

# Dr Elizabeth I Sklar, PhD

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## CURRICULUM VITAE

### EDUCATION

- Brandeis University, PhD, May 2000, Computer Science.
- Brandeis University, MA, May 1997, Computer Science.
- Barnard College, Columbia University, BA, May 1985, Computer Science and English.

### PROFESSIONAL EXPERIENCE

- *Dept of Informatics, King's College London.* UK. Reader in Computer Science, Centre for Robotics Research (CoRe), June 2015–present. Director, Data Science Programme, September 2015–present.
- *Dept of Computer Science, University of Liverpool.* UK. Senior Research Fellow, July 2013–May 2015.
- *Dept of Computer Science, King's College London.* UK. Fulbright Scholar, Dec 2013–May 2014.
- *Dept of Computer and Information Science, Brooklyn College; Dept of Computer Science, The Graduate Center; The City University of New York.* Brooklyn, NY, USA. Professor (2013–August 2015, on leave July 2013–August 2015); Associate Professor (2008–2013, tenured in 2008); Assistant Professor (2005–2007). Director of Multimedia Computing program (2009–2013). Undergraduate Deputy Chair (2009–2010).
- *Dept of Computer Science, Columbia University.* New York, NY, USA. Assistant Professor (non-tenure track), 2001–2005.
- *Dept of Computer Science, Boston College.* Chestnut Hill, MA, USA. Visiting Assistant Professor, 2000–2001.
- *Dept of Computer Science, Brandeis University.* Waltham, MA, USA. Visiting Research Associate, 2000–2001.
- *Dept of Computer Science and Software Engineering, University of Melbourne.* Victoria, Australia. Visiting Researcher, 2000.
- *Dept of Computer Science and Software Engineering, Monash University.* Victoria, Australia. Sessional Lecturer, 2000.
- *Dept of Computer Science, Brandeis University.* Waltham, MA, USA. Doctoral Student, 1995–2000. Dissertation title: *CEL: A Framework for Enabling an Internet Learning Community.*
- *MIT / Lincoln Laboratory.* Lexington, MA, USA. Assistant Staff, 1985–1987 and 1991–1997. Led effort to modernize real-time software system. Developed satellite tracking software system; scheduling software for experimental space-based optical (SBV) sensor; data processing software for radar measurements; real-time communications software.

- *GTE Government Systems*. Research Triangle Park, NC, USA. Member of Technical Staff, 1987–1989. Led effort to re-host existing network planning software to a graphics environment. Developed and implemented PC-based military communications software.
- *Freelance Consultant*. Raleigh, NC, USA. 1989–1991. Designed and implemented retail business software and medical laboratory database software.

## AWARDS

- *Best Student Paper Prize*, Towards Autonomous Robotic Systems, 2016. For paper: *Evaluating multi-robot teamwork in varied environments*, by Eric Schneider, Elizabeth I. Sklar, and Simon Parsons, Proceedings of the 17th Towards Autonomous Robotic Systems (TAROS) conference.
- *Fulbright Scholar Award*, 2013–2014.  
Sponsored by the US-UK Fulbright Commission, this Fulbright-Kings College London Scholar Award supported my research visit between December 2013 and May 2014 in which I worked with members of the Centre for Robotics Research in the School of Informatics at King’s College, London, UK.
- *RoboCup US Open, Four-Legged League, Fourth Place*, 2008 and 2005.  
MetroBots Team, City University of New York, co-directed with Simon Parsons. Student members: A. Tuna Özgelen, Joel Kammet, Marek Marcinkiewicz, Rachel Adler, Aleksandr Barkan, Marvin Charles and Faisal Chaudhry.
- *CRA-W Distributed Mentorship Award*, 2008 and 2003.  
Through this award, which encourages female undergraduates to gain experience in research by working for the summer in the lab of a faculty member, I was able to fund two students who worked on educational robotics projects.
- *Technical Innovation Award, AAAI Robot Competition & Exhibition*, July 2006.  
For integration of research and education as demonstrated by the Brooklyn College Educational Robotics exhibition, by Elizabeth I Sklar, Simon Parsons, M. Q. Azhar and Valerie Andrewlevich.
- *Scientific Challenge Award*, RoboCup 2002.  
For paper: *RoboCupJunior: learning with educational robotics*, by Elizabeth I Sklar and Amy Eguchi and Jeffrey Johnson, Proceedings of RoboCup-2002: Robot Soccer World Cup VI.
- *Best Student Paper Award*, Evolutionary Computation and Cognitive Science, 2000.  
For paper: *Using an evolutionary algorithm to guide problem selection in an online educational game*, by Elizabeth I Sklar and Jordan Pollack, Proceedings of the Workshop on Evolutionary Computation and Cognitive Science (ECCS-2000).
- *Best Paper Nomination*, Intelligent Agent Technology, 1999.  
For paper: *Training Intelligent Agents Using Human Internet Data*, by Elizabeth I Sklar, Alan D Blair, Pablo Funes and Jordan Pollack, Proceedings of the First Asia-Pacific Conference on Intelligent Agent Technology (IAT-99).

## GRANTS AND CONTRACTS (EXTERNAL TO THE UNIVERSITY)

- *NSF REU Supplement to RI: Small: Collaborative Research: Learning to perform consistently in human/multi-robot teams*, PI Elizabeth Sklar, NSF IIS #13-38884, \$23,835, 6/2013-7/2014.
- *Network Science, Collaborative Technology Alliance*, with task team members: PI Simon Parsons (CUNY Brooklyn College), Co-PI Karl N. Levitt (University of California-Davis), Co-PI Munindar Singh (North Carolina State University), Senior Personnel Jeffery Rowe (University of California-Davis), Senior Personnel Jennifer Mangels (CUNY Baruch College), and Senior Personnel Elizabeth Sklar, Army Research Laboratory #W911NF-09-2-0053, CUNY Brooklyn College portion \$117,810, 10/2012–9/2013.
- *REU Site: Academic-year Robotics Research for Urban Public College Students*, PI Elizabeth Sklar,

- Co-PI Simon Parsons (CUNY Brooklyn College), NSF CNS #11-56827, \$62,500, 2012-2013.
- *AAAI/SIGART 2012 Doctoral Consortium*, PI Elizabeth Sklar, Co-PI Peter McBurney (King's College, London, UK), NSF IIS #12-31683, \$20,631, 2012.
  - *NSF REU Supplement to RI: Small: Collaborative Research: Learning to perform consistently in human/multi-robot teams*, PI Elizabeth Sklar, NSF IIS #12-22956, \$15,000, 2/2012-7/2014.
  - *RI: Small: Collaborative Research: Learning to perform consistently in human/multi-robot teams*, PI Elizabeth Sklar, Co-PI Susan L. Epstein (CUNY Hunter College), Co-PI Simon Parsons (CUNY Brooklyn College), NSF IIS #11-16843, \$489,799 (CUNY Brooklyn College award \$298,387), 8/2011-7/2015.
  - *TC: Small: Collaborative Research: An Argumentation-based Framework for Security Management*, PI Karl N. Levitt (University of California-Davis), Co-PI Jeffery Rowe (University of California-Davis), Co-PI Simon Parsons (CUNY Brooklyn College), Co-PI Elizabeth Sklar, NSF CNS #11-17761, \$498,618 (CUNY Brooklyn College award \$249,596), 8/2011-7/2016.
  - *AAAI/SIGART 2011 Doctoral Consortium*, PI Bradley Clement (Jet Propulsion Laboratory, NASA), Co-PI Elizabeth Sklar, NSF IIS #11-25978, \$20,340, 2011.
  - *NSF REU Supplement to CPATH EAE: Extending contextualized computing in multiple institutions using Threads*, PI Elizabeth Sklar, IIS #10-36367, \$14,000, 2010.
  - *Network Science, Collaborative Technology Alliance*, with task team members: PI Simon Parsons (CUNY Brooklyn College), Co-PI Karl N. Levitt (University of California-Davis), Co-PI Munindar Singh (North Carolina State University), Senior Personnel Jeffery Rowe (University of California-Davis), and Senior Personnel Elizabeth Sklar, Army Research Laboratory, CUNY Brooklyn College portion \$153,798, 9/2009-9/2012.
  - *REU Site: MetroBotics: undergraduate robot research at an urban public college*, PI Elizabeth Sklar, Co-PI Simon Parsons (CUNY Brooklyn College), NSF CNS #08-51901, \$345,000, 7/2009-6/2013.
  - *NSF REU Supplement to BPC-DP: Building a Bridge in Brooklyn*, PI Elizabeth Sklar, CNS #09-39599, \$12,500, 2009.
  - *NSF REU Supplement to BPC-DP: Building a Bridge in Brooklyn*, PI Elizabeth Sklar, CNS #08-32295, \$12,500, 2008.
  - *Robots in the Classroom*, Institute for Personal Robotics (IPRE) / Georgia Institute of Technology, PI Elizabeth Sklar, \$8,000, 6/2008-6/2009.
  - *CPATH EAE: Extending contextualized computing in multiple institutions using Threads*, PI Charles Isbell (Georgia Institute of Technology), Co-PI Jill Auerbach (Georgia Institute of Technology), Co-PI Maureen S Biggers (Georgia Institute of Technology), Co-PI Merrick L Furst (Georgia Institute of Technology), Co-PI Ju A Wang (Southern Polytechnic State University), Co-PI Patrick O Bobbie (Southern Polytechnic State University), Co-PI Chih Cheng Hung (Southern Polytechnic State University), Co-PI Elizabeth Sklar, Co-PI Ira Rudowsky (CUNY Brooklyn College), Co-PI Gerald Weiss (CUNY Brooklyn College), Co-PI Ashraf Saad (Armstrong Atlantic State University), Co-PI Pamela Dembla (Kennesaw State University), and Co-PI Jose M Garrido (Kennesaw State University), NSF CPATH #07-22177, \$889,580 (CUNY Brooklyn College award \$165,600), 10/2007-9/2011.
  - *SBIR Phase II: Early Childhood Assessment and Intervention within a Community*, PI Christopher Chamacho (Children's Progress Inc.), Co-PI Elizabeth Sklar, Small Business Innovation Research Program, US Dept of Education SBIR #ED-07-R-0006, \$750,000 (CUNY Brooklyn College subaward \$107,976, 6/2007-7/2008), 5/2007-4/2009.
  - *STTR Phase I: Academic Assessment within a Community of Evolving Learners*, PI Elizabeth Sklar, Co-PI Christopher Camacho (Children's Progress Inc.), Small Business Technology Transfer Program, NSF IIP #06-37713, \$149,680 (phase I) + \$50,000 (phase I-B) (CUNY Brooklyn College subaward \$105,712, 1/2007-6/2008), 1/2007-6/2008.
  - *NSF REU Supplement to BPC-DP: Building a Bridge in Brooklyn*, PI Elizabeth Sklar, CNS #07-33496, \$12,500, 2007.

- *Developing a STEM Curriculum for Early College Programs: A High School to College Continuum*, PI Chaya Gurwitz (CUNY Brooklyn College), Co-PI Jennifer Basil (CUNY Brooklyn College), Co-PI Sophia Perdikaris (CUNY Brooklyn College), Co-PI Theodore Raphan (CUNY Brooklyn College), Co-PI Elizabeth Sklar, NSF CCLI #06-33497, \$149,966, 5/2007–4/2009.  
(Note: Though I helped write the proposal for this project and was involved early on, I withdrew from participation in July 2007 due to over-commitment to other projects and currently serve in an advisory role.)
- *Development of Assessment Technologies for Early Childhood: Phase I*, PI Christopher Camacho (Children’s Progress Inc.), Co-PI Elizabeth Sklar, Small Business Innovation Research Program, US Dept of Education SBIR #ED-06-PO-0895, \$100,000, 6/2006–12/2006.
- *Educational Robotics Program: Introduction to LEGO Robotics*, PI Joshua Koen (Passaic School District, Passaic, NJ) / Dept of Education GEAR-UP #P334A050232, sub-award PI Elizabeth Sklar, subcontract \$11,255, 2006.
- NSF REU Supplement to *ITR: Evaluating education — what are we measuring and how?* PI Elizabeth Sklar, ITR #06-29238, \$12,500, 2006.
- *BPC-DP: Building a Bridge in Brooklyn*, PI Elizabeth Sklar, Co-PI Ira Rudowsky (CUNY Brooklyn College), Co-PI Samir Chopra (CUNY Brooklyn College), Co-PI Simon Parsons (CUNY Brooklyn College), NSF BPC #05-40549, \$500,000, 3/2006–5/2011.  
(Note: Originally, Lori Scarlatos was the PI on this project, but she left CUNY in Fall 2006, at which time my role shifted from Co-PI to PI.)
- *Track 2, GK12: Technology Integration Partnerships: Bringing Emerging STEM Research into Grades 5-12 enabled by New Technologies*, PI Jack McGourty (Columbia University), Co-PI Susan Lowes (Teachers College) Co-PI Elizabeth Sklar, NSF GK-12 #03-38329, \$1,699,219, 2004–2009.  
Note: My involvement in this project ended when I left Columbia in July 2005.
- *RoboCupJunior and the ACM: A partnership for technology education*, PI Elizabeth Sklar, Association for Computing Machinery, \$30,000, 2004.
- *Tools and techniques for automated mechanism design*, PI Simon Parsons (CUNY Brooklyn College), Co-PI Elizabeth Sklar, NSF IIS #03-29037, \$532,453, 2003–2008.
- *Special Projects: Bridging the Gap*, PI Elizabeth Sklar, Co-PI Lillian Israel (Association for Computing Machinery), Co-PI Diane Souvaine (Tufts University), NSF CISE Special Projects #03-14231, \$32,300, 2003–2004.
- NSF REU Supplement to *ITR: Evaluating education — what are we measuring and how?* PI Elizabeth Sklar, ITR #03-31744, \$13,825, 2003.
- *ITR: Evaluating education — what are we measuring and how?* PI Elizabeth Sklar, NSF ITR, #02-19347/05-52294, \$370,377, 2002–2007.
- *ITR: Creating One to One Learning Opportunities Across the Internet*, PI Jordan Pollack (Brandeis University), Co-PI Ann Marion (Brandeis University), Co-PI Elizabeth Sklar, NSF ITR #01-13317, subcontract \$57,000, 2001–2003.

## INTERNAL UNIVERSITY FUNDING AWARDS

- *Culture Data Portal*, Collaboration Agreement between Department of Informatics and Culture, King’s College London, £20,000, 2016.
- Funding to support one Informatics Undergraduate Research Intern (IURI) from the *Faculty of Natural and Mathematical Sciences*, King’s College London, 2016.
- Funding to support two PhD student assistants (part-time) from the *School of Electrical Engineering, Electronics & Computer Science Recruitment Committee* for Continuing Professional Development for Computer Science Teachers, University of Liverpool, 2014-2015.

- Funding to support one Student Vacation Worker from the *Centre for Autonomous Systems Technology* for the Critical & Major Incident Psychology Research Centre Data Modelling Project, University of Liverpool, 2014.
- *Experimentation in Human/Multi-robot Teamwork*, PI Elizabeth Sklar, PSC-CUNY Award #64630-00-42, City University of New York, \$5,997.26, 2011–12.
- *Shared Decision Making for Collaborative Exploration*, PI Elizabeth Sklar, Co-PI Susan L. Epstein (CUNY Hunter College), CUNY Collaborative Incentive Research Grants Award #1642, City University of New York, \$57,340, 9/2009–8/2011.
- *Mechanism Design for Educational Interactivities*, PI Elizabeth Sklar, PSC-CUNY Award #62358-00 40, City University of New York, \$1,980, 7/2009–7/2010.
- *Studies in Interaction-based Learning*, PI Elizabeth Sklar, PSC-CUNY Award #68525-00-37, City University of New York, \$3,175, 7/2006–12/2006.
- *A Multiagent Simulation Approach to Educational Assessment*, sub-award PI Elizabeth Sklar, CISDD NSF-PFI NSF #PFI-03-32596 (sub-award), City University of New York, \$14,514, 2005–2006.

## WORK-IN-PROGRESS (JOURNAL ARTICLES and GRANT PROPOSALS)

- M. Q. Azhar and Elizabeth I Sklar, A study measuring the impact of shared decision making in a human-robot team, accepted for publication in the *International Journal of Robotics Research (IJRR)*.
- Elizabeth I. Sklar, Simon Parsons and Munindar P. Singh, Towards an Argumentation-Based Model of Social Interaction, submitted to *ArgMAS Special Issue on Argument & Computation*.
- Andy Applebaum, Zimi Li, Karl Levitt, Simon Parsons, Jeff Rowe and Elizabeth I. Sklar, Firewall configuration: An application of multiagent metalevel argumentation, submitted to *ArgMAS Special Issue on Argument & Computation*.
- *A Collaborative Mobile Decision Support System for the Management of Multiple Morbidities*, with Simon Parsons, PI (KCL Informatics), Mark Ashworth (KCL Guy's), Vasa Curcin (KCL Guy's), Sanjay Modgil (KCL Informatics), £1,698,921; submitted to EPSRC Intelligent Healthcare Technologies programme (May 2016), after being selected in first (outline) round.
- *Anti-Microbial Resistance (AMR) Surveillance*, with Jennifer Rubin, PI (KCL Policy Institute); submitted to Gates Foundation (November 2015).
- *Outline Proposal: A Feasibility Study exploring the Application of Multi-Robot Routing Mechanisms to Improve Ambulance Dispatch*, with Simon Parsons (KCL Informatics), Archie Drake (KCL Policy Institute); submitted to London Ambulance Service (May 2016) for access to data for preliminary study.
- *Manufacturing On-demand Robots, Just-in-time for Emergency Response (JITTER)* with Katie Atkinson (Univ of Liverpool), Kate Black (Univ of Liverpool), Elizabeth Black (KCL Informatics); in preparation for submission to EPSRC.
- *Argumentation to Support HUMAN REasoning in complex, dynamic domains (ASHURE)* with Simon Parsons (KCL Informatics), Nir Oren (Univ of Aberdeen); in preparation for submission to EPSRC.
- *Zero-Outage Wireless Information Experience (ZOWIE)* with Mischa Dohler (KCL Informatics), Nishanth Sastry (KCL Informatics), Dmytro Karamshuk (KCL Informatics); in preparation for submission to EPSRC.

## PUBLICATIONS

journal articles, book chapters and newsletters:

1. Shaodian Zhang, Edouard Grave, Elizabeth I. Sklar, and Noemie Elhadad. Longitudinal Analysis of Discussion Topics in an Online Breast Cancer Community using Convolutional Neural Networks. *arXiv*, (1603.08458), March 28 2016.
2. Jeffery Raphael, Elizabeth I. Sklar, and Simon Maskell. An Intersection-centric Auction-based Traffic Signal Control Framework. *Agent-Based Modeling of Sustainable Behaviors*, 2016.
3. Elizabeth I. Sklar, Sina Sareh, Emanuele L. Secco, Angela Faragasso, and Kaspar Althoefer. A non-linear model for predicting tip position of a pliable robot arm segment using bending sensor data. *Sensors & Transducers*, 199(4), April 2016.
4. Susan L. Epstein, Anoop Aroor, Matthew Evanusa, Elizabeth I. Sklar, and Simon Parsons. Spatial abstraction for autonomous robot navigation. *Cognitive Processing*, July 2015.
5. Elizabeth I. Sklar and M. Q. Azhar. Argumentation-based dialogue games for shared control in human-robot systems. *Journal of Human-Robot Interaction*, 4(3):120–148, 2015.
6. Elizabeth I. Sklar, Simon Parsons, Zimi Li, Jordan Salvit, Senni Perumal, Holly Wall, and Jennifer Mangels. Evaluation of a trust-modulated argumentation-based interactive decision-making tool. *Journal of Autonomous Agents and Multi-Agent Systems (JAAMAS)*, pages 1–38, February 2015.
7. Simon Parsons, Katie Atkinson, Zimi Li, Peter McBurney, Elizabeth I Sklar, Munindar Singh, Karen Haigh, Karl Levitt, and Jeff Rowe. Argument schemes for reasoning about trust. *Argument & Computation, Special Issue: Trust, Argumentation and Technology*, 5(2–3), 2014.
8. Yuqing Tang, Kai Cai, Peter McBurney, Elizabeth I Sklar, and Simon Parsons. Using argumentation to reason about trust and belief. *Journal of Logic and Computation, Special Issue on Agreement Technologies*, 22(5):959–1018, 2012.
9. Elizabeth I Sklar and Debbie Richards. Agent-based systems for human learners. *Knowledge Engineering Review*, 25(2):111–135, June 2010.
10. Elizabeth I Sklar and Ilknur Icke. Using simulation to evaluate data-driven agents. *Multi-agent Based Simulation IX, Lecture Notes in Artificial Intelligence*, 5269, 2009.
11. Maartje Spoelstra and Elizabeth I Sklar. Using simulation to model and understand group learning. *Agent Based Systems for Human Learning, International Transactions on Systems Science and Applications*, 4(1), 2008.
12. Lori Scarlatos, Susan Lowes, Elizabeth I Sklar, Samir Chopra, Simon Parsons, Ira Rudowsky, and Heidi Holder. Building Bridges: The 2006 Summer Institute. *Journal of Computing Sciences in Colleges*, 23(3):23–30, January 2008.
13. Elizabeth I Sklar. Software Review: NetLogo, a multiagent simulation environment. *Journal of Artificial Life*, 13(2):303–311, 2007.
14. Elizabeth I Sklar, Simon Parsons, and Peter Stone. Using RoboCup in university-level computer science education. *Journal on Educational Resources in Computing (JERIC), Special Issue on robotics in undergraduate education, part I*, 4(2):article 4, pages 1–21, June 2004.
15. Jonah Benton and Elizabeth I Sklar. Evolving a Community for Evolving Learners. *Learning Technology newsletter*, 6(1), 2004.
16. Elizabeth I Sklar and Jordan B Pollack. A Framework for Enabling an Internet Learning Community. *Journal of International Forum of Educational Technology & Society, Special Issue on On-line Collaborative Learning Environments*, 3(3):393–408, July 2000.

books and edited volumes:

1. John Collins, Peyman Faratin, Simon Parsons, Juan A Rodriguez-Aguilar, Norman M Sadeh, Onn Shehory, and Elizabeth I Sklar (*editors*). *Agent-Mediated Electronic Commerce and Trading Agent Design and Analysis*, LNBIP 13. Springer, 2008.
2. Gerhard Lakemeyer, Elizabeth I Sklar, Domenico Sorrenti, and Tomoichi Takahashi (*editors*). *RoboCup 2006: Robot Soccer World Cup X, Lecture Notes in Artificial Intelligence (LNAI)*, volume 4434. Springer-Verlag, 2007.

papers in refereed conferences:

1. M. Q. Azhar and Elizabeth I. Sklar. Analysis of empirical results on argumentation-based dialogue to support shared decision making in a human-robot team. In *Proceedings of the IEEE International Symposium on Robot and Human Interactive Communication (RO-MAN)*, 2016.
2. Eric Schneider, Elizabeth I. Sklar, and Simon Parsons. Evaluating multirobot teamwork in varied environments. In *Proceedings of the 17th Towards Autonomous Robotic Systems (TAROS)*, 2016. Awarded Best Student Paper Prize.
3. Eric Schneider, Elizabeth I. Sklar, Simon Parsons, and A. Tuna Özgelen. Auction-based task allocation for multi-robot teams in dynamic environments. In *Proceedings of the 16th Towards Autonomous Robotic Systems (TAROS)*, 2015.
4. Elizabeth I. Sklar and A. Tuna Özgelen. An Approach to Supervisory Control of Multi-Robot Teams in Dynamic Domains (Short Paper). In *Proceedings of the 16th Towards Autonomous Robotic Systems (TAROS)*, 2015.
5. Bastian Broecker, Ipek Caliskanelli, Karl Tuyls, Elizabeth I. Sklar, and Daniel Hennes. Hybrid Insect-Inspired Multi-Robot Coverage in Complex Environments. In *Proceedings of the 16th Towards Autonomous Robotic Systems (TAROS)*, 2015.
6. Eric Schneider, Elizabeth I. Sklar, M. Q. Azhar, Simon Parsons, and Karl Tuyls. Towards a methodology for describing the relationship between simulation and reality. In *Proceedings of the 13th European Conference on Artificial Life (ECAL)*, 2015.
7. Sadat Chowdhury and Elizabeth I. Sklar. Investigating the Impact of Communication Quality on Evolving Populations of Artificial Life Agents. In *Proceedings of the 13th European Conference on Artificial Life (ECAL)*, 2015.
8. Susan L. Epstein, Anoop Aroor, Matthew Evanusa, Elizabeth I. Sklar, and Simon Parsons. Learning Spatial Models for Navigation. In *Proceedings of the Conference on Spatial Information Theory XII (COSIT)*, 2015.
9. Susan L. Epstein, Anoop Aroor, Matthew Evanusa, Elizabeth I Sklar, and Simon Parsons. Navigation with Learned Spatial Affordances. In *Proceedings of the Annual Meeting of the Cognitive Science Society (CogSci)*, Pasadena, California, USA, 2015.
10. Susan L. Epstein, Anoop Aroor, Matthew Evanusa, Elizabeth I. Sklar, and Simon Parsons. Spatial Abstraction for Autonomous Robot Navigation (Abstract). In *6th International Conference on Spatial Cognition*, Rome, Italy, 2015.
11. Jeffery Raphael, Simon Maskell, and Elizabeth I. Sklar. From Goods to Traffic: First Steps Toward an Auction-based Traffic Signal Controller. In *13th Conference on Practical Applications of Agents and Multi-Agent Systems (PAAMS)*, Salamanca, Spain, June 2015.
12. Bastian Broecker, Ipek Caliskanelli, Karl Tuyls, Elizabeth I. Sklar, and Daniel Hennes. Social Insect-Inspired Multi-Robot Coverage (Extended Abstract). In *Proceedings of the 14th International Conference on Autonomous Agents and Multiagent Systems (AAMAS)*, Istanbul, Turkey, May 2015.
13. Sadat Chowdhury and Elizabeth I. Sklar. Exploring Interaction, Diversity and Efficiency of Biologically Inspired Evolutionary Multiagent Systems. In *Proceedings of the 8th International Conference on Bio-inspired Information and Communications Technologies (BICT)*, 2014.
14. Elizabeth I. Sklar, Eric Schneider, A. Tuna Özgelen, and M. Q. Azhar. Toward Human/Multi-Robot

- Systems to Support Emergency Services Agencies. In *AAAI Fall Symposium on Artificial Intelligence and Human-Robot Interaction*, 2014.
15. Yohan Noh, Emanuele Lindo Secco, Sina Sareh, Helge Würdemann, Angela Faragasso, Junghwan Back, Hongbin Liu, Elizabeth I Sklar, and Kaspar Althoefer. A continuum body force sensor designed for flexible surgical robotics devices. In *Proceedings of the 36th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)*, pages 3711–3714, 2014.
  16. Jeffery Raphael, Eric Schneider, Simon Parsons, and Elizabeth I Sklar. Behaviour Mining for Collision Avoidance in Multi-Robot Systems (Extended Abstract). In *Proceedings of the 13th International Conference on Autonomous Agents and Multiagent Systems (AAMAS)*, Paris, France, May 2014.
  17. Eric Schneider, Ofear Balas, A Tuna Özgelen, Elizabeth I Sklar, and Simon Parsons. An Empirical Evaluation of Auction-based Task Allocation in Multi-Robot Teams (Extended Abstract). In *Proceedings of the 13th International Conference on Autonomous Agents and Multiagent Systems (AAMAS)*, Paris, France, May 2014.
  18. A Tuna Özgelen and Elizabeth I Sklar. Modeling and Analysis of Task Complexity in Single-Operator Multi-Robot Teams (Late Breaking Report). In *Proceedings of the 9th ACM/IEEE International Conference on Human-Robot Interaction (HRI)*, Bielefeld, Germany, March 2014.
  19. A Tuna Özgelen and Elizabeth I Sklar. A Task Complexity Assessment Tool for Single-Operator Multi-Robot Control Scenarios (Demonstration). In *Proceedings of Autonomous Agents and Multiagent Systems (AAMAS)*, St Paul, MN, USA, May 2013.
  20. M Q Azhar, Simon Parsons, and Elizabeth I Sklar. An Argumentation-based Dialogue System for Human-Robot Collaboration (Demonstration). In *Proceedings of Autonomous Agents and Multiagent Systems (AAMAS)*, St Paul, MN, USA, May 2013.
  21. Elizabeth I Sklar, Simon Parsons, A Tuna Özgelen, Eric Schneider, Michael Costantino, and Susan L Epstein. HRTeam: a framework to support research on human/multi-robot interaction (Demonstration). In *Proceedings of Autonomous Agents and Multiagent Systems (AAMAS)*, St Paul, MN, USA, May 2013.
  22. Simon Parsons, Elizabeth I Sklar, Jordan Salvit, Holly Wall, and Zimi Li. ArgTrust: Decision making with information from sources of varying trustworthiness (Demonstration). In *Proceedings of Autonomous Agents and Multiagent Systems (AAMAS)*, St Paul, MN, USA, May 2013.
  23. Elizabeth I Sklar, M Q Azhar, Simon Parsons, and Todd Flyn. A Case for Argumentation to Enable Human-Robot Collaboration (Extended Abstract). In *Proceedings of Autonomous Agents and Multiagent Systems (AAMAS)*, St Paul, MN, USA, May 2013.
  24. Simon Parsons, Katie Atkinson, Karen Haigh, Karl Levitt, Peter McBurney, Jeff Rowe, Munindar P Singh, and Elizabeth I Sklar. Argument schemes for reasoning about trust. In *Proceedings of the 4th International Conference on Computational Models of Argument*, Vienna, Austria, 2012.
  25. Simon Parsons, Yuqing Tang, Elizabeth I Sklar, Peter McBurney, and Kai Cai. Argumentation-based reasoning in agents with varying degrees of trust. In *Tenth International Conference on Autonomous Agents and Multiagent Systems (AAMAS)*, Taipei, Taiwan, May 2011.
  26. Simon Parsons, Peter McBurney, Elizabeth I Sklar, and Michael Wooldridge. On the relevance of utterances in formal inter-agent dialogues. In *Sixth International Conference on Autonomous Agents and Multiagent Systems (AAMAS)*, 2007.
  27. Elizabeth I Sklar, Jordan Salvit, Christopher Camacho, William Liu, and Valerie Andrewlevich. An agent-based methodology for analyzing and visualizing educational assessment data. In *Sixth International Conference on Autonomous Agents and Multiagent Systems (AAMAS)*, 2007.
  28. Yuqing Tang, Simon Parsons, and Elizabeth I Sklar. An agent-based model that relates investment in education to economic prosperity. In *Sixth International Conference on Autonomous Agents and Multiagent Systems (AAMAS)*, 2007.
  29. Rachel Goldman, M Q Azhar, and Elizabeth I Sklar. From RoboLab to Aibo: A Behavior-based Interface for Educational Robotics. In *RoboCup 2006: Robot Soccer World Cup X, Lecture Notes in*



- Artificial Intelligence (LNAI)*, volume 4434, pages 122–133. Springer-Verlag, 2007.
30. Elizabeth I Sklar and Debbie Richards. The use of agents in human learning systems. In *Fifth International Conference on Autonomous Agents and Multi Agent Systems (AAMAS)*, 2006.
  31. Jinzhong Niu, Kai Cai, Simon Parsons, and Elizabeth I Sklar. Reducing price fluctuation in continuous double auctions through pricing policy and shout improvement. In *Fifth International Conference on Autonomous Agents and Multi Agent Systems (AAMAS)*, 2006.
  32. Marek Marcinkiewicz, Mikhail Kunin, Simon Parsons, Elizabeth I Sklar, and Theodore Raphan. Towards a methodology for stabilizing the gaze of a quadrupedal robot. In *RoboCup 2006: Robot Soccer World Cup X, Lecture Notes in Artificial Intelligence (LNAI)*, volume 4434, pages 540–547. Springer-Verlag, 2007.
  33. A Tuna Özgelen, Elizabeth I Sklar, and Simon Parsons. Automatic acquisition of robot motion and sensor models. In *RoboCup 2006: Robot Soccer World Cup X, Lecture Notes in Artificial Intelligence (LNAI)*, volume 4434, pages 548–555. Springer-Verlag, 2007.
  34. Yuqing Tang, Simon Parsons, and Elizabeth I Sklar. Agent-based modeling of human education data. In *Fifth International Conference on Autonomous Agents and Multi Agent Systems (AAMAS)*, 2006.
  35. Elizabeth I Sklar and Mathew Davies. Multiagent simulation of learning environments. In *Fourth International Conference on Autonomous Agents and Multi Agent Systems (AAMAS)*, 2005.
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  38. Rachel Goldman, Amy Eguchi, and Elizabeth I Sklar. Using Educational Robotics to Engage Inner-City Students with Technology. In *Proceedings of the Sixth International Conference of the Learning Sciences (ICLS)*, pages 214–221, 2004.
  39. Elizabeth I Sklar. A long-term approach to improving human-robot interaction: RoboCupJunior Rescue. In *Proceedings of the International Conference on Robotics and Automation (ICRA)*, 2004.
  40. Vanessa Frias-Martinez, Elizabeth I Sklar, and Simon Parsons. Exploring auction mechanisms for role assignment in teams of autonomous robots. In *RoboCup 2004: Robot Soccer World Cup VIII, Lecture Notes in Artificial Intelligence (LNAI)*, volume 3276, pages 532–539. Springer-Verlag, 2005.
  41. Elizabeth I Sklar and Simon Parsons. Towards the Application of Argumentation-based Dialogues for Education. In *Proceedings of the Third International Conference of Autonomous Agents and Multi Agent Systems (AAMAS)*, pages 1420–1421, 2004.
  42. Elizabeth I Sklar, Simon Parsons, and Peter Stone. RoboCup in Higher Education: A Preliminary Report. In *RoboCup 2003: Robot Soccer World Cup VII, Lecture Notes in Computer Science*, volume 3020, pages 296–307, 2004.
  43. John Anderson, Jacky Baltès, David Livingston, Elizabeth I Sklar, and Jonah Tower. Toward an Undergraduate League for RoboCup. In *RoboCup 2003: Robot Soccer World Cup VII, Lecture Notes in Computer Science*, volume 3020, pages 670–677, 2004.
  44. Elizabeth I Sklar. Agents for Education: When too much intelligence is a bad thing. In *Proceedings of the Second International Joint Conference on Autonomous Agents and Multi-Agent Systems (AAMAS)*, pages 1118–1119. ACM Press, 2003.
  45. Steve Phelps, Simon Parsons, Elizabeth I Sklar, and Peter McBurney. Applying Genetic Programming to Economic Mechanism Design: Evolving a pricing rule for a continuous double auction. In *Second International Joint Conference on Autonomous Agents and Multi-Agent Systems (AAMAS)*, pages 1096–1097, 2003.
  46. Elizabeth I Sklar, Emi Amy Eguchi, and Jeffrey Johnson. Examining Team Robotics through RoboCupJunior. In *Annual conference of Japan Society for Educational Technology, Nagaoka, Japan*,

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47. Elizabeth I Sklar, Amy Eguchi, and Jeffrey Johnson. RoboCupJunior: learning with educational robotics. In *RoboCup 2002: Robot Soccer World Cup VI, Lecture Notes in Artificial Intelligence (LNAI)*, volume 2752, pages 238–253, 2003. Received Scientific Challenge Award.
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51. Alan D Blair and Elizabeth I Sklar. Exploring evolutionary learning in a simulated hockey environment. In *Proceedings of the 1999 Congress on Evolutionary Computation (CEC)*, pages 197–203, 1999.
52. Elizabeth I Sklar and Jordan B Pollack. Demonstrating a Community of Evolving Learners. In *Computer Supported Collaborative Learning (CSCL)*, 1999. Interactive Presentation.
53. Alan D Blair, Elizabeth I Sklar, and Pablo Funes. Co-evolution, Determinism and Robustness. In *Simulated Evolution and Learning (SEAL), Lecture Notes in Artificial Intelligence*, volume 1585, pages 389–396. Springer-Verlag, 1998.
54. Pablo Funes, Elizabeth I Sklar, Hugues Juillé, and Jordan B Pollack. Animal-Animat Coevolution: Using the Animal Population as Fitness Function. In *Proceedings of the Fifth International Conference on Simulation of Adaptive Behavior (SAB)*, pages 525–533. MIT Press, 1998.
55. Alan D Blair and Elizabeth I Sklar. The evolution of subtle manoeuvres in simulated hockey. In *Proceedings of the Fifth International Conference on Simulation of Adaptive Behavior (SAB)*. MIT Press, 1998.
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invited articles:

1. Hans-Dieter Burkhard, Minoru Asada, Andrea Bonarini, Adam Jacoff, Daniele Nardi, Martin Riedmiller, Claude Sammut, Elizabeth I Sklar, and Manuela Veloso. RoboCup: Yesterday, Today, and Tomorrow Workshop of the Executive Committee in Blaubeuren, October 2003. *RoboCup 2003: Robot Soccer World Cup VII, Lecture Notes in Computer Science*, 3020, 2004.
2. Elizabeth I Sklar, Emi Amy Eguchi, and Jeffrey Johnson. Scientific Challenge Award: RoboCupJunior — Learning with Educational Robotics. *AI Magazine*, 24(2):43–46, 2003.
3. Minoru Asada, Oliver Obst, Daniel Polani, Brett Browning, Andrea Bonarini, Masahiro Fujita, Thomas Christaller, Tomoichi Takahashi, Satoshi Tadokoro, Elizabeth I Sklar, and Gal A Kaminka. An Overview of RoboCup-2002 Fukuoka/Busan. *AI Magazine*, 24(2):21–40, 2003.
4. Elizabeth I Sklar. RoboCupJunior 2002: The state of the league. In *RoboCup 2002: Robot Soccer World Cup VI, Lecture Notes in Artificial Intelligence (LNAI)*, volume 2752, pages 489–495, 2003.

papers in refereed workshops:

1. Elizabeth Black and Elizabeth I. Sklar. Computational argumentation to support multi-party human-robot interaction: challenges and advantages. In *Groups in Human-Robot Interaction Workshop at the*

- IEEE International Symposium on Robot and Human Interactive Communication (RO-MAN)*, 2016.
2. Elizabeth I. Sklar and Elizabeth Black. Toward a model for handling noise in human-robot communication. In *Fifth International Workshop on Human-Agent Interaction Design and Models (HAIDM) at the International Joint Conference on Artificial Intelligence (IJCAI)*, 2016.
  3. Jeffery Raphael, Elizabeth I. Sklar, and Simon Maskell. An Empirical Investigation of Adaptive Traffic Control Parameters. In *Ninth International Workshop on Agents in Traffic and Transportation (ATT) at the International Joint Conference on Artificial Intelligence (IJCAI)*, 2016.
  4. Jeffery Raphael, Eric Schneider, Simon Parsons, and Elizabeth I Sklar. Learning a policy for collision avoidance by mining interactive multi-robot games. In *Workshop on Autonomous Robots and Multi-robot Systems (ARMS) at Autonomous Agents and MultiAgent Systems (AAMAS)*, Paris, France, May 2014.
  5. Eric Schneider, Ofear Balas, A Tuna Özgelen, Elizabeth I Sklar, and Simon Parsons. Evaluating auction-based task allocation in multi-robot teams. In *Workshop on Autonomous Robots and Multirobot Systems (ARMS) at Autonomous Agents and MultiAgent Systems (AAMAS)*, Paris, France, May 2014.
  6. A Tuna Özgelen and Elizabeth I Sklar. Toward a Human-Centric Task Complexity Model for Interaction with Multi-Robot Teams. In *Proceedings of the Workshop on Human-Agent Interaction Design and Models (HAIDM) at Autonomous Agents and MultiAgent Systems (AAMAS)*, Paris, France, May 2014.
  7. Jordan Salvit, Zimi Li, Senni Perumal, Holly Wall, Jennifer Mangels, Simon Parsons, and Elizabeth I Sklar. Employing Argumentation to Support Human Decision Making: A User Study. In *Proceedings of the Workshop on Argumentation in Multiagent Systems (ArgMAS) at Autonomous Agents and MultiAgent Systems (AAMAS)*, Paris, France, May 2014.
  8. Elizabeth I Sklar, Simon Parsons, A Tuna Özgelen, M Q Azhar, Todd Flyr, Eric Schneider, and Jeffery Raphael. A Practical Approach to Human/Multi-Robot Teams. In *11th European Workshop on Multi-Agent Systems (EUMAS)*, Toulouse, France, December 2013.
  9. M Q Azhar, Eric Schneider, Jordan Salvit, Holly Wall, and Elizabeth I Sklar. Evaluation of an argumentation-based dialogue system for human-robot collaboration. In *Workshop on Autonomous Robots and Multirobot Systems (ARMS) at Autonomous Agents and MultiAgent Systems (AAMAS)*, St Paul, MN, USA, May 2013.
  10. A Tuna Özgelen, Eric Schneider, Elizabeth I Sklar, Michael Costantino, Susan L Epstein, and Simon Parsons. A first step toward testing multiagent coordination mechanisms on multi-robot teams. In *Workshop on Autonomous Robots and Multirobot Systems (ARMS) at Autonomous Agents and MultiAgent Systems (AAMAS)*, St Paul, MN, USA, May 2013.
  11. Elizabeth I Sklar, Simon Parsons, and Munindar P Singh. Towards an Argumentation-Based Model of Social Interaction. In *Proceedings of the Workshop on Argumentation in Multiagent Systems (ArgMAS) at Autonomous Agents and MultiAgent Systems (AAMAS)*, St Paul, MN, USA, May 2013.
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  13. Jeffery Raphael and Elizabeth I Sklar. Exploring the challenge of learning well from a sparse training set. In *Proceedings of the Workshop on Human-Agent Interaction Design and Models (HAIDM) at Autonomous Agents and MultiAgent Systems (AAMAS)*, St Paul, MN, USA, May 2013.
  14. Simon Parsons, Elizabeth I Sklar, Munindar Singh, Karl Levitt, and Jeff Rowe. An Argumentation-based Approach to Handling Trust in Distributed Decision Making. In *AAAI Spring Symposium on Trust and Autonomous Systems*, Stanford, CA, USA, March 2013.
  15. Elizabeth I Sklar, Simon Parsons, Susan L Epstein, A Tuna Özgelen, J Pablo Mu noz, Farah Abbasi, Eric Schneider, and Michael Costantino. Learning to Avoid Collisions. In *AAAI 2012 Fall Symposium: Robots that Learn Interactively from Human Teachers*, 2012.
  16. Elizabeth I Sklar, Simon Parsons, Susan L Epstein, A Tuna Özgelen, J Pablo Muñoz, Eric Schneider,

- Michael Costantino, Farah Abbasi, Karen Aragon, Aisha Green, Jonathan Hernandez, Ibraheem Ibraheem, Apollo Namalu, Sahat Yalkabov, and Jenny Wan. Demonstration: Investigating Human/Multi-Robot Team Interaction. In *AAAI Robotics and Multimedia Fair*, Toronto, Canada, July 2012.
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  33. Simon Parsons, Elizabeth I Sklar, and Peter McBurney. A simple logical approach to reasoning with and about trust. In *Proceedings of the 10th International Symposium on Logical Formalizations of Commonsense Reasoning*, Stanford, CA, USA, March 2011. AAAI 2011 Spring Symposium.
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  36. Jordan Salvit and Elizabeth I Sklar. Toward a Myers-Briggs Type Indicator Model of Agent Behavior. In *Multi-agent Based Simulation (MABS) Workshop at Autonomous Agents and MultiAgent Systems (AAMAS)*, 2010.
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  42. Jinzhong Niu, Kai Cai, Simon Parsons, and Elizabeth I Sklar. Some preliminary results on the dynamic behavior of traders in multiple markets. In *Proceedings of the Workshop on Trading Agent Design and Analysis*, 2007.
  43. Elizabeth I Sklar, Ilknur Icke, Christopher Camacho, William Liu, Jordan Salvit, and Valerie Andrewlevich. Visualizing academic assessment data. In *Proceedings of the Assessment of Group and Individual Learning Through Intelligent Visualization (AGILeViz) Workshop at the Computer Supported Collaborative Learning Conference (CSCL)*, 2007.
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  50. Joshua Reich and Elizabeth I Sklar. Robot-sensor networks for search and rescue. In *Proceedings of the IEEE International Workshop on Safety, Security and Rescue Robotics (SSRR)*, 2006.
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  52. Yuqing Tang, Simon Parsons, and Elizabeth I Sklar. Modeling human education data: From equation-based modeling to agent-based modeling. In *Multi-agent Based Simulation (MABS) Workshop at Autonomous Agents and MultiAgent Systems (AAMAS)*, 2006.
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  56. Kar-Hai Chu, Rachel Goldman, and Elizabeth I Sklar. RoboXAP: an agent-based educational robotics simulator. In *Agent-based Systems for Human Learning Workshop at Autonomous Agents and Multi-Agent Systems (AAMAS)*, 2005.
  57. Vanessa Frias-Martinez and Elizabeth I Sklar. A framework for exploring role assignment in real-time, multiagent teams. In *The second European Workshop on Multi-Agent Systems (EUMAS)*, 2004.
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65. Steve Phelps, Peter McBurney, Simon Parsons, and Elizabeth I Sklar. Co-evolutionary mechanism design: a preliminary report. In *Proceedings of AMEC-2002 Workshop on Agent Mediated Electronic Commerce, at Autonomous Agents and Multagent Systems Conference (AAMAS), Lecture Notes in Artificial Intelligence*, volume 2531, pages 123–142. Springer-Verlag, 2002.
66. Steve Phelps, Simon Parsons, Peter McBurney, and Elizabeth I Sklar. Co-evolution of Auction Mechanisms and Trading Strategies: Towards a Novel Approach to Microeconomic Design. In *Proceedings of ECOMAS-2002 Workshop on Evolutionary Computation in Multi-Agent Systems, at Genetic and Evolutionary Computation Conference (GECCO)*, 2002.
67. Elizabeth I Sklar and Jordan Pollack. Using an evolutionary algorithm to guide problem selection in an online educational game. In *Workshop on Evolutionary Computation and Cognitive Science (ECCS)*, 2000. Received Best Student Paper Award.
68. Elizabeth I Sklar, Alan D Blair, and Jordan B Pollack. Co-Evolutionary Learning: Machines and Humans Schooling Together. In *Proceedings of the Workshop on Current Trends and Applications of Artificial Intelligence in Education at the Fourth World Congress on Expert Systems*, pages 98–105, 1998.

unrefereed articles and technical reports:

1. Elizabeth I Sklar. Extending Contextualized Computing in Multiple Institutions Using Threads: Final Project Report. Technical report, Dept of Computer and Information Science, Brooklyn College, City University of New York, January 2012.
2. Elizabeth I Sklar. Bridges to Computing: Final Project Report. Technical report, Dept of Computer and Information Science, Brooklyn College, City University of New York, January 2012.
3. Ilknur Icke and Elizabeth I Sklar. Visual Analytics: A Multi-faceted Overview. Technical Report TR-2009005, Dept of Computer Science, The Graduate Center, City University of New York, 2009.
4. A Tuna Özgelen, Joel Kammet, Marek Marcinkiewicz, Simon Parsons, and Elizabeth I Sklar. The 2007 MetroBots Four-legged League Team Description Paper. In *RoboCup 2007: Robot Soccer World Cup XI*, 2007.
5. Micha Tomkiewicz, Maxim Titley, Alison Cichowski, Vinit Parmar, Elizabeth I Sklar, Philip Gallagher, and Mary Gallagher. Toward management of an energy feeding transtion. In *CUNY Sustainability Conference on Energy and Environmental Sustainability: Science, Engineering, and Public Policy*, City University of New York, December 8 2006.
6. Vanessa Frias-Martinez, Marek Marcinkiewicz, Simon Parsons, and Elizabeth I Sklar. MetroBots Team Description. In *RoboCup 2004: Robot Soccer World Cup VIII*, 2004.
7. Hans-Dieter Burkhard, Minoru Asada, Andrea Bonarini, Adam Jacoff, Daniele Nardi, Martin Riedmiller, Claude Sammut, Elizabeth I Sklar, and Manuela Veloso. RoboCup: Yesterday, Today, and Tomorrow Workshop of the Executive Committee in Blaubeuren, October 2003. *RoboCup 2003: Robot Soccer World Cup VII, Lecture Notes in Computer Science*, 3020, 2004.
8. Elizabeth I Sklar, Emi Amy Eguchi, and Jeffrey Johnson. Scientific Challenge Award: RoboCupJunior — Learning with Educational Robotics. *AI Magazine*, 24(2):43–46, 2003.
9. Minoru Asada, Oliver Obst, Daniel Polani, Brett Browning, Andrea Bonarini, Masahiro Fujita, Thomas Christaller, Tomoichi Takahashi, Satoshi Tadokoro, Elizabeth I Sklar, and Gal A Kaminka. An Overview of RoboCup-2002 Fukuoka/Busan. *AI Magazine*, 24(2):21–40, 2003.
10. Michael Littman, Simon Parsons, and Elizabeth I Sklar. MetroBots Team Description. In *RoboCup 2003: Robot Soccer World Cup VII*, 2003.
11. Elizabeth I Sklar. The Design of the CEL System. Technical report, Department of Computer Science, Brandeis University, 2001. unpublished.

12. Pablo Funes, Elizabeth I Sklar, Hugues Juillé, and Jordan B Pollack. The Internet as a Virtual Ecology: Coevolutionary Arms Races Between Human and Artificial Populations. Technical Report CS-97-197, Brandeis University Computer Science Department Technical Report, 1997.
13. Elizabeth I Sklar and J Kent Pollock. FLIPPER Programmer's Manual. Technical Report LM-196, MIT Lincoln Laboratory Manual, 1996.
14. Elizabeth I Sklar, David R Shue, John W Curtis, Chris C Cullinane, Tony C Hayes, and J Kent Pollock. FLIPPER User's Manual. Technical Report LM-182, MIT Lincoln Laboratory Manual, 1993.

phd thesis:

1. Elizabeth I Sklar. Agents for Education: Bringing Adaptive Behavior to an Internet Learning Community. Technical report, Department of Computer Science, Brandeis University, 1999. Dissertation Proposal.
2. Elizabeth I Sklar. *CEL: A Framework for Enabling an Internet Learning Community*. PhD thesis, Department of Computer Science, Brandeis University, 2000.

## TEACHING

- *Data Mining and Machine Learning (7ccsmdml)*  
Dept of Informatics, King's College London, Term 2, 2015-2016. This module provides an introduction to data mining techniques, and relevant aspects of machine learning. Exercises are assigned in Python and R. Students learn how to apply effective data mining approaches to a broad range of data analytics situations. Module developer and lead, taught 100%.
- *Computer Programming for Data Scientists (7ccsmcmp)*  
Dept of Informatics, King's College London, Term 1, 2015-2016. This module provides a comprehensive introduction to computer programming using the Python programming language, with a focus on Data Science applications. The following topics are included: intense introduction to programming fundamentals (for students with no prior formal training or experience in programming); language constructs and data structures; Python packages for Data Science applications (e.g., numpy, scipy, nltk). Significant emphasis is placed on student-centred, hands-on learning. Module developer and lead, taught 50%.
- *Simulation and Research Methods (7ccsmsrm)*  
Dept of Informatics, King's College London, Term 1, 2015-2016. This module introduces students to a range of modern research methodologies appropriate for the field of Data Science. The following topics are discussed: probabilistic modelling, agent-based simulation and data visualisation. Students learn how to employ these methodologies to produce experimental results, how to design experiments that address questions relevant to Data Science, how to evaluate and communicate results, how to assess real-world data sets and review Data Science literature. Module developer and lead, taught 50%.
- *Game Programming (cisc3660)*  
Dept of Computer Science and Information Science, Brooklyn College, City University of New York. Fall 2012. This course provides an introduction to game programming techniques. The following topics are discussed: 2D and 3D games; data representations of virtual elements; visualizing the 3D game environment; controlling motion and behaviors; interaction control; game architectures; managing complexity; multi-player games.
- *Human-Computer Interaction (cisc3650)*  
Dept of Computer Science and Information Science, Brooklyn College, City University of New York. Spring 2012. This course provides an overview of computer-human interfaces with an emphasis on classical and state-of-the-art approaches. The following topics are discussed: principles of human-computer interaction and human-robot interaction; ubiquitous computing and interfaces for mobile



devices; interfaces employing speech recognition and computer vision; sensor and robotic technologies; computer supported cooperative work; and virtual and augmented realities.

- *Game Design (cisc3665)*  
Dept of Computer Science and Information Science, Brooklyn College, City University of New York. Fall 2011. This course discusses designing the intelligence behind computer games. The following topics are covered: fundamentals of designing, programming and troubleshooting game behavior; and documenting and critiquing design.
- *Introduction to Computing using C++: Gaming Applications (cisc1110)*  
Dept of Computer Science and Information Science, Brooklyn College, City University of New York. Fall 2010. This is a “flavored” version of introductory computer programming for CS majors (“CS1”), formerly numbered cis1.5. The Games flavor, which I developed and taught initially in Fall 2010, provides a unified context for the material presented and involves hands-on programming labs in C++ where students write simple computer games.
- *Seminar in Artificial Life (CSc 84200)*  
Dept of Computer Science, Graduate Center, City University of New York. Spring 2010. This seminar discusses fundamental topics in the field of Artificial Life, or “ALife”, from an historical and technical perspective. The main topics include: overview of artificial life; modelling from nature; artificial agents: control, interaction and learning; evolutionary computation; and artificial societies: complexity, organization and self-organization.
- *Design and Implementation of Software Applications 2 (cis20.2)*  
Dept of Computer and Information Science, Brooklyn College, City University of New York. Spring 2010, Spring 2008. (part 2 of Design and Implementation of Software Applications 1). This course, which I developed and taught initially in Spring 2008, focuses on the design, implementation and testing of a web-based, data-backed interactive application, such as an educational game or an e-commerce site. Topics include: software development and engineering, database systems and intelligent systems.
- *Dynamic and Interactive Media in Performance I (pima7741)*  
Performance and Interactive Media Arts Program, Brooklyn College, City University of New York. Fall 2009, Fall 2011. This course provides in-depth study of tools and techniques for designing dynamic and interactive multimedia systems for use in live performance situations. Video, audio, three-dimensional computer images, and alternative computer-human interfaces will be addressed.
- *Introduction to Multimedia Computing (cis3.5)*  
Dept of Computer and Information Science, Brooklyn College, City University of New York. Fall 2009, Spring 2009. This course, which I developed and taught initially in Spring 2009, offers a broad introduction to a range of topics in Multimedia Computing, including: multimedia hardware and software, human interface design and input using multimedia devices, graphical and other forms of output to multimedia devices, computer-based sound editing, agent-based programming for simulations and robotics, and uses of multimedia in industry.
- *Introduction to Computing using C++: Robotics Applications (cis1.5)*  
Dept of Computer Science and Information Science, Brooklyn College, City University of New York. Spring 2009, Spring 2007. This is a “flavored” version of introductory computer programming for CS majors (“CS1”). The Robotics flavor, which I developed and taught initially in Spring 2007, provides a unified context for the material presented and involves hands-on programming labs in C++ and using Surveyor SRV-1 robots.
- *Multi-agent Systems (CSc 84020)*  
Dept of Computer Science, Graduate Center, City University of New York. Fall 2008. This course offers a broad introduction to the field of Multi-Agent Systems (MAS), presenting the underlying theoretical background in agent architectures and communication methodologies and discussing seminal work in the field. The latter portion of the course covers state-of-the-art research in MAS applications.
- *Everyday Technology To Go (scp50)*  
Macaulay Honors College, City University of New York. Spring 2008. This honors seminar, which

I developed and taught initially in Spring 2008, explores the role of automated (i.e., programmable) devices and state-of-the-art technology in society today (e.d., cell phones, ipods, personal organizers and portable games), how these devices have changed the way people communicate with each other and how people organize and use their time.

- *Design and Implementation of Software Applications 1 (cis20.1)*  
Dept of Computer and Information Science, Brooklyn College, City University of New York. Fall 2007. This course, which I developed and taught initially in Fall 2007, focuses on the design, development, implementation and testing of a web-based, data-backed interactive application, such as an educational game or an e-commerce site. Topics include: human-computer interaction, graphics programming, net-centric computing, and software design.
- *Advanced Programming Techniques using C++: Robotics Applications (cis15)*  
Dept of Computer and Information Science, Brooklyn College, City University of New York. Fall 2007. This is a “flavored” version of advanced computer programming for CS majors (“CS2”). The Robotics flavor, which I developed and taught initially in Fall 2007, provides a unified context for the material presented and involves hands-on programming labs with robot simulations and small robots (e.g., Surveyor SRV-1). Topics include: object-oriented programming, pointers, dynamic memory allocation, multi-file programs, recursion, formal techniques for software design and testing.
- *Computing: Nature, Power and Limits; Robotics Applications (cis1.0)*  
Dept of Computer Science and Information Science, Brooklyn College, City University of New York. Fall 2007, Fall 2006. This is a “flavored” version of the Dept’s lower tier core course that introduces computer science to non-majors. This Robotics flavor provides a unified context for the material presented and involves hands-on programming labs with LEGO robotics.
- *Artificial Intelligence (cis-32)*  
Dept of Computer and Information Science, Brooklyn College, City University of New York. Spring 2006. This is a survey course covering topics in Artificial Intelligence at the introductory level, designed for undergraduate majors in computer and information science. The course includes a hands-on robotics project used to demonstrate concepts discussed in lectures and readings.
- *Seminar in Artificial Intelligence: Topics in AI and Robotics (csc-84200)*  
Dept of Computer Science, Graduate Center, City University of New York. Fall 2006. This graduate seminar includes readings and discussion covering the field of robotics, with a focus on emerging and state-of-the-art technologies.
- *Electronic Commerce (cis-3.2)*. Dept of Computer and Information Science, Brooklyn College, City University of New York. Spring 2006, Fall 2005. This undergraduate course provides a broad introductory overview to the field of electronic commerce.
- *Seminar in Artificial Intelligence: Topics in Artificial Life (csc-84200)*  
Dept of Computer Science, Graduate Center, City University of New York. Fall 2005. This graduate seminar included readings, discussion and development of a demonstration project covering the field of “ALife” since its infancy in the early 1990’s.
- *Advanced Programming (coms-w3157)*  
Dept of Computer Science, Columbia University. Fall 2004, Spring 2004, Fall 2003, Spring 2003, Fall 2002. This course, which I re-developed initially in Fall 2002, covers a range of software techniques and tools for the development and implementation of web-based applications.
- *Introduction to Computer Science in Java (coms-w1007)*  
Dept of Computer Science, Columbia University. Fall 2002, Spring 2002, Fall 2001. This course is the canonical CS1, in Java.
- *Computer Science I, in C (mc140)*  
Dept of Computer Science, Boston College. Spring 2001. This course is the canonical CS1, in C.
- *Introduction to Robotics (mc375)*  
Dept of Computer Science, Boston College. Spring 2001. This course, which I developed and taught, focuses on embodied agents, and includes a lab segment where students build and program LEGO

robots to demonstrate some of the concepts they are learning about in the lecture portion of the course.

- *Internet and Society (cs33b)*  
Dept of Computer Science, Brandeis University. Spring 2001. This was a collaborative, interdisciplinary course. I was a member of the development team and was a guest lecturer on the subject of Internet learning communities.
- *Computer Science I, in C (mc140)*  
Dept of Computer Science, Boston College. Fall 2000.
- *The computer industry: historical, social and professional issues (cse-3323)*  
Dept of Computer Science, Monash University, Australia. Summer 2000.
- *Frontiers of Computer Science (433-257)*  
Dept of Computer Science, University of Melbourne, Australia. Summer 2000. I was guest lecturer for a segment of this course and I taught on the topic of Internet learning communities and Intelligent Tutoring Systems.

## ADVISING

- Doctoral students
  - Tsvetan Zhivkov (since October 2015, first supervisor), King's College London
  - Bastian Broecker (since February 2014, second supervisor), University of Liverpool
  - Jeffery Raphael (since September 2013, first supervisor), University of Liverpool
  - Eric Schneider (since September 2013, first supervisor), University of Liverpool
  - Sadat Chowdury, 2016, CUNY Graduate Center
  - M. Q. Azhar, 2015, CUNY Graduate Center
  - A. Tuna Özgelen, 2015, CUNY Graduate Center
- Masters/MSc students
  - Raza Ali (domain co-supervisor: Jennifer Rubin, Policy Institute), 2015-16, King's College London
  - Federico Arduini (domain co-supervisor: Archie Drake, Policy Institute), 2015-16, King's College London
  - Hassan Asiru (domain co-supervisor: Jenya Kovalchuk, IOPPN), 2015-16, King's College London
  - Jordan De Souza (domain co-supervisor: Jon Readers, Geography), 2015-16, King's College London
  - Jiaming Dong (domain co-supervisor: Trevor Murrells, Nursing), 2015-16, King's College London
  - Vincent Lam, 2015-16, King's College London
  - Daniel Mendoza Hernandez, 2015-16, King's College London
  - Patrick Martins-Yedenu, 2015-16, King's College London
  - Emmanuel Olajide, 2015-16, King's College London
  - Pere Planell Morell (domain co-supervisor: George Gkotsis, IOPPN), 2015-16, King's College London
  - Mohammad Syed, 2015-16, King's College London
  - Tsvetan Zhivkov (co-supervisor), 2014-15, University of Liverpool
  - Lyudmil Vladimirov (co-supervisor), 2014-15, University of Liverpool
  - Peter Hill (co-supervisor), 2014-15, University of Liverpool
  - Gareth Walley (co-supervisor), 2014-15, University of Liverpool
  - Jason Price (co-supervisor), 2014-15, University of Liverpool

- David Lettier, graduated Spring 2014, CUNY Brooklyn College
- Jeffery Raphael, graduated Spring 2013, CUNY Brooklyn College
- Jordan Salvit, graduated Spring 2012, CUNY Brooklyn College
- Gennadiy Trakhtman, graduated September 2010, CUNY Brooklyn College
- Barbra Ehlers, graduated May 2008, CUNY Graduate Center
- Maartje Spoelstra, graduated August 2006, Vrije Universiteit Amsterdam, The Netherlands
- Rachel Goldman, graduated October 2005, Columbia University
- William Liu, graduated October 2005, Columbia University
- Kar Hai Chu, graduated May 2005, Columbia University
- Min San Tan Co, graduated May 2005, Columbia University
- Mathew Davies, graduated May 2005, Columbia University
- Michael Ockfen-Metcalf, graduated May 2004, Columbia University
- Joshua Reich, graduated May 2004, Columbia University
- Yaniv Schiller, graduated May 2004, Columbia University
- Max Shevyakov, graduated December 2003, Columbia University
- Visiting students
  - Andrea Cohen, Universidad Nacional del Sur, Argentina, May–July 2013.
  - Martin Klomp, University of Groningen, The Netherlands, September 2007–April 2008.
  - Hans Kuipers, Utrecht University, The Netherlands, May 2006–October 2006.
  - Maartje Spoelstra, Vrije Universiteit Amsterdam, The Netherlands, September 2005–March 2006.
  - Martijn Rooker, International University Bremen, Germany, October–December 2003.
- Departmental advising
  - Brooklyn College, *Undergraduate Deputy Chair (CLAS)*, July 2009–2010.
  - Columbia Women in Computer Science (WICS), *Faculty Advisor*, 2003–2005.
  - Association for Computing Machinery (ACM) Columbia Student Chapter, *Faculty Advisor*, 2003–2005.
  - Barnard College, *Computer Science Majors Advisor*, 2001–2005.
  - Columbia RoboCup ELeague team, *Faculty Advisor*, 2003–2004.

## TUTORIALS and TRAINING WORKSHOPS

- *Continuing Professional Development (CPD) for Computer Science Teachers*, Department of Computer Science, University of Liverpool, June–July 2014.
- *Robots in Multiagent Systems Research*, with Dr Simon Parsons, Brooklyn College, City University of New York. Tutorial at the 13th European Agent Systems Summer School (EASSS), Girona, Catalonia, Spain, July 2011.
- *Bridges to Computing Teacher Training Workshop*, at Brooklyn College, City University of New York, NY, July 2010.
- *RoboCupJunior @ NYC Teacher Training Workshops*, at Brooklyn College and the Graduate Center, City University of New York, New York, NY (January 2007; December 2006; February 2006; January 2006; December 2005).
- *Education-based Multiagent Systems*, with Dr Lewis Johnson, University of Southern California and Dr Uri Wilensky, Northwestern University. Tutorial given at AAMAS-05 (Autonomous Agents and Multiagent Systems), July 2005, in Utrecht, The Netherlands.
- *Robotics for Beginners: Using Robot Kits to Build Embodied Agents*, with Dr Simon Parsons, Brooklyn

College, City University of New York. Tutorial given at the 7th European Agent Systems Summer School (EASSS), Utrecht, The Netherlands, July 2005.

- *Robotics for Beginners; Using Robot Kits to Teach Agents and AI*, with Dr Simon Parsons, Brooklyn College, City University of New York. Tutorial given at AAAI-05 (National Conference of the American Association for Artificial Intelligence), July 2005, in Pittsburgh, PA, USA.
- *GK12 Teacher Training Workshop, Introduction to Robotics*, July 2005, Columbia University, New York, NY (July 2005; July 2004; August 2003).
- *Using Robot Kits as a Pedagogical Tool for Teaching Autonomous Agents*, with Dr Simon Parsons, Brooklyn College, City University of New York. Tutorial given at AAMAS-03 (Autonomous Agents and Multiagent Systems), July 2003, in Melbourne, Australia.
- *JETT@Columbia Java Workshops for Teachers*, Columbia University, New York, NY (May 2003; March 2003; July 2002).

## INVITED TALKS and DEPARTMENTAL SEMINARS

- Agents, Interaction and Complexity Group Seminar, School of Electronics and Computer Science, University of Southampton, UK, June 2014.
- King's College London Informatics Colloquium, London, UK, April 2014.
- Agent ART Seminar, Department of Computer Science, University of Liverpool, UK, November 2013.
- Centre for Autonomous Systems Technology Symposium, University of Liverpool, UK, September 2013.
- Department of Computer Science Seminar, University of Liverpool, Liverpool, UK, August 2012.
- Centre for Intelligent Systems and their Applications, School of Informatics, The University of Edinburgh, Edinburgh, Scotland, May 2012.
- Dept of Computer Science, Brandeis University, Waltham, MA, March 2012.
- Research at CUNY Seminar, Dept of Computer Science, Graduate Center, City University of New York, New York, NY, February 2011.
- King's College London Informatics Colloquium, London, UK, February 2011.
- Active Worlds in Education Workshop, Brooklyn, NY, April 2010.
- CUNY Statistics Seminar, The Graduate Center, City University of New York, New York, NY, October 2009.
- NSF BPC/NCWIT K-12 Outreach Practices Workshop, Washington, DC, June 2009.
- Computer Science and Math Scholarship Talk, Lehman College, City University of New York, New York, NY, April 2008.
- Computational Synthesis Lab, Depts of Mechanical and Aerospace Engineering and Computer & Information Science, Cornell University, Ithaca, NY, February 2007.
- Dept of Computer Science, Georgetown University, Washington, DC, October 2006.
- Dept of Computer Science, University of Southern California, Los Angeles, CA, March 2006.
- Dept of Computer Science and Electrical Engineering, University of Maryland, Baltimore County, Baltimore, MD, December 2005.
- Research at CUNY Seminar, Dept of Computer Science, Graduate Center, City University of New York, New York, NY, November 2005.
- Dept of Computer Science, Vassar College, Poughkeepsie, NY, November 2005.
- Dept of Computer and Information Science, Brooklyn College, City University of New York, Brooklyn, NY, January 2005.
- AI Seminar Series, Carnegie Mellon University, Pittsburgh, PA, November 2004.
- 2004 Computer Science & Information Technology Symposium, Norfolk, VA, March 2004.

- School of General Studies Lecture Series, Columbia University, New York, NY, December 2003.
- RoboCup American Open Symposium, Carnegie Mellon University, Pittsburgh, PA, April 2003.
- Dept of Computer Science, Columbia University, New York, NY, March 2001.
- Dept of Information Science and Telecommunications, University of Pittsburgh, Pittsburgh, PA, March 2001.
- Dept of Computer Science, Boston College, Chestnut Hill, MA, March 2001.
- Neural Information Processing Dept, University of Ulm, Ulm, Germany, January 2001.
- Artificial Intelligence Laboratory, Flemish Free University of Brussels, Brussels, Belgium, January 2001.
- Dept of Computer Science, University of Arizona, Tucson, AZ, February 2000.
- Dept of Computer Science, Colorado State University, Fort Collins, CO, February 2000.
- Dept of Computer Engineering and Computer Science, University of Missouri-Columbia, Columbia, MO, February 2000.
- Dept of Computer Science, Brandeis University, Waltham, MA, February 2000.
- Dept of Computer Science, University of Melbourne, Melbourne, Australia, September 1999 and January 2000.
- School of Information Technology, Charles Sturt University, Bathurst (NSW), Australia, September 1999.
- Dept of Computing, Macquarie University, Sydney, Australia, September 1999.
- School of Computer Science, Monash University, Melbourne, Australia, August 1999.
- University of Queensland, Brisbane, Australia, July 1999 and July 1998.

## COMMITTEES and ACADEMIC SERVICE

service to the institution:

- Director of Studies, MSc Data Science, Department of Informatics, King's College London, UK, Summer 2015 to present.
- Admissions Tutor, MSc Data Science, Department of Informatics, King's College London, UK, Fall 2015 to present.
- Postdoc Tutor, Department of Informatics, King's College London, UK, Fall 2015 to present.
- Personal Tutor (UG and PGT), Department of Informatics, King's College London, UK, Fall 2015 to present.
- Research Committee, Department of Informatics, King's College London, UK, Fall 2015 to present.
- Student Recruitment Committee, Department of Informatics, King's College London, UK, Fall 2015 to present.
- Big Data Steering Committee, King's College London, UK, Fall 2015 to present.
- Continuing Professional Development (CPD) Officer, School of Electrical Engineering, Electronics & Computer Science, University of Liverpool, UK, Spring 2014 to present.
- Athena Swan Committee, School of Electrical Engineering, Electronics & Computer Science, University of Liverpool, UK, Autumn 2013 to present.
- Executive Committee, Dept of Computer Science, The Graduate Center, City University of New York, Fall 2012 to present.
- Curriculum Committee, Dept of Computer Science, The Graduate Center, City University of New York, Fall 2010 to present.
- Undergraduate Curriculum Committee, Dept of Computer and Information Science, Brooklyn College,

City University of New York, Spring 2006 to present.

- Computer Utilization and Educational Technology Committee, Brooklyn College, City University of New York, Fall 2009 to Spring 2010.
- Science Research Council, Brooklyn College, City University of New York, Spring 2007.
- Master Planning Committee, Brooklyn College, City University of New York, Fall 2006 to Spring 2007.

service to the academic community:

- Autonomous Agents and Multi Agent Systems (AAMAS), *Senior Program Committee Member*, 2017.
- 31st Conference on Artificial Intelligence (AAAI), *Program Committee Member*, 2017.
- Seventh Symposium on Educational Advances in Artificial Intelligence 2017 (EAAI-17), *Program Committee Member*, 2017.
- 15th International Conference on Practical Applications of Agents and Multi-Agent Systems (PAAMS), *Program Committee Member*, 2017.
- Fourth International Conference on Agreement Technologies (AT), *Program Committee Member*, 2016.
- Fifth International Workshop on Human-Agent Interaction Design and Models (HAIDM) at the International Joint Conference on Artificial Intelligence (IJCAI), *Program Committee Member*, 2016.
- Fourteenth Conference on Practical Applications of Agents and Multi-Agent Systems (PAAMS), *Program Committee Member*, 2016.
- RoboCup Symposium, *Program Committee Member*, 2016.
- International Joint Conference on Artificial Intelligence (IJCAI), *Senior Program Committee Member*, 2016.
- Human-Robot Interaction Conference (HRI), *Reviewer*, 2016.
- IEEE International Conference on Robotics and Automation (ICRA), *Associate Editor*, 2016.
- Sixth Symposium on Educational Advances in Artificial Intelligence (EAAI), *Program Committee Member*, 2016.
- Thirtieth AAAI Conference on Artificial Intelligence, *Program Committee Member*, 2016.
- 14th Conference on Practical Applications of Agents and Multi-Agent Systems (PAAMS), *Program Committee Member*, 2016.
- Towards Autonomous Robotic Systems (TAROS), *Program Committee Member*, 2015.
- RoboCup Symposium, *Program Committee Member*, 2015.
- Argumentation in Multiagent Systems (ArgMAS) Workshop at Autonomous Agents and Multi Agent Systems (AAMAS), *Program Committee Member*, 2015.
- Human-Agent Interaction Design and Models (HAIDM) Workshop at Autonomous Agents and Multi Agent Systems (AAMAS), *Program Committee Member*, 2015.
- Autonomous Agents and Multi Agent Systems (AAMAS), *Senior Program Committee Member*, 2015.
- Twenty-Ninth AAAI Conference on Artificial Intelligence, *Program Committee Member*, 2015.
- Human-Robot Interaction Conference (HRI), *Program Committee Member*, 2015.
- Robotics Science & Systems Conference (RSS), *Program Committee Member/Reviewer*, 2015.
- 13th Conference on Practical Applications of Agents and Multi-Agent Systems (PAAMS), *Program Committee Member*, 2015.
- Artificial Life and Intelligent Agents (ALIA) Symposium, *Program Committee Member*, 2014.
- Starting Artificial Intelligence Researcher Symposium (STAIRS), *Program Committee Member*, 2014.
- RoboCup Symposium *Program Committee Member*, 2014.
- Autonomous Agents and Multi Agent Systems (AAMAS), *Senior Program Committee Member*, 2014.
- Argumentation in Multiagent Systems (ArgMAS) Workshop at Autonomous Agents and Multi Agent

- Systems (AAMAS), *Program Committee Member*, 2014.
- Human-Agent Interaction Design and Models (HAIDM) Workshop at Autonomous Agents and Multi Agent Systems (AAMAS), *Program Committee Member*, 2014.
  - Human-Robot Interaction (HRI), *Reviewer*, 2014.
  - Autonomous Agents and Multi Agent Systems (AAMAS), *Program Committee Member, Demos Reviewer*, 2013.
  - Argumentation in Multiagent Systems (ArgMAS) Workshop at Autonomous Agents and Multi Agent Systems (AAMAS), *Program Committee Member*, 2013.
  - Autonomous Robots and Multirobot Systems Workshop (ARMS) at Autonomous Agents and Multi Agent Systems (AAMAS), *Program Committee Member*, 2013.
  - Multi-Agent-Based Simulation Workshop (MABS) at Autonomous Agents and Multi Agent Systems (AAMAS), *Program Committee Member*, 2013.
  - International Foundation for Autonomous Agents and Multiagent Systems (IFAAMAS), *Member of the Board of Directors (2012–2018)*
  - Autonomous Agents and Multi Agent Systems (AAMAS), 2012, *Workshops Chair; Senior Program Committee Member*
  - Association for the Advancement of Artificial Intelligence (AAAI), 2012, *Doctoral Consortium Chair*
  - Autonomous Robots and Multirobot Systems Workshop (ARMS) at Autonomous Agents and Multi Agent Systems (AAMAS), 2012, *Program Committee Member*
  - The Computer Science Collaboration Project, *Change Agents Council Member* (2011–)
  - Autonomous Agents and Multi Agent Systems (AAMAS), 2011, *Demonstrations Chair; Senior Program Committee Member*
  - Multi-Agent-Based Simulation Workshop (MABS) at Autonomous Agents and Multi Agent Systems (AAMAS), 2011, *Program Committee Member*
  - Autonomous Robots and Multirobot Systems Workshop (ARMS) at Autonomous Agents and Multi Agent Systems (AAMAS), 2011, *Program Committee Member*
  - Association for the Advancement of Artificial Intelligence (AAAI), 2011, *Doctoral Consortium Co-Chair*
  - Member of the Editorial Board, *Journal of Autonomous Agents and Multi-agent Systems (JAAMAS)* (2010–)
  - RoboCup Federation, *Founder Trustee* (2010–)
  - Association for the Advancement of Artificial Intelligence (AAAI), 2010, *Doctoral Consortium Mentor*
  - Autonomous Agents and Multi Agent Systems (AAMAS), 2010, *Program Committee Member, Industry Track*
  - Multi-Agent-Based Simulation Workshop (MABS) at Autonomous Agents and Multi Agent Systems (AAMAS), 2010, *Program Committee Member*
  - IEEE/WIC/ACM International Joint Conference on Intelligent Agent Technology (IAT), 2010, *Program Committee Member*
  - ABModSim Workshop at 20th European Meeting on Cybernetics and Systems Research (EMCSR), 2010, *Program Committee Member*
  - RoboCupJunior @ NY/NJ, 2010, *Co-Chair*
  - Autonomous Agents and Multi Agent Systems (AAMAS), 2009, *Program Committee Member*
  - ACM Symposium on Applied Computing (SAC), Special Track on Agreement Technologies, 2009, *Program Committee Member*
  - Workshop on Social Simulation at International Joint Conference on Artificial Intelligence (IJCAI), 2009, *Program Committee Member*
  - Multi-Agent-Based Simulation Workshop (MABS): at Autonomous Agents and Multi Agent Systems



- (AAMAS), 2009, *Program Committee Member*
- Argumentation in Multi-Agent Systems Workshop (ArgMAS): at Autonomous Agents and Multi Agent Systems (AAMAS), 2009, *Program Committee Member*
  - IEEE/WIC/ACM International Joint Conference on Intelligent Agent Technology (IAT), 2009, *Program Committee Member*
  - RoboCupJunior @ NY/NJ, 2009, *Co-Chair*
  - Multi-Agent-Based Simulation Workshop (MABS): at Autonomous Agents and Multi Agent Systems (AAMAS), 2008, *Program Committee Member*
  - Argumentation in Multi-Agent Systems Workshop (ArgMAS): at Autonomous Agents and Multi Agent Systems (AAMAS), 2008, *Program Committee Member*
  - IEEE/WIC/ACM International Joint Conference on Intelligent Agent Technology (IAT), 2008, *Program Committee Member*
  - Workshop on Teaching with robotics: didactic approaches and experiences, European Comenius Project TERECoP (Teacher Education on Robotics-Enhanced Constructivist Pedagogical Methods), Simulation, Modeling and Programming for Autonomous Robots Conference (SIMPAN), 2008, *Program Committee Member*
  - Autonomous Agents and Multi Agent Systems (AAMAS), 2008, *Senior Program Committee Member and Senior Robotics Program Committee Member*
  - RoboCup Simulation League, Mixed Reality competition, 2008, *Reviewer*
  - Global Conference on Educational Robotics (GCER), 2008, *Program Committee Member*
  - Institute for Personal Robots In Education, *Advisory Board Member, 2007-2010*
  - LEGOEngineering.com, 2007, *Advisory Board Member*
  - First International Workshop on Human Aspects in Ambient Intelligence, Workshop at the European Conference on Ambient Intelligence (AmI), 2007, *Program Committee Member*
  - Autonomous Agents and Multi Agent Systems (AAMAS), 2007, *Workshops Chair*
  - Agent-based Systems for Human Learning and Entertainment Workshop (ABSHLE) at Autonomous Agents and Multi Agent Systems (AAMAS), 2007, *Co-Chair*
  - Workshop on Agent Mediated Electronic Commerce IX (AMEC) at Autonomous Agents and Multi Agent Systems (AAMAS), 2007, *Organizing Committee Member*
  - Multi-Agent-Based Simulation Workshop (MABS): at Autonomous Agents and Multi Agent Systems (AAMAS), 2007, *Program Committee Member*
  - Argumentation in Multi-Agent Systems Workshop (ArgMAS): at Autonomous Agents and Multi Agent Systems (AAMAS), 2007, *Program Committee Member*
  - IEEE/WIC/ACM International Joint Conference on Intelligent Agent Technology (IAT), 2007, *Program Committee Member*
  - RoboCupJunior International, 2007, *League Chair*
  - RoboCupJunior @ NYC, 2007, *Chair*
  - RoboCup International Symposium, 2006, *Co-Chair*
  - Autonomous Agents and Multi Agent Systems (AAMAS), 2006, *Senior Program Committee Member, Doctoral Mentoring Symposium Mentor*
  - American Association for Artificial Intelligence (AAAI), 2006, *Program Committee Member*
  - RoboCupJunior @ NYC, 2006, *Chair*
  - Ibero-American Artificial Intelligence Conference (Iberamia), 2006, *Program Committee Member*
  - Agent-based Systems for Human Learning Workshop (ABSHL) at Autonomous Agents and Multi Agent Systems (AAMAS), 2006, *Co-Chair*
  - Autonomous Agents and Multi Agent Systems (AAMAS), 2005, *Program Committee Member*
  - Agent-based Systems for Human Learning Workshop (ABSHL) at Autonomous Agents and Multi

Agent Systems (AAMAS), 2005, *Co-Chair*

- Autonomous Agents and Multi Agent Systems (AAMAS), 2004, *Local Organization Co-Chair*
- The Nineteenth National Conference on Artificial Intelligence (AAAI), 2004, *Program Committee Member*
- AAAI Spring 2004 Symposium on AI Education with Low-cost Robotic Platforms, 2004, *Program Committee Member*
- RoboCup Federation, *Trustee* (2004–2009);
- RoboCupJunior International, 2004, *Organizing Committee Member*
- RoboCup International Symposium, 2003, *Program Committee Member*
- RoboCupJunior International, 2003, *Organizing Committee Member*
- RoboCup American Open 2003, *Organizing Committee Member*
- Autonomous Agents and Multi Agent Systems (AAMAS) Workshop on Humans and Multi Agent Systems, 2003, *Program Committee Member*
- International Joint Conference on Artificial Intelligence (IJCAI), 2003, *Reviewer*
- ACM Java Engagement for Teacher Training (JETT), 2003–2004, *Steering Committee Member*
- ACM Java Engagement for Teacher Training (JETT), 2002–2003, *National Co-Chair of Pilot Program*
- RoboCup International Symposium, 2002, *Program Committee Member*
- RoboCupJunior International, 2002, *League Chair*
- RoboCup Federation, *Executive Committee Member* (2001–2009);
- RoboCup International Symposium, 2001, *Program Committee Member*
- RoboCupJunior International, 2001, *League Chair*
- Autonomous Agents, 2001, *Robot Program Committee Member*
- RoboFesta International Forum, 2001, *Program Committee Member*
- RoboCupJunior International, 2000, *Founding Co-Chair and Local Organizer*
- Workshop on Evolutionary Computation and Cognitive Science (ECCS), 2000, *Local Organizer*
- NSF review panels, multiple times since 2002
- Proposal reviewer for EPSRC, ESRC, and other international organisations
- PhD candidacy and dissertation committees
- Reviewer for multiple international journals including *Computers & Education*, *Journal of Autonomous Agents and Multi-agent Systems (JAAMAS)*, *Communications of the ACM (Association for Computing Machinery)*

## OUTREACH AND COMMUNITY SERVICE

- At King's College London, I am a mentor for the Gender Ambitions Mentoring Scheme (2015–2016). I have also participated in Open Day and school outreach events.
- At the University of Liverpool (2013–2015), I worked with Dr Katie Atkinson (Department of Computer Science) to advise and provide outreach activities for school children around the topics of computer science, artificial intelligence and robotics. These involved both inward events, where school children from Merseyside come to campus for hands-on, lab-based activities, as well as outward events, where Dr Atkinson, myself and postgraduate students from the department travelled off-campus to deliver activities in other settings (such as museums).
- Between 2006–2011, I ran the *Bridges to Computing* project (funded by my NSF BPC grant) which focused on the transition years from high school to college, working to better inform students about and prepare them for careers in computing fields. One of the major outcomes of the Bridges project was the development of an introductory computing course for high school students that we now give

regularly to NYC public high school students through the CUNY CollegeNow program for high school credit (since 2010) and college credit (since 2012). I continue to advise CUNY CollegeNow on the administrative and curricular aspects of this course.

- In 2006, I established *RCJ@NY/NJ*, an annual New York and New Jersey regional RoboCupJunior (RCJ) event, which is part of the international educational robotics initiative that I helped found in Australia in 2000. I hosted or co-hosted RCJ@NY/NJ between 2006-2011. Some of these events have taken place in public spaces, such as the New York Hall of Science, in Queens, NY.
- In Fall 2005, I created an outreach program to public and independent schools and after-school programs in Brooklyn, NY. This program involves pairing undergraduate and masters students with in-practice teachers to help them bring educational robotics into their classrooms and curricula. Between 2005-2007, we worked with 8 NYC public schools.
- Through funding provided by NSF GK12 grants and the CRA-W Distributed Mentorship Program, I supervised students teaching robotics to inner-city high school students at summer schools in the Science and Technology Entry Program (STEP) at Barnard College (2003 and 2004) and Playing2Win, a community center in Harlem, NY (2003).
- I served as the Faculty Advisor to the Stuyvesant High School RoboCup team in 2003.
- I helped the teachers and technology coordinators to establish educational robotics activities in the curriculum for 2nd-4th graders and for the afterschool program during the opening year (2003-04) of The School at Columbia. This involved advising on equipment purchases, initiating teacher training, and providing graduate and undergraduate students to work in class with the teachers.
- From 1997-2001, I was a member of Technology Team at the Maria Hastings Elementary School in Lexington, MA, which was a committee of parents, teachers, school administrators and community members who were charged with helping integrate technology effectively in the classroom. I chaired the committee for two years (1997–1999).

## CITIZENSHIP/RESIDENCY

- US Citizen
- UK Spouse/CP Settlement Visa holder