

ROBOSPHERE 2002 Schedule

Thursday November 14

- 8:00 – 8:30 Registration and Breakfast**
- 8:30 – 10:00 Opening Session and Invited Talks**
- 8:30 – 8:40 Welcome and logistics (Silvano Colombano, NASA Ames)
- 8:40 – 9:00 The Robosphere Concept and Workshop Goals (Silvano Colombano, NASA Ames)
- 9:00 – 9:30 A Survey of Space Robotics (Liam Pedersen, QSS/NASA Ames; David Kortenkamp, Metrica; David Wettergreen and Illah Nourbakhsh, CMU)
- 9:30 – 10:00 The Robotic Rover as Field Scientist: Lessons from Mission Simulation Field Testing of Planetary Surface Rovers (Carol Stoker, NASA Ames)
- 10:00 - 10:30 Break**
- 10:30 - 12:00 Distributed Autonomy (DA) – 1**
- 10:30 – 11:00 Organizational Model for Cooperative and Sustaining Robotic Ecologies (Eric Matson and Scott DeLoach, Kansas State University)
- 11:00 – 11:30 Overview of Design of Collectives (David Wolpert and Kagan Tumer, NASA Ames)
- 11:30 – 12:00 Networked Robotics Concepts for Space Robotics Systems (Gerard McKee, University of Reading, UK; Paul Schenker, JPL; Duncan Baker, University of Reading, UK)
- 12:00 - 1:00 Lunch**
- 1:00 - 2:30 Autonomous Construction and Self Configuration (AC) – 1**
- 1:00 – 1:30 An Analysis of Towing Repair Capabilities in a Team of Robots (Curt Bererton and Pradeep Khosla, CMU)
- 1:30 – 2:00 Autonomous Repair for Distributed Space Robotics (Ashitey Trebi-Ollenu, Terry Huntsberger, and Brett Kennedy, JPL; John M. Dolan and Pradeep K. Khosla, CMU)
- 2:00 – 2:30 Self-Replicating Robots for Space Utilization (J. Suthakorn, Y. Zhou, and Greg Chirikjian, Johns Hopkins University)
- 2:30 - 3:00 Break**
- 3:00 - 4:20 Advanced Mobility (AM) – 1**
- 3:00 – 3:20 Advanced Adaptive Mobility Systems for Autonomous Access to High Risk Terrain (Terry Huntsberger, Hrand Aghazarian, Brett Kennedy, Tony Ganino, and Paul Schenker, JPL)
- 3:20 – 3:40 Biomimetic Robots for the Real World (Frank Kirchner, University of Bremen and Northeastern University; Dirk Spenneberg, GMD)
- 3:40 – 4:00 Robot Work Crew as Construction Precursors for a Manned Mars Habitat (Ashitey Trebi-Ollenu, Hari Das Nayar, Anthony Ganino, Terry Huntsberger, and Paul Schenker, JPL)
- 4:00 – 4:20 Sustained Surface Exploration of the Earth-like Planets (David Wettergreen, CMU)
- 4:20 - 4:40 Short Break**
- 4:40 - 5:30 Discussion Session**
- 4:40 – 5:30 Open Discussion: Towards Robosphere1, Challenges and Directions
- 7:00 – 10:00 Dinner at Buca di Beppo, Palo Alto**

Friday November 15

- 8:00 – 8:30** **Registration and Breakfast**
- 8:30 – 9:00** **Invited Talk**
- 8:30 – 9:00 The “Long Day’s Drive” (LDD) – A Proposal for Exploring the Northern Martian Pole (Michael Sims, NASA Ames)
- 9:00 – 10:00** **Distributed Autonomy (DA) – 2**
- 9:00 – 9:30 TraderBots: A Robust Approach To Long-Duration Multirobot Coordination (M. Bernardine Dias and Tony Stentz, CMU)
- 9:30 – 10:00 CAMPOUT: Behavior-Based Control for Autonomous Robotic Outposts (Terry Huntsberger, Hrand Aghazarian, Ashitey Trebi-Ollennu, and Paul Schenker, JPL)
- 10:00 - 10:30** **Break**
- 10:30 - 12:00** **Autonomous Construction and Self Configuration (AC) – 2**
- 10:30 – 11:00 Self Reconfigurable Robots for Robosphere (Wei-Min Shen and Peter Will, USC/ISI)
- 11:00 – 11:30 Solid Free-Form Fabrication for Self-Sustained Robot Ecologies: Challenges and Opportunities (Evan Malone and Hod Lipson, Cornell University)
- 11:30 – 12:00 Coordination of Robotic Teams for Assembly Operations (Sanjiv Singh and Reid Simmons, CMU)
- 12:00 - 1:30** **Lunch + Computer History Museum tour**
- 1:30 - 2:30** **Distributed Autonomy (DA) – 3**
- 1:30 – 1:50 Robot Economy (Laura Plice, QSS/NASA Ames)
- 1:50 – 2:10 Snow White and the 700 Dwarves: A Cooperating Robotic System (Brian Wilcox, JPL)
- 2:10 – 2:30 An Aerobot Ecology (Greg Pisanich, QSS/NASA Ames and Larry Young, NASA Ames)
- 2:30 – 2:50** **Short Break**
- 2:50 – 3:50** **Distributed Autonomy (DA)– 4**
- 2:50 – 3:10 Heterogeneous Robotic Agents in Mars Colonies (Hamid Berenji, David Vengerov, and Jayesh Ametha, IIS)
- 3:10 – 3:30 Factored Sampling for Hierarchical Monitoring of Complex Hybrid Systems (Brenda Ng and Avi Pfeffer, Harvard University)
- 3:30 – 3:50 A Facility And Architecture For Autonomy Research (Lorenzo Flückiger, Christian Neukom, Mike Wagner, Laura Plice, Cory Ippolito, and Greg Pisanich, QSS/NASA Ames)
- 3:50- 4:20** **Break**
- 4:20 – 5:30** **Closing Session**
- 4:20 – 5:20 Panel: Technology Insertion for Advanced Robotic Concepts
- 5:20 – 5:30 Concluding remarks (Silvano Colombano, NASA Ames)