Curriculum Vitae

Maja J Matarić

Computer Science Department
University of Southern California
3650 McClintock Avenue, OHE 200, MC 1450, Los Angeles, CA 90089-1450
tel: (213) 740-4520 fax: (213) 821-5696 email: mataric@usc.edu
http://robotics.usc.edu/∼maja

Summary of contents:

EDUCATION

PhD, Computer Science and Artificial Intelligence, Massachusetts Institute of Technology, May 1994. Dissertation: *Interaction and Intelligent Behavior*. Advisor: Prof. Rodney A. Brooks. Minor in Management of Technological Innovation.

S.M., Computer Science, Massachusetts Institute of Technology, Jan 1990. Thesis: *A Model for Distributed Mobile Robot Environment Learning and Navigation*. Advisor: Prof. Rodney A. Brooks.

B.S., Computer Science, honors and distinction, University of Kansas, May 1987. Honors thesis: *Advisor: An Intelligent Knowledge-Based System for Computer Science Curriculum Advising*. Advisor: Prof. Frank Brown. Minor in Cognitive Neuroscience.

PROFESSIONAL

Jul 2006-present: *Senior Associate Dean for Research*, Viterbi School of Engineering, University of Southern California.

Jun 2006-Jun 2007: *President of the Academic Senate*, University of Southern California.

Apr 2006-present: *Professor*, Computer Science Department and Neuroscience Program, University of Southern California.

Apr 2001-Apr 2006: *Associate Professor*, Computer Science Department and Neuroscience Program, University of Southern California.

Aug 2002-present: *Founding Director*, Center for Robotics and EmbededSystems (CRES, cres.usc.edu),

University of Southern California.

Jan 1998-present: *Director*, USC Robotics Research Laboratory (robotics.usc.edu), and *Associate Director*, USC Institute for Robotics and Intelligent Systems (IRIS).

Sep 1997-Mar 2001: *Assistant Professor*, Computer Science Department and Neuroscience Program, University of Southern California.

Apr 1995-present: *Founding Director*, Interaction Lab.

Jan 1995-Aug 1997: *Assistant Professor*, Computer Science Department and Volen National Center for Complex Systems, Brandeis University.

Jun-Dec 1994: *Postdoctoral Fellow*, MIT Artificial Intelligence Laboratory.

Sep 1987-Jun 1994: *Research Assistant*, MIT Artificial Intelligence Laboratory.

Jun-Aug 1991: *Research Scientist*, GTE Labs, Waltham, MA. Host: Dr. R. Sutton.

Jun-Aug 1990: *Research Scientist*, Free University of Brussels, Belgium. Host: Prof. L. Steels.

Aug 1989-Aug 1990: *Consultant*, Advanced Research and Development Group, LEGO Futura, Cambridge, MA. Supervisor: A. Toft.

Jun-Aug 1988: *Member of Technical Staff*, Jet Propulsion Lab, NASA, Pasadena, CA. Supervisor: D. Atkinson.

May-Aug 1987 & 1986: *Intern in Software Engineering*, NCR, Wichita, KS. Supervisor: R. Meals.

Visiting Appointments

Jul-Aug 1996: *Visiting Researcher*, ATR Human Information Processing Research Laboratory, Kyoto, Japan. Host: Dr. M. Kawato.

Sep 1994: *Visiting Professor*, École Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland. Host: Prof. J-D. Nicoud.

Oct 1994: *Visiting Professor*, Swedish Institute for Computer Science, Stockholm. Host: Dr. M. Nilsson.

TEACHING

University courses: developed 7 (marked with $\star$), taught 8:

1. $\star$ ENG 150 *Engineering Science and Systems: From Humans to Robots*. A new all-engineering undergraduate course supported by the School of Engineering Dean and USC Provost; lab-based with sophisticated humanoid mobile robots, featuring team work and public contests at the California Science Center. First taught in fall 2007.

2. $\star$ CS 445 *Introduction to Robotics*. Hands-on lab course using LEGO kits & Handy boards, team work and contest. Developed the course and raised funds for the laboratory equipment and web resources; received the USC Innovative Undergraduate Teaching Award 1999-2000. (Text: The Robotics Primer - Matarić) Due to popular demand, the course is taught every semester with 3 faculty in rotation.

3. ⋆ CS 584 *Control and Learning in Mobile Robots and Multi-Robot Systems*. Developed the course, originally taught it as CS 599 Mobile Robots and Multi-Robot Systems; taught annually.
4. ⋆ CS 599 *Perceiving and Controlling Humanoid Behavior*. Developed the course, taught in spring 2001.
5. CS 460 *Artificial Intelligence* (text: AI, A Modern Approach - Russell and Norvig), taught in fall 1997.
6. ⋆ COSI 215 *Advanced Topics in AI: Analytical Models* Developed the course, taught in spring 1996.
7. ⋆ COSI 117 *Control and Learning in Autonomous Agents* Developed the course and initially taught it as COSI 112 Theory and Models of Autonomous Agents, in fall 1994, then spring 1995.
8. ⋆ USEM 71a *Social Behavior* (Texts: Evolution of Cooperation - R. Axelrod, How Monkeys See the World - D. Cheney and R. Seyfarth, In the Shadow of Man - J. Goodall, You Just Don't Understand - D. Tannen, The Anatomy of Love - H. Fisher.) Developed the course, taught in fall 1996.
9. COSI 21b *Structure and Interpretation of Computer Programs* (text: Abelson and Sussman), taught in spring 1997.

Other short courses:

Sep 1995: *Course Organizer*, NATO Advanced Study Institute, *Practice and Future of Autonomous Agents*, Monte Verita, Switzerland. Short course and workshop on mobile robot control.

Mar 1993: *Teaching Assistant*, NATO Advanced Study Institute, *Biology and Technology of Intelligent Autonomous Agents*, Trento, Italy. Mobile robot lab design, presentation, and coordination.

Sep 1985-May 1987: *Teaching Fellow*, University of Kansas, Lawrence, KS. Taught recitations and tutored sessions for: CS200 Pascal, CS210 Discrete Structures, CS300 Basic Programming Structures and Algorithms, CS660 Data Structures.

RESEARCH SUPERVISION

PhD Advisor to 11 USC students:

Graduated PhDs (6):

1. Dani Goldberg, Jun 96-May 2001, PhD May 2001, "Evaluating the Dynamics of Agent-Environment Interaction", now senior software engineer at Bluefin Robotics.
2. Monica Nicolescu, Sep 98-May 2003, PhD May 2003, "A Framework for Learning From Demonstration, Generalization and Practice in Human-Robot Domains", now assistant professor of Computer Science at University of Nevada, Reno.
3. Brian Gerkey, Sep 98-May 2003, Intel Graduate Fellow, 2001-02, PhD May 2003, "On Multi-Robot Task Allocation", now research scientist at SRI.
4. Odest Jenkins, Sep 98-Sep 03, USC All-University Predoctoral Fellow 1998-2001, PhD Sep 03, "Data-driven Derivation of Skills for Autonomous Humanoid Agents", now assistant professor of Computer Science at Brown University.

5. Christopher Vernon Jones, Sep 01-May 2005, PhD May 2005, "A Principled Design Methodology for Minimalist Multi-Robot System Controllers", now research program manager at iRobot Corp.

6. Evan Martin Drumwright, Sep 01-May 2007, PhD May 2007, "The Task Matrix: A Framework for Robot-Independent Programming of Humanoids."

Current PhD students (6):

• Gorang Gandhi (Sep 07-present, USC Provost Fellow)
• David Feil-Seifer (Sep 03-present, Annenberg Research Fellow, Mellon Mentoring Award)
• Jeff Norris (Sep 01-present, part time while full time at NASA JPL)
• Nathan Koenig (Sep 04-present)
• Emily Mower (Sep 04-present, NSF Research Fellow, Herbert Kunzel Engineering Fellow)
• Dylan Shell (Sep 02-present, USC Graduation Completion Fellow)

Brandeis University, initial supervision of 4 PhD students: Brendan Kitts (Sep 95-May 97), Zachary Mason (Sep 96-May 97), Richard Watson (Sep 96-May 97), Gregory Hornby (Sep 96-May 97).

Masters Research/Thesis Advisor to 15 students; USC (13): Raul Correal-Tezanos (Sep 06-present), Darren James Earl (Sep 07-present), Muhammad Emad-Ud-Din (May 07-present), Ajo Fod (Sep 99-Dec 01, MS 02), Sanford Freedman (Sep 04-May 2006), Kyong Kang (May 04-May 06), Aswath Mohan (MS May 99), Salman Qadri (Sep 06-May 07), Amit Ramesh (Sep 00-Dec 04, MS 05), Viren Ranjan (May 06-Jan 07), Helen Yan (Sep 01-May 03, MS May 03), Joshua Wainer (Sep 05-May 07). Brandeis (2): Aruna Sankaranarayanan (MS May 97), Julia Novikova (Jan-Aug 97).

PhD Thesis Committee Member to 9 students: Maxim Batalin (Mar 05); Kevin Dixon, CMU (Jan 04); Jelena Godjevac, École Polytechnique Fédérale de Lausanne EPFL, Switzerland, (Dec 96); , Changhee Han (Sep 04); Chalermek Intanagonwiwat (Jan 02); Boyoon Jung (Mar 05); David Naffin (Dec 05); Sanza Kazadi, EE Dept., Caltech (Jun 2000); Vincent Darley, CS Dept. & Division of Applied Sciences, Harvard (May 99); Georgi Stojanov, EE Dept, Syril and Methodius University, Skopje, R. Macedonia (Jun 97).

PhD Thesis External Examiner to Robert Price, University of British Columbia, 2003.

Thesis Proposal/Qualifying Exam Committee Member (excluding completed PhDs listed above) to 10 students: Signe Bray (Caltech, May 2005), Behnam Salemi (Jan 02), Ya Xu (Sep 01), Erhan Oztop (Feb 00), Haobo Yu (Jun 99), Jun Park (Nov 99), Ahmed A-G Helmy (Dec 97); at Brandeis: Joseph Cohn (Neuroscience Program, Mar 95), Gabriel Robles (Psychology Dept., Jan 96).

Postdoctoral Supervisor to 15 researchers:

Current (2):

1. Eric Wade (Feb 07-), Women in Science and Engineering (WiSE) Fellow

2. Adriana Tapus (Dec 05-), Women in Science and Engineering (WiSE) Fellow

Past (13):

1. Odest Jenkins (Sep 03-Jul 04), now assistant professor of Computer Science at Brown University

2. Marcelo Kallmann (Mar 03-Jul 04), now assistant professor of Computer Science at University of California, Merced
3. Anand Panangadan (Mar 03-Jun 04), now researcher scientist at LA Children's Hospital
4. Ian Kelly (Jan 02-Dec 04)
5. Ashley Tews (Oct 01-Oct 04), now research scientist at CSIRO, Brisbane, Australia
6. Andrew Howard (Oct 00-Oct 02), now research scientist at NASA JPL
7. Torbjorn Dahl (Aug 01-Feb 03), now head of Intelligent Systems Research, School of Computing and Engineering, University of Wales, Newport, UK
8. Aude Billard (Jun 99-Jul 00), now assistant professor at EPFL, Switzerland
9. Paolo Pirjanian (Jan-Dec 99) now president and CTO, Evolution Robotics, an Idealab! company, Pasadena, CA
10. Richard Vaughan (Oct 98-Sep 01, co-advised w/ G. Sukhatme), now assistant professor of Computer Science at Simon Fraser U., Canada
11. Miguel Schneider (Jan-Aug 97)
12. François Michaud (Jul 96-May 97) now tenured associate professor of EECS, University of Sherbrooke, Canada
13. Michael Casey (Jan 96-May 97, Brandeis U. Neuroscience Program, co-advised with E. Marder)

Research Associate Supervisor to 6 researchers: Jon Eriksson (Nov 03-May 04), Jens Wawerla (Sep 01-Jun 02, now PhD student at Simon Fraser University), Esben Ostergaard (Aug 00-01, now Assistant Professor at the University of Southern Denmark), Jakob Fredslund (Aug 00-June 01, now Assistant Professor at the University of Aarhus, Denmark), Kasper Stoey (Aug 99-Aug 00, now Associate Professor at the University of Southern Denmark), Stefan Weber (Jan 99-Jan 00, Fulbright Scholar).

Undergraduate Research Supervisor to 20 students:
Current (4):
• Brandon Angelo, • Sean Bachelder (Engineering Summer Merit Research Fellow, 07), • Minal Cordiero (NSF REU student) • Urmila Mahadev (USC Women in Science and Engineering Undergraduate Research Fellow)
Past (16):
Daniel Arbuckle, Brian Ellenberger, Sophia Fang (USC Engineering Summer Internship Fellow, 2005), Andrew Fisher (USC Merit Research Scholar), Dani Goldberg (Honors Thesis: Using Interference to Design Efficient Robot Group Behaviors, Jun 96, Brandeis Computer Science Dept.), Danko Krajisnik (NSF REU student, summer 06), Prem Melville (Sep 96-Aug 97, Brandeis Undergraduate Research Fellow), Donovan Schafer (Engineering Summer Merit Research Fellow, 06), Kristine Skinner (USC Women in Science and Engineering Undergraduate Research Fellow, Sep 05-May 07), Jeremy Stell-Smith (USC Merit Scholar).
MIT Undergraduate Research Opportunity Program Supervisor to 5 students: Sonu Aggarwal (Jan-Dec 90), Matthew Marjanović (May 92-Jan 93), Magdalena Leuca (Jan-Dec 90), Stanley Wang (Jan-May 91), Owen Wessling (May 90-May 91).

Computing Research Association Committee on the Status of Women in Computing Research (CRA-W) Distributed Mentor Program Mentor to: Alexandra Constantin (Jun-Aug 05), Jennie Vongsoasup (Jun-Aug 06), Helena Wotring (Jun-Aug 06).

EDUCATIONAL OUTREACH

- *Programing workbook* Developed a free robot programming workbook companion for K-12 and university educators and students, available on the web (http://roboticsprimer.sourceforge.net/workbook), supported by iRobot Corp.
- *Hands-on Robotics for STEM (Science, Technology, Engineering and Math) Education* Jointly developed 6th and 8th-grade robotics-enhanced science course materials and trained two LA middle school teachers, supported by the NSF Research Experience for Teachers (RET) program, Jul 2003-Aug 2005,
- *Hands-on Robotics for Enhancing Middle-School STEM Education and Increasing Participation of Under-Represented Students* Jointly developed 6th-8th grade robotics courses and trained 4 middle school teachers, supported by the USC Neighborhood Outreach (UNO) program, Jul 2005-Jun 2006.
- *Hands-on Robotics for Enhancing Elementary-School STEM Education and Increasing Participation of Under-Represented Students* Jointly developed a 5th grade robotics course and trained the teachers at the all-girls elementary school in inner-city LA, sponsored by the USC Neighborhood Outreach (UNO) program, Jul 2006-Jun 2007.
- *Web resources* Maintain an educational resource web portal with materials for K-12 educators and students at: http://robotics.usc.edu/interaction/k-12/
- *High School Outreach Programs* Brandeis Summer Odyssey research intern supervisor for: Rabia Belt (went to Harvard), Ilyas Nuri (went to UC Berkeley), Jun-Sep 95. Jisan Research Institute faculty mentor for: Andy Hsieh, Peter Hung, and Elliot Acevedo.

GRANTS, CONTRACTS, and GIFTS (44)

Current:

44. National Institute for Ageing pilot project "Assessing Socially Assistive Robotics as Social and Cognitive Aides For the Elderly", PI: M. Matarić, total $43,000, Jun 2007-Mar 2008.

43. National Science Foundation Computing Research Infrastructure grant for "Human-Robot Interaction and Socially Assistive Robotics", PI: M. Matarić, total $130,000, Jul 2007-Jun 2008.

42. National Science Foundation Human-Robot Interaction Program grant for "Personalized Assistive Human-Robot Interaction: Validation in Socially-Assisted Post-Stroke Rehabilitation", PI: M. Matarić, co-PI: C. Winstein, total $450,000, Sep 2007-Aug 2010.

41. National Science Foundation grant for "Major Research Infrastructure", PI: S. Schaal, Co-PI: M. Matarić, S. Sukhatme and L. Itti, total $600,000 + $200,000 university cost-share, Sep 1, 2006 - Aug 31, 2009.

40. National Science Foundation grant for "NSF Workshop on Human-Robot Interaction", PI: M. Matarić, total $49,995, Aug 1, 2006 - Jul 31, 2007.

39. Microsoft Research Gift for grant for "Robotics for K-12 Education and Outreach", PI: M. Matarić, total $15,000, Jun 2006.

38. USC Neighborhood Outreach (UNO) Grant "Hands-on Robotics for Enhancing Elementary-School STEM Education and Increasing Participation of Under-Represented Students", PI: M. Matarić, total $24,424, Jul 2006-Jun 2007.

37. USC Provost's Fund for Innovative Undergraduate Teaching grant for "Science and Systems: Engineering Through Robotics", a freshman hands-on all-engineering course, PI: M. Matarić, total $15,000, May 2006-Apr 2007.

36. NSF IIS Grant for "Automatic Synthesis and Optimization of Controllers for Multi-Robot Coordination", Research Experience for Undergraduates (REU) supplement, PI: M. Matarić, total $6,000, summer 2006.

35. USC Provost's Arts and Humanities Initiative grant for "Capturing Movement in Time and Space: Dance and Motion Capture.", PIs: M. Apostolos and M. Matarić, total $43,000, May 2006-May 07.

34. USC Institute for Creative Technologies, "Foundations of Human-Robot Interaction: Study of Embodiment, Body Language, and Interaction", PI: M. Matarić, total $150,000, Nov 2005-Oct 06.

33. NSF Dynamics of Human Behavior "Modeling and Analyzing Individual and Collective Human Spatial Behavior" Research Experience for Undergraduates (REU) supplement, PI: M. Matarić, total $6,000, summer 2006.

32. NSF Dynamics of Human Behavior "Modeling and Analyzing Individual and Collective Human Spatial Behavior", collaborative grant, USC PI: M. Matarić, co-PI K. Lerman, Brandeis PI: R. Sekuler, total

$750,000, USC part: $465,000, Sep 2005-Aug 2008.

31. JPL-USC Strategic University Research Partnership Director's Research and Development Fund (DRDF) Grant "Adaptive Human-Machine Interfaces for Collaborative Construction", JPL PI: T. Huntsberger, USC part: $20,000, Sep 2005-Aug 06.

30. Provost's Fellowship from the Center for Interdisciplinary Research, "Validating the Core Hypothesis of Assistive Interactive Robotics: An Interdisciplinary Study", PI: M. Matarić, total $30,000, Apr 2005-present.

29. NSF IIS Grant for "Automatic Synthesis and Optimization of Controllers for Multi-Robot Coordination", PI: K. Lerman, Co-PI: M. Matarić, co-PI portion $195,000, Nov 2004-Oct 2007.

28. Okawa Foundation Award, PI: M. Matarić, total $10,000, Oct 2004-present.

27. Provost's Fellowship from the USC Center for Interdisciplinary Research, PI: M. Matarić, total $50,000, Aug 2002-present.

Completed:

26. ONR MURI for "Human Activity Recognition From a Network of Vision Sensors", PI: J. Malik (UCB), co-PIs: C. Bregler (NYU), J. Canny (UCB), D. Forsyth, M. Jordan (UCB), M. Matarić (USC), P. Perona (Caltech), S. Russell (UCB). USC portion $352,422, May 2001-Aug 2006.

25. USC Neighborhood Outreach (UNO) Grant "Hands-on Robotics for Enhancing Middle-School STEM Education and Increasing Participation of Under-Represented Students", PI: M. Matarić, total $29,362, Jul 2005-Jun 2006.

24. NSF Grant for "Travel Support for IEEE ICRA-05", PI: M. Matarić, $46,000, Dec 2004-Nov 2005.

23. NSF ITR Grant for "Active Sensor Networks with Applications to Marine Microorganism Monitoring", PI: A. Requicha, Co-PIs: D. Caron, D. Estrin (UCLA), M. Matarić, G. Sukhatme, total $1,500,000, Sep 2001-Aug 2005.

22. NSF Research Experience for Teachers (RET), Supplement to ITR Grant for "Active Sensor Networks with Applications to Marine Microorganism Monitoring", PI: M. Matarić, total $20,000, Jul 2003-Aug 2005.

21. DOE RIM Grant for "Multi-Robot Learning in Tightly-Coupled, Inherently Cooperative Tasks", PI: M. Matarić, Co-PI: G. Sukhatme, total $600,000, Aug 2001-Aug 2005.

20. DARPA Grant for "Software for Distributed Robotics", Software for Distributed Robotics (SDR) Program, PI: G. Sukhatme, co-PIs: M. Matarić and M. Tambe, total $400,000, Jul 2002-Feb 2004.

19. DARPA Grant for "Acquisition of Autonomous Behaviors by Robotic Assistants", MARS Robotic Vision 2020 Program, PI: M. Matarić, total $250,000, Jul 2002-Jul 2004.

18. DARPA Grant for "Heterogenous Small-Team Behaviors for Mobile Robots in Outdoor Environments", MARS Robotic Vision 2020 Program, PI: G. Sukhatme, co-PI: M. Matarić, total $1,120,000, Jul 2002-Jul

2004.

17. Women in Science and Engineering (WiSE) Supplemental Research Grant, PI: M. Matarić, $2,500, 2001-2002 AY.

16. DARPA Grant for "Primitive-Based Humanoid Control", PI: M. Mataić, total $500,000, Dec 2000-Aug 2004.

15. NSF Grant for "Dynamic Adaptive Wireless Networks with Autonomous Robot Nodes", PI: D. Estrin, co-PIs: R. Govindan, J. Heidemann, M. Matarić, and G. Sukhatme, total $900,000, Sep 2000-Sep 2004.

14. DARPA Grant for "Mathematical Modeling of Large Multi-Agent Systems" (TASK), PI: K. Lerman (ISI), co-PI: M. Matarić, total $1,576,625, Aug 2000-Jul 2005.

13. ONR Defense University Research Instrumentation Program (DURIP) Grant for "Equipment Support for Dynamic adaptive Wireless Networks with Autonomous Robot Nodes", PI: D. Estrin, co-PIs: M. Matarić and G. Sukhatme, total $320,388, Apr 2000-Jun 2003.

12. NASA Grant for "Multi-Robot Coordination in Planar Manipulation Tasks", $40,000, Feb-Dec 2000.

11. Sandia National Labs Grant for "Characterizing Emergent Group Behavior in Robots Using Statistical Methods", PI: M. Matarić, total $100,000, Jan-Dec 2000.

11. USC Center for Excellence in Teaching, for "A Hands-On Introduction to Robotics using LEGO Robot Kits", PI: M. Matarić, $2,500, Sep 99-Aug 2000.

10. NSF Grant for "Dynamic Adaptive Wireless Networks with Autonomous Robot Nodes", PI: D. Estrin, co-PIs: G. Bekey, R. Govindan, M. Matarić, G. Sukhatme, total $498,268, Sep 1999-Sep 2000.

9. DARPA Grant for "A Software Framework for Reliable, Adaptive, Autonomous Robots in Dynamic Unstructured Environments", Mobile Autonomous Robot Software (MARS) Program, PI: G. Sukhatme, co-PIs: M. Matarić and G. Bekey, total $2,321,109, July 1999-Aug 2004.

8. Office of Naval Research (ONR) Grant for "Biologically-Inspired Methods for Adaptive Group Coordination", PI: M. Matarić, total $180,000, Jan 1999-Dec 2001.

7. NASA Supplementary Equipment Grant for "Neurotechnology-Based Multi-Agent Systems", PI: M. Matarić, total $18,835, Sep 98-Aug 99.

6. DARPA Grant for "TEAMCORE: Rapidly Extending and Building Agents to Form Robust Adaptive Teams", PI: M. Tambe, co-PIs: M. Matarić and W-M. Shen, total $2,000,000, Jun 98-01.

5. DARPA Contract for "Robust Tactical Mobile Robot Systems With Distributed Intelligence (TMR)", PI: G. Bekey, co-PIs: M. Matarić and G. Sukhatme, total $750,000, Jun 98-May 00.

4. DARPA Contract for "Intelligent Taskable System Colonies with Learning for Small Unit Operations", PI: G. Bekey, co-PIs: M. Matarić, G. Sukhatme, total $998,000, May 97-00.

3. NSF Faculty Early Career Development (CAREER) Grant for "Using Imitation to Study Multi-Representational Systems", PI: M. Matarić, total $213,656, May 1996-Aug 2002.

2. National Science Foundation (NSF) Research Infrastructure Grant for "Acquisition of Research Infrastructure for Autonomous Robotics", co-PI with J. Pollack, total $225,500, Sep 1995-Aug 98.

1. Office of Naval Research (ONR) Grant for "Automated Synthesis of Multi-Agent Control", PI: M. Matarić, total $375,000, Mar 1995-Apr 98.

HONORS AND AWARDS

Fellow, American Association for the Advancement of Science (AAAS)	2007
Woman of the Year, Valley Sunset District Business and Professional Women Organization	2007
Best Poster Presentation Award	IEEE RO-MAN 2007
The Honor Society of Phi Kappa Phi	2006
USC Viterbi School of Engineering Service Award	2005
Okawa Foundation Award	2004
Ambassador to the USC President	2001-02, 2004-present
USC Provost's Fellowship from the Center for Interdisciplinary Research	2002-2003
Best Paper Award, HICSS Int. Conference	2003
USC School of Engineering Junior Research Award	2000
IEEE Robotics and Automation Society Early Career Award	2000
MIT Technology Review TR100 Innovation Award	1999
USC Innovative Undergraduate Teaching Award	1999-2000
ACM Paper Award	Agents-99
NSF Career Award	1996-2001
Brandeis University nominee for the Packard Foundation Fellowship	1995
Sigma Xi	1993-present
GE Foundation Faculty for the Future Fellowship	1990-1991
NCR Graduate Engineering Fellowship	1987-1988
Adolph J. Spangler Scholarship	1986-1987
Phi Kappa Phi Honors Society	1986
Pi Beta Phi Scholarship	1986
W. R. Gregory and E. V. Berger Scholarship	1985
State of Kansas Scholarship	1983-1986

PUBLICATIONS

Books

(in preparation) Matarić, Maja J., "From Flocks of Birds to Robot Herds: Synthesizing Robot Teams and Swarms", MIT Press, to be published in 2008.

Matarić, Maja J., "The Robotics Primer", MIT Press, 2007.

Refereed Journal Articles (40)

(in review) Tews, Ashley, Matarić, Maja J., and Sukhatme, Gaurav, S. "Stealthy robot Navigatin in Unknown Outdoor Environments", *IEEE Transactions on Robotics*.

(in review) Dahl, Torbjorn, Matarić, Maja J., and Sukhatme, Gaurav S., "Scheduling with Group Dynamics: A Multi-Robot Task Allocation Algorithm Based on Vacancy Chains", *Int. Journal on Autonomous Agents and Multi-Agent Systems*.

2007 40. Feil-Seifer, David, Skinner, Kristine and Matarić, Maja J., "Benchmarks for Evaluating Socially Assistive Robotics", *Journal of Interaction Science*, 8(3), 2007, 423-439.

39. Tapus, Adriana, Matarić, Maja J., and Scassellati, Brian, "The Grand Challenges in Socially Assistive Robotics", *IEEE Robotics and Automation Magazine*, 14(1), Mar 2007.

38. Matarić, Maja J., Eriksson, Jon, Feil-Seifer, David, and Winstein, Carolee, "Socially Assistive Robotics for Post-Stroke Rehabilitation", *Int. Journal of NeuroEngineering and Rehabilitation*, 4(5), Feb 19, 2007.

2006 37. Matarić, Maja J., "Socially Assistive Robotics", *IEEE Intelligent Systems*, special issue on "Trends and Controversies: Human-Inspired Robotics", 21(4), Jul/Aug 2006, 81-83.

36. Tapus, Adriana and Matarić, Maja J., "Towards Socially Assistive Robotics", invited contribution, *Int. Journal of the Robotics Society of Japan*, 24(5), July 2006.

35. Lerman, Kristina, Jones, Chris, V., Galstyan, Aram, and Matarić, Maja J., " Analysis of Dynamic Task Allocation in Multi-Robot Systems", *Int. Journal of Robotics Research*, 23(3), March 1, 2006, 225-242.

34. Constantin, Alexandra and Matarić, Maja J., "Evaluating Arm Movement Imitation", *American Journal of Undergraduate Research (AJUR)*, 2006.

33. Howard, Andrew, Sukhatme, Gaurav S., and Matarić, Maja J, "Multi-Robot Mapping Using Manifold Representations", *Proceedings of the IEEE*, special issue on "Multi-Robot Systems", D. Nardi and M. Veloso, eds., 94(7), July 2006, 1360-1369.

2005 32. Shell, Dylan A. and Matarić, Maja J, "Insights Toward Robot-Assisted Evacuation", *Advanced Robotics, The International Journal of the Robotics Society of Japan*, 19(8), 2005, 797-818.

2004 31. Odest Chadwicke Jenkins and Matarić, Maja J., "Performance-Derived Behavior Vocabularies: Data-Driven Acquisition of Skills From Motion", *International Journal of Humanoid Robotics*, Jun 2004, 1(2), 237-288.

30. Brian Gerkey and Matarić, Maja J., "A Formal Framework For the Study of Task Allocation in Multi-Robot Systems", *International Journal of Robotics Research*, 23(9), Sep 2004, 939-954.

2003 29. Matarić, Maja J, Sukhatme, Gaurav S., and Østergaard, Esben H., "Multi-robot Task Allocation in Uncertain Environments", *Autonomous Robots*, 14(2-3), 2003, pp. 255-263.

28. Goldberg, Dani and Matarić, Maja J., "Maximizing Reward in a Non-Stationary Mobile Robot Environment", invited submission to the *Best of Agents-2000*, Special Issue of *Autonomous Agents and Multi-Agent Systems Journal*, 6(3), 2003, pp. 287-316.

2002 27. Gerkey, Brian and Matarić, Maja J., "Sold!: Auction Methods for multi-robot control", *IEEE Transactions on Robotics and Automation*, special issue on Advances in Multi-Robot Systems, 2002, 18(5), Oct 2002, 758-768.

26. Fredslund, Jakob and Matarić, Maja J., "A General, Local Algorithm for Robot Formations", *IEEE Transactions on Robotics and Automation*, special issue on Advances in Multi-Robot Systems, 18(5), Oct 2002, 837-846.

25. Vaughan, Richard T., Stoy, Kasper, Sukhatme, Gaurav S. and Matarić, Maja J., "LOST: Localization-Space Trails for Robot Teams", *IEEE Transactions on Robotics and Automation*, special issue on Advances in Multi-Robot Systems, 18(5), Oct 2002, 796-812.

24. Howard, Andrew, Matarić, Maja J, and Sukhatme, Gaurav S., "An Incremental Self-Deployment Algorithm for Mobile Sensor Networks", *Autonomous Robots*, Special Issue on Intelligent Embedded Systems, G. Sukhatme, ed., 13(2), 2002, 113-126.

23. Fod, Ajo, Matarić, Maja J., and Jenkins, Odest C., "Automated Derivation of Primitives for Movement Classification", *Autonomous Robots*, 12(1), Jan 2002, 39-54.

2001 22. Billard, Aude and Matarić, Maja J., "Learning human arm movements by imitation: Evaluation of a biologically inspired connectionist architecture", *Robotics and Autonomous Systems*, 37:2-3, Nov 30, 2001, 145-160.

21. Nicolescu, Monica and Matarić, Maja J., "Learning and Interacting in Human-Robot Domains", *IEEE Transactions on Systems, Man, Cybernetics*, special issue on "Socially Intelligent Agents - The Human in the Loop", K. Dautenhahn, ed., 31:5, 419-430, Mar 2001.

20. Matarić, Maja J., "Learning in Behavior-Based Multi-Robot Systems: Policies, Models, and Other Agents", Journal of Cognitive Systems Research, special issue on Multi-disciplinary studies of multi-agent learning, Ron Sun, ed., 2(1), 81-93, Apr 2001.

19. Werger, Barry B. and Matarić, Maja J., "From Insect to Internet: Situated Control for Networked Robot Teams", Annals of Mathematics and Artificial Intelligence, 31:1-4, 173-198, 2001.

2000 18. Matarić, Maja J., "Getting Humanoids to Move and Imitate", IEEE Intelligent Systems, July 2000, 18-24.

17. Sukhatme, Gaurav S. and Matarić, Maja J. "Embedding Robotics into the Internet", *Communications of*

the ACM, special issue on "Embedding the Internet", D. Estrin, R. Govindan, and J. Heidemann, eds., 2000, 67-73.

1999 16. Michaud, François and Matarić, Maja J., "Representation of behavioral history for learning in nonstationary conditions", *Robotics and Autonomous Systems*, 29, 1999, 187-200.

15. Matarić, Maja J., Zordan, Victor, B., and Williamson, Matthew, M., "Making Complex Articulated Agents Dance: an analysis of control methods drawn from robotics, animation, and biology", *Autonomous Agents and Multi-Agent Systems*, 2(1), Mar 1999, 23-44.

1998 14. Matarić, Maja J. and Marc Pomplun, "Fixation Behavior in Observation and Imitation of Human Movement", *Cognitive Brain Research*, 7(2), 1998, 191-202.

13. Fontan, Miguel S. and Matarić, Maja J., "Territorial Multi-Robot Task Division", *IEEE Transactions on Robotics and Automation*, 14(5), Oct 1998, 815-822.

12. Matarić, Maja J., "Using Communication to Reduce Locality in Distributed Multi-Agent Learning", *Journal of Experimental and Theoretical Artificial Intelligence*, special issue on Learning in DAI Systems, G. Weiss, ed., 10(3), Jul-Sep, 1998, 357-369.

11. Matarić, Maja J., "Coordination and Learning in Multi-Robot Systems", IEEE Intelligent Systems, Mar/Apr 1998, 6-8.

10. Michaud, François and Matarić, Maja J., "Learning from History for Behavior-Based Mobile Robots in Non-Stationary Conditions", *Autonomous Robots*, 5(3-4), Jul/Aug 1998, 335-354, and *Machine Learning*, 31(1-3), 141-167, joint special issue on "Learning in Autonomous Robots."

9. Matarić, Maja J., "Behavior-Based Robotics as a Tool for Synthesis of Artificial Behavior and Analysis of Natural Behavior", *Trends in Cognitive Science*, 2(3), Mar 1998, 82-87.

1997 8. Matarić, Maja J., "Learning Social Behavior", *Robotics and Autonomous Systems*, 20, 1997, 191-204.

7. Matarić, Maja J., "Studying the Role of Embodiment in Cognition", *Cybernetics and Systems*, 28(6), special issue on Epistemological Aspects of Embodied AI and Artificial Life, E. Prem, ed., Jul 1997, 457-470.

6. Matarić, Maja J., "Behavior-Based Control: Examples from Navigation, Learning, and Group Behavior", *Journal of Theoretical and Experimental Artificial Intelligence*, special issue on Software Architectures for Physical Agents, 9(2-3), H. Hexmoor, I. Horswill, and D. Kortenkamp, eds., 1997, 323-336.

5. Matarić, Maja J., "Reinforcement Learning in the Multi-Robot Domain", *Autonomous Robots*, 4(1), Jan 1997, 73-83.

1996 4. Matarić, Maja J. and Cliff, Dave T., "Challenges In Evolving Controllers for Physical Robots", *Robotics and Autonomous Systems*, 19(1), Oct 1996, 67-83.

1995 3. Matarić, Maja J., "Designing and Understanding Adaptive Group Behavior", *Adaptive Behavior*, 4(1), Dec 1995, 51-80.

2. Matarić, Maja J., "Issues and Approaches in Design of Collective Autonomous Agents", *Robotics and Autonomous Systems*, 16(2-4), Dec 1995, 321-331.

1992 1. Matarić, Maja J., "Integration of Representation Into Goal-Driven Behavior-Based Robots", *IEEE Transactions on Robotics and Automation*, 8(3), Jun 1992, 304-312.

Edited Works (4)

4. "Emerging Directions in Robotics", special issue of the *Communications of the ACM*, G. Sukhatme and M. Matarić, eds., Mar 2002.

3. "Learning in Autonomous Robots", joint special issue of *Autonomous Robots*, 5(3-4), and *Machine Learning*, 31(1-3), M. Matarić and H. Hexmoor, eds., Jul/Aug 1998.

2. "Complete Agent Learning in Complex Environments", special issue of *Adaptive Behavior Journal*, M. Matarić, ed., 5(3-4), Winter/Spring 1997.

1. *Proceedings, 4th International Conference on Simulation of Adaptive Behavior (SAB-96)*, P. Maes, M. Matarić, J-A. Meyer, J. Pollack, and S. Wilson, eds., MIT Press, 1996.

Invited Refereed Chapters (19)

2006 19. Dahl, Torbjorn Semb, Matarić Maja J., and Sukhatme, Gaurav S., "A machine learning method for improving task allocation in distributed multi-robot transportation", in *Complex Engineered Systems: Science Meets Technology*, Dan Braha, Ali Minai, and Yaneer Bar-Yam, eds., 2006.

2005 18. Jones, Chris V. and Matarić, Maja J., "Behavior-Based Coordination in Multi-Robot Systems", in *Autonomous Mobile Robots: Sensing, Control, Decision-Making, and Applications*, Sam S. Ge and Frank L. Lewis, eds., Marcel Dekker, Inc., 2005.

17. Shell, Dylan, A. and Matarić, Maja, J., "Behavior-Based Methods for Modeling and Structuring Control of Social Robots", in *Cognition and Multi-Agent Interaction: From Cognitive Modeling to Social Simulation*, Ron Sun, ed., Cambridge University Pres, 2005, 279-306.

16. Nicolescu, Monica and Matarić, Maja J., "Task Learning Through Imitation and Human-Robot Interaction", in *Models and Mechanisms of Imitation and Social Learning in Robots, Humans and Animals: Behavioural, Social and Communicative Dimensions*, K. Dautenhahn and C. Nehaniv, eds., Cambridge University Press, 2005.

2003 15. Paluska, Dan, Matarić, Maja J., and Pratt, Jerry, "Control of Biomimetic Robots", in *Biologically Inspired Intelligent Robots*, Y. Bar-Cohen and C. Breazeal, eds., SPIE Press, Vol. PM122, May 2003.

14. Howard, Andrew and Matarić, Maja J., "Localization for mobile robot teams: A distributed MLE approach", *Experimental Robotics VIII*, B. Siciliano and P. Dario, eds., Springer-Verlag Berlin, 2003, 146-155.

2002 13. Goldberg, Dani and Matarić, Maja J., "Design and Evaluation of Robust Behavior-Based Controllers", in "Robot Teams: From Diversity to Polymorphism", Tucker Balch and Lynne E. Parker, eds., A K Peters Ltd, April 2002.

12. Matarić, Maja J., "Situated Robotics", invited contribution to the *Encyclopedia of Cognitive Science*, Nature Publishing Group, Macmillan Reference Limited, Nov 2002.

11. Jones, Chris, Matarić, Maja J., and Werger, Barry, P., "Cognition and Behavior Through Agent Interaction", invited contribution to the *Encyclopedia of Cognitive Science*, Nature Publishing Group, Macmillan Reference Limited, Nov 2002.

10. Matarić, Maja J., "Sensory-Motor Primitives as a Basis for Learning by Imitation: Linking Perception to Action and Biology to Robotics", *Imitation in Animals and Artifacts*, K. Dautenhahn and C. Nehaniv, eds., MIT Press, 2002, 391-422.

2001 9. Gerkey, Brian, P. and Matarić, Maja J., "Principled Communication for Dynamic Multi-Robot Task Allocation", *Experimental Robotics VII, LNCIS 271*, D. Rus and S. Singh, eds., Springer-Verlag Berlin, 2001, 253-362.

2000 8. Pirjanian, Paolo and Matarić, Maja J., "Multiple Objective vs. Fuzzy Behavior Coordination", in *Fuzzy Logic Techniques for Autonomous Vehicle Navigation*, D. Drainkov and A. Saffiotti, eds., Studies on Fuzziness and Soft Computing, Springer-Verlag, 2000, 235-253.

1999 7. Matarić, Maja J., "Behavior-Based Robotics", invited contribution to the *MIT Encyclopedia of Cognitive Science*, R. Wilson and F. Keil, eds., MIT Press, April 1999, 74-77.

1996 6. Matarić, Maja J. and Brooks, Rodney, A., "Learning a Distributed Map Representation Based on Navigation Behaviors", in *Cambrian Intelligence*, MIT Press, 1999, 37-58.

5. Matarić, Maja J., "Learning in Multi-Robot Systems", *Adaptation and Learning in Multi-Agent Systems*, G. Weiss and S. Sen, eds., Lecture Notes In Artificial Intelligence (LNAI), 1042, Springer-Verlag 1996, 152-163.

1995 4. Matarić, Maja J."From Local Interactions to Collective Intelligence", *The Biology and Technology of Intelligent Autonomous Agents*, L. Steels, ed., NATO ASI Series F, 144, Springer-Verlag, 1995, 275-295.

3. Matarić, Maja J., "Integration of Representation Into Goal-Driven Behavior-Based Robots", *The Artificial Life Route to Artificial Intelligence: Building Embodied, Situated Agents*, L. Steels and R. Brooks, eds., Lawrence Erlbaum Associates, Hillsdale, 1995, 165-186.

1993 2. Brooks, Rodney, A. and Matarić, Maja J., "Real Robots, Real Learning Problems", *Robot Learning*, J. Connell and S. Mahadevan, eds., Kluwer Academic Press, 1993, 193-213.

1991 1. Matarić, Maja J., "Parallel, Decentralized Spatial Mapping for Robot Navigation and Path Planning", *Parallel Problem Solving from Nature*, H-P. Schwefel and R. Maenner, eds., Lecture Notes in Computer Science, Springer-Verlag, Berlin, 1991, 381-385.

Invited Unrefereed Chapters (1)

1. Gerkey, Brian P. and Matarić, Maja J, "On Role Allocation in RoboCup", *RoboCup 2003: Robot Soccer World Cup VII*, D. Polani, A. Bonarini, B. Browning, and K. Yoshida, eds., Springer-Verlag Berlin Heidelberg, 2004.

Refereed Conference Proceedings (101)

2007 101. Tapus, Adriana, Tapus, Cristian, and Matarić, Maja J., "Hands-Off Therapist Robot Behavior Adaptation to User Personality for Post-Stroke Rehabilitation Therapy", Proceedings, *IEEE International Conference on Robotics and Automation (ICRA-07)*, Rome, Italy, Apr 2007.

2006 100. Drumwright, Evan, Victor Ng-Thow-Hing, Victor, and Matarić, Maja , J., "The Task Matrix Framework for Platform-Independent Humanoid Programming", *Proceedings, IEEE-RAS International Conference on Humanoid Robotics*, Genova, Italy, Oct 2006.

99. Shell, Dylan A. and Mataricć, Maja J., "Ergodic dynamics for large-scale distributed robot systems", *Proceedings, International Conference on Unconventional Computation*, C.S. Calude, J. Casti, M.J. Dinneen, eds., York, UK, Sep 2006, 254-266.

98. Shell, Dylan and Matarić, Maja J., "On Foraging Strategies For Large-Scale Multi-Robot Systems", *Proceedings, IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS-06)*, Beijing, China, Oct 9-15, 2006.

97. Tapus, Adriana and Matarić, Maja J., "User Personality Matching With Hands-Off Robot for Post-Stroke Rehabilitation Therapy", *Proceedings, International Symposium on Experimental Robotics (ISER'06)*", Rio di Janerio, Brazil, Jul 6-10, 2006.

96. Shell, Dylan A. and Matarić, Maja J., "Principled synthesis for large-scale systems: task sequencing", *Proceedings, International Symposium on Distributed Autonomous Robotic Systems (DARS)*, Minneapolis/St. Paul, Minnesota, Jul 2006, 207-216.

95. Chu, Selina, Narayanan, Shrikanth, Kuo, Jay C.-C., and Matarić, Maja J, "Where Am I? Scene Recognition for Mobile Robots using Audio Features", *Proceedings, IEEE International Conference on Multimedia & Expo (ICME)*, Toronto, Canada, 2006.

94. Drumwright, Evan, Ng-Thow-Hing, Victor, and Matarić, Maja J., "Toward a Vocabulary of Primitive Task Programs for Humanoid Robots". *Proceedings, International Conference on Development and Learning (ICDL)*, Bloomington, IN, May 2006.

93. Koenig, Nathan and Matarić, Maja J., "Behavior-Based Segmentation of Demonstrated Task", *Proceedings, International Conference on Development and Learning (ICDL)*, Bloomington, IN, May 2006.

92. Gockley, Rachel and Matarić, Maja J, "Encouraging Physical Therapy Compliance with a Hands-Off Mobile Robot" *Proceedings, Int. Conference on Human-Robot Interaction (HRI-06)*, Salt Lake City, UT, March 2-3, 2006, 150-155.

2005 91. Eriksson, Jon, Matarić, Maja J, and Winstein, Carolee, "Hands-Off Assistive Robotics for Post-Stroke Arm Rehabilitation", *Proceedings, Int. Conference on Rehabilitation Robotics (ICORR-05)*, Chicago, IL, Jun 28 - Jul 1, 2005, 21-24.

90. Feil-Seifer, David and Matarić, Maja J, "Defining Socially Assistive Robotics", *Proceedings, Int. Conference on Rehabilitation Robotics (ICORR-05)*, Chicago, IL, Jun 28 - Jul 1, 2005, 465-468.

89. Kang, Kyong, Freedman, Sanford, Matarić, Maja J, Cunningham, Mark, and Lopez, Becky, "Hands-Off Physical Therapy Assistance Robot for Cardiac Patients", *Proceedings, Int. Conference on Rehabilitation Robotics (ICORR-05)*, Chicago, IL, Jun 28 - Jul 1, 2005, 337-340.

2004 88. Bluethmann, William, Ambrose, Robert, Diftler, Myron, Huber, Eric, Fagg, Andrew, Rosenstein, Michael, Platt, Robert, Grupen, Roderic, Breazeal, Cynthia, Brooks, A, Andrew, Lockerd, Andre, Peters, R. Allan, Jenkins, Odest, Matarić, Maja, J and Bugajska, Magdalena, "Building an Autonomous Humanoid Tool User", *Proceedings, IEEE-RAS International Conference on Humanoid Robotics (Humanoids-2004)*, Los Angeles, CA, Nov 10-12, 2004.

87. Jones, Chris and Matarić, Maja J., "Automatic Synthesis of Communication-Based Coordinated Multi-Robot Systems", *Proceedings, IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS-04)*, Sendai, Japan, Sep 24-Oct 2, 2004, 381-387.

86. Panangadan, Anand, Matarić, Maja J., and Sukhatme, Gaurav, S., "Detecting Anomalous Human Interactions Using Laser Range-Finders", *Proceedings, IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS-04)*, Sendai, Japan, Sep 24-Oct 2, 2004, IEEE Press, 2136-2141.

85. Tews, Ashley, Matarić, Maja J., and Sukhatme, Gaurav, S., "Avoiding Detection in a Dynamic Environment", *Proceedings, IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS-04)*, Sendai, Japan, Sep 24-Oct 2, 2004, 3773-3778.

84. Dahl, Torbjorn S., Matarić, Maja J., and Sukhatme, Gaurav, "Emergent Robot Differentiation for Distributed Multi-Robot Task Allocation", *Proceedings, 8th International Symposium on Distributed Autonomous Robotic Systems (DARS'04)*, Toulouse, France, Jun 23-25, 2004, 191-200.

83. Jones, Chris and Matarić, Maja J., "Synthesis and Analysis of Non-Reactive Controllers for Multi-Robot Sequential Task Domains", *Proceedings, 9th International Symposium on Experimental Robotics (ISER'04)*", Singapore, Jun 22-25, 2004.

82. Jenkins, Odest C. and Matarić, Maja J, "A Spatio-temporal Extension to Isomap Nonlinear Dimension Reduction", *Proceedings, International Conference on Machine Learning (ICML-2004)*, Banff, Canada, Jul 4-8, 2004, 441-448.

81. Kallmann, Marcelo, and Matarić, Maja J., "Planning the Sequencing of Movement Primitives" ", *Proceedings, 8th International Conference On the Simulation Of Adaptive Behavior (SAB-2004)*, Los Angeles, Jul 13-17, 2004, 193-200.

80. Drumwright, Evan, Jenkins, Odest C., and Matarić, Maja J., "Exemplar-Based Primitives for Humanoid Movement Classification and Control", Proceedings, *IEEE International Conference on Robotics and Automation (ICRA-04)*, New Orleans, Apr 2004, 140-145.

79. Kallmann, Marcelo and Matarić, Maja J., "Motion Planning Using Dynamic Roadmaps", Proceedings, *IEEE International Conference on Robotics and Automation (ICRA-04)*, New Orleans, Apr 2004, 4399-4404.

78. Shell, Dylan and Matarić, Maja J., "Directional Audio Beacon Deployment", Proceedings, *IEEE International Conference on Robotics and Automation (ICRA-04)*, New Orleans, Apr 2004, 2588-2594.

77. Tews, Ashley, Sukhatme, Gaurav, and Matarić, Maja J., "A Multi-Robot Approach to Stealthy navigation in the Presence of an Observer", Proceedings, *IEEE International Conference on Robotics and Automation (ICRA-04)*, New Orleans, Apr 2004, 2379-2385.

76. Jones, Chris and Matarić, Maja J., "The Use of Internal State in Multi-Robot Coordination", Proceedings, Hawaii International Conference on Computer Science (HICCS-04), Jan 2004, 27-32.

2003 75. Drumwright, Evan and Matarić, Maja J., "Generating and Recognizing Free-space Movements in Humanoid Robots", *Proceedings, IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS-03)*, Las Vegas, NV, Oct 27-31, 2003, 1672-1678.

74. Jones, Chris and Matarić, Maja J., "Adaptive Division of Labor in Large-Scale Multi-Robot Systems", *Proceedings, IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS-03)*, Las Vegas, NV, Oct 27-31, 2003, 1969-1974.

73. Shell, Dylan and Matarić, Maja J., "A Human Motion-Based Environmental Complexity Measure for Robotics", *Proceedings, IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS-03)*, Las Vegas, NV, Oct 27-31, 2003, 2559-2564.

72. Erol, D., Park, J., Turkay, E., Kawamura, K., Jenkins, Odest C., and Matarić, Maja J., "Motion Generation for Humanoid Robots with Automatically Derived Behaviors," *Proceedings, Systems Man and Cybernetics (SMC)*, Washington DC, October 5-8, 2003, 1816-1822.

71. Chu, Chi-Wei, Jenkins, Odest C., and Matarić, Maja J, "Markerless Kinematic Model and Motion Capture from Volume Sequences", *Proceedings, IEEE Computer Society Conference on Computer Vision and Pattern Recognition 2003 (CVPR 2003)*, Madison, Wisconsin, Jul, 2003, 475-482.

70. Jenkins, Odest C. and Matarić, Maja J, "Automated Derivation of Behavior Vocabularies for Autonomous Humanoid Motion", Proceedings, *Second International Joint Conference on Autonomous Agents and Multiagent Systems (Agents 2003)*, Melbourne, Australia, Jul, 2003, 225-232.

69. Tews, A., Matarić, Maja J., and Sukhatme, Gaurav, S., "A Scalable Approach to Human-Robot Interaction", *Proceedings, IEEE International Conference on Robotics and Automation (ICRA-2003)*, Taipei, Taiwan, Sep 14-22, 2003, 1665-1670.

68. Dahl, Torbjorn, S., Matarić, Maja J., and Sukhatme, Gaurav, S., "Multi-Robot Task Allocation Through Vacancy Chains", *Proceedings, IEEE International Conference on Robotics and Automation (ICRA-2003)*, Taipei, Taiwan, Sep 14-22, 2003, 2293-2298.

67. Gerkey, Brian and Matarić, Maja J., "Multi-Robot Task Allocation: Analyzing the Complexity and Optimality of Key Architectures", to appear in *Proceedings, IEEE International Conference on Robotics and Automation (ICRA-2003)*, Taipei, Taiwan, Sep 14-22, 2003, 3862-3867.

66. Howard, Andrew, Matarić, Maja J., and Sukhatme, Gaurav, S., "Putting the 'I' in Team: An Ego-Centric Approach to Cooperative Localization", *Proceedings, IEEE International Conference on Robotics and Au-*

tomation (ICRA-2003), Taipei, Taiwan, Sep 14-22, 2003, 868-873.

65. Jones, Chris and Matarić, Maja J., "From Local to Global Behavior in Intelligent Self-Assembly", *Proceedings, IEEE International Conference on Robotics and Automation (ICRA-2003)*, Taipei, Taiwan, Sep 14-22, 2003, 721-726.

64. Nicolescu, Monica and Matarić, Maja J., "Natural Methods for Robot Task Learning: Instructive Demonstrations, Generalization and Practice", *Proceedings, Second International Joint Conference on Autonomous Agents and Multi-Agent Systems*, Melbourne, Australia, July 14-18, 2003, 241-248 (nominated for best student co-authored paper).

63. Nicolescu, Monica and Matarić, Maja J., "Linking Perception and Action in a Control Architecture for Human-Robot Domains", *Proceedings, Thirty-Sixth Hawaii International Conference on System Sciences (HICSS-36)*, Augmented Cognition and Human-Robot Interaction Minitrack in the Emerging Technologies Track, Hawaii, Jan 6-9, 2003. *Best Paper Award, Emerging Technologies Track*

2002

62. Arbuckle, Daniel, Howard, Andrew, and Matarić, Maja J., "Temporal Occupancy Grids: a Method for Classifying Spatio-Temporal Properties of the Environment", *Proceedings, IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS-02)*, EPFL, Switzerland, Sep 30-Oct 4, 2002, 409-414.

61. Howard, Andrew, Matarić, Maja J., and Sukhatme, Gaurav S., "Localization for Mobile Robot Teams Using Maximum Likelihood Estimation", *Proceedings, IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS-02)*, EPFL, Switzerland, Sep 30-Oct 4, 2002.

60. Howard, Andrew, Matarić, Maja J., and Sukhatme, Gaurav S., "An Incremental Deployment Algorithm for Mobile Robot Teams", *Proceedings, IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS-02)*, EPFL, Switzerland, Sep 30-Oct 4, 2002, 2849-2854.

59. Dahl, Torbjorn S., Matarić, Maja J., and Sukhatme, Gaurav S., "Adaptive Spatio-Temporal Organization in Groups of Robots", *Proceedings, IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS-02)*, EPFL, Switzerland, Sep 30-Oct 4, 2002, 1044-1049.

58. Jenkins, Odest C. and Matarić, Maja J., "Deriving Action and Behavior Primitives from Human Motion Capture Data", *Proceedings, IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS-02)*, EPFL, Switzerland, Sep 30-Oct 4, 2002, 2551-2556.

57. Wawerla, Jens, Sukhatme, Gaurav, and Matarić, Maja J., "Collective Construction with Multiple Robots", *Proceedings, IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS-02)*, EPFL, Switzerland, Sep 30-Oct 4, 2002, 2696-2701.

56. Yan, Helen and Matarić, Maja J., "General Spatial Features for Analysis of Multi-robot and Human Activities from Raw Position Data", *Proceedings, IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS-02)*, EPFL, Switzerland, Sep 30-Oct 4, 2002, 2770-2775.

55. Howard, Andrew and Matarić, Maja J., "Localization for mobile robot teams: A distributed MLE approach", *Proceedings, 8th International Symposium on Experimental Robotics (ISER'02)*", Sant'Angelo d'Ischia, Italy, Jul 8-11, 2002.

54. Ramesh, Amit and Matarić, Maja J., "Learning Movement Sequences from Demonstration", *Proceedings, 2nd IEEE International Conference on Development and Learning (ICDL-02)*, Cambridge, MA, Jun 12-15, 2002, 203-208.

53. Nicolescu, Monica and Matarić, Maja J., "A hierarchical architecture for behavior-based robots", *Proceedings, First International Joint Conference on Autonomous Agents and Multi-Agent Systems*, Bologna, Italy, July 15-19, 2002.

52. Howard, Andrew, Matarić, Maja J., and Sukhatme, Gaurav, "Mobile Sensor Network Deployment using Potential Fields: A Distributed, Scalable Solution to the Area Coverage Problem", *Proceedings, 6th International Symposium on Distributed Autonomous Robotic Systems (DARS)*, Japan, 2002.

51. Gerkey, Brian and Matarić, Maja J., "Pusher-watcher: An Approach to Fault-Tolerant Tightly-Coupled Robot Coordination", *Proceedings, IEEE International Conference on Robotics and Automation (ICRA-2002)*, Washington, DC, May 11-15, 2002, 464-469.

50. Gerkey, Brian and Matarić, Maja J., and Sukhatme, Gaurav, "Exploiting physical dynamics for concurrent control of a mobile robot', *Proceedings, IEEE International Conference on Robotics and Automation (ICRA-2002)*, Washington, DC, May 11-15, 2002, 3467-3472.

49. Fredslund, Jakob and Matarić, Maja J., "Huey, Dewey, Louie, and GUI - Commanding Robot Formations", *Proceedings, IEEE International Conference on Robotics and Automation (ICRA-2002)*, Washington, DC, May 11-15, 2002, 175-180.

48. Fod, Ajo, Howard, Andrew, and Matarić, Maja J., "A Laser-Based People Tracker", *Proceedings, IEEE International Conference on Robotics and Automation (ICRA-2002)*, Washington, DC, May 11-15, 2002, 3024-3029.

47. Ostergaard, Esben, Matarić, Maja J., and Sukhatme, Gaurav, "Multi-robot Task Allocation in the Light of Uncertainty", *Proceedings, IEEE International Conference on Robotics and Automation (ICRA-2002)*, Washington, DC, May 11-15, 2002, 3002-3007.

46. Ramesh, Amit and Matarić, Maja J., "Parametric Primitives for Motor Representation and Control", *Proceedings, IEEE International Conference on Robotics and Automation (ICRA-2002)*, Washington, DC, May 11-15, 2002, 863-868.

45. Vaughan, Richard, Stoey, Kasper, Sukhatme, Gaurav, and Matarić, Maja J., "Exploiting Task Regularities to Transform Between Reference Frames in Robot Teams", *Proceedings, IEEE International Conference on Robotics and Automation (ICRA-2002)*, Washington, DC, May 11-15, 2002, 2599-2605.

44. Fredslund, Jakob and Matarić, Maja J., "Robots in Formation Using Local Information", *Proceedings, 7th International Conference on Intelligent Autonomous Systems (IAS-7)*, March 25-27, Marina del Rey, CA, 2002, 100-107.

2001

43. Howard, Andrew, Matarić, Maja J. and Sukhatme, Gaurav S., "Relaxation on a mesh: a formalism for generalized location", *Proceedings, IEEE/RSJ International Conference on Robots and Systems (IROS-2001)*, Maui, Hawaii, Oct 2001, 740-745.

42. Goldberg, Dani and Matarić, Maja J. "Detecting Regime Changes with a Mobile Robot Using Multiple Models", *Proceedings, IEEE/RSJ International Conference on Robots and Systems (IROS-2001)*, Maui, Hawaii, Oct 2001, 619-624.

41. Ostergaard, Esben H., Matarić, Maja J. and Sukhatme, Gaurav S., "Distributed Multi-Robot Task Allocation for Emergency Handling", *Proceedings, IEEE/RSJ International Conference on Robots and Systems (IROS-2001)*, Maui, Hawaii, Oct 2001, 821-826.

40. Gerkey, Brian P., Vaughan, Richard, Howard, Andrew, Sukhatme, Gaurav and Matarić, Maja J. "Most Valuable Player: A Robot Device Server for Distributed Control", *Proceedings, IEEE/RSJ International Conference on Robots and Systems (IROS-2001)*, Maui, Hawaii, Oct 2001, 1226-1231.

39. Nicolescu, Monica and Matarić, Maja J., "Experience-based representation construction: learning from human and robot teachers", *Proceedings, IEEE/RSJ International Conference on Robots and Systems (IROS-2001)*, Maui, Hawaii, Oct 2001, 740-745.

38. Matarić, Maja J. and Sukhatme, Gaurav, "Task-Allocation and Coordination of Multiple Robots for Planetary Exploration", 10th International Conference on Advanced Robotics (ICAR), Buda, Hungary, Aug 22-25, 2001, 61-70.

37. Fredslund, Jakob and Matarić, Maja J., "Robot Formations Using Only Local Sensing and Control", *Proceedings, IEEE International Symposium on computational Intelligence for Robotics and Automation (CIRA-2001)*, Banff, Canda, Jul 29-Aug 1 2001.

36. Nicolescu, Monica and Matarić, Maja J., "Experience-based Learning of Task Representations in Human-Robot Domains", *Proceedings, IEEE International Symposium on computational Intelligence for Robotics and Automation (CIRA-2001)*, Banff, Canda, Jul 29-Aug 1 2001, 463-468.

35. Ye, Wei, Vaughan, Richard T., Sukhatme, Gaurav S., Heidemann, John, Estrin, Deborah, Matarić, Maja J., "Evaluating Control Strategies for Wireless-Networked Robots Using an Integrated Robot and Network Simulation", *Proceedings, IEEE International Conference on Robotics and Automation (ICRA 2001)*, Seoul, Korea, 2001.

2000

34. Billard, Aude and Matarić, Maja J., "Learning human arm movements by imitation: Evaluation of a biologically inspired connectionist architecture", Proceedings, First IEEE-RAS International Conference on Humanoid Robotics (Humanoids-2000), MIT, Cambridge, MA, Sep 7-8, 2000.

33. Jenkins, Odest C. and Matarić, Maja J., "Primitive-Based Movement Classification for Humanoid Imitation", Proceedings, First IEEE-RAS International Conference on Humanoid Robotics (Humanoids-2000), MIT, Cambridge, MA, Sep 7-8, 2000.

32. Pomplun, Marc and Matarić, Maja J., "Evaluation Metrics and Results of Human Arm Movement Imitation", Proceedings, First IEEE-RAS International Conference on Humanoid Robotics (Humanoids-2000), MIT, Cambridge, MA, Sep 7-8, 2000.

31. Fod, Ajo, Matarić, Maja J., and Jenkins, Odest C., "Automated Derivation of Primitives for Movement Classification", Proceedings, First IEEE-RAS International Conference on Humanoid Robotics (Humanoids-2000), MIT, Cambridge, MA, Sep 7-8, 2000.

30. Goldberg, Dani and Matarić, Maja J., "Learning Multiple Models for Reward Maximization", *International Conference on Machine Learning (ICML 2000)*, San Francisco, CA, Jun 29-Jul 2, 2000, 319-326.

29. Vaughan, Richard, Stoey, Kasper, Sukhatme, Gaurav S., and Matarić, Maja J., "Blazing a trail: insect-inspired resource transportation by a robot team", *Proceedings, 5th International Symposium on Distributed Autonomous Robotic Systems (DARS)*, Knoxville, TN, Oct 4-6, 2000, 111-120.

28. Werger, Barry B. and Matarić, Maja J., "Broadcast of Local Eligibility for Multi-Target Observation", *Proceedings, 5th International Symposium on Distributed Autonomous Robotic Systems (DARS)*, Knoxville, TN, Oct 4-6, 2000, 347-356.

27. Vaughan, Richard, Stoey, Kasper, Sukhatme, Gaurav S., and Matarić, Maja J., "Go ahead, make my day: Robot conflict resolution by aggressive competition", *Proceedings, 6th International Conference On the Simulation Of Adaptive Behavior (SAB-2000)*, Paris, France, Sep 11-15, 2000, 11-16.

26. Goldberg, Dani and Matarić, Maja J., "Reward Maximization in a Non-Stationary Mobile Robot Environment", *Proceedings, Autonomous Agents 2000*, Barcelona, Spain, Jun 3-7, 2000, 92-99.

25. Billard, Aude and Matarić, Maja J., "Learning Motor Skills by Imitation: A biologically Inspired Robotic Model", *Proceedings, Autonomous Agents 2000*, Barcelona, Spain, Jun 3-7, 2000, 373-380.

24. Vaughan, Richard, Stoey, Kasper, Sukhatme, Gaurav S., and Matarić, Maja J., "Whistling in the Dark: Cooperative Trail Following in Uncertain Localization Space", *Proceedings, Autonomous Agents 2000*, Barcelona, Spain, Jun 3-7, 2000, 373-380.

23. Pirjanian, Paolo and Matarić, Maja J., "Multi-Robot Target Acquisition Using Multiple Objective Behavior Coordination", *Proceedings, IEEE International Conference on Robotics and Automation (ICRA 2000)*, San Francisco, CA, Apr 25-28, 2000, 2696-2702.

1999

22. Pirjanian, Paolo and Matarić, Maja J., "A decision-theoretic approach to fuzzy behavior coordination", *Proceedings IEEE International Symposium on Computational Intelligence in Robotics & Automation (CIRA-99)*, Monterey, CA, Nov 8-9, 1999, 101-106.

21. Goldberg, Dani and Matarić, Maja J., "Coordinating Mobile Robot Group Behavior Using a Model of Interaction Dynamics", *Proceedings, Autonomous Agents '99*, O. Etzioni, J. Muller, and J. Bradshaw, eds., ACM Press, 1999, 100-107. *ACM Paper Award.*

1998

20. Michaud, François and Matarić, Maja J., "Learning from History for Adaptive Mobile Robot Control", *Proceedings, IROS-98*, Victoria, BC, Canada, Oct 12-16, 1998, 1865-1870.

19. Matarić, Maja J., Williamson, Matthew, Demiris, John, and Mohan, Aswath, "Behavior-Based Primitives for Articulated Control", *Proceedings, From Animals to Animats 5, 5th International Conference on Simulation of Adaptive Behavior (SAB-98)*, R. Pfeifer, B. Blumberg, J-A. Meyer, and S. Wilson, eds., MIT Press, 1998, 165-170.

18. Matarić, Maja J., Zordan, Victor B., and Mason, Zach, "Movement Control Methods for Complex, Dynamically Simulated Agents", *Proceedings, Autonomous Agents '98*, K. Sycara and M. Wooldridge, eds.,

ACM Press, 1998, 317-324.

17. Michaud, François and Matarić, Maja J., "A History-Based Approach for Adaptive Robot Behavior in Dynamic Environments", *Proceedings, Autonomous Agents '98*, K. Sycara and M. Wooldridge, eds., ACM Press, 1998, 422-429.

1997 16. Matarić, Maja J., "Using Communication to Reduce Locality in Distributed Multi-Agent Learning", *Proceedings, AAAI-97*, Providence, RI, Jul 27-31, 1997, 643-648.

15. Goldberg, Dani and Matarić, Maja J., "Interference as a Tool for Designing and Evaluating Multi-Robot Controllers", *Proceedings, AAAI-97*, Providence, RI, Jul 27-31, 1997, 637-642.

14. Michaud, François and Matarić, Maja J., "Behavior Evaluation and Learning from an Internal Point of View", *Proceedings, FLAIRS-97*, Daytona, Florida, May 1997.

1996 13. Fontan, Miguel S. and Matarić, Maja J., "A Study of Territoriality: The Role of Critical Mass in Adaptive Task Division", *Proceedings, From Animals to Animats 4, 4th International Conference on Simulation of Adaptive Behavior (SAB-96)*, P. Maes, M. Matarić, J-A. Meyer, J. Pollack, and S. Wilson, eds., MIT Press, 1996, 553-561.

12. Werger, Barry B. and Matarić, Maja J., "Robotic "Food" Chains: Externalization of State and Program for Minimal-Agent Foraging", *Proceedings, From Animals to Animats 4, 4th International Conference on Simulation of Adaptive Behavior (SAB-96)*, P. Maes, M. Matarić, J-A. Meyer, J. Pollack, and S. Wilson, eds., MIT Press, 1996, 625-634.

1995 11. Matarić, Maja J., Nilsson, Martin, and Simsarian, Kristian, "Cooperative Multi-Robot Box-Pushing", *Proceedings, IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS-95)*, Pittsburgh, PA, Aug 5-9, 1995.

10. Matarić, Maja J. "Evaluation of Learning Performance of Situated Embodied Agents", *Proceedings, European Conference on Artificial Life (ECAL-95)*, Granada, Spain, Jun 4-6, 1995.

1994 9. Matarić, Maja J., "Learning to Behave Socially", in *Proceedings, From Animals to Animats 3, 3rd International Conference on Simulation of Adaptive Behavior (SAB-94)*, D. Cliff, P. Husbands, J-A. Meyer and S. Wilson, eds., MIT Press, 1994, 453-462.

8. Matarić, Maja J., "Reward Functions for Accelerated Learning", *Proceedings, 11th International Conference on Machine Learning*, W. Cohen and H. Hirsh, eds., 1994, 181-189.

1993 7. Matarić, Maja J., "Kin Recognition, Similarity, and Group Behavior", *Proceedings, 15th Annual Cognitive Science Society Conference*, Boulder, Colorado, Jun 1993, Lawrence Erlbaum Associates, 705-710.

6. Matarić, Maja J. and Marjanović, Matthew J., "Synthesizing Complex Behaviors by Composing Simple Primitives", *Proceedings, European Conference on Artificial Life (ECAL-93)*, Brussels, Belgium, May 1993, 698-707.

5. Matarić, Maja J., "Designing Emergent Behaviors: From Local Interactions to Collective Intelligence", *Proceedings, From Animals to Animats 2, 2nd International Conference on Simulation of Adaptive Behavior*

(SAB-92), J-A. Meyer, H. Roitblat and S. Wilson, eds., MIT Press, 1993, 432-441.

1992 4. Matarić, Maja J., "Minimizing Complexity in Controlling a Mobile Robot Population", *Proceedings, IEEE International Conference on Robotics and Automation (ICRA-92)*, Nice, France, 1992, 830-835.

1991 3. Matarić, Maja J., "Navigating With a Rat Brain: A Neurobiologically-Inspired Model for Robot Spatial Representation", *Proceedings, From Animals to Animats 1, First International Conference on Simulation of Adaptive Behavior (SAB-90)*, J-A. Meyer and S. Wilson, eds., MIT Press, 1991, 169-175.

1990 2. Matarić, Maja J., "Environment Learning Using a Distributed Representation", *Proceedings, IEEE International Conference on Robotics and Automation (ICRA-90)*, Cincinnati, May 1990, 402-406.

1989 1. Matarić, Maja J., "Qualitative Distributed Sonar Based Environment Learning for Mobile Robots", *Proceedings, SPIE Mobile Robots IV*, Philadelphia, Nov 1989.

Refereed Conference Posters (22)

2007 22. Wainer, Joshua, Feil-Seifer, David, Shell, Dylan, A., and Matarić, Maja J, "Embodiment and Human-Robot Interaction: A Task-Based Perspective", *Proceedings, 16th IEEE International Workshop on Robot and Human Interactive Communication (RO-MAN 2007)*, Best Poster Presentation Award, Jeju Island, South Korea, Aug 26-29, 2007.

2006 21. Feil-Seifer, David and Matarić, Maja J, "Shaping Human Behavior by Observing Mobility Gestures" *Proceedings, Int. Conference on Human-Robot Interaction (HRI-06)*, Salt Lake City, UT, Mar 2-3, 2006, 337-338.

2004 20. Drumwright, Evan, Kallmann, Marcelo, and Matarić, Maja J, "Towards Single-Arm Reaching for Humanoid Robots in Dynamic Environments". *Proceedings of the IEEE-RAS International Conference on Humanoid Robotics (Humanoids-2004)*, Santa Monica, CA, Nov 10-12, 2004.

19. Miller, Nathan, Jenkins, Odest C., Kallman, Marcelo, Drumwright, Evan, and Matarić, Maja J, "Motion Capture from Inertial Sensing for Untethered Humanoid Teleoperation". *Proceedings of the IEEE-RAS International Conference on Humanoid Robotics (Humanoids-2004)*, Santa Monica, CA, Nov 10-12, 2004.

18. Panangadan, Anand, Matarić, Maja J., and Sukhatme, Gaurav, "Modeling Human Interactions in Indoor Environments", *3rd International Joint Conference Autonomous Agents and Multi Agent Systems*, New York, NY, Jul 19-23, 2004, IEEE Computer Society Press, 1308-1309.

17. Jones, Chris V. and Matarić, Maja J., "Utilizing Internal State in Multi-Robot Coordination Tasks". Student poster paper in *Proceedings, National Conference on Artificial Intelligence (AAAI-04)*, San Jose, CA, Jul 2004, 958-959.

16. Ramesh, Amit and Matarić, Maja J., "A Correspondence Metric for Imitation". Student poster paper in *Proceedings, National Conference on Artificial Intelligence (AAAI-04)*, pages 944-945, San Jose, CA, Jul 2004, 944-945.

2003 15. Shell, Dylan and Matarić, Maja J., "On the use of the term 'stigmergy' ", *2nd International Workshop on the Mathematics and Algorithms of Social Insects*, Atlanta, GA, Dec 2003, 193.

2002 14. Jones, Chris and Matarić, Maja J., "Sequential Task Execution in Minimalist Distributed Robotic System, *Proceedings, Simulation of Adaptive Behavior (SAB-02))*, Edinburgh, UK, Aug 4-9, 2002, 395-396.

2001 13. Ostergaard, Esben, Sukhatme, Gaurav, and Matarić, Maja J., "Emergent Bucket Brigading", *Autonomous Agents 2001*, Montreal, Canada, May 28-Jun 1, 2001, ACM New York, 29-30.

2000 12. Billard, Aude and Matarić, Maja J., "A Biologically Inspired Connectionist Model for Learning Motor Skills by Imitation", *4th International Conference on Cognitive and Neural Systems*, Boston University, May 2000.

11. Nicolescu, Monica and Matarić, Maja J., "Learning Cooperation From Human-Robot Interaction", *5th International Symposium on Distributed Autonomous Robotic Systems (DARS)*, Knoxville, TN, Oct 4-6, 2000, 477-478.

10. Gerkey, Brian and Matarić, Maja J., "Murdoch: Publish/Subscribe Task Allocation For Heterogeneous Agents", *Autonomous Agents 2000*, Barcelona, Spain, Jun 3-7, 2000, 203-204.

9. Roumeliotis, Stergios, Pirjanian, Paolo, and Matarić, Maja J., "Ant-Inspired Navigation in Unknown Environments", *Autonomous Agents 2000*, Barcelona, Spain, Jun 3-7, 2000, 25-26.

8. Weber, Stefan, Jenkins, Odest C., and Matarić, Maja J., "Imitation Using Perceptual and Motor Primitives", *Autonomous Agents 2000*, Barcelona, Spain, Jun 3-7, 2000, 136-137.

7. Werger, Barry B. and Matarić, Maja J., "Broadcast of Local Eligibility: Behavior-Based Control for Strongly Cooperative Robot Teams", *Autonomous Agents 2000*, Barcelona, Spain, Jun 3-7, 2000, 21-22.

1998 6. Sankaranarayanan, Aruna, and Matarić, Maja J., "The Multi-Agent-based Schedule Calculator (MASC) System", *Proceedings, Autonomous Agents '98*, Minneapolis/St. Paul, May 10-13, 1998, ACM Press, 465-466.

1997 5. Werger, Barry B. and Matarić, Maja J., "Quick 'n' Dirty Generalization for Mobile Robot Learning", *IJCAI-97*, Nagoya, Japan, Aug 26-28, 1997.

4. Matarić, Maja J., "Studying the Role of Embodiment in Cognition", *Annual Meeting of the Society for Philosophy and Psychology*, The New School for Social Research, New York, Jun 5-8, 1997.

3. Cooke, Sheila R., Kitts, Brendan, Sekuler, Robert and Matarić, Maja J., "Delayed and Real-Time Imitation of Complex Visual Gestures", *Proceedings, International Conference on Vision, Recognition, Action: Neural Models of Mind and Machine*, Boston University, May 28-31, 1997.

2. Kitts, Brendan and Cooke, Sheila R., and Matarić, Maja J., and Sekuler, Robert, "Improved Pattern Recognition by Combining Invariance Methods", *Proceedings, International Conference on Vision, Recognition, Action: Neural Models of Mind and Machine*, Boston University, May 28-31, 1997.

1994 1. Matarić, Maja J., "Group Behavior in Multi-Robot Systems", *Proceedings, Artificial Life IV*, MIT, Cambridge, MA, May 1994.

Unrefereed Conference Proceedings (5)

2000 5. Sukhatme, Gaurav, S., Estrin, Deborah, Caron, David, Matarić, Maja J., and Requicha, Aristides, "Proposed Approach for Combining Distributed Sensing, Robotic Sampling, and Offline Analysis for in situ Marine Monitoring", *Proceedings, Advanced Environmental and Chemical Sensing Technology - SPIE 2000*, Vol. 43205, Boston, MA, November 6-8, 2000.

1999 4. Huntsberger, Terry, Matarić, Maja J., and Pirjanian, Paolo, "Action Selection Within the Context of a Robotic Colony", *Proceedings, SPIE Sensor Fusion and Decentralized Control in Robotic Systems*, G. McKee and P. Schenker, eds., Boston, MA, Sep 1999, 84-90.

3. Goldberg, Dani and Matarić, Maja J., "Mobile Robot Group Coordination Using a Model Of Interaction Dynamics", *Proceedings, SPIE Sensor Fusion and Decentralized Control in Robotic Systems IV*, G. McKee and P. Schenker, eds., Boston, MA, Sep 1999, 63-73.

2. Sukhatme, Gaurav S., Montgomery, James F. and Matarić Maja, J., "Design and Implementation of a Mechanically Heterogeneous Robot Group,"*Proceedings, SPIE Vol. 3839, Sensor Fusion and Decentralized Control in Robotic Systems II*, G. McKee and P. Schenker, eds., Boston, MA, Sep 1999, 122-133.

1. Dedeoglu, Goksel, Matarić, Maja J., and Sukhatme, Gaurav, S., "Incremental, On-Line Topological Map Building With a Mobile Robot", *Proceedings, SPIE Mobile Robots XIV*, Boston, MA, Sep 1999, 129-139.

Invited Workshop Papers (11)

2004 11. Chris V. Jones, Dylan A. Shell, Maja J. Matarić, and Brian P. Gerkey. "Principled Approaches to the Design of Multi-Robot Systems". *Proceedings, Workshop on Networked Robotics*, IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS-04), Sendai, Japan, Sep 24-Oct 2, 2004, 71-80.

2000 10. Nicolescu, Monica and Matarić, Maja J., "Extending Behavior-Based Systems Capabilities Using An Abstract Behavior Representation", *AAAI Fall Symposium on Parallel Cognition*, North Falmouth, MA, Nov 3-5, 2000.

9. Matarić, Maja J., "Great Expectations: Scaling Up Learning by Embracing Biology and Complexity", NSF Workshop on Development and Learning, Michigan State University, Apr 5-7, 2000.

1996 8. Matarić, Maja J., "Studying the Role of Embodiment in Cognition", *AAAI Fall Symposium on Embodied Cognition and Action*, MIT, Cambridge, MA, Nov 9-11, 1996.

1994 7. Matarić, Maja J., "Learning Motor Skills by Imitation", *AAAI Spring Symposium Toward Physical Interaction and Manipulation*, Stanford University, Mar 21-23, 1994.

6. Matarić, Maja J., "Creating Believability", *AAAI Spring Symposium on Believable Agents*, Stanford University, Mar 19-20, 1994.

1992 5. Matarić, Maja J., "Behavior-Based Architectures for Intelligent Control", *Proceedings, Intelligent Autonomous Control Systems Workshop*, RAFAEL document #92-39-106-TR, Leshem, Israel, Nov 2-3, 1992.

4. Matarić, Maja J., "Distributed Approaches to Behavior Control", *Proceedings, SPIE Sensor Fusion*, Boston, Nov 1992.

3. Matarić, Maja J., "Controlling a Mobile Robot Herd: Theory and Practice", *AAAI Fall Symposium on Applications of Artificial Intelligence to Real-World Autonomous Mobile Robots*, Cambridge, MA, Oct 23-25, 1992.

2. Matarić, Maja J., "Behavior-Based Systems: Key Properties and Implications", *Proceedings, IEEE International Conference on Robotics and Automation (ICRA-92), Workshop on Architectures for Intelligent Control Systems*, Nice, France, May 1992, 46-54.

1. Matarić, Maja J., "Perceptual Parallelism and Action Selection as Alternatives to Selective Perception", *Proceedings, AAAI Spring Symposium on Control of Selective Perception*, Stanford University, Mar 25-27 1992.

Refereed Workshop & Symposia Papers (29)

2007 29. Shell, Dylan A., Viswanathan, Shivakumar, Huang, Jin, Ghosh, Rumi, Huang, Jie, Matarić, Maja J, Lerman, Kristina and Sekuler, Robert. "Spatial Behavior of Individuals and Groups: Preliminary Fundings from a Museum Scenario", *Proceedings, IEEE/IRSJ IROS 2007 Workshop From Sensors to Human Spatial Concepts*, San Diego, CA, Oct 2007.

28. Mower, Emily, K., Feil-Seifer, David, Matarić, Maja J, and Narayanan, Shrikanth, "Investigating Implicit Cues for User State Estimation in Human-Robot Interaction Using Physiological Measurements", *Proceedings, 16th IEEE International Workshop on Robot and Human Interactive Communication (RO-MAN 2007)*, Jeju Island, South Korea, Aug 26-29, 2007.

2006 27. Matarić, Maja J, Koenig, Nathan, and Feil-Seifer, David, "Materials for Enabling Hands-On Robotics and STEM Education", *AAAI Spring Symposium on Robots and Robot Venues: Resources for AI Education*, Palo Algo, CA, Mar 26-28, 2007.

26. Tapus, Adriana and Matarić, Maja J, "Emulating Empathy in Socially Assistive Robotics", *AAAI Spring Symposium on Multidisciplinary Collaboration for Socially Assistive Robotics*, Palo Algo, CA, Mar 26-28, 2007.

25. Wainer, Joshua, Feil-Seifer, David, Shell, Dylan, and Matarić, Maja J, "The Role of Physical Embodiment in Human-Robot Interaction", *Proceedings, 15th IEEE International Workshop on Robot and Human Interactive Communication (RO-MAN 2006)*, University of Hertfordshire, Hatfield, United Kingdom, Sep 6-8, 2006.

24. Matarić, Maja J, and Tapus, Adriana "The Promises and Challenges of Socially Assistive Robotics", *50th Anniversary AI Summit*, July 2006.

23. Koenig, Nathan and Matarić, Maja J, "Demonstration-Based Behavior and Task Learning", *AAAI Spring Symposium To Boldy Go Where No Human-Robot Team Has Gone Before"*,, Stanford, California, March 2006.

2005 22. Matarić, Maja J, "The Role of Embodiment in Assistive Interactive Robotics for the Elderly", *AAAI Fall Symposium on Caring Machines: AI in Eldercare*, Arlington, VA, Nov 4-6, 2005.

21. Feil-Seifer, David and Matarić, Maja J, "A Multi-Modal Approach to Selective Interaction in Assistive Domains", in *Proceedings, 14th IEEE International Workshop on Robot and Human Interactive Communication (RO-MAN 2005)*, Nashville, TN, Aug 13-15, 2005, 416-421.

20. Shell, Dylan, Jones, V. Chris, and Matarić, Maja J, "Ergodic Dynamics by Design: a Route to Predictable Multi-Robot Systems", in *Proceedings of the Third International Workshop on Multi-Robot Systems*, Washington D.C., March 2005, 291-297.

2004 19. Jenkins, Odest C., Nicolescu, Monica and Matarić, Maja J., "Autonomy and Supervision for Robot Skills and Tasks Learned from Demonstration," *AAAI Workshop on Supervisory Control of Learning and Adaptive Systems*, San Jose, CA, July 25, 2004.

18. Gerkey, Brian P. and Matarć, Maja J., "The Question of Utility in Multi-Robot Systems", it AAAI Spring Symposium on Bridging the Multi-Agent and Multi-Robot Research Gap, Palo Alto, CA, Mar 22-24, 2004.

17. Matarć, Maja J., "Robotics Education for All Ages", it AAAI Spring Symposium on Accessible, Hands-On AI and Robotics Education, Palo Alto, CA, Mar 22-24, 2004.

2003 16. Gerkey, Brian P. and Matarić, Maja J, "A Framework for Studying Multi-Robot Task Allocation", in *Proceedings of the Second International Workshop on Multi-Robot Systems*, Washington D.C., March 2003, 15-26.

15. Howard, Andrew, Matarić, Maja J, and Sukhatme, Gaurav, S., "Cooperative Relative Localization for Mobile Robot Teams: An Ego-centric Approach", in *Proceedings of the Second International Workshop on Multi-Robot Systems*, Washington D.C., March 2003, 65-76.

14. Jones, Chris V. and Matarić, Maja J., "Towards a Multi-Robot Coordination Formalism", *2nd International Workshop on the Mathematics and Algorithms of Social Insects*, Atlanta, GA, Dec 2003, 60-67.

13. Tews, Ashley D., Matarić, Maja J., and Sukhatme, Gaurav S., "Scaling high Level Interactions Between Humans and Robots", *AAAI Spring Symposium on Human Interaction with Autonomous Systems in Complex Environments*, Palo Alto, CA, Mar 2003, 196-202.

2001 12. Gerkey, Brian P., Vaughan, Richard T., Stoey, Kasper, Howard, Andrew, Sukhatme, Gaurav, and Matarić, Maja J., "Most Valuable Player: A Robot Device Server for Distributed Control", *Autonomous Agents Conference (Agents-2001) Workshop on Multi-Agent Systems Infrastructure*, Montreal, Canada, May 28-Jun 1, 2001.

11. Jenkins, Odest, C. and Matarić, Maja J., "Primitives and Behavior-Based Architectures for Interactive Entertainment", *AAAI Spring Symposium on AI and Interactive Entertainment*, Stanford, CA, Mar 26-28, 2001.

2000 10. Matarić, Maja J., Jenkins, Odest, C., Fod, Ajo, and Zordan, Victor, "Control and Imitation in Humanoids", *AAAI Fall Symposium on Simulating Human Agents*, North Falmouth, MA, Nov 3-5, 2000.

9. Billard, Aude and Matarić, Maja J., "A Biologically Inspired Connectionist Model for Learning Motor Skills by Imitation", *7th Joint Symposium on Neural Computation*, Caltech, Pasadena, CA, Vol 10, May 20, 2000, 7-8.

8. Billard, Aude and Matarić, Maja J., "Betty: Robot, play with me! Robot: O.K. How do we play? Betty: You watch me and do like I do. Look!", *Workshop on Interactive Robotics and Entertainment (WIRE-2000)*, Pittsburgh, PA, April 30-May 1, 2000.

1999 7. Tambe, Milind, Shen, Wei-min, Matarić, Maja J., Pynadath, David, Goldberg, Dani, Modi, Jay, Qiu, Zhun, and Salemi, Behnam, "Team Work in Cyberspace: Using TEAMCORE to Make Agents Team-Ready," *Proceedings, 1999 AAAI Spring Symposium*, Stanford, California, March 1999, 22-24.

1998 6. Demiris, John and Matarić, Maja, J., "Perceptuo-Motor Primitives in Imitation", in Working Notes, *Autonomous Agents '98 Workshop on Agents In Interaction - Acquiring Competence Through Imitation*, Minneapolis/St. Paul, MN, May 10, 1998.

1995 5. Matarić, Maja J., "Learning in Multi-Robot Systems", *Proceedings, IJCAI-95 Workshop on Adaptation and Learning in Multi-Agent Systems*, Montreal, Canada, Aug 21, 1995.

4. Simsarian, Kristian T. and Matarić, Maja J., "Learning to Cooperate using two Six-Legged Mobile Robots", *Proceedings, 3rd European Workshop of Learning Robots*, Heraklion, Crete, Greece, Apr 28-29, 1995.

1991 3. Matarić, Maja J., "Behavioral Synergy Without Explicit Integration", *AAAI Spring Symposium on Integrated Intelligent Architectures*, Stanford University, Sigart Bulletin, 2(4), Aug 1991, 130-133.

1990 2. Brooks, Rodney A., Maes, Pattie, Matarić, Maja J. and Moore, Grinnell, "Lunar Base Construction Robots", *Proceedings, IEEE International Workshop on Intelligent Robots and Systems (IROS-90)*, Tokyo, Japan, Jul 1990, 389-392.

1. Matarić, Maja J. and Brooks, Rodney A., "Learning a Distributed Map Representation Based on Navigation Behaviors", *Proceedings, USA-Japan Symposium on Flexible Automation*, Kyoto, Japan, Jul 1990, 499-506.

Technical Reports (51)

2005 51. Gockley, Rachel and Matarić, Maja J, "Encouraging Physical Therapy Compliance with a Hands-Off Mobile Robot", *USC Center for Robotics and Embedded Systems Technical Report*, CRES-05-010, Sep 2005.

50. Constantin, Alexandra and Matarić, Maja J, "Evaluating Arm Movement Imitation", *USC Center for Robotics and Embedded Systems Technical Report*, CRES-05-009, Aug 2005.

49. Lerman, Kristina, Jones, Chris V., Galstyan, Aram, and Matarić, Maja J, "Analysis of Dynamic Task Allocation in Multi-Robot Systems", *USC Center for Robotics and Embedded Systems Technical Report*, CRES-05-002, Apr 2005.

48. Kang, Kyong I., Freedman, Sanford, Matarić, Maja J, Cunningham, Mark J., and Lopez, Becky, "A Hands-Off Physical Therapy Assistance Robot For Cardiac Patients", *USC Center for Robotics and Embedded Systems Technical Report*, CRES-05-001, Mar 2005.

2004

47. Eriksson, Jon and Matarić, Maja J, "Hands-Off Robotics for Post-Stroke Arm Rehabilitation", *USC Center for Robotics and Embedded Systems Technical Report*, CRES-04-011, Oct 2004.

46. Miller, Nathan, Jenkins, Odest C., Kallmann, Marcelo, and Matarić, Maja J, "Motion Capture from Inertial Sensing for Untethered Humanoids", *USC Center for Robotics and Embedded Systems Technical Report*, CRES-04-010, 2004.

45. Jones, Chris V. and Matarić, Maja J, "Toward a Multi-Robot Coordination Formalism", *USC Center for Robotics and Embedded Systems Technical Report*, CRES-04-008, 2004.

44. Jones, Chris V. and Matarić, Maja J, "Automatic Synthesis of Communication-Based Coordinated Multi-Robot Systems", *USC Center for Robotics and Embedded Systems Technical Report*, CRES-04-007, 2004.

43. Jenkins, Odest C., Chu, Chi-Wei, and Matarić, Maja J, "Nonlinear Spherical Shells for Approximate Principal Curves Skeletonization", *USC Center for Robotics and Embedded Systems Technical Report*, CRES-04-004, 2004.

42. Jenkins, Odest C. and Matarić, Maja J, "A Spatio-temporal Extension to Isomap Nonlinear Dimension Reduction ", *USC Center for Robotics and Embedded Systems Technical Report*, CRES-04-003, 2004.

41. Jones, Chris V. and Matarić, Maja J, "Communication in Multi-Robot Coordination", *USC Center for Robotics and Embedded Systems Technical Report*, CRES-04-001, 2004.

2003 40. Gerkey, Brian and Matarić, Maja J, "A Formal Framework for the Study of Task Allocation in Multi-Robot Systems", *USC Center for Robotics and Embedded Systems Technical Report*, CRES-03-013, Jul 2003.

39. Jones, Chris and Matarić, Maja J, "Adaptive Division of Labor in Large-Scale Minimalist Multi-Robot Systems", *USC Center for Robotics and Embedded Systems Technical Report*, CRES-03-008, Mar 2003.

2002 38. Dahl, Torbjorn S., Matarić Maja J, and Sukhatme, Gaurav S., "Scheduling with Group Dynamics: A Multi-Robot Task Allocation Algorithm Based on Vacancy Chains", *USC Center for Robotics and Embedded Systems Technical Report*, CRES-02-007, Dec 2002.

37. Nicolescu, Monica and Matarić, Maja J., "Natural Methods for Robot Task learning: Instructive Demonstrations, Generalization and Practice", *USC Center for Robotics and Embedded Systems Technical Report*, CRES-02-006, Dec 2002.

36. Gerkey, Brian P, and Matarić, Maja J., "Multi-Robot Task Allocation: Analyzing the Complexity and Optimality of Key Architectures", *USC Center for Robotics and Embedded Systems Technical Report*, CRES-02-005, Sep 2002.

35. Tews, Ashley, Matarić, Maja J., Sukhatme, Gaurav, and Gerkey, Brian P., "G'day Mate. Let me Introduce you to Everyone: An Infrastructure for Scalable Human-System Interaction", *USC Center for Robotics and Embedded Systems Technical Report*, CRES-02-004, Sep 2002.

34. Chu, Chi-Wei, Jenkins, Odest C. and Matarić, Maja J., "Converting Sequences of Human Volumes into Kinematic Motion", *USC Center for Robotics and Embedded Systems Technical Report*, CRES-02-003, Sep

2002.

33. Jenkins, Odest C. and Matarić, Maja J., "Modularization of Human Motion into Actions and Behaviors ", *USC Center for Robotics and Embedded Systems Technical Report*, CRES-02-002, Sep 2002.

32. Tews, Ashley, Sukhatme, Gaurav, and Matarić, Maja J., "An Infrastructure for Large-Scale Human-Robot Interaction", *USC Center for Robotics and Embedded Systems Technical Report*, CRES-02-001, Sep 2002.

31. Jones, Chris and Matarić, Maja J., "Sequential Task Execution in a Minimalist Distributed Robotic System, *USC Institute for Robotics and Intelligent Systems Technical Report*, IRIS-02-414, Mar 2002.

2001

30. Jones, Chris and Matarić, Maja J., "Global Sequential Control in a Minimalist Distributed System, *USC Institute for Robotics and Intelligent Systems Technical Report*, IRIS-02-411, Dec 2001.

29. Pomplun, Marc and Matarić, Maja J., "A Segmentation Algorithm For the Comparison Of Human Limb", *USC Institute for Robotics and Intelligent Systems Technical Report*, IRIS-02-410, Dec 2001.

28. Howard, Andrew, Matarić, Maja J., and Sukatme, Gaurav S., "Localization for Mobile Robot Teams: A Maximum Likelihood Approach". Institute for Robotics and Intelligent Systems Technical Report IRIS-01-407, 2001.

27. Gerkey, Brian and Matarić, Maja J., "Pusher-watcher: An approach to fault-tolerant tightly-coupled robot coordination", *USC Institute for Robotics and Intelligent Systems Technical Report*, IRIS-01-403, Mar 2001.

26. Ostergaard, Esben, Matarić, Maja J., and Sukhatme, Gaurav S., "Distributed Multi-Robot Task Allocation for Emergency Handling". Institute for Robotics and Intelligent Systems Technical Report IRIS-01-402, 2001.

25. Fod, Ajo, Matrić, Maja J., and Sukhatme, Gaurav S., "Laser Tracking and Classification of Multiple Objects". Institute for Robotics and Intelligent Systems Technical Report IRIS-01-400, 2001.

24. Gerkey, Brian and Matarić, Maja J., "Sold!: Market methods for multi-robot control", *USC Institute for Robotics and Intelligent Systems Technical Report*, IRIS-01-399, Mar 2001.

23. Ostergaard, Esben, Sukhatme, Gaurav S., and Matarić, Maja, J., "Emergent Bucket Brigading - A simple mechanism for improving performance in multi-robot constrained-space foraging tasks". Institute for Robotics and Intelligent Systems Technical Report IRIS-01-398, 2001.

22. Fredslund, Jakob and Matarić, Maja J., "A General, Local Algorithm for Robot Formations", *USC Institute for Robotics and Intelligent Systems Technical Report*, IRIS-01-396, Mar 2001.

21. Nicolescu, Monica and Matarić, Maja J., "Learning and Interacting in Human-Robot Domains", *USC Institute for Robotics and Intelligent Systems Technical Report*, IRIS-01-395, Jan 2001.

2000

20. Nicolescu, Monica and Matarić, Maja J., "Extending Behavior-Based Systems Capabilities Using An Abstract Behavior Representation", *USC Institute for Robotics and Intelligent Systems Technical Report*,

IRIS-00-389, Aug 2000.

19. Goldberg, Dani and Matarić, Maja J., "Robust Behavior-Based Control For Distributed Multi-Robot Collection Tasks", *USC Institute for Robotics and Intelligent Systems Technical Report*, IRIS-00-387, 2000.

18. Billard, Aude and Matarić, Maja J., "Learning human arm movements by imitation: Evaluation of a biologically inspired connectionist architecture", *USC Institute for Robotics and Intelligent Systems Technical Report*, IRIS-00-386, 2000.

17. Jenkins, Odest C. and Matarić, Maja J., "Primitive-Based Movement Classification for Humanoid Imitation", *USC Institute for Robotics and Intelligent Systems Technical Report*, IRIS-00-385, 2000.

16. Pomplun, Marc and Matarić, Maja J., "Evaluation Metrics and Results of Human Arm Movement Imitation", *USC Institute for Robotics and Intelligent Systems Technical Report*, IRIS-00-384, 2000.

15. Goldberg, Dani and Matarić, Maja J., "Detecting Regime Changes with a Mobile Robot using Multiple Models", *USC Institute for Robotics and Intelligent Systems Technical Report*, IRIS-00-382, 2000.

1999

14. Werger, Barry, B. and Matarić, Maja J., "Exploiting Embodiment in Multi-Robot Teams", *USC Institute for Robotics and Intelligent Systems Technical Report*, IRIS-99-378, 1999.

13. Matarić, Maja J., "Sensory-Motor Primitives as a Basis for Imitation: Linking Perception to Action and Biology to Robotics", *USC Institute for Robotics and Intelligent Systems Technical Report*, IRIS-99-377, 1999.

12. Sukhatme, Gaurav S., Montgomery, James F., and Matarić, Maja J., "Design and Implementation of a Mechanically Heterogeneous Robot Group", *USC Institute for Robotics and Intelligent Systems Technical Report*, IRIS-99-372, 1999.

11. Goldberg, Dani and Matarić, Maja J., "Augmented Markov Models", *USC Institute for Robotics and Intelligent Systems Technical Report*, IRIS-99-367, 1999.

1997

10. Matarić, Maja J. and Pomplun, Marc, "What do People Look at When Watching Human Movement?", *Brandeis University Computer Science Technical Report* CS-97-194, Jul 1997.

9. Michaud, François and Matarić, Maja J., "A History-Based Learning Approach for Adaptive Robot Behavior Selection", *Brandeis University Computer Science Technical Report* CS-97-192, Jul 1997.

1996

8. Matarić, Maja J., "Using Communication to Reduce Locality in Distributed Multi-Agent Learning", *Brandeis University Computer Science Technical Report* CS-96-190, Nov 1996.

7. Fontan, Miguel S. and Matarić, Maja J., "The Role of Critical Mass in Multi-Robot Adaptive Task Division", *Brandeis University Computer Science Technical Report* CS-96-187, Oct 1996.

6. Goldberg, Dani and Matarić, Maja J., "Interference as a Guide for Designing Efficient Group Behaviors", *Brandeis University Computer Science Technical Report* CS-96-186, May 1996.

5. Matarić, Maja J., "Analyzing Visual Behaviors in Hand Gesture Imitation", *Brandeis University Computer Science Technical Report* CS-96-185, Feb 1996.

1995 4. Matarić, Maja J. and Dave Cliff, "Challenges In Evolving Controllers for Physical Robots", *Brandeis University Computer Science Technical Report* CS-95-184, Nov 1995.

1994 3. Matarić, Maja J., "Interaction and Intelligent Behavior", *MIT AI Lab Tech Report* # 1495, Aug 1994.

1991 2. Matarić, Maja J., "A Comparative Analysis of Reinforcement Learning Methods", *MIT AI Lab Memo* # 1322, Oct 1991.

1990 1. Matarić, Maja J., "A Distributed Model for Mobile Robot Environment-Learning and Navigation", *MIT AI Lab Tech Report* # 1228, May 1990.

INVITED TALKS

Keynote & Plenary Talks

"Toward Assistive Interactive Human-Centered Robotics", American Astronautics Society National Conference and 53rd Annual Meeting, Pasadena, CA, Nov 14, 2006.

"Robots Among Us – Inventing the Future of Human-Centered Technology", NASA Goddard Summer Academy public lecture, University of Maryland, College Park, June 22, 2006.

"Assistive Interactive Human-Centered Robotics", dinner keynote talk, RecTech State of the Science Conference on Exercise and Recreational Technologies for People with Disabilities, Denver, CO, May 30, 2006.

"Robots Among Us – Inventing the Future of Human-Centered Technology", Northridge Hospital Medical Center, 50th Anniversary Symposium, Woodland Hills, March 25, 2006.

"Inventing the Future of Human-Centered Technology", plenary talk, USC's 125th Anniversary Academic Convocation, Oct 6, 2005.

"The State of the Art in Multi-Robot Control: Swarms v. Teams", keynote talk (via video), RoboCup Symposium, University of Padova, July 10-11, 2003.

"From What You See to What You Do: Imitation in Humans and Humanoid Robots", plenary talk, Wallenberg Hall Inauguration, 2nd Peter Wallenberg Symposium, "Learning and Memory - From Brains to Robots", Stanford University, Oct 25-26, 2002.

"Principled and Efficient Methods for Control and Learning in Robot Teams and Humanoids", keynote talk, 9th International Symposium in Intelligent Robotic Systems (SIRS'2001), Toulouse, France, 18-20 Jul, 2001.

"From What You See to What You Do: Imitation in Humans and Humanoid Robots", 5th International Conference on Cognitive and Neural Systems, Boston University, Boston, MA, Jun 2, 2001.

"From Robotics to Ubiquity", plenary talk, Center for Autonomous Systems Brainstorming Workshop, Royal Institute of Technology, Stockholm, Sweden, Sep 18-19, 2000.

"From People to Robots, and Back", Royal Canadian Institute Lecture, sesquicentennial year, University of Toronto, Canada, March 5th, 2000.

Invited Talks - excluding conference paper talks

2007 "Why 'Just Do It' is More Than a Slogan", USC Women in Management, Sep 11, 2007.

"Control and Learning Strategies for Socially Assistive Robotics", Robotics, Control and Mechatronics Colloquium, University of Washington, Seattle, Jun 1, 2007.

"Socially Assistive Robotics: Shaping Human-Centered Technology", Robotics Seminar, Georgia Institute of Technology, Feb 19, 2007.

2006

"Robots Among Us? – Inventing the Future of Human-Centered Technology", USC Parkside international Residential College Master's Dinner Speaker Series, Oct 10, 2006.

"Teaching Robotics to All Ages", Grace Hopper Celebration of Women in Computing, San Diego, CA, Oct 7, 2006.

"Robots Among Us? – Inventing the Future of Human-Centered Technology", Viterbi School of Engineering Trojan Family Weekend, Oct 6, 2006.

2005 "Beginning the Delicate Dance with Modern Robotics", USC Theatre Department Performance post-show presentation, Dec 2, 2005.

"Toward Assistive Interactive Robotics", Caltech Center for Neuromorphic System Engineering retreat, Oct 29, 2005.

"Creating Socially Assistive Human-Centered Robotics", Cancer Center Grand Rounds, USC Keck School of Medicine, Oct 25, 2005.

"Toward Assistive Action, Interaction, and Engagement for Human-Robot and Robot-Robot Teams", Computer Science Department, University of Massachusetts, Amherst, Apr 12, 2005.

"Toward Assistive Action, Interaction, and Engagement for Human-Robot and Robot-Robot Teams", MIT Computer Science and Artificial Intelligence Laboratory, Apr 8, 2005.

"Toward Socially Assistive Robotics: Action, Interaction, and Engagement", MIT Media Lab, Apr 7, 2005.

"Toward Assistive Action, Interaction, and Engagement for Robot Teams and Human-Robot Systems", Computer Science Department, Yale University, New Haven, Apr 6, 2005.

"Robots Among Us? The Challenges of Assistive Interactive Robotics", Yale Interdisciplinary Bioethics Program, Yale University, New Haven, Apr 6, 2005.

"Toward On-line Control of Humanoids and Human-Robot Interaction", iRobot Corp., Burlington, MA, Apr 5, 2005.

"The Challenge of Assistive Interactive Robotics", LA Futurists Salon, UCLA, Mar 18, 2005.

"Principled Coordination of Multi-Robot Systems", Motion Planning Group, Caltech, Mar 9, 2005.

"Toward Assistive Action, Interaction, and Engagement for Robot Teams and Human-Robot Systems", GRASP Lab Seminar, University of Pennsylvania, Feb 18, 2005.

"Assistive Robots and Robot Teams", Neuromorphic Engineering Student Society, Caltech, Feb 9, 2005.

2004 "Toward Assistive Robotics: Modeling Movement, Activity, and Interaction", Caltech Vision Lab, Nov 23, 2004.

"Assistive Robotics - A Multidisciplinary Path", USC Provost's Luncheon, Retired Faculty Association, Nov 10, 2004.

"Towards Articulated and Expressive Assistive Robots", Humanoids-2004 workshop on "Humanoid Robots as Helpful Partners for People", Santa Monica, CA, Nov 10, 2004.

"Action-Embedded Human-Robot Interaction for Hands-Off Assistive Domains", AAAI-04 workshop on "Supervisory Control of Learning and Adaptive Systems", San Jose, CA, Jul 25, 2004.

"Coordination & Learning in Complex Robot Domains: Teams, Humanoids, and People", Robotics Institute, Carnegie Mellon University, Jan 2004.

2003 "Coordination & Learning in Complex Robot Domains: Teams, Humanoids, and People", Computer Science Department, Georgia Institute of Technology, Atlanta, GA, Dec 15, 2003.

"Formalizing Intentional and Emergent Group Behavior in Robots", Biological and Artificial Swarms, Institute for Pure and Applied Mathematics (IPAM), Mathematics Department, UCLA, Oct 3, 2003.

"The Social Life of Robots", Social Studies of Social Robots Workshop, Harvey Mudd College, April 3-5, 2003.

"Human-Oriented Pervasive Robotics: From Biology to Technology, and Back", USC School of Engineering Research Retreat, LA, Mar 7, 2003.

2002 *On maternity leave; travel minimized.*

"Embodied Robotic Agents", First Americas School on Agents and Multiagent Systems, USC/ISI/ICT, Jan 8, 2002.

2001 "What is Robotics Up to These Days? Robot Teams and Humanoids", Harvey Mudd Computer Science Department, Dec 13, 2001.

"Control and Adaptation in Distributed Multi-Robot Systems", Aerospace and Mechanical Engineering Department, University of Southern California, Nov 14, 2001.

"Distributed, Adaptive Methods for Complex Coordination: Robot Teams and Humanoids", 3rd International Workshop on Biological Robotics, Lanzerote, Spain, Jun 30-Jul 4 2001.

"Principled and Efficient Methods for Behavior-Based Control and Learning in Robot Teams and Humanoids", HRL Labs, Mar 15, 2001.

"Efficient Control and Learning in Complex Robotic Systems: Robot Teams and Humanoids on Their Best Behavior", NASA Ames Research Center, Mar 2, 2001.

"The Future of Large-Scale Distributed Robotics", DARPA Cooperative Robotics Workshop, Feb 21, 2001.

"Primitives-Based Control and Learning by Imitation", vision group, California Institute of Technology Computer Science Dept., Jan 26, 2001.

2000 "Basis Behavior Primitives for Control and Learning in Robot Teams and Humanoids", NASA Workshop on Biomorphic Robotics, California Institute of Technology, Aug 14-16, 2000.

"Keepin' it Real: Learning in Noisy, Non-Stationary Physical Multi-Robot Systems", International Conference on Machine Learning (ICML) 2000, Workshop on Multi-Agent Systems: Theory and Practice, Stanford University, Jul 2, 2000.

"Principled Methods for Behavior-Based Coordination and Imitation Applied to Robot Teams and Humanoids", Stanford University Computer Science Dept., May 24, 2000.

"Robot Teams and Humanoids on Their Best Behavior", Carnegie Mellon University AI Seminar, May 1, 2000.

"Making Robot Teams and Humanoids Behave: Principled Behavior-Based Coordination and Imitation", Computation and Neural Systems Program, California Institute of Technology, Apr 10, 2000.

"Keeping Robot Teams and Humanoids on Their Best Behavior: Principled Behavior-Based Coordination and Imitation", Computer Science Dept., Michigan State University, April 4, 2000.

"Keeping Robot Teams and Humanoids on Their Best Behavior: Principled Behavior-Based Coordination and Imitation", Computer Science Dept., Brandeis University, March 15, 2000.

"Making Robot Teams and Humanoids Behave: Principled Behavior-Based Coordination and Imitation", Artificial Intelligence Lab, MIT, Computer Science Dept., March 14, 2000.

"Keeping Robot Teams and Humanoids on Their Best Behavior: Principled Behavior-Based Coordination and Imitation", Computer Science Dept., University of Toronto, Canada, March 6th, 2000.

1999 *On maternity leave; travel minimized.*

"Making Distributed Multi-Robot Systems Behave: Principled Behavior Selection, Learning, and Communication", Computer Science Dept., UCLA, Nov 9, 1999.

"Adaptive Group Behavior in Distributed Multi-Robot Systems", Jet Propulsion Laboratory, Center for Integrated Space Microsystems, May 28, 1999.

"Making Groups of Robots Behave and Learn", W.V.T. Rusch Engineering Honors Colloquium, USC School of Engineering, Apr 2, 1999.

1998 "Biological Inspirations for Facilitating Reinforcement Learning in Challenging Domains", Conference on Automated Learning and Discovery (CONALD) Workshop on Robot Exploration and Learning, Carnegie Mellon University, Jun 10-13, 1998.

"Adaptive Group Behavior and Learning: Natural and Artificial", Cognitive Science Seminar Series, UCLA, Jan 26, 1998.

"Adaptive Behavior and Learning in Groups of Autonomous Robots", Center for the Study of Evolution and the Origin of Life, UCLA, Jan 21, 1998.

1997 "Adaptive Behavior and Learning in Groups of Interacting Autonomous Agents", Information Sciences Institute (ISI), Marina Del Ray, Nov 21, 1997.

"Distributed Control for Adaptive Multi-Robot Systems", Naval Postgraduate School, Monterey, Nov 20, 1997.

"Behavior-Based Control for Rover Autonomy and Adaptivity", Jet Propulsion Laboratory, Nov 14, 1997.

"Using Robotics to Study Social Behavior and Intelligence", Brandeis University, Board of Trustees, May 23, 1997.

"Control and Learning in Multi-Agent and Multi-Robot Systems", University of Rochester, Computer Science Dept., Rochester, NY, Apr 2, 1997.

"Sensori-Motor Integration in Imitation", University of Rochester, Center for Visual Science, Rochester, NY, Mar 31, 1997.

"Control and Learning in Multi-Robot Systems", NSF Workshop on Intelligent Robotic Agents, Porto Alegre, Brazil, Mar 17-20, 1997.

"Control and Learning in Groups of Autonomous Robots", MIT Sea Grant, AUV Seminar Series, Cambridge, Mar 13, 1997.

"Application of Artificial Life and Artificial Intelligence Methodologies to the Study of Animal Behavior", University of Maryland, Dept. of Animal and Avian Sciences, Mar 4, 1997.

"Control and Learning in Distributed Multi-Robot Systems", Arkansas Space Grant Lecture, University of Arkansas at Little Rock and Harding University, Little Rock, Feb 19-21, 1997.

"Control and Learning in Distributed Multi-Robot Systems", University of Maryland, Computer Science Dept., Feb 5, 1997.

"Basis Behaviors for Control and Learning in Mobile and Anthropomorphic Robots", University of Southern California, Computer Science Dept, Los Angeles, Jan 29, 1997.

1996 "Group Behavior and Learning in Distributed Multi-Robot Systems", Symposium on Technology and the Mine Problem, Naval Postgraduate School, Monterey, Nov 20, 1996.

"Control and Learning in Multi-Agent and Multi-Robot Systems", The Naval Research Laboratory (NRL), Washington DC, Nov 4, 1996.

"Adaptive Behavior and Learning in Multi-Agents Systems", Hewlett-Packard International Workshop on Interacting Autonomous Software Agents, HP Labs, Bristol, UK, Sep 30-Oct 1, 1996.

"Group Behavior and Learning in Situated Agents", Dept. of Mechanical Engineering for Computer-Controlled Machinery, Faculty of Engineering, Osaka University, Osaka, Japan, Jul 30, 1996.

"Group Behavior and Learning in Situated Agents", Dept. of Mechano-Informatic, Faculty of Engineering, University of Tokyo, Tokyo, Japan, Jul 29, 1996.

"Basis Behaviors in Social and Imitative Robot Learning", 44th ATR Science and Technology Seminar, ATR Human Information Processing Research Laboratories, Kyoto, Japan, Jul 25, 1996.

"Learning in Multi-Robot Systems", Cognitive Science Conf., San Diego, Jul 13, 1996.

"Distributed Control of Multiple Robots", Autonomous Robotic Systems for US Navy Littoral Operations Workshop, Jun 26, 1996.

"Adaptive Group Behavior", Autonomous Robotic Systems for US Navy Littoral Operations Workshop, Jun 25, 1996.

"Robotics and Science: Studying Adaptive Group Behavior", Brandies University Howard Hughes Summer Fellowship Program, Jun 14, 1996.

"Dissolving Walls, Discovering the Brain", Brandeis Alumni College, May 17, 1996.

"Group Behavior and Learning in Adaptive Multi-Agent and Multi-Robot Systems", Evolutionary Robotics 96 Conference, Tokyo, Japan, Apr 12, 1996.

"Adaptive Group Behavior and Learning", Dept. of Cognitive and Neural Systems and Center for Adaptive Systems, Boston University, Feb 16, 1996.

"Multi-Robot Coordination", Naval Undersea Warfare Center, Newport, Feb 2, 1996.

"Adaptive Group Behavior", Menneken Lecture, Naval Postgraduate School, Monterey, Jan 18, 1996.

1995 "Spatial and Social Learning in Intelligent Robots", SUNY Brooklyn Medical Center, New York, Dec 13, 1995.

"Adaptation in Intelligent Agents", AAAI Fall Symposium on Adaptation of Knowledge for Reuse, Cambridge, Nov 11, 1995.

"Interaction and Learning in Situated Embodied Agents", Dartmouth University Computer Science Dept., Oct 18, 1995.

"Collective Behavior Design", NATO-ASI-AA Practice and Future of Autonomous Agents, Monte Verita, Switzerland, Sep 23-Oct 1, 1995.

"Novel Architectures for Robotic Navigation", Spatial Orientation and Navigation Workshop sponsored by the Office of Naval Research, National Academy of Sciences Study Center, Woods Hole, Sep 14, 1995.

"Learning to Behave Socially", Summer Course in Robot Intelligence, Coursos Verano Universidad Complutense, Madrid, Spain, Jul 3-7, 1995.

"Multi-Agent Learning and Imitation in Simulation, Robots, and Humans", Volen Center for Complex Systems Annual Retreat, Boston, Apr 1995.

1994 "Collective Behavior and Learning in Multi-Robot Systems", From Perception to Action, First International Conference (PerAc-94), Lausanne, Switzerland, Sep 8, 1994.

"Group Behavior and Learning in Autonomous Systems", Carnegie Mellon Robotics Institute, Carnegie Mellon University, Pittsburgh, Apr 22, 1994.

"Group Behavior and Learning in Autonomous Systems", University of Southern California, Los Angeles, Apr 15, 1994.

"Interaction and Intelligent Behavior", Brown University Computer Science Dept., Providence, Feb 11, 1994.

1993 "Intelligent Group Behavior From Simple Local Interactions", Center for Interdisciplinary Studies (ZiF), Bielefeld University, Bielefeld, Germany, Nov 26, 1993.

"Group Behavior in Adaptive Robots", Summer Course in Artificial Life, Coursos Verano Universidad Complutense, Madrid, Spain, Aug 21, 1993.

"Interaction and Intelligent Group Behavior In Robotics and Ethology", Science Innovations '93, American Association for the Advancement of Science, Boston, Aug 4, 1993.

"Interaction and Intelligent Group Behavior", Harvard University Computer Science Dept., Cambridge, Apr 21, 1993.

"Local Interaction and Group Behavior", The Rowland Institute, SNAC Seminar Series, Cambridge, Mar, 1993.

1992 "Distributed Approaches to Behavior Control", SPIE Sensor Fusion, Boston, Nov 1992.

"Behavior-Based Architectures for Intelligent Control", Intelligent Autonomous Control Systems Workshop, RAFAEL, Leshem, Israel, Nov 2-3, 1992.

"Artificial Life and Real Robots", Mac world Expo 1992 Conference, Boston, Aug 1992.

"Designing Emergent Group Behaviors", Artificial Life Conference, Santa Fe, Jul 1992.

"Behavior-Based Control: Main Properties and Implications", Workshop on Architectures for Intelligent Control Systems, IEEE International Conference on Robotics and Automation (ICRA-92), Nice, France, May 10, 1992.

1991 "Representation for Navigation, Exploration, and Learning in Reactive Systems", MIT Sea Grant, AUV Seminar Series, Cambridge, May 21, 1991.

1990 "Designing Behavior-Based Robots: Exploiting Emergence, Distributedness, and Locality", AI Lab, Free University of Brussels, Belgium, Jul 18, 1990.

"A Self-Organizing Representation for a Subsumption-Based Mobile Robot", Nagoya University, Japan, Jul 12, 1990.

"Designing Behavior-Based Navigation by Exploiting Emergence", Tokyo Science University, Japan, Jul 10, 1990.

"Biologically-Inspired Environment-Learning and Navigation in a Behavior Based Robot", Workshop of Biology, Cognition, and Robotics, Sankt Augustine, Germany, Jun 1990.

"Designing For Emergent Functionality in Mobile Robots", Emergent Functionality and Self Organization Seminar, Hamburg University, Germany, Jun 12, 1990.

"Building Toto the Robot: Incremental Design and Distributed Control", Cornell University, Ithaca, Apr 1990.

"A Distributed Graph-Learning Model Based on Dynamic Landmarks", GTE Artificial Intelligence Lab, Waltham, Feb 1990.

1989 "Environment Learning and Navigation Using a Distributed Representation", Jet Propulsion Lab, Artificial Intelligence Group, Pasadena, Oct 20, 1989.

"Environment Learning and Navigation Using a Distributed Representation", Hughes Artificial Intelligence Lab, Malibu, Oct 19, 1989.

SERVICE

Programs

Member, IEEE Computational Intelligence Society Autonomous Mental Development Technical Committee (AMD TC), April 2004-present.

Member, AAAI Robot Competition and Exhibition Steering Committee, August 2007-present.

Member, NSF/NASA World Technology Evaluation Center (WTEC) International Assessment of R&D in Robotics, April-July 2004.

Member, AAAI Executive Council, Aug 2002-Jul 2005.

Chair, AAAI Executive Council Grants Committee, Nov 2004-Feb 06.

Member, IEEE Robotics and Automation Technical Committee on Online Robots, 2002-present.

Member, Scientific Advisory Board, *Artificial Life VII* Conference, 2000.

ISAT study member, "Robot Ecologies", DARPA, Feb 1999.

Journal Editing

Current:

Editorial board member, *Artificial Intelligence Journal* (Jan 2007-present).

Associate editor, *Adaptive Behavior Journal* (1995-present).

Associate editor, *Int. Journal of Humanoids Robotics* (Jul 2003-present).

Editorial board member, *Int. Journal of Autonomous Agents and Multi-Agent Systems* (2000-present).

Editorial advisory board member, *Int. Journal of Advanced Robotic Systems* (2004-present).

Past:

Associate editor, *IEEE Transactions on Robotics and Automation* (Jun 2001-Sep 2003).

Editorial board member, *Journal of Artificial Intelligence Research (JAIR)* 1999-2001.

Guest co-editor (with Adriana Tapus), special issue of Autonomous Robots, September 2007 on "Socially Assistive Robotics"

Guest co-editor (with Adriana Tapus), special issue of Intelligent Service Robotics, December 2007 on "Multidisciplinary Collaboration for Socially Assistive Robotics"

Guest co-editor (with Gaurav Sukhatme), special issue of *The Communications of the ACM*, Mar 2002 on "Emerging Directions in Robotics."

Guest co-editor (with Henry Hexmoor), joint special issue of *Autonomous Robots*, 5(3-4), Jul/Aug 1998, and *Machine Learning*, 31(1-3), on "Learning in Autonomous Robots."

Guest editor, special issue of *Adaptive Behavior Journal* on "Complete Agent Learning in Complex Environments", 5(3-4), Winter/Spring 1997.

Editorial board member, special issue of the *Journal of Robotics and Autonomous Systems* on "Robot Learning: The New Wave", 1998.

Editorial board member, special issue of the *Cognitive Systems Research Journal* on "Situated and Embodied Cognition", 2001.

Organizing Committees

General Chair ICRA 2008, Pasadena, CA, 2008.

Co-Organizer (with Adriana Tapus, Marek Michalowski, Selma Sabanovic, Cynthia Breazeal, Francois Michaud, Reid Simmons, Kerstin Dautenhahn, Carl DiSalvo and Illah Nourbakhsh), *AAAI 2007 Spring Symposium* on "Multidisciplinary Collaboration for Socially Assistive Robotics", March 2007.

Co-chair (with Adriana Tapus), *Robotics: Science and Systems* Workshop on "Socially Assistive Robotics", Philadelphia, PA, Aug 19, 2006.

Region Co-chair and Steering Committee Member, *ICRA 2005*, Barcelona, Spain, Apr 17-23, 2005.

Chair Travel Grants Committee, *ICRA 2005*, Barcelona, Spain, Apr 17-23, 2005.

Committee Member, RCV'03: First NSF PI Workshop on Robotics and Computer Vision, at *IROS-2003*, Oct 26-27, 2003.

Robotics Chair, *Autonomous Agents 2001*, Montreal, Canada, May 28 - Jun 1, 2001.

Conference Area Chair (Robot Learning Track), *Int. Conference on Machine Learning ICML-2000*, Stanford, CA, Jun 29-July 2, 2000.

Conference Area Chair (Physical Agents Track), *Autonomous Agents '98*, Minneapolis St. Paul, May 10-13, 1998.

Co-chair (with Stefan Schaal and Chris Atkeson), *Neural Information Processing (NIPS-97)* workshop on "Imitation Learning", Breckenridge, CO, Dec 6, 1997.

Chair, *AAAI-96 Fall Symposium* on "Embodied Cognition and Action", MIT, Nov 9-11, 1996.

Local Organizer (with Jordan Pollack), 4th Int. Conference on Simulation of Adaptive Behavior *(SAB-96)*, Cape Cod, Sep 9-13, 1996.

Program Chair, *AAAI-96* Student Abstract and Poster Program, Portland, OR, Aug 4-7, 1996.

Program Chair, Symposium on "Learning in Complex Environments: Biological and Artificial Adaptive Behavior", 18th Annual Conference of the Cognitive Science Society, San Diego, CA, Jul 12-15, 1996.

Program Co-chair (with Simon Giszter, Terry Sanger, and Stefan Schaal) of five "Biological and Artificial Motor Systems" (BAMS) workshops, held at the Brandeis U. Volen Center for Complex Systems on Jan 14, Mar 30, Jun 15, Dec 14, 1996, and Apr 22, 1997.

Co-chair (with David Cohn) *NIPS-95* workshop on "Robot Learning", Vail, CO, Dec 1, 1995.

Committee member, NATO ASI-AA Course on Practice and Future of Autonomous Agents, Monte Verita, Switzerland, Sep 23-Oct 1, 1995.

Session Organizer, IEEE/RSJ Int. Conference on Intelligent Robots and Systems (IROS-95), Collective and Cooperative Robots session, Pittsburgh, PA, Aug 5-9, 1995.

Senior Program Committees

Senior Program Committee Member, *27th Int. Conference on Artificial Intelligence (AAAI-2007)*, Vancouver, Britich Columbia, July 22-26, 2007.

Senior Program Committee Member, *Int. Conference on Machine Learning (ICML 2006)*, Carnegie Mellon University, Pittsburgh, PA, Jun 25-29, 2006.

Senior Program Committee Member, *Fifth Int. Joint Conference on Autonomous Agents and Multi-Agent*

Systems (AAMAS 2006), Hakodate, Japan, May 8-12, 2006.

Senior Program Committee Member, *Second Int. Joint Conference on Autonomous Agents and Multi-Agent Systems (AAMAS 2003)*, Sofitel, Melbourne, Australia, July 14-18, 2003.

Senior Program Committee Member, *First Int. Joint Conference on Autonomous Agents and Multi-Agent Systems (AAMAS 2002)*, Bologna, Italy, Jul 15-19, 2002.

Program Committees

Human-Robot Interaction (HRI-2008), Amsterdam, March 12-15, 2008.

Human-Robot Interaction (HRI-2007), Arlington, VA, March 9-11, 2007.

AAAI-06 Nectar Track, Boston, MA, July 16-20, 2006.

Human-Robot Interaction (HRI-2006), Salt Lake City, Utah, March 2-3, 2006.

Robotics: Science and Systems, MIT, MA, June 8-11, 2005.

AAAI-04, San Jose, CA, July 25-29, 2004.

ICDL'02, Second Int. Conference on Development and Learning (ICDL'02), Cambridge, MA, Jun 13-15, 2002.

IROS-2001, Maui, Hawaii, Oct 2001.

Humanoids-2000, First IEEE-RAS Int. Conference on Humanoid Robots, Cambridge, MA, Sep 7-8, 2000.

Simulation of Adaptive Behavior 2000, Paris, France, 11-15 Sep, 2000.

Autonomous Agents 2000, Barcelona, Spain, Jun 3-7, 2000.

6th Intelligent Autonomous Systems Conference (IAS-6), Venice, Italy, July 2000.

IEEE Int. Symposium on Computation Intelligence in Robotics & Automation (CIRA-99), Monterey, CA, Nov, 1999.

AAAI-99, Orlando, FL, Jul 18-22, 1999.

Autonomous Agents '99, Seattle, WA, May 1-5, 1999.

AAAI-98, Madison, WI, Jul 26-30, 1998.

ICML-98, Madison, WI, Jul 24-26, 1998.

SAB-98, Zurich, Switzerland, Aug 17-21, 1998.

ISIC/CIRA/ISAS-98 (IEEE Int. Symposium on Intelligent Control and Computational Intelligence in Robotics and Automation), Gaithersburg, Ml, Sep 14-17, 1998.

SPIE Sensory Fusion and Decentralized Control in Autonomous Robotic Systems, Pittsburgh, PA, Oct 14-17, 1997.

Autonomous Agents '97, Marina del Rey, CA, Feb 5-8, 1997.

IJCAI-95 workshop on "Adaptation and Learning in Multi-Agent Systems", Montreal, Canada, Aug 19-21, 1995.

SAB-96, Cape Cod, Sep 9-13, 1996.

AAAI-96, Portland, OR, Aug 4-7, 1996.

SIGART/AAAI-96 Doctoral Consortium, Portland, OR, Aug 4-7, 1996.

AISB-96, AI Society of Britain workshop on "Learning in Robots and Animals", U. of Sussex, Brighton,

UK, Apr 1-2, 1996.

IROS-96, Japan, 1996.

ECAL-95, 3rd European Conference on Artificial Life, Granada, Spain, Jun 4-6, 1995.

ICML-94 Robot Learning workshop, New Brunswick, NJ, Jul 10-13, 1994.

SAB-94, Brighton, UK, Aug 8-12, 1994.

PerAc-94, From Perception to Action, First Int. Conference, Lausanne, Switzerland, Sep 7-9, 1994.

Tutorials

"Behavior-Based Robotics" with Ron Arkin, at IROS-01 (Oct 01), ICRA-00 (Apr 24-28, 2000), IJCAI-99 (Aug 1999, presented by R. Arkin), AAAI-99 (Jul 1999), and Agents-99 (May 1999).

Judging

Judge, *Discover Magazine* Awards for Technological Innovation, Feb 1998, and Feb 1999.

Robot Contest Judge, *AAAI-92*, San Jose, CA, Jun 1992.

Reviewing

Granting Agencies: NSF • Austrian Science Fund • Human Frontier Science Program • Engineering and Physical Sciences Research Council, UK • Israel Science Foundation • NSERC CRSNG, Canada • Swiss National Science Foundation •

Journals: Adaptive Behavior • Artificial Intelligence • Artificial Life • Autonomous Robots • Cognitive Science • IEEE Transactions on Robotics and Automation • International Journal of Robotics Research (IJRR) • Journal of AI Research (JAIR) • Journal of Experimental and Theoretical AI (JETAI) • Journal of Robotic Systems • Transactions on Neural Systems & Rehabilitation Engineering • Machine Learning • Physica D • Science • Robotics and Autonomous Systems •

Publishers: MIT Press • Cambridge University Press • Kluwer Academic Publishers • National Academies Press • Prentice Hall

Conferences: American Association for Artificial Intelligence National Conference (AAAI) • Int. Conference on Machine Learning (ICML) • Artificial Life Conference (Alife) • ASME Design Automation Conference • Cognitive Science Society Conference • IEEE Int. Conference on Robotics and Automation (ICRA)• IEEE/RSJ Int. Conference on Intelligent Robots and Systems (IROS) • Int. Joint Conference on Artificial Intelligence (IJCAI)• Int. Conference on Simulation of Adaptive Behavior (SAB)• Neural Information Processing Systems (NIPS)• Robotics: Science and Systems (RSS)

University Service

Executive Steering Committee Member, Mellon Mentoring Intiative	Oct 2007-present
Faculty Observer, Academic Affairs Committee of the USC Board of Trustees	Sep 2006-May 2008
Member, Board of Directors, University Club	May 2007-present
Member, University Strategic Planning Committee	Jan 2007-present
Member, Academic Senate Nominating Committee	Jan-Apr 2007
President, Academic Senate	Jul 2006-present
Member, USC Neuroscience Steering Committee	Sep 2006-present
President-Elect, Academic Senate	Fall 2005-Jun 2006

Member, USC University Research Committee	Aug 2005-present
Chair, Viterbi School of Engineering Women in Science and Engineering Committee	Fall 2005-Summer 2006
Chair, Academic Senate Nominating Committee	Jan-Apr 2006
Member, Viterbi School of Engineering Dean Search Committee	Aug 2005-Apr 2006
Co-Chair, USC Provost's Research Subcommittee	Sep-Nov 2005
Co-Chair, USC Research Administration Task Force	Dec 2005-present
Member, USC Accreditation Steering Committee	Jul 2005-Jun 2006
Member, Academic Senate Executive Board	May 2005-present
Founding Director, Center for Robotics and Embedded Systems (CRES)	Fall 2002-present
Co-chair, USC Provost's Strategic Planning Subcommittee on the Graduate Seminar Series Initiative	Feb-Jun 2005
Member, USC University Committee on Academic Review (UCAR) Subcommittee on Interdisciplinary Programs	Feb-Jun 2005
Member, USC Provost's Strategic Planning Internal Organization Subcommittee	Fall 2003-Spring 05
Member, USC W.V.T. Rusch Engineering Honors Program Advisory Board	2000-01, 2003-present
Member, USC School of Engineering Women in Science & Engineering (WiSE) Faculty Committee	Spring 2003-Spring 05
Member, Annenberg Center Core Faculty Group	March 2002-present
Member, Special Committee on Promotion and Tenure Policy	2001-2002
Member, Brandeis University Curriculum Committee	1996-97
Member, Brandeis University Science Library Committee	1996-97
Cluster Convener, Brandeis University Cluster Committee	1996-97
Member, Brandeis University Board on Student Conduct	1995-96
First-Year General Advisor, Brandeis University	1995-96

Departmental Service

Chair, Intelligent Systems Group, CS Dept.	Spring 2001- Spring 2002
Organizer, CS Robotics Research web resources	2002
Member, CS Chair Search Committee	Spring 2001
Commencement Marshall	2001
Chair, Salvatori Remodeling Committee	Jan-Sep 2001
Member, CS Department Executive Committee	Spring 2001
Member, AI/ML Faculty Search Committee	2000-2001
CS Dept. Representative, USC Engineering Faculty Council	1999-2001
Member, Embedded Databases Faculty Search	Spring 2000
Organizer, MS Program in Intelligent Robotics	Jan 1999-May 2000
Chair, Salvatori Remodeling Committee	Jun-Nov 1999
Member, Faculty Merit Review Committee	Spring 1999
Co-Organizer, USC CS Seminars and Distinguished Lecture Series	Sep 1998-May 1999
CS Dept. Representative, USC Engineering Faculty Council	1997-1999
Director, CS Dept. Seminar Series, Brandeis U.	Jan 1995-May 1996
Organizer, Revolving Seminar Series, MIT AI Laboratory	1990-1991
Organizer, MIT AI Laboratory AI Olympics	1990
Captain, MIT AI Laboratory Robot Building Contest	1989
Captain, MIT AI Laboratory AI Olympics	1988

Boards

Member, Scientific Advisory Board, *Evolution Robotics*, an Idealab! company, Pasadena, CA (Jan 2002-present)

Member, Academic Advisory Board, *Center for Neuromorphic System Engineering*, California Institute of Technology (Sep 2002-Oct 2005, sunset of NSF Center)

Memberships

Senior Member, Institute of Electrical and Electronics Engineers, Inc. (IEEE)
Member, Association for the Advancement of Artificial Intelligence (AAAI)
Member, IEEE Robotics and Automation Society
Member, American Society for Engineering Education (ASEE)
Member, International Society for Adaptive Behavior (ISAB)

PERSONAL

Citizenship: US.
Gender: Female.