Applied Sciences) , <i>Shared design tools to support research and development in soft robotics</i>
9:40 - 9:50	Contributed Talk: Bratislav Svetozarevic (ETH Zurich) , <i>Experimental characterization of a 2-DOF soft robotic platform for architectural applications</i>
9:50 - 10:00	Contributed Talk: David Remy (University of Michigan) , <i>How to create self-sensing air muscles from conductive fibers</i>
10:00 - 10:30	~ Coffee Break ~
10:30 - 10:50	Invited Talk: Surya G. Nurzaman (ETH Zurich) , <i>Morphological computation in soft robots by using thermoplastic materials</i>
10:50 - 11:10	Invited Talk: Mike Tolley (Harvard Microrobotics Lab) , <i>Design, materials, and power systems for autonomous soft robots</i>
11:10 - 11:30	Invited Talk: Metin Sitti (Carnegie Mellon University) , <i>GeckoGripper: A soft robotic gripper using gecko-inspired elastomer micro-fiber adhesives</i>
11:30 - 11:50	Open Discussion, Q&A
11:50 - 15:00	~ Lunch ~
15:00 - 15:20	Invited Talk: Yong-Lae Park (Carnegie Mellon University) , <i>Bio-inspired smart pneumatic artificial muscles with integrated soft artificial skin sensors</i>
15:20 - 15:40	Invited Talk: Jonathan Rossiter (University of Bristol) , <i>Towards soft-smart skins: a biomimetic soft robotics approach</i>
15:40 - 15:50	Contributed Talk: Pablo Valdivia y Alvarado (Singapore-MIT Alliance for Research and Technology) , <i>Soft tunable whisker-like sensors</i>
15:50 - 16:00	Contributed Talk: Yiğit Mengüç (Harvard Microrobotics Lab) , <i>Characterizing an elastomeric strain sensor at large strains and strain rates</i>
16:00 - 16:10	Contributed Talk: Tim Swift (Otherlab) , <i>Structurally compliant orthotics</i>
16:10 - 16:30	Invited Talk: Barry Trimmer (Tufts University) , <i>Softworm robots: 3D-printed crawling machines</i>
16:30 - 17:00	~ Coffee Break ~
17:00 - 17:20	Talk: Ronald Fearing (UC Berkeley) , <i>Contributions of compliance and shape to locomotion and manipulation</i>
17:20 - 17:50	Open Discussion, Q&A
17:50 - 18:00	Closing Remarks

SUN 13. Workshop on Multi-View Geometry in Robotics (MVGRO 2014); Room 130

Time	Event
15:00 - 15:05	Welcome and Introduction
15:05 - 15:45	Invited Talk: Silvio Savarese , <i>Joint scene reconstruction and recognition from images</i>
15:45 - 16:25	Invited Talk: Jana Kosecka , <i>Multiview 3D reconstruction and semantic parsing</i>
16:25 - 17:00	<p style="text-align: center;">~ Coffee Break (and Poster Session) ~</p> <p>Poster Session: Roberto Tron, Philip Osteen, Jason Owens and Kostas Daniilidis, <i>Pose averaging for registration of multiple heterogeneous views</i> Alejo Concha and Javier Civera, <i>3D reconstruction of superpixels and its use in monocular SLAM</i> Henry Carrillo, Yasir Latif, José Neira and José Castellanos, <i>Towards measuring uncertainty in volumetric signed distance function representations for active SLAM</i> Thomas Koletschka, Luis Puig and Kostas Daniilidis, <i>Multi-environment stereo visual odometry using points and lines</i></p>
17:00 - 17:40	Invited Talk: Roberto Tron and Kostas Daniilidis , <i>Statistical pose averaging with varying and non-isotropic covariances</i>
17:40 - 17:55	Talk: Raul Mur Artal and Juan D. Tardos , <i>ORB-SLAM: Tracking and mapping recognizable features</i>
17:55 - 18:10	Talk: Sammy Omari, Michael Burri, Michael Bloesch, Markus Achtelik, Pascal Gohl and Roland Siegwart , <i>Real-time dense stereoscopic visual odometry</i>
18:10 - 18:25	Talk: Mingyang Li and Anastasios Mourikis , <i>A convex formulation for motion estimation using visual and inertial sensors</i>
18:25 - 18:30	Concluding Remarks

SUN 14. Workshop on Robotic Monitoring; Room 101

Time	Event
8:30 - 8:40	Welcome and Introduction by the Organizers
8:40 - 9:15	Talk: Michael Hamilton , <i>Drones, nodes, and apps: Perspectives and prospects for the next generation of ecological applications using micro aerial vehicles</i>
9:15 - 9:35	Talk: Victor Hernandez Bennetts , <i>Mobile robotics olfaction: Towards practical applications</i>
9:35 - 10:00	Talk: Fabio Ramos , <i>Beyond information-gain exploration: Bayesian optimisation for smart planning</i>
10:00 - 10:20	~ Coffee Break ~
10:20 - 10:50	Poster Spotlights
10:50 - 11:50	Poster Session
11:50 - 15:00	~ Lunch ~
15:00 - 15:35	Talk: Larry Matthies , <i>Autonomous aerial mobility on earth and other planets</i>
15:35 - 16:05	Talk: Tim Barfoot , <i>Towards visual navigation to support long-term robotic monitoring</i>
16:05 - 16:30	Talk: Paul Scerri , <i>Monitoring water: Data and lessons from the field</i>
16:30 - 17:00	~ Coffee Break ~
17:00 - 17:25	Talk: Ryan Eustice , <i>Robust and persistent visual SLAM for autonomous underwater hull inspection and monitoring</i>
17:25 - 17:45	Talk: Mike Bosse , <i>Discrete to continuous trends at ETH ASL</i>
17:45 - 18:45	Discussion and Concluding Remarks by the Organizers