

Sven Koenig

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PERSONAL INFORMATION

Education

- 1997 **Ph.D. in Computer Science**
Carnegie Mellon University
Topic: “Goal-Directed Acting with Incomplete Information”
Advisor: Simmons, Thesis Committee: Simmons, Mitchell, Moore, Korf (UCLA)
- 1993 **M.S. in Computer Science (Specialization: Artificial Intelligence)**
Carnegie Mellon University
Advisor: Simmons
- 1992 Diplom (German M.S.) in Computer Science (Specialization: Compiler Construction, Artificial Intelligence)
University of Hamburg
Advisor: Neumann
- 1991 **M.S. in Computer Science (Minor: Linguistics)**
University of California at Berkeley
Advisors: Russell and Norvig, Second Reader of Master’s Thesis: Zadeh
- 1991 Diplom (German M.S.) in Business Administration (Specialization: Marketing/EDP)
University of Hamburg
Advisor: Preßmar, Second Reader of Master’s Thesis: Hummeltenberg
- 1987 Vordiplom (German B.S.) in Business Administration
University of Hamburg
- 1986 Vordiplom (German B.S.) in Computer Science
University of Hamburg

Professional Experience

- Feb 2011-now **Full Professor, Computer Science Department, USC**
Director of the Research Group on Intelligent Decision Making (IDM)
- Aug 2003-2011 **Associate Professor, Computer Science Department, USC**
- Jan 1998-2003 **Assistant Professor, College of Computing, Georgia Institute of Technology**
Director of the Research Group on Intelligent Decision Making (IDM)
Affiliations: Artificial Intelligence Laboratory, Mobile Robot Laboratory, Collaborative Perception, Planning and Robotics (BORG) Laboratory, Computational Perception and Robotics Group and the Center for Process Systems
- 2018 Visiting Position at Monash University (Australia)
- 2013-2014 Sabbatical Positions at Carnegie Mellon University and NASA Ames Research Center
- Jun 2010-2012 Program Director at the National Science Foundation (NSF)
Directorate for Computer & Information Science & Engineering (CISE)
Division of Information and Intelligent Systems (IIS)
Robust Intelligence Cluster (RI)
Program Responsibilities: Information and Intelligent Systems: Core Programs, Faculty Early Career Development Program (CAREER), National Robotics Initiative (NRI), Interface between Computer Science and Economics & Social Science (ICES), Research Experiences for Undergraduates Sites (REU Sites) and Expeditions in Computing; additional responsibilities: one Engineering Research Center (ERC) proposal

evaluation; one Expeditions in Computing project supervision (including third year evaluation); Merit Review Working Group; RAPID Proposals to ENG, CISE and OISE on the 2011 Earthquakes in Japan and New Zealand; NSF-Deutsche Forschungsgemeinschaft (DFG) Collaborative Research (helped to initiate initiative); NSF European Extended Lab Visit Program for Graduate Students in Artificial Intelligence and Robotics (helped to initiate initiative); Furthering the Interface between Artificial Intelligence and Operations Research (helped to initiate initiative)

2006-2007 Sabbatical Positions at California Institute of Technology, National ICT Australia/Australian National University (Australia) and University of California at Berkeley

Awards and Fellowships

2018 Invited Visit to Monash University (Australia) – 6 weeks
2017 Fellow of the American Association for the Advancement of Science (AAAS)
2017 Computer Science and Engineering Undergraduate Teaching Award (IEEE Computer Society) "for his commitment to engaging students through project-based learning and mentoring that cultivates a passion for artificial intelligence"
2017 AAAI-17 Outstanding Senior Program Committee Member (3 awards for 325 SPC members)
2017 AAAI Certificate of Appreciation (Association for the Advancement of Artificial Intelligence)
2016 Outstanding Paper Award in the Robotics Track of the International Conference on Automated Planning and Scheduling (ICAPS)
2016 2x AAAI Certificate of Appreciation (Association for the Advancement of Artificial Intelligence)
2015 Dean's Award for Innovation in Teaching and Education (University of Southern California)
2015 AAAI Certificate of Appreciation (Association for the Advancement of Artificial Intelligence)
2013-2019 Distinguished Speaker of the Association for Computing Machinery (ACM) – two terms
2013 Fellow of the Association for the Advancement of Artificial Intelligence (AAAI) in recognition of "significant contributions to planning, decision making and coordination of robots and other situated agents"
2012 WIC Certificate of Appreciation (Web Intelligence Consortium / World Intelligence Congress)
2011, 2012 2x Director's Award for Collaborative Integration (National Science Foundation)
2009 Mellon Award: Faculty Mentoring Undergraduate Students (University of Southern California)
2008 AAAI Certificate of Appreciation (Association for the Advancement of Artificial Intelligence)
2007 ACM Senior Member (Association for Computing Machinery)
2006-2007 Invited Visit to National ICT Australia/Australian National University (Australia) - 4 months
2006 ACM Recognition of Service Award (Association for Computing Machinery)
2005 IEEE Senior Member (Institute of Electrical and Electronics Engineers)
2004 Charles Lee Powell Foundation Award (which provided USC start-up funding)
2004 SAIC Advisement Award (for graduate student performance in the Georgia Institute of Technology SAIC paper competition)
2003 Invited Visit to the University of Alberta (Canada) - 2 weeks
2003 Outstanding Junior Faculty Research Award (Georgia Institute of Technology)
2001 IBM Faculty Partnership Award (International Business Machines)
2000 NSF Career Award (National Science Foundation)
1999 Raytheon Faculty Research Award (Georgia Institute of Technology)
1990-1997 Doctoral Fellowship (Carnegie Mellon University)
1990 Tong Leong Lim Pre-Doctoral Prize (University of California at Berkeley)
1990 Regents Fellowship (University of California at Berkeley) offered, but declined
1990 NRTS Fellowship (University of California at Berkeley) offered, but declined
1989-1990 Regents Fellowship (University of California at Berkeley)
1989 Fulbright Fellowship
1988-1991 Fellowship from the German National Scholarship Foundation

Membership in Professional Organizations

American Association for the Advancement of Science (AAAS)
Association for Computing (ACM)
Association for the Advancement of Artificial Intelligence (AAAI)

The Institute of Electrical and Electronics Engineers (IEEE)
The Institute for Operations Research and the Management Sciences (INFORMS)
Gesellschaft fuer Informatik (GI) [German Computer Science Society]

TEACHING

Courses Taught at USC

Fall 2018 2x Introduction to Artificial Intelligence (for junior undergraduate students) – 2x CSCI360
Fall 2017 2x Introduction to Artificial Intelligence (for junior undergraduate students) – 2x CSCI360
Fall 2016 2x Introduction to Artificial Intelligence (for junior undergraduate students) – 2x CSCI360
Spring 2016 Introduction to Artificial Intelligence (for junior undergraduate students) – CSCI360
(Teaching Assistants Tansel Uras and Liron Cohen won *Best Teaching Assistant Awards* from the CS Department)
Fall 2015 Introduction to Artificial Intelligence (for junior undergraduate students) – CSCI360
Spring 2015 Introduction to Artificial Intelligence (for junior undergraduate students) – CSCI360
Fall 2014 Introduction to Artificial Intelligence (for junior undergraduate students) – CSCI360 - new
Fall 2012 Introduction to Artificial Intelligence (for junior and senior undergraduate students) - CSCI460
Spring 2010 Introduction to Artificial Intelligence (for junior and senior undergraduate students) - CSCI460
Fall 2009 2x Artificial Intelligence (for graduate students) - 2x CSCI561 + DEN (= Distance Education Network)
Spring 2009 2x Artificial Intelligence (for graduate students) - 2x CSCI561 + DEN
Fall 2008 Artificial Intelligence (for graduate students) - CSCI561
Fall 2008 Designing and Implementing Games on Pinball Machines (for advanced undergraduate and graduate students) - CSCI499 - new [voluntary]
Spring 2008 Artificial Intelligence (for graduate students) - CSCI561 + DEN
Spring 2008 Advanced Topics in Search and Planning - CSCI599 - new
Fall 2007 Introduction to Artificial Intelligence (for junior and senior undergraduate students) - CSCI460
(Teaching Assistant William Yeoh won *Outstanding Teaching Assistant Award* from the CS Department)
Spring 2006 Advanced Artificial Intelligence (for graduate students) - CSCI573 + DEN
Fall 2005 Artificial Intelligence (for graduate students) - CSCI561 + DEN
Spring 2005 Advanced Artificial Intelligence (for graduate students) - CSCI573 + DEN - revised
Spring 2005 Introduction to Artificial Intelligence (for junior and senior undergraduate students) - CSCI460
Fall 2004 Artificial Intelligence (for graduate students) - CSCI561 + DEN - revised
Spring 2004 Introduction to Artificial Intelligence (for junior and senior undergraduate students) - CSCI460 – revised
(Teaching Assistant Jonathan Kelly won *Outstanding Teaching Assistant Award* from the CS Department)
Spring 2004 Decision-Theoretic Planning (for graduate students) - CSCI599 - new

Additional Teaching at USC

Spring 2010 Creator of “A Project on Gesture Recognition with Neural Networks for Introduction to Artificial Intelligence Classes” for the “Computer Games in the Classroom” Project (with Xiaoming Zheng)
The project was chosen as a *Model AI Assignment* by the Symposium on Educational Advances in AI 2010.
Fall 2008 Creator of “A Project on Any-Angle Path Planning for Computer Games for Introduction to Artificial Intelligence Classes” for the “Computer Games in the Classroom” Project (with Kenny Daniel and Alex Nash)
The project was chosen as a *Model AI Assignment* by the Symposium on Educational Advances in AI 2010.
Spring 2008 Creator of “A Project on Fast Trajectory Replanning for Computer Games for Introduction to Artificial Intelligence Classes” for the “Computer Games in the Classroom” Project (with William Yeoh)
The project was chosen as a *Model AI Assignment* by the Symposium on Educational Advances in AI 2010.
2008 Organizer of 2 Ethics Lectures in the Seminar in Computer Science Research (with Raymond Rakhshani)

Courses Taught at Georgia Institute of Technology

Spring 2003 Artificial Intelligence Planning (for graduate students) - CS7612A
Spring 2003 Artificial Intelligence Planning (for junior and senior undergraduate students) - CS4612A - new
Spring 2003 Intelligent Systems Seminar (for graduate students, with Ashok Goel) - CS8001IS [voluntary]

Fall 2002 Artificial Intelligence (for graduate students, with Ashok Goel) - CS8803B
 Fall 2002 Introduction to Intelligent Systems (for junior and senior undergraduate students) - CS4600
 Fall 2002 Intelligent Systems Seminar (for graduate students, with Ashok Goel) - CS8001IS [voluntary]
 Spring 2002 Intelligent Systems Seminar (for graduate students, with Ashok Goel) - CS8001D [voluntary]
 Fall 2001 Intelligent Systems Seminar (for graduate students, with Ashok Goel) - CS8803I [voluntary] - new
 Spring 2001 Intelligent Decision Making - Decision-Theoretic Planning (for graduate students) - CS8803C - new
 Fall 2000 Introduction to Intelligent Systems (for junior and senior undergraduate students) - CS4600
 Spring 2000 Introduction to Intelligent Systems (for junior and senior undergraduate students) - CS4600 - revised
 Fall 1999 Intelligent Agents (for graduate students) - CS6660 - revised
 Spring 1999 Intelligent Decision Making - Modern Approaches to Planning (for graduate students) - CS8113 - new
 Spring 1999 Introduction to Artificial Intelligence (for junior and senior undergraduate students) - CS3361
 Winter 1999 Advanced Artificial Intelligence Systems Development (for graduate students) - CS7360 [voluntary] - revised
 Winter 1999 Artificial Intelligence (for graduate students) - CS6361
 Fall 1998 Introduction to Artificial Intelligence (for junior and senior undergraduate students) - CS3361 - revised
 Spring 1998 Intelligent Decision Making - Adaptive and Time-Critical Decision Making (for graduate students) - CS8113 - new
 Winter 1998 Artificial Intelligence (for graduate students) - CS6361 - revised

Additional Teaching at Georgia Institute of Technology

Spring 2000 Organizer of the Reinforcement-Learning Seminar
 Spring 2000 Organizer of the Uncertainty Seminar (with Chris Atkeson)
 Summer 1998 Lecturer for the Summer Intern Program of the College of Computing

Teaching Assistant at Carnegie Mellon University

1993 Knowledge-Based Systems (for seniors and graduate students, Carbonell and Perlin)
 1992 Artificial Intelligence (for juniors and seniors, Mitchell)

Teaching Assistant at the University of Hamburg

1986 Computer Science Theory (for sophomores, Kudlek)
 1986 COBOL (for all students, mainly attended by non-computer science majors, Trost)
 1985-1987 Orientation Course (first course for freshmen)

STUDENT SUPERVISION AND ADVISING

Note: All supervision at Georgia Institute of Technology from 2004 on was officially done by other professors.

Ph.D. Students at USC

2017-now Jiaoyang Li
 2015-now Bojun Huang (on leave of absence)
 2014-now Hong Xu - Physics student (joint with Satish Kumar, proposed)
2016: Outstanding Paper Award in the Robotics Track of the International Conference on Automated Planning and Scheduling (ICAPS)
 2014-now Hang Ma
2016: Outstanding Paper Award in the Robotics Track of the International Conference on Automated Planning and Scheduling (ICAPS)
2014-2019: USC Annenberg Graduate Fellowship
 2012-now Liron Cohen
2016: Best Teaching Assistant Award from the Computer Science Department of USC
2016: Outstanding Paper Award in the Robotics Track of the International Conference on Automated Planning and Scheduling (ICAPS)
 2011-now Tansel Uras
2016: Best Teaching Assistant Award from the Computer Science Department of USC

2014: *Best Research Assistant Award from the Computer Science Department of USC*
 2012 and 2013: *Fastest Entry in the Grid-Based Path Planning Competition (GPPC) among all Optimal Entries that Solved all Planning Problems for “Subgoal Graphs for Eight-Neighbor Gridworlds” by T. Uras, S. Koenig and C. Hernandez*

- 2006-2012 Alex Nash (graduated, first job: Northrop Grumman Corporation)
 Dissertation: “Any-Angle Path Planning”
 2006-2012: *Fellowship from Northrop Grumman Corporation* (and Full-Time Northrop Grumman Employee)
- 2004-2014 Xiaoming Zheng (graduated, first job: Facebook)
 Dissertation: “Auction and Negotiation Algorithms for Decentralized Task Allocation”
- 2005-2013 Xiaoxun Sun (graduated, first job: Google)
 Dissertation: “Incremental Search-Based Path-Planning for Moving Target Search”
 2007: *USC Annenberg Graduate Fellowship*
- 2004-2010 William Yeoh (graduated, first job: Postdoctoral Researcher at the University of Massachusetts at Amherst, from Fall 2012 on: Assistant Professor at New Mexico State University, from 2017 on: Assistant Professor at Washington University in St. Louis)
 Dissertation: “Speeding up Distributed Constraint Optimization Search Algorithms”
 2016: *Featured in: IEEE Intelligent Systems’ AI’s 10 to Watch (for 2015)*
 2009: *Outstanding Research Assistant Award from the Computer Science Department of USC*
 2009: *Nomination for the AAMAS 2009 Pragnesh Jay Modi Best Student Paper Award*
 2008: *Award for Excellence in Teaching from the USC Center for Excellence in Teaching*
 2008: *Nomination for the University Outstanding Teaching Assistant Award*
 2007: *Outstanding Teaching Assistant Award from the Computer Science Department of USC*

Research Project Supervision at USC Resulting in Publications

Syed Ali (joint with Milind Tambe), Sumit Borar (joint with Milind Tambe), Aliyah Arunsalam (joint with Satish Kumar), Marc-Etienne Brunet (summer student), Trevor Cai (joint with Satish Kumar), Cheng Cheng (joint with Satish Kumar), Kenny Daniel - 2007: *6th Place in the ACM Southern California Regional Programming Contest (out of 63 teams)*, 2007: *1st Place in the USC Programming Contest (out of 31 students)*, 2006: *2nd Place in the ACM Southern California Regional Programming Contest (out of 73 teams)*, 2006: *2nd Place in the USC Programming Contest (out of 49 students)*, Darren Earl, Rahul Iyer (joint with Milind Tambe), Shiva Jahangiri (joint with Satish Kumar), Sonal Jain, Dylan Johnke (joint with Satish Kumar, summer student), Sangmook Jung (joint with Satish Kumar), Janusz Marecki (joint with Milind Tambe), Masaru Nakajima (joint with Satish Kumar), Allen Pan, Selby Shlosberg, Jaspreet Singh, Kexuan Sun (joint with Satish Kumar), Ilgaz Sungur, Daniel Wong, Xin-Zeng Wu (joint with Satish Kumar), Jingxing Yang (joint with Satish Kumar), David Zhang (joint with Satish Kumar), Ryan Zink and Fred Zyda

Research Project Supervision at USC Resulting in Awards

Cheng Cheng (joint with Satish Kumar) – 2018: Computer Science Award for Excellence in Research, Sangmook Jung (joint with Satish Kumar) – 2014: Computer Science Award for Excellence in Research, 2014: Computer Engineering/Computer Science Outstanding Student Award, Nolan Miller (joint with Satish Kumar) – 2016: Computer Science Award for Outstanding Research, Kexuan (Kiana) Sun (joint with Satish Kumar) – 2018: Computer Science Award for Best Research, Zhi Wang (joint with Satish Kumar) – 2017: Computer Science Award for Outstanding Research, Daniel Wong - 2009: USC Rosehill Foundation Science and Engineering Fellowship, David Zhang (joint with Satish Kumar) – 2015: Computer Science Award for Excellence in Research, 2015: Computer Science Outstanding Student Award, 2015: USC Renaissance Scholar

Ph.D. Committees in Computer Science at USC

- 2018 Pradeep Rajendran, Trajectory Planning for Autonomous Robots Operating in Complex Environments, Gupta - Proposal
- 2017 Wolfgang Hoenig, Scalable Task and Motion Planning for Multi-Robot Systems in Obstacle-Rich Environments, Ayanian - Proposal
- 2015 Abram Demski, Fixed-Point Equations for Cognitive Architecture, Rosenbloom - Proposal
- 2012 Arvind Pereira, Risk-Aware Path Planning for Autonomous Underwater Vehicles in the Real World, Sukhatme - Proposal
- 2012 Dusan Jan, Virtual Extras: Conversational Behavior Simulation for Background Virtual Humans, Traum - Proposal (2008) and Defense

- 2010 Jonathan May, Weighted Tree Automata and Transducers for Syntactic Natural Language Processing, Knight - Defense
- 2009 Mahyar Salek, Combinatorial and Computational Aspects of Mechanism Design, Kempe - Proposal
- 2009 Sujith Ravi, Natural Language Decipherment: Solving Problems in Natural Language Processing without Labeled Data, Knight - Proposal
- 2009 Jing Jin, Interactive Querying of Temporal Data using a Comic Strip Metaphor, Szekely - Proposal (2008) and Defense
- 2008 Michael Rubenstein, Relentless Self-Assembly and Differentiation in a Realistic Homogeneous Group of Distributed Robots, Shen - Proposal
- 2008 Rattapoom Tuchinda, Building Mashups by Example, Knoblock - Proposal (2007) and Defense
- 2007 Marin Kobilarov, Discrete Geometric Motion Control of Autonomous Vehicles, Sukhatme - Proposal
- 2007 Pradeep Varakantham, Towards Efficient Planning for Real World Partially Observable Domains, Tambe - Proposal (2006) and Defense
- 2006 Jonathan Pearce, Local Optimization in Agent Networks in Cooperative and Noncooperative Settings, Tambe - Proposal
- 2005 Jan Peters, Machine Learning of Motor Skills for Robotics, Schaal - Proposal
- 2004 Maxim Batalin, Cooperative Algorithms for Mobile Robots and a Sensor Network, Sukhatme - Proposal
- 2004 Chris Jones, A Formal Design Methodology for Coordinated Multi-Robot Systems, Mataric - Proposal
- 2004 Aaron D'Souza, Towards Tractable Parameter-Free Learning, Schaal - Defense
- 2004 Ranjit Nair, Coordinating Multiagent Teams in Uncertain Domains using Distributed POMDPs, Tambe - Proposal (2003) and Defense

Ph.D. Committees in Industrial and Systems Engineering at USC

- 2008 Zhihong Shen, Routing and Inventory Models for Emergency Response to Minimize Unmet Demand, Dessouky and Ordonez - Proposal (2006) and Defense
- 2007 Ilgaz Sungur, The Robust Vehicle Routing Problem, Ordonez and Dessouky - Proposal (2006) and Defense

Ph.D. Committees in Computational Biology at USC

- 2005 Hyunju Lee, Analysis of Protein-Protein Interactions using Multiple Biological Data Sets, Chen - Proposal

M.S. Committees in Computer Science at USC

- 2015 Ameer Hamza: Predicting Mission Power Requirement in Mobile Robots, Ayanian - Defense
- 2004 Steven Okamoto: The State of DCOP in LA: Relaxed, Tambe - Defense

Visitors and Postdoctoral Researchers at USC

- 2017 Visitor: Michael Rovatsos, Reader, University of Edinburgh, Great Britain (2 ½ weeks)
- 2017 Visitor: Masoumeh (Iran) Mansouri, Postdoctoral Researcher, Örebro Universitet, Sweden (2 weeks)
- 2012-2013 Visitor: Giuseppe Caggianese, Graduate Student, Università degli Studi della Basilicata, Italy (12 months)
- 2012-2013 Visitor: Marcello Cirillo, Postdoctoral Researcher, Örebro Universitet, Sweden (6 months)
- 2012-2015 Postdoctoral Researcher and then Research Scientist: Satish Thittamaranahalli (T.K. Satish Kumar)
- 2011-2013 Postdoctoral Researcher: Masabumi Furuhashi (34 ½ months)
- 2009, 2010, 2011, 2013, 2017 Visitor: Carlos Hernandez Ulloa, Associate Professor, Universidad Católica de la Santísima Concepción and later Universidad Andrés Bello, Chile (3 ½ months in 2009, 1 month in 2010, 8 months in 2011/2012, 1 month in 2013 and 1 month toward the beginning and another 1 ½ months toward the end of 2017)
- 2006-2007, 2017 Visitor: Ariel Felner, Assistant and later Associate Professor, Ben-Gurion University, Israel (6 months in 2006-2007 and 5 ½ months in 2017)
- 2005 Visitor: Vadim Bulitko, Assistant Professor, University of Alberta, Canada (1/2 month)

Additional Advising at USC

- Summer 2017 Advisor for the Viterbi Summer Undergraduate Research Experience Program (Baram Sosis, University of Maryland at College Park) and the Tsinghua Summer Experience Program (Minghua Liu, Tsinghua University)
- Summer 2016 Advisor for the Viterbi Summer Undergraduate Research Experience Program (James Drain, Dartmouth) and the Tsinghua Summer Experience Program (Jiaoyang Li, Tsinghua University)

- Summer 2015 Advisor for the Viterbi Summer Undergraduate Research Experience Program (Dylan Johnke, Cornell)
- Summer 2013 Advisor for the Viberbi Summer Undergraduate Research Experience Program (Everardo Uribe, UC Irvine)
- 2012-2013 Advisor for the Viterbi School of Engineering Merit Research Program (Nick Halsey)
- Summer 2012 Advisor for the Viberbi Summer Undergraduate Research Experience Program (Marc-Etienne Brunet, McGill University)
- Summer 2011 Advisor for the REU Site Program (Maxwell Segan of Colgate University, Aaron Panchal of Westmont College)
- Summer 2009 Advisor for the REU Site Program (Jieming Zeng, University of North Carolina at Chapel Hill)
- Summer 2008 Advisor for the Viterbi School of Engineering Merit Research Program (Daniel Wong)
- Fall 2007 Mentor for the W.V.T. Rusch Engineering Honors Program (Daniel McGeever)
- 2005-2009, 2012 Coach of USC Teams for 5 ACM Southern California Regional Programming Contests (with David Kempe and, in 2008 and 2009, Suya You) 2005: *USC placed 5th (out of 66)*, 2006: *2nd (out of 73)*; 2007: *6th (out of 63)*; 2008: *8th (out of 71)*; 2009: *5th (out of 62)*; 2012: *1st (out of 75)*
- Summer 2004 Advisor of a Merit Scholar Undergraduate Student of the Computer Science Department (John Reynolds)

Ph.D. Students at Georgia Institute of Technology

- 1997-2005 Yaxin Liu (graduated, first job: Research Scientist, University of Texas at Austin; now: Google)
 Dissertation: “Decision-Theoretic Planning Under Risk-Sensitive Planning Objectives”
 2007: *Outstanding Dissertation Award from the College of Computing for 2005-2006*
 2003: *IBM Fellowship Award*
 2002: *Outstanding Graduate Research Assistant Award from the College of Computing*
 2002: *IBM Fellowship Award*
- 1997-2004 David Furcy (graduated; first job: Interim Professor, Blackburn College; now: Associate Professor, University of Wisconsin at Oshkosh)
 Dissertation: “Speeding up the Convergence of Online Heuristic Search and Scaling up Offline Heuristic Search”
 2004: *Runner-Up for Best Paper Award at ICAPS* (I was not a co-author of this paper)
- in progress I gave up students who were not yet working on their dissertation proposals when moving to USC

Research Project Supervision at Georgia Institute of Technology Resulting in Publications

Amin Atrash, Colin Bauer, Marc Berhault (joint with Pinar Keskinocak), Sam Greenberg (joint with Craig Tovey), William Halliburton, Maxim Likhachev, Vangelis Markakis (joint with Michail Lagoudakis and Pinar Keskinocak), Lisa McCrickard (joint with Norberto Ezquerra), Apurva Mudgal (joint with Craig Tovey) and Ananth Ranganathan (independent of publications: 19 Ph.D. special problems students, 4 M.S. special problems students and 19 B.S. special problems students)

Research Project Supervision at Georgia Institute of Technology Resulting in Awards

Amin Atrash - 1999: 2 out of 8 Main UROC Research Competition Awards from the College of Computing, Marc Berhault (joint with Pinar Keskinocak) - 2004: Best Paper Award in the Georgia Institute of Technology SAIC Paper Competition

Ph.D. Committees in Computer Science at Georgia Institute of Technology

- 2004 Darrin Bentivegna: Learning from Observation using Primitives, Atkeson - Proposal (2002) and Defense
- 2003 Alexander Stoychev: Robot Tool Behavior: The Use and Discovery of Tools by Robots, Arkin - Proposal
- 2002 Mark Devaney: Plan Recognition in Large-Scale Multiagent Real-World Domains, Ram - Proposal (1999) and Defense
- 2000 William Murdock: Model-Based Reflection for Agent Evolution, Goel - Defense
- 1999 David Brogan: Simulation Levels of Detail for Control and Animation, Hodgins - Proposal (1999) and Defense
- 1999 Gordon Shippey: Planning as a Framework for Multistrategy Learning, Ram - Proposal
- 1999 Khaled Ali: Multiagent Telerobotics: Comparing Systems to Tasks, Arkin - Defense

Ph.D. Committees in Industrial and Systems Engineering at Georgia Institute of Technology

- 1999 Vijai Nori: Algorithms for Dynamic and Stochastic Logistics Problems, Kleywegt and Savelsbergh - Proposal (1998) and Defense
- 1998 Dirk Guenther: Airline Yield Management, Johnson and Chen - Defense

Ph.D. Committees in Chemical Engineering at Georgia Institute of Technology

- 2002 Jong Min Lee: A Study on Methodology, Architecture and Applications of Simulation-Based Approaches to Optimal Control, Lee - Proposal
- 2002 Jaemin Choi: Algorithmic Framework for Improving Heuristics in Stochastic, Stage-Wise Optimization Problems, Lee - Proposal
- 2000 Kenneth Kirschner: Empirical Learning Methods for the Induction of Knowledge from Optimization Models, Realf - Defense

Ph.D. Qualifying Examinations in Computer Science at Georgia Institute of Technology

- 2002 Yoichiro Endo (Intelligent Systems)
- 2002 Patrick Yaner (Intelligent Systems)
- 2002 Amin Atrash (Intelligent Systems)
- 2001 Jonathan Diaz (Intelligent Systems)
- 2001 Darrin Bentivegna (Intelligent Systems)
- 2000 Brad Singletary (Intelligent Systems)
- 2000 Alexander Stoytchev (Intelligent Systems)
- 2000 Michael Cramer (Intelligent Systems)
- 1999 Patrawadee Prasangsit (Intelligent Systems)
- 1999 Margaret Loper (Systems)

Visitors and Postdoctoral Researchers at Georgia Institute of Technology

- 2004-2005 Postdoctoral Researcher: Michail Lagoudakis (1.5 years), now: Assistant Professor at the Technical University of Crete
- 2002 Visitor: Jonas Svennebring, Sweden (1 semester)

Additional Advising at Georgia Institute of Technology

- Summer 2000 Advisor for the Summer Intern Program of the College of Computing (James Irizarry Huertas)
- Fall 1999 Studio Project Group (for undergraduate students): WebmailExpressGT Email System - CS3351

External Member of Thesis Committees

- 2018 John Drake, Planning for Non-Player Characters by Learning from Demonstration, University of Pennsylvania, Likhachev and Safonova – Dissertation Proposal (2017) and Defense
- 2016 Pavel Surynek, Cooperative Path Finding for Multiple Robots, Charles University (Czech Republic) – Evaluation of Habilitation
- 2015 Glenn Wagner, Subdimensional Expansion: A Framework for Computationally Tractable Multirobot Path Planning, Carnegie Mellon University, Choset – Dissertation Proposal (2014) and Defense [Honorable Mention: ICAPS Best Dissertation Award 2017]
- 2015 Mike Phillips, Experience Graphs: Leveraging Experience in Planning, Carnegie Mellon University, Likhachev – Dissertation Proposal (2014) and Defense [Honorable Mention: ICAPS Best Dissertation Award 2016]
- 2014 Bradford Heap, Sequential Single-Cluster Auctions for Multi-Robot Allocation, University of New South Wales (Australia), Pagnucco – Evaluation of Dissertation
- 2014 Daniel Harabor, Fast and Optimal Pathfinding, Australian National University (Australia), Botea, Grastien and Kilby – Evaluation of Dissertation [Honorable Mention: ICAPS Best Dissertation Award 2016]
- 2012 Ko-Hsin Cindy Wang, Scalable Cooperative Multi-Agent Pathfinding with Tractability and Completeness Guarantees, National ICT Australia/Australian National University (Australia), Botea, Kilby and Rintanen - Evaluation of Dissertation [Winner: ICAPS Best Dissertation Award 2013]
- 2012 Jordan Thayer, Heuristic Search under Time and Quality Bounds, University of New Hampshire, Ruml - Dissertation Proposal (2010) and Defense
- 2010 Evan Sultanik, Automatic Construction, Maintenance and Optimization of Dynamic Agent Organizations, Drexel University, Regli and Shokoufandeh - Dissertation Proposal (2010) and Defense
- 2009 Christian Fritz, Monitoring the Generation and Execution of Optimal Plans, University of Toronto (Canada), McIlraith - External Examiner of Dissertation and Dissertation Defense [Honorable Mention: ICAPS Best Dissertation Award 2010]

- 2009 Carl Crous, Autonomous Robot Path Planning, University of Stellenbosch (South Africa), van der Merwe - Evaluation of Master's Thesis
- 2008 Frank Broz, Planning for Human-Robot Interaction: Representing Time and Human Intention, Carnegie Mellon University, Nourbakhsh and Simmons - Dissertation Proposal (2005) and Defense
- 2007 Ulas Bardak, Information Elicitation in Scheduling Problems, Carnegie Mellon University, Carbonell and Fink - Dissertation Proposal (2006) and Defense
- 2005 Maxim Likhachev, Search-Based Planning for Large Dynamic Environments, Carnegie Mellon University, Thrun and Gordon - Dissertation Proposal (2003) and Defense [Winner: ICAPS Influential Paper Award 2017]
- 2003 Matt Mitchell, An Architecture for Situated Learning Agents, Monash University (Australia), Albrecht and Nicholson - Evaluation of Dissertation
- 2003 Stefan Edelkamp, Heuristic Search, Albert-Ludwigs-University of Freiburg (Germany), Ottmann - Evaluation of Habilitation [Winner: ICAPS Influential Paper Award 2012]
- 2002 Georgios Theodorou, Hierarchical Learning and Planning in Partially Observable Markov Decision Processes, Michigan State University, Mahadevan - Dissertation Defense

Doctoral Consortia

- 2018 AAMAS "Lunch with an Expert" Program
- 2018 AAMAS Doctoral Consortium
- 2018 AAAI "Lunch with a Fellow" Program
- 2018 AAAI/SIGAI Doctoral Consortium
- 2017 IJCAI "Lunch with a Fellow" Program
- 2017 AAAI "Lunch with a Fellow" Program
- 2017 AAAI/SIGAI Doctoral Consortium – Program Committee and Mentor
- 2016 IJCAI "Lunch with a Fellow" Program
- 2016 IJCAI Doctoral Consortium – Mentor and Panelist on the Career Panel
- 2016 AAMAS "Lunch with a Fellow" Program
- 2016 AAAI "Lunch with a Fellow" Program
- 2016 AAAI/SIGAI Doctoral Consortium – Program Committee and Mentor
- 2015 AAAI/SIGART Doctoral Consortium - Mentor only
- 2014 AAAI/SIGART Doctoral Consortium - Mentor and Panelist on the Career Panel
- 2013 IJCAI Doctoral Consortium - Mentor and Panelist on the Career Panel
- 2013 AAAI "Lunch with a Fellow" Program
- 2013 AAAI/SIGART Doctoral Consortium - Mentor only
- 2013 ICAPS Doctoral Consortium
- 2012 AIIDE Doctoral Consortium - Panelist on the Young Faculty Career Panel
- 2012 AAMAS Doctoral Consortium - Panelist on the Career Panel (partly as NSF representative)
- 2012 ICAPS Doctoral Consortium
- 2011 AAAI/SIGART Doctoral Consortium - Panelist on "The Hiring Process and Finding Funding" panel (partly as NSF representative)
- 2011 AAMAS Doctoral Consortium
- 2010 ICAPS Doctoral Consortium
- 2010 AAAI/SIGART Doctoral Consortium
- 2009 ICAPS Doctoral Consortium - Program Committee only
- 2009 AAAI/SIGART Doctoral Consortium
- 2008 ICAPS Doctoral Consortium
- 2008 SIGART/AAAI Doctoral Consortium - Reviewer
- 2007 ICAPS Doctoral Consortium
- 2006 SIGART/AAAI Doctoral Consortium
- 2005 SIGART/AAAI Doctoral Consortium
- 2004 ICAPS Doctoral Consortium
- 2003 SIGART/AAAI/IJCAI Doctoral Consortium

2003 ICAPS Doctoral Consortium
2002 SIGART/AAAI Doctoral Consortium

TALKS

Invited Talks at Conferences

2018 Federated Artificial Intelligence for Robotics Workshop (F-Rob)
2018 Dagstuhl Seminar on Planning and Operations Research (all talks in Dagstuhl seminars are invited)
2017 ACM Turing 50th Celebration Conference, China (ACM TURC) - Keynote Speech (AI track)
2017 ICRA Workshop on AI Planning and Robotics: Challenges and Methods (several talks in this ICRA workshop were invited)
2016 Dagstuhl Seminar on Planning and Robotics (all talks in Dagstuhl seminars are invited)
2014 International Symposium on Combinatorial Search (SoCS)
2013 Minisymposium: Causal Algorithms for Optimal Control Problems at the SIAM Conference on Control and Its Applications (all talks in this minisymposium were invited)
2012 IEEE/WIC/ACM International Conference on Intelligent Agent Technology (IAT) - Keynote Speech
2012 ICAPS Workshop on Combining Task and Motion Planning for Real-World Applications (TAMPRA)
2011 German Conference on Artificial Intelligence (KI) - Keynote Speech
2011 AAAI Fall Symposium Series: Workshop on Multi-Agent Coordination under Uncertainty
2011 AAMAS Workshop on Optimisation in Multi-Agent Systems (OPTMAS)
2011 IROS Special Session on US Government Robotics Programs (as NSF representative)
2011 AAAI Fall Symposium Series: Artificial Intelligence Funding Seminar (as NSF representative)
2011 AAAI Robotics Workshop on Embodied Intelligence (as NSF representative)
2011 Annual Consortium for Computing Sciences in Colleges - Southwestern Regional Conference (CCSC-SW)
2010 AAAI Robotics Workshop on Enabling Intelligence through Middleware (as NSF representative)
2010 AAAI Workshop on Bridging the Gap between Task and Motion Planning (BTAMP)
2010 International Symposium on Combinatorial Search (SoCS)
2010 Dagstuhl Seminar on Cognitive Robotics (all talks in Dagstuhl seminars are invited)
2010 ICRA Workshop on Search and Pursuit/Evasion in the Physical World: Efficiency, Scalability and Guarantees (all talks in this ICRA workshop were invited)
2008 IAAI (Israeli Association for Artificial Intelligence) Symposium - Keynote Speech
2007 IROS Workshop on Algorithmic Motion Planning (all talks in this IROS workshop were invited)
2006 Invited Session on “Search and Optimization Techniques and their Applications” at the International Symposium on Artificial Intelligence and Mathematics (ISAIM)
2003 IJCAI Workshop on Artificial Intelligence and Autonomic Computing
2002 Joint AAAI/KDD/UAI Workshop on Real-Time Decision Support and Diagnosis Systems
2001 Dagstuhl Seminar on Plan-Based Control of Robotic Agents (all talks in Dagstuhl seminars are invited)
1999 IJCAI Workshop on Robot Action Planning

Invited Commentaries at Conferences

2008 ICAPS Workshop on a Reality Check for Planning and Scheduling under Uncertainty
2007 Session on On-Line Planning and Execution at the International Conference on Automated Planning and Scheduling (ICAPS)

Invited Sessions at Summer Schools

2018 MIT Second Summer School on Cognitive Robotics (USA)
2017 MIT First Summer School on Cognitive Robotics (USA)
2006 Americas School on Agents and Multiagent Systems (USA)
2006 ICAPS Summer School on Artificial Intelligence Planning (Great Britain, with Maxim Likhachev)
2005 Brazil Agents School (Brazil)
2005 Americas School on Agents and Multiagent Systems (USA)

- 2004 Hyderabad Multi-Agent Systems School (India)
- 2002 PLANET International Summer School on Artificial Intelligence Planning (Italy)

Conference Tutorials

- 2018 IJCAI Tutorial on Recent Directions in Heuristic Search (with Ariel Felner from Ben-Gurion University, Daniel Harabor from Monash University and Nathan Sturtevant from the University of Denver)
- 2017 AAAI Tutorial on Multi-Agent Path Finding (with Ariel Felner from Ben-Gurion University and Glenn Wagner from Carnegie Mellon University)
- 2013 IROS Tutorial on Search-Based Planning: Toward High Dimensionality and Differential Constraints (with Mihail Pivtoraiko from the University of Pennsylvania and Maxim Likhachev from Carnegie Mellon University)
- 2012 AAAI Tutorial on Search-Based Planning: Toward High Dimensionality and Differential Constraints (with Mihail Pivtoraiko from the University of Pennsylvania and Maxim Likhachev from Carnegie Mellon University)
- 2010 ICRA Tutorial on Real-Time Planning in Dynamic and Partially-Known Domains (with Maxim Likhachev from the University of Pennsylvania)
- 2009 IJCAI Tutorial and ICAPS Tutorial on Real-Time Planning in Dynamic and Partially-Known Domains (with Maxim Likhachev from the University of Pennsylvania)
- 2008 AAAI Tutorial on Path Planning (with Michael Buro and Nathan Sturtevant from the University of Alberta)
- 2006 AAAI Tutorial and AAMAS Tutorial on Auction-Based Agent Coordination and ICRA Tutorial on Auction-Based Robot Coordination (with Bernardine Dias, Gil Jones, Nidhi Kalra and Robert Zlot from Carnegie Mellon University, Pinar Keskinocak from Georgia Institute of Technology and Michail Lagoudakis from the Technical University of Crete)
- 2003 IJCAI Tutorial on State of the Art in Ant Robotics and ICRA Tutorial on Ant-Based Mobile Robots: Robust Navigation and Coverage with Single Robots and Robot Teams (with Israel Wagner from the Technion, Andrew Russell from Monash University and David Payton and Richard Vaughan from HRL Laboratories)
- 2002 AIPS Tutorial on Greedy On-Line Planning
- 2002 AAAI Tutorial and ICRA Tutorial on Greedy On-Line Planning (with Anthony Stentz from Carnegie Mellon University)

Other Invited Talks

ACM Sacramento Chapter 2015 [ACM DSP], 2018 [Future Worlds Symposium, ACM DSP]; AT&T Labs Research (Murray Hill) 1997; Australian National University (Australia) 2006; Bar-Ilan University (Israel) 2008; California Institute of Technology 2006 (2x), 2007 (2x); Carnegie Mellon University 2001, 2005, 2007, 2013 (Search-Based Planning Laboratory), 2017 (Robotics Institute); CSTAR at Andersen Consulting (Chicago) 1997; Columbia University 1997; Data61 at Canberra (Australia) 2016; Drexel University 2011 [Jay Modi Memorial Lecture]; Georgia Institute of Technology 1997; IBM T.J. Watson Research Center (New York) 2001; IIT Madras (India) 2004; Information Sciences Institute (Los Angeles) 2004; Iowa State University 1997; Jet Propulsion Laboratory (California Institute of Technology) 2002, 2005; Massachusetts Institute of Technology 1997; McGill University (Canada) 1997; Michigan State University 1997; Monash University (Australia) 2007 (2x), 2017, 2018; NASA Ames Research Center (Mountain View) 1997, 2002, 2014; National Science Foundation (Washington, D.C.) 2010; Naval Research Laboratory (Navy Center for Applied Research in AI Seminar Series) 2001; NEC Research Institute (Princeton) 1997; New Mexico State University 2014 [ACM DSP]; North-East Ohio ACM Chapter 2014 [ACM DSP]; Pomona College 2015; Rensselaer Polytechnic Institute 1997; Shanghai Jiao Tong University (China) 2017 [ACM DSP]; Southwest Jiaotong University (China) 2017 [ACM DSP]; Stanford Research Institute International (Menlo Park) 1997; Stanford University 1997, 2002, 2004, 2008; Technion - Israel Institute of Technology (Israel) 2008; Universidad de Monterrey (Mexico) 2015 [ACM DSP]; University of Alberta (Canada) 2001, 2003 (3x), 2007; University of California at Berkeley 2002, 2007; University of California at Irvine 2002, 2010 [Computer Science Department Distinguished Lecturer Seminar]; University of California at Los Angeles 2002; University of California at Riverside 2017; University of Denver 2016 [ACM DSP]; University of Electronic Science and Technology of China (China) 2017 [ACM DSP]; University of Iowa 1997; University of Kansas 1997; University of Minnesota 2016 [Cray Distinguished Speaker Series]; University of Nebraska at Lincoln 2016 [ACM DSP]; University of Nevada at Reno 2009; University of New Mexico 1997; University of New South Wales (Australia) 2006; University of North Texas 1997; University of Southern California 2002, 2003; University of Sydney (Australia) 2007; University of Technology, Sydney (Australia) 2007; University of Texas at El Paso 2014 [ACM DSP]; University of Toronto (Canada) 2009; University of Washington 2002; University of Waterloo (Canada) 1997; University of West Florida 1997; Washington University in St. Louis 2013, York University (Canada) 1997.

Presentations at Conferences without Proceedings (not all talks were given by me)

- H. Xu, X. Wu, S. Kumar, **S. Koenig**, The Buss Reduction for the k-Weighted Vertex Cover Problem [Late-Breaking Poster], Symposium on Combinatorial Search (SoCS), 2017.
- L. Cohen, G. Wagner, S. Kumar, H. Choset and **S. Koenig**, Rapid Randomized Restarts for Multi-Agent Path Finding Solvers [Late-Breaking Poster], Symposium on Combinatorial Search (SoCS), 2017.
- L. Cohen, S. Kumar, T. Uras and **S. Koenig**, The FastMap Algorithm for Shortest Path Computations [Late-Breaking Poster], Symposium on Combinatorial Search (SoCS), 2017.
- X. Wang, M. Dessouky, F. Ordonez, **S. Koenig** and M. Furuhashi, A Pickup and Delivery Problem for Ridesharing Considering Congestion, Industrial and Systems Engineering Research Conference (ISERC), 2013.
- S. Koenig**, We Should Talk to Other Decision-Making Communities, ICAPS Festivus, 2012.
- R. Borie, C. Tovey, K. Daniel and **S. Koenig**, ESP: Pursuit Evasion on Series-Parallel Graphs, Symposium on Combinatorial Search (SoCS), 2009.
- Y. Liu, R. Goodwin and **S. Koenig**, Risk-Sensitive Planning in Artificial Intelligence with Nonlinear Utility Functions, INFORMS Computing Society Conference (ICS), 2005.
- S. Koenig**, M. Berhault, W. Elmaghraby, P. Griffin, H. Huang, S. Jain, P. Keskinocak, A. Kleywegt and M. Lagoudakis, Using Auctions for the Coordination of Robot Teams, INFORMS Computing Society Conference (ICS), 2005.
- C. Tovey, S. Greenberg, W. Halliburton, **S. Koenig**, A. Mudgal, Y. Smirnov and D. Vroom, Analysis of Robot Navigation Tasks and Methods [Minipresentation], INFORMS Computing Society Conference (ICS), 2005.
- M. Berhault, H. Huang, P. Keskinocak, **S. Koenig**, W. Elmaghraby, P. Griffin and A. Kleywegt, Robot Exploration with Combinatorial Auctions, INFORMS Annual Meeting (INFORMS), 2003.
- W. Elmaghraby, P. Griffin, P. Keskinocak, A. Kleywegt and **S. Koenig**, The Dynamic Stochastic Newspaper Routing Problem, Triennial Conference of the International Federation of Operational Research Societies (IFORS), 2002.

PUBLICATIONS

Journal and Magazine Articles

- M. Gini, N. Agmon, F. Giunchiglia, **S. Koenig** and K. Leyton-Brown, Artificial Intelligence in 2027, *AI Matters*, 4(1), pages 10-20, 2018.
- E. Eaton, **S. Koenig**, C. Schulz, F. Maurelli, J. Lee, J. Eckroth, M. Crowley, R. Freedman, R. Cardona-Rivera, T. Machado and T. Williams, Blue Sky Ideas in Artificial Intelligence Education from the EAAI 2017 New and Future AI Educator Program, *AI Matters*, 3(4), pages 23-31, 2018.
- W. Hoenig, L. Cohen, H. Xu, S. Kumar, N. Ayanian, **S. Koenig**, Overview: A Hierarchical Framework for Plan Generation and Execution in Multi-Robot Systems, *IEEE Intelligent Systems*, Volume 32(6), pages 6-12, 2017.
- E. Burton, J. Goldsmith, **S. Koenig**, B. Kuipers, N. Mattei and T. Walsh, Ethical Considerations in Artificial Intelligence Courses, *Artificial Intelligence Magazine*, Volume 38(2), pages 22-34, 2017.
- H. Ma and **S. Koenig**, AI Buzzwords Explained: Multi-Agent Path Finding (MAPF), *AI Matters*, Volume 3(3), pages 15-19, 2017.
- R. Alterovitz, **S. Koenig** and M. Likhachev, Robot Planning in the Real World: Research Challenges and Opportunities, *Artificial Intelligence Magazine*, Volume 37(2), pages 76-84, 2016.
- M. Furuhashi, K. Daniel, **S. Koenig**, F. Ordonez, M. Dessouky, M. Brunet, L. Cohen and X. Wang, Online Cost-Sharing Mechanism Design for Demand-Responsive Transport Systems, *IEEE Transactions on Intelligent Transportation Systems*, Volume 16(2), pages 692-707, 2015.
- C. Hernández, T. Uras, **S. Koenig**, J. Baier, X. Sun and P. Meseguer, Reusing Cost-Minimal Paths for Goal-Directed Navigation in Partially Known Terrains, *Journal of Autonomous Agents and Multi-Agent Systems*, Volume 29(5), pages 850-895, 2015.
- A. Nash and **S. Koenig**, Any-Angle Path Planning, *Artificial Intelligence Magazine*, Volume 34(4), pages 85-107, 2013.
- M. Furuhashi, M. Dessouky, F. Ordonez, M. Brunet, X. Wang and **S. Koenig**, Ridesharing: The State-of-the-Art and Future Directions, *Transportation Research Part B: Methodological*, Volume 57(C), pages 28-46, 2013.
- S. Koenig**, Making Good Decisions Quickly, *IEEE Intelligent Informatics Bulletin*, Volume 13(1), pages 14-20, 2012.
- R. Borie, C. Tovey and **S. Koenig**, Algorithms and Complexity Results for Graph-Based Pursuit Evasion, *Autonomous Robots*, Volume 31(4), pages 317-332, 2011.
- K. Daniel, A. Nash, **S. Koenig** and A. Felner, Theta*: Any-Angle Path Planning on Grids, *Journal of Artificial Intelligence Research*, Volume 39, pages 533-579, 2010.
- W. Yeoh, A. Felner and **S. Koenig**, BnB-ADOPT: An Asynchronous Branch-and-Bound DCOP Algorithm, *Journal of*

- Artificial Intelligence Research, Volume 38, pages 85-133, 2010.
- X. Zheng, **S. Koenig**, D. Kempe and S. Jain, Multi-Robot Forest Coverage for Weighted and Unweighted Terrain, IEEE Transactions on Robotics, Volume 26(6), pages 1018-1031, 2010.
- C. Tovey and **S. Koenig**, Localization: Approximation and Performance Bounds for Minimizing Travel Distance, IEEE Transactions on Robotics, Volume 26(2), pages 320-330, 2010.
- S. Koenig**, J. Mitchell, A. Mudgal and C. Tovey, A Near-Tight Approximation Algorithm for the Robot Localization Problem, SIAM Journal on Computing, Volume 39(2), pages 461-490, 2009.
- S. Koenig** and X. Sun, Real-Time and Incremental Heuristic Search for Real-Time Situated Agents, Journal of Autonomous Agents and Multi-Agent Systems, Volume 18(3), pages 313-341, 2009.
- A. Mudgal, C. Tovey, S. Greenberg and **S. Koenig**, Bounds on the Travel Cost of a Mars Rover Prototype Search Heuristic, SIAM Journal on Discrete Mathematics, Volume 19(2), pages 431-447, 2005.
- S. Koenig** and M. Likhachev, Fast Replanning for Navigation in Unknown Terrain, IEEE Transactions on Robotics (and Automation), Volume 21(3), pages 354-363, 2005.
- S. Koenig**, M. Likhachev and D. Furcy, Lifelong Planning A*, Artificial Intelligence Journal, Volume 155(1-2), pages 93-146, 2004.
- J. Svennebring and **S. Koenig**, Building Terrain-Covering Ant Robots, Autonomous Robots, Volume 16(3), pages 313-332, 2004.
- S. Koenig**, M. Likhachev, Y. Liu and D. Furcy, Incremental Heuristic Search in Artificial Intelligence, Artificial Intelligence Magazine, Volume 25(2), pages 99-112, 2004.
- S. Koenig**, Y. Smirnov and C. Tovey, Performance Bounds for Planning in Unknown Terrain, Artificial Intelligence Journal, Volume 147(1-2), pages 253-279, 2003.
- S. Koenig** and Y. Liu, The Interaction of Representations and Planning Objectives for Decision-Theoretic Planning Tasks, Journal of Experimental and Theoretical Artificial Intelligence, Volume 14, pages 303-326, 2002.
- S. Koenig**, B. Szymanski and Y. Liu, Efficient and Inefficient Ant Coverage Methods, Annals of Mathematics and Artificial Intelligence - Special Issue on Ant Robotics, Volume 31, pages 41-76, 2001.
- S. Koenig**, Agent-Centered Search, Artificial Intelligence Magazine, Volume 22(4), pages 109-131, 2001.
- R. Simmons, J. Fernandez, R. Goodwin, **S. Koenig** and J. O'Sullivan, Lessons Learned from Xavier, IEEE Robotics and Automation Magazine, Volume 7(2), pages 33-39, 2000.
- R.G. Simmons, R. Goodwin, K. Haigh, **S. Koenig**, J. O'Sullivan, Xavier: Experience with a Layered Robot Architecture, SIGART Bulletin, Volume 8(1-4), pages 22-33, 1997.
- S. Koenig** and R.G. Simmons, The Effect of Representation and Knowledge on Goal-Directed Exploration with Reinforcement-Learning Algorithms, Machine Learning, Volume 22(1-3), pages 227-250, 1996. Appeared also as a book chapter in: Recent Advances in Reinforcement Learning, L.P. Kaelbling (editors), Kluwer Academic Publishers, 1996.

Book Chapters

- T. Uras and **S. Koenig**, Subgoal Graphs for Fast Optimal Pathfinding, Game AI Pro 2: Collected Wisdom of Game AI Professionals, S. Rabin (editor), A K Peters/CRC Press, pages 145-160, 2015.
- A. Nash and **S. Koenig**, Theta* for Any-Angle Pathfinding, Game AI Pro 2: Collected Wisdom of Game AI Professionals, S. Rabin (editor), A K Peters/CRC Press, pages 161-172, 2015.
- S. Koenig**, Real-Time Search, Chapter 11 in: S. Edelkamp and S. Schroedl, Heuristic Search: Theory and Applications, Morgan Kaufmann, pages 465-518, 2011.
- S. Koenig** and C. Tovey, Robotics, Chapter 19 in: S. Edelkamp and S. Schroedl, Heuristic Search: Theory and Applications, Morgan Kaufmann, pages 773-792, 2011.
- W. Yeoh, **S. Koenig** and A. Felner, IDB-ADOPT: A Depth-First Search DCOP Algorithm, Lecture Note in Artificial Intelligence, Volume 5655: Recent Advances in Constraints - 13th Annual ERCIM International Workshop on Constraint Solving and Constraint Logic Programming, CSCLP 2008, Rome, Italy, June 18-20, 2008, Revised Selected Papers, F. Fages, A. Oddi and F. Rossi (editors), Springer, pages 132-146, 2009. Appeared also in: Proceedings of the International Workshop on Distributed Constraint Reasoning (DCR), pages 60-70, 2007.
- C. Tovey, M. Lagoudakis, S. Jain and **S. Koenig**, The Generation of Bidding Rules for Auction-Based Robot Coordination, in: Multi-Robot Systems: From Swarms to Intelligent Automata, Volume 3, L. Parker, F. Schneider and A. Schultz (editors), Springer, pages 3-14, 2005.
- J. Svennebring and **S. Koenig**, Towards Building Terrain-Covering Ant Robots, Lecture Notes in Computer Science, Volume 2463: Ant Algorithms, M. Dorigo, G. Di Caro and M. Sampels (editors), Springer, pages 202-215, 2002.
- M. Likhachev and **S. Koenig**, Lifelong Planning for Mobile Robots, Lecture Notes in Artificial Intelligence, Volume 2466: Advances in Plan-Based Control of Robotic Agents, M. Beetz, J. Hertzberg, M. Ghallab and M. Pollack (editors), Springer,

pages 140-156, 2002.

R. Simmons, R. Goodwin, **S. Koenig**, J. O'Sullivan and G. Armstrong, Xavier: An Autonomous Mobile Robot on the Web, in: Beyond Webcams: An Introduction to Online Robots, K. Goldberg and R. Siegwart (editors), MIT Press, pages 81-97, 2001.

S. Koenig, Planning-Task Transformations for Soft Deadlines, Lecture Notes in Artificial Intelligence, Volume 1986, Intelligent Agents VII - Agent Theories, Architectures and Languages (ATAL), C. Castelfranchi and Y. Lesperance (editors), Springer, pages 305-319, 2000.

S. Koenig, R. Goodwin and R.G. Simmons, Robot Navigation with Markov Models: A Framework for Path Planning and Learning with Limited Computational Resources, Lecture Notes in Artificial Intelligence, Volume 1093: Reasoning with Uncertainty in Robotics, L. Dorst, M. van Lambalgen and R. Voorbraak (editors), Springer, pages 322-337, 1996.

Invited Publications

R. Borie, **S. Koenig** and C. Tovey, Section 9.5: Pursuit-Evasion Problems, Handbook of Graph Theory (2nd edition), J. Gross, J. Yellen, P. Zhang (editors), Chapman and Hall/CRC, pages 1145-1165, 2013.

M. Lagoudakis and **S. Koenig**, Planning, Berkshire Encyclopedia of Human-Computer Interaction, W. Bainbridge (editor), Berkshire Publishing Group, pages 554-560, 2004.

D. Furcy and **S. Koenig**, STRIPS, Encyclopedia of Cognitive Science, Macmillan, 2002

S. Koenig and R.G. Simmons, Xavier: A Robot Navigation Architecture Based on Partially Observable Markov Decision Process Models, invited book chapter in: Artificial Intelligence Based Mobile Robots: Case Studied of Successful Robot Systems, D. Kortenkamp, R. Bonasso, R. Murphy (editors), MIT Press, pages 91-122, 1998.

Conference Publications

General Artificial Intelligence (AAAI, IJCAI)

T. Uras and **S. Koenig**, Understanding Subgoal Graphs by Augmenting Contraction Hierarchies, Proceedings of the International Joint Conference on Artificial Intelligence (IJCAI), pages (in print), 2018.

L. Cohen, M. Greco, H. Ma, C. Hernandez, A. Felner, S. Kumar and **S. Koenig**, Anytime Focal Search with Applications, Proceedings of the International Joint Conference on Artificial Intelligence (IJCAI), pages (in print), 2018.

L. Cohen, T. Uras, S. Jahangiri, A. Arunasalam, **S. Koenig** and S. Kumar, The FastMap Algorithm for Shortest Path Computations, Proceedings of the International Joint Conference on Artificial Intelligence (IJCAI), pages (in print), 2018. A version appeared also in: Proceedings of the International Symposium on Artificial Intelligence and Mathematics (ISAIM), 2018.

H. Ma, G. Wagner, A. Felner, J. Li, S. Kumar and **S. Koenig**, Multi-Agent Path Finding with Deadlines, Proceedings of the International Joint Conference on Artificial Intelligence (IJCAI), pages (in print), 2018. A complementary version appeared as: H. Ma, G. Wagner, A. Felner, J. Li, S. Kumar and **S. Koenig**, Multi-Agent Path Finding with Deadlines: Preliminary Results [Short Paper], Proceedings of the International Joint Conference on Autonomous Agents and Multiagent Systems (AAMAS), 2018.

H. Ma, S. Kumar and **S. Koenig**, Multi-Agent Path Finding with Delay Probabilities, Proceedings of the AAAI Conference on Artificial Intelligence (AAAI), pages 3605-3612, 2017.

L. Cohen, T. Uras, S. Kumar, H. Xu, N. Ayanian and **S. Koenig**, Improved Solvers for Bounded-Suboptimal Multi-Agent Path Finding, Proceedings of the International Joint Conference on Artificial Intelligence (IJCAI), pages 3067-3074, 2016. An abstract appeared also in: Proceedings of the International Symposium on Combinatorial Search (SoCS), page 151, 2016.

H. Ma, C. Tovey, G. Sharon, S. Kumar and **S. Koenig**, Multi-Agent Path Finding with Payload Transfers and the Package-Exchange Robot-Routing Problem, Proceedings of the AAAI Conference on Artificial Intelligence (AAAI), pages 3166-3173, 2016. An abstract appeared also in: Proceedings of the International Symposium on Combinatorial Search (SoCS), page 149, 2016.

S. Kumar, D. Nguyen, W. Yeoh and **S. Koenig**, A Simple Polynomial-Time Randomized Distributed Algorithm for Connected Row Convex Constraints, Proceedings of the AAAI Conference on Artificial Intelligence (AAAI), pages 2308-2314, 2014. A version appeared also in: Proceedings of the AAMAS-14 International Joint Workshop on Optimisation in Multi-Agent Systems and Distributed Constraint Reasoning (OptMAS-DCR), 2014.

T. Uras and **S. Koenig**, Identifying Hierarchies for Fast Optimal Search, Proceedings of the AAAI Conference on Artificial Intelligence (AAAI), pages 878-884, 2014. A short version appeared also in: Proceedings of the International Symposium on Combinatorial Search (SoCS), 2014.

S. Kumar, M. Cirillo and **S. Koenig**, Simple Temporal Problems with Taboo Regions, Proceedings of the AAAI Conference on Artificial Intelligence (AAAI), 2013.

X. Zheng and **S. Koenig**, Generalized Reaction Functions for Solving Complex-Task Allocation Problems, Proceedings of the International Joint Conference on Artificial Intelligence (IJCAI), pages 478-483, 2011.

A. Nash, **S. Koenig** and C. Tovey, Lazy Theta*: Any-Angle Path Planning and Path Length Analysis in 3D, Proceedings of

the AAAI Conference on Artificial Intelligence (AAAI), pages 147-154, 2010. An abstract appeared also in: Proceedings of the International Symposium on Combinatorial Search (SoCS), 2010.

X. Zheng and **S. Koenig**, Sequential Incremental-Value Auctions, Proceedings of the AAAI Conference on Artificial Intelligence (AAAI), pages 941-946, 2010.

S. Koenig, C. Tovey and P. Keskinocak, Progress on Agent Coordination with Cooperative Auctions [Senior Member Paper], Proceedings of the AAAI Conference on Artificial Intelligence (AAAI), pages 1713-1717, 2010.

X. Sun, W. Yeoh and **S. Koenig**, Efficient Incremental Search for Moving Target Search, Proceedings of the International Joint Conference on Artificial Intelligence (IJCAI), pages 615-620, 2009. A short version appeared also in: Proceedings of the ICAPS-09 Doctoral Consortium, pages 29-32, 2009.

A. Nash, **S. Koenig** and M. Likhachev, Incremental Phi*: Incremental Any-Angle Path Planning on Grids, Proceedings of the International Joint Conference on Artificial Intelligence (IJCAI), page 1824-1830, 2009. A version of this paper was also presented in: International Symposium on Combinatorial Search (SoCS), 2009.

R. Borie, C. Tovey and **S. Koenig**, Algorithms and Complexity Results for Pursuit-Evasion Problems, Proceedings of the International Joint Conference on Artificial Intelligence (IJCAI), pages 59-66, 2009.

X. Zheng and **S. Koenig**, K-Swaps: Cooperative Negotiation for Solving Task-Allocation Problems, Proceedings of the International Joint Conference on Artificial Intelligence (IJCAI), pages 373-379, 2009.

W. Yeoh, X. Sun and **S. Koenig**, Trading Off Solution Quality for Faster Computation in DCOP Search Algorithms, Proceedings of the International Joint Conference on Artificial Intelligence (IJCAI), pages 354-360, 2009. A version of this paper was also presented in: International Symposium on Combinatorial Search (SoCS), 2009. Earlier versions appeared also as: W. Yeoh, **S. Koenig** and X. Sun, Trading Off Solution Cost for Smaller Runtime in DCOP Search Algorithms [Short Paper], Proceedings of the International Joint Conference on Autonomous Agents and Multiagent Systems (AAMAS), pages 1445-1448, 2008. Proceedings of the Tenth International Workshop on Distributed Constraint Reasoning (DCR), pages 25-35, 2008.

S. Koenig, X. Zheng, C. Tovey, R. Borie, P. Kilby, V. Markakis and P. Keskinocak, Agent Coordination with Regret Clearing, Proceedings of the AAAI Conference on Artificial Intelligence (AAAI), pages 101-107, 2008.

J. Marecki, **S. Koenig** and M. Tambe, A Fast Analytical Algorithm for Solving Markov Decision Processes with Real-Valued Resources, Proceedings of the International Joint Conference on Artificial Intelligence (IJCAI), pages 2536-2541, 2007.

S. Koenig, C. Tovey, X. Zheng and I. Sungur, Sequential Bundle-Bid Single-Sale Auction Algorithms for Decentralized Control [Plenary Presentation], Proceedings of the International Joint Conference on Artificial Intelligence (IJCAI), pages 1359-1365, 2007.

X. Sun and **S. Koenig**, The Fringe-Saving A* Search Algorithm - A Feasibility Study [Plenary Presentation], Proceedings of the International Joint Conference on Artificial Intelligence (IJCAI), pages 2391-2397, 2007.

A. Nash, K. Daniel, **S. Koenig** and A. Felner, Theta*: Any-Angle Path Planning on Grids, Proceedings of the AAAI Conference on Artificial Intelligence (AAAI), pages 1177-1183, 2007.

P. Haslum, A. Botea, M. Helmert, B. Bonet and **S. Koenig**, Domain-Independent Construction of Pattern Database Heuristics for Cost-Optimal Planning, Proceedings of the AAAI Conference on Artificial Intelligence (AAAI), pages 1007-1012, 2007.

Y. Liu and **S. Koenig**, Functional Value Iteration for Decision-Theoretic Planning with General Utility Functions, Proceedings of the AAAI Conference on Artificial Intelligence (AAAI), pages 1186-1193, 2006.

S. Koenig, C. Tovey, M. Lagoudakis, V. Markakis, D. Kempe, P. Keskinocak, A. Kleywegt, A. Meyerson and S. Jain, The Power of Sequential Single-Item Auctions for Agent Coordination [Nectar Paper], Proceedings of the AAAI Conference on Artificial Intelligence (AAAI), pages 1625-1629, 2006.

D. Furcy and **S. Koenig**, Limited Discrepancy Beam Search, Proceedings of the International Joint Conference on Artificial Intelligence (IJCAI), pages 125-131, 2005.

Y. Liu and **S. Koenig**, Risk-Sensitive Planning with One-Switch Utility Functions: Value Iteration, Proceedings of the Twentieth AAAI Conference on Artificial Intelligence (AAAI), pages 993-999, 2005.

D. Furcy and **S. Koenig**, Scaling up WA* with Commitment and Diversity [Short Paper], Proceedings of the International Joint Conference on Artificial Intelligence (IJCAI), pages 1521-1522, 2005 [Acceptance Rate 20%].

Y. Liu, **S. Koenig** and D. Furcy, Speeding Up the Calculation of Heuristics for Heuristic Search-Based Planning, Proceedings of the AAAI Conference on Artificial Intelligence (AAAI), pages 484-491, 2002.

S. Koenig and M. Likhachev, D* Lite, Proceedings of the AAAI Conference on Artificial Intelligence (AAAI), pages 476-483, 2002.

D. Furcy and **S. Koenig**, Speeding up the Convergence of Real-Time Search, Proceedings of the AAAI Conference on Artificial Intelligence (AAAI), pages 891-897, 2000.

C. Tovey and **S. Koenig**, Gridworlds as Testbeds for Planning with Incomplete Information, Proceedings of the AAAI Conference on Artificial Intelligence (AAAI), pages 819-824, 2000.

- S. Koenig** and B. Szymanski, Value-Update Rules for Real-Time Search, Proceedings of the AAAI Conference on Artificial Intelligence (AAAI), pages 718-724, 1999.
- S. Koenig** and R.G. Simmons, Easy and Hard Testbeds for Real-Time Search Algorithms, Proceedings of the AAAI Conference on Artificial Intelligence (AAAI), pages 279-285, 1996.
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- T. Uras and **S. Koenig**, An Empirical Comparison of Any-Angle Path-Planning Algorithms [Short Paper], Proceedings of the Annual Symposium on Combinatorial Search (SoCS), pages 206-210, 2015.
- L. Cohen, T. Uras and **S. Koenig**, Feasibility Study: Using Highways for Bounded-Suboptimal Multi-Agent Path Finding, Proceedings of the Annual Symposium on Combinatorial Search (SoCS), pages 2-8, 2015. A short version appeared also as: L. Cohen and **S. Koenig**, Bounded Suboptimal Multi-Agent Path Finding Using Highways [Doctoral Consortium Abstract], Proceedings of the International Joint Conference on Artificial Intelligence (IJCAI), pages 3978-3979, 2016.
- N. Sturtevant, J. Traish, J. Tulip, T. Uras, **S. Koenig**, B. Strasser, A. Botea, D. Harabor and S. Rabin, The Grid-Based Path Planning Competition: 2014 Entries and Results, Proceedings of the Annual Symposium on Combinatorial Search (SoCS), pages 241ff, 2015.
- S. Kumar, L. Cohen and **S. Koenig**, Incorrect Lower Bounds for Path Consistency and More, Proceedings of the Symposium on Abstraction, Reformulation and Approximation (SARA), 2013.
- S. Kumar, L. Cohen and **S. Koenig**, Submodular Constraints and Planar Constraint Networks: New Results, Proceedings of the Symposium on Abstraction, Reformulation and Approximation (SARA), 2013.
- S. Kumar, M. Cirillo and **S. Koenig**, On the Traveling Salesman Problem with Simple Temporal Constraints, Proceedings of the Symposium on Abstraction, Reformulation and Approximation (SARA), 2013. A version appeared also in: Proceedings of

the ICAPS-13 Workshop on Planning in Robotics (PlanRob).

C. Hernandez, J. Baier, T. Uras and **S. Koenig**, Incremental Search Algorithms Considered Poorly Understood [Position Paper], Proceedings of the Symposium on Combinatorial Search (SoCS), 2012.

T. Neller, J. DeNero, D. Klein, **S. Koenig**, W. Yeoh, X. Zheng, K. Daniel, A. Nash, Z. Dodds, G. Carenini, D. Poole, C. Brooks, Model AI Assignments, Proceedings of the AAAI Symposium on Educational Advances in Artificial Intelligence (EAAI), 2010.

A. Mudgal, C. Tovey and **S. Koenig**, Analysis of Greedy Robot-Navigation Methods, Proceedings of the International Symposium on Artificial Intelligence and Mathematics (ISAIM), 2004.

L. McCrickard, **S. Koenig**, T. Fox and N. Ezquerro, Using Regression Techniques for the Automated Selection of Radiosurgery Plans, Proceedings of the International ICSC Symposium on Advanced Computing in Biomedicine (ACBM), pages 71-77, 2001.

Y. Liu, R. Goodwin and **S. Koenig**, Risk-Averse Auction Planning and its Integration into Supply-Chain Management Systems, Proceedings of the AAAI-01 Spring Symposium on Game Theoretic and Decision Theoretic Agents, pages 60-69, 2001.

S. Koenig, Representation Changes for Planning with Exponential Utility Functions, Proceedings of the Symposium on Abstraction, Reformulation and Approximation (SARA), 1998.

S. Koenig and R.G. Simmons, Modeling Risk and Soft Deadlines for Robot Navigation, Proceedings of the AAAI Spring Symposium on Planning with Incomplete Information for Robot Problems (also available as AAAI Technical Report SS-96-04), pages 57-61, 1996.

S. Koenig and R.G. Simmons, Risk-Sensitive Planning, Proceedings of the AAAI Spring Symposium on Decision-Theoretic Planning (also available as AAAI Technical Report SS-94-06), pages 141-147, 1994.

Workshops

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S. Koenig, C. Muise and S. Sanner, Non-Traditional Objective Functions for MDPs, Proceedings of the IJCAI-18 Workshop on Goal Reasoning (GRW), 2018.

S. Koenig and S. Kumar, A Case for Collaborative Construction as Testbed for Cooperative Multi-Agent Planning, Proceedings of the ICAPS-17 Scheduling and Planning Applications Workshop (SPARK), 2017.

R. Morris, C. Pasareanu, K. Luckow, W. Malik, H. Ma, S. Kumar and **S. Koenig**, Planning, Scheduling and Monitoring for Airport Surface Operations, Proceedings of the AAAI-16 Workshop on Planning for Hybrid Systems, 2016.

H. Ma, **S. Koenig**, N. Ayanian, L. Cohen, W. Hoenig, S. Kumar, T. Uras, H. Xu, C. Tovey and G. Sharon, Overview: Generalizations of Multi-Agent Path Finding to Real-World Scenarios, Proceedings of the IJCAI-16 Workshop on Multi-Agent Path Finding, 2016.

M. Furuhashi, K. Daniel, **S. Koenig**, F. Ordonez, M. Dessouky, M. Brunet, L. Cohen and X. Wang, Online Cost-Sharing Mechanism Design for Demand-Responsive Transport Systems, Proceedings of the AAMAS-14 International Workshop on Agents in Traffic and Transportation (ATT), 2014.

S. Koenig, Creating a Uniform Framework for Task and Motion Planning: A Case for Incremental Heuristic Search? [Overview Paper], Proceedings of the ICAPS-10 Workshop on Combining Action and Motion Planning (CAMP), pages 29-34, 2010.

W. Yeoh, R. Zivan and **S. Koenig**, Discrepancy-Based Approach for Solving Distributed Constraint Optimization Problems, Proceedings of the International Workshop on Distributed Constraint Reasoning (DCR), pages 132-144, 2009.

M. Zyda and **S. Koenig**, Teaching Artificial Intelligence Playfully, Proceedings of the AAAI-08 Education Colloquium, pages 90-95, 2008.

X. Zheng and **S. Koenig**, Greedy Approaches for Solving Task-Allocation Problems with Coalitions, Proceedings of the AAMAS-08 Workshop on Formal Models and Methods for Multi-Robot Systems, pages 35-40, 2008.

S. Koenig, Position Paper: Topics for Future Planning Competitions [Position Paper], Proceedings of the ICAPS-03 Workshop on the Competition: Impact, Organization, Evaluation, Benchmarks, 2003.

S. Koenig, High-Stake Planning, Proceedings of the NASA International Workshop on Planning and Scheduling for Space, pages 144-150, 2000.

S. Koenig, Overview and Examples of Real-Time Search in Unknown or Nondeterministic Domains, Proceedings of the IJCAI-99 Workshop on Robot Action Planning, pages 17-22, 1999 (invited paper). Appeared also in: Proceedings of the AAAI-99 Workshop on Search Techniques for Problem Solving under Uncertainty and Incomplete Information, pages 65-70, 1999.

S. Koenig, Real-Time Heuristic Search: Research Issues, Proceedings of the AIPS-98 Workshop on Planning as Combinatorial Search: Propositional, Graph-Based and Disjunctive Planning Methods, pages 75-79, 1998.

R. Simmons, **S. Koenig**, J. Lopez and R. Goodwin, Towards Self-Reliant Autonomous Systems [Short Paper], Proceedings of the Workshop on Planning and Scheduling for Space, 1997.

S. Koenig and R.G. Simmons, Exploration with and without a Map, Proceedings of the AAAI-93 Workshop on Learning Action Models (also available as AAAI Technical Report WS-93-06), pages 28-32, 1993.

Reviews

S. Koenig, Book Review: From Animals to Animats 5, *Artificial Life*, Volume 6(3), pages 255-258, 2000.

Editorials

S. Koenig, G. Roeger, M. de Weerdt and M. Spaan, Preface, Proceedings of the International Conference on Automated Planning and Scheduling (ICAPS), 2018.

E. Eaton and **S. Koenig**, Preface, Proceedings of the Symposium on Educational Advances in Artificial Intelligence (EAAI) – Part of the Proceedings of the AAAI Conference on Artificial Intelligence (AAAI), 2017.

T. Neller and **S. Koenig**, Preface, Proceedings of the Symposium on Educational Advances in Artificial Intelligence (EAAI) – Part of the Proceedings of the AAAI Conference on Artificial Intelligence (AAAI), 2016.

B. Bonet and **S. Koenig**, Preface, Proceedings of the AAAI Conference on Artificial Intelligence (AAAI), 2015.

O. Brock, **S. Koenig**, N. Roy and G. Sukhatme, Editorial, *International Journal of Robotics Research* (Special Issue of Best Papers from Robotics: Science and Systems), pages 1163-1164, 2006.

S. Koenig, S. Kraus, M. Singh and M. Wooldridge, Editorial, Proceedings of the International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS), pages vi-vii, 2005.

C. Boutilier, T. Dean and **S. Koenig**, Editorial, *Artificial Intelligence Journal* (Special Issue on Planning with Uncertainty and Incomplete Information), Volume 147(1-2), pages 1-4, 2003.

S. Koenig and R. Holte, Preface, *Lecture Notes in Computer Science*, Volume 2371: Abstraction, Reformulation and Approximation, S. Koenig and R. Holte (editors), Springer, pages v-vi, 2002.

Conference Reports

R. Morris, B. Bonet, M. Cavazza, M. desJardins, A. Felner, N. Hawes, B. Knox, **S. Koenig**, G. Konidaris, J. Lang, C. López, D. Magazzeni, A. McGovern, S. Natarajan, N. Sturtevant, M. Thielscher, W. Yeoh, S. Sardina and K. Wagstaff, A Summary of the Twenty-Ninth AAAI Conference on Artificial Intelligence, *Artificial Intelligence Magazine* Volume 36(3), pages 99-106, 2015.

R. Bunescu, V. Carvalho, J. Chomicki, V. Conitzer, M. Cox, V. Dignum, Z. Dodds, M. Dredze, D. Furey, E. Gabrilovich, M. Göker, H. Guesgen, H. Hirsh, D. Jannach, U. Junker, W. Ketter, A. Kobsa, **S. Koenig**, T. Lau, L. Lewis, E. Matson, T. Metzler, R. Mihalcea, B. Mobasher, J. Pineau, P. Poupart, A. Raja, W. Ruml, N. Sadeh, G. Shani, D. Shapiro, S. Singh, M. Taylor, K. Wagstaff, T. Smith, W. Walsh and R. Zhou, AAAI 2008 Workshop Reports, *Artificial Intelligence Magazine*, Volume 30(1), pages 108-118, 2009.

W. Aichtner, E. Aimeur, S. Anand, D. Appelt, N. Ashish, T. Barnes, J. Beck, M. Dias, P. Doshi, C. Drummond, W. Elazmeh, A. Felner, D. Freitag, H. Geffner, C. Geib, R. Goodwin, R. Holte, F. Hutter, F. Isaac, N. Japkowicz, G. Kaminka, **S. Koenig**, M. Lagoudakis, D. Leake, L. Lewis, H. Liu, T. Metzler, R. Mihalcea, B. Mobasher, P. Poupart, D. Pynadath, T. Roth-Berghofer, W. Ruml, S. Schulz, S. Schwarz, S. Seneff, A. Sheth, R. Sun, M. Thielscher, A. Upal, J. Williams, S. Young and D. Zelenko, Reports on the Twenty-First National Conference on Artificial Intelligence (AAAI-06) Workshop Program, *Artificial Intelligence Magazine*, Volume 27(4), pages 92-102, 2006.

S. Koenig, S. Kraus, M. Singh and M. Wooldridge, AAMAS, the Fourth International Joint Conference on Autonomous Agents and Multiagent Systems (AAMAS-05), *Artificial Intelligence Magazine*, Volume 27(1), pages 103-107, 2006.

S. Zilberstein, J. Koehler and **S. Koenig**, ICAPS, the Fourteenth International Conference on Automated Planning and Scheduling (ICAPS-04), *Artificial Intelligence Magazine*, Volume 25(4), pages 101-104, 2004.

S. Koenig and R. Holte, SARA Conference Report, *Artificial Intelligence Magazine* Volume 24(1), pages 99-100, 2003.

D. Musliner, B. Pell, W. Dobson, K. Goebel, G. Vanderbilt, S. McIlraith, G. Gini, **S. Koenig**, S. Zilberstein and W. Zhang, Reports on the AAAI Spring Symposia, *Artificial Intelligence Magazine*, Volume 21(2), pages 79-84, 2000.

Other

S. Koenig, S. Das, M. Paradis, E. Eaton, Y. Gil, K. Guo, B. Huang, A. Jiang, B. Kuipers, N. Mattei, A. McGovern, L. Medsker, T. Neller, P. Petrov, M. Rovatsos and D. Stork, ACM SIGAI Activity Report, *AI Matters*, Volume 3(3), pages 7-11, 2017.

R. Alterovitz, **S. Koenig** and M. Likhachev (Organizers), NSF/NRI-Sponsored Workshop Report: Robot Planning in the Real World: Research Challenges and Opportunities, robotics.cs.unc.edu/PlanningWorkshop2013, 2013.

D. Wong and **S. Koenig**, PinHorse: Teaching Old Pinball Machines New Tricks, www.pinballnews.com, 2009.

Edited Proceedings

M. de Weerdt, **S. Koenig**, G. Roeger and M. Spaan, Preface, Proceedings of the International Conference on Automated Planning and Scheduling (ICAPS), 2018.

- B. Bonet, **S. Koenig**, B. Kuipers, I. Nourbakhsh, S. Russell, M. Vardi and T. Walsh (editors): Proceedings of the AAAI-16 Workshop on AI, Ethics and Society, AAAI Press (WS-16-02), 2016,
- B. Bonet and **S. Koenig** (editors), Proceedings of the AAAI Conference on Artificial Intelligence, AAAI Press, 2015.
- D. Furcy, **S. Koenig**, W. Ruml and R. Zhou (editors), Proceedings of the AAAI-08 Workshop on Search in Artificial Intelligence and Robotics, AAAI Press (WS-08-10), 2008.
- B. Dias, **S. Koenig** and M. Lagoudakis (editors), Working Notes of the AAAI-06 Workshop on Auction-Based Robot Coordination, AAAI Press, 2006.
- F. Dignum, V. Dignum, **S. Koenig**, S. Kraus, M. Singh and M. Wooldridge (editors), Proceedings of the International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS), Volumes 1-4, ACM, 2005.
- V. Bultiko and **S. Koenig** (editors), Proceedings of the IJCAI-05 Workshop on Planning and Learning in A Priori Unknown or Dynamic Domains, 2005.
- S. Zilberstein, J. Koehler and **S. Koenig** (editors), Proceedings of the International Conference on Automated Planning and Scheduling (ICAPS), AAAI Press, 2004.
- S. Koenig** and R. Holte (editors), Lecture Notes in Artificial Intelligence, 2371: Abstraction, Reformulation and Approximation (SARA), Springer, 2002.
- S. Koenig** and R. Goodwin (editors), Proceedings of the AIPS-00 Workshop on Decision-Theoretic Planning, 2000.
- W. Zhang and **S. Koenig** (editors), Proceedings of the AAAI-99 Workshop on Search Techniques for Problem Solving under Uncertainty and Incomplete Information, AAAI Press (SS-99-07), 1999.
- S. Koenig**, A. Blum, R. Korf and T. Ishida (editors), Proceedings of the AAAI-97 Workshop on On-Line Search, AAAI Press (WS-97-10), 1997.

SERVICE TO THE UNIVERSITY

School Level at USC

2018-2020	Engineering Faculty Council
2014-2016	Engineering Faculty Council (2014-2015: Academic Instruction Committee, 2015: Committee on Electronic Surveys and Voting)
2014-now	Faculty mentor of the USC Chapter of the Association for the Advancement of Artificial Intelligence
2013	Grade Appeal Panel
2012-2013	Engineering Faculty Council
2010	Dean-Engineering Faculty Council Standing Committee on Faculty Recruitment and Retention
2009-2010	Viterbi School of Engineering Committee on Professional Masters Degree Program
2008-2009	Dean-Engineering Faculty Council Standing Committee on Academic Programs
2008-2010	Engineering Faculty Council (2008-2009: Webmaster)
2008	Viterbi School of Engineering Committee on Serving the M.S. Students Better
2005	Engineering Faculty Council Subcommittee on the Annual Faculty Record (AFR) Websystem
2004-2006	Engineering Faculty Council

Department Level at USC

2015	Appointment Committee
2012	Advisory Board of the Computer Science Undergraduate Curriculum Committee
2009-2010	Computer Science IT Advisory Committee
2009	Appointment Committee
2007	Computer Science Department IT Service Survey and Evaluation
2006	Merit Review Committee
2006	Re-Appointment Committee - Chair
2005-2009	Organizer of 10 USC Programming Competitions (with David Kempe and, since Spring 2009, Suya You) [casual help in Spring 2013 and Fall 2014]
2008-now	IT Support for the USC Programming Competitions (Wiki Maintenance)
2004	Hiring Subcommittee in Autonomy
2004-2005	Appointment Committee - Chair
2004	Appointment Committee - Chair

2004 Committee to Design Mathematics Courses for Computer Science Students
 2003-2004 Ph.D. Committee
 2003-2005 Promotion Subcommittee - Chair

University Level at Georgia Institute of Technology

1999-2001 Academic Senate
 1999-2001 General Faculty Assembly

School Level at Georgia Institute of Technology

2003 Initiator of Informal Speaker Exchange Program with the AI Center at the University of Georgia
 2001-2002 Honors and Awards Committee
 2001 Reappointment, Tenure and Promotion Subcommittee - Observer
 2000-2001 Faculty Recruiting Committee
 1999-2000 Undergraduate Curriculum Committee
 1999 Temporary Area Advisor for Intelligent Systems (3 months)
 1999 Cognitive Science Executive Committee
 1999 Coordinator: Cognitive Science Colloquium Series
 1998-1999 Graduate Curriculum Committee

SERVICE TO THE RESEARCH COMMUNITY

Associate Editor

2014-now Artificial Intelligence Journal (AIJ) – Jan 2017- Dec 2019: Sponsorship Committee
 2013-2015 AI Access (Nonprofit Book Publisher) [ceased to exist in 2015]
 2010-now Autonomous Agents and Multi-Agent Systems (JAAMAS)
 2007-now Advances in Complex Systems (ACS)
 2004/5-2007/8 Journal of Artificial Intelligence Research (JAIR)
 2003-2015 Computational Intelligence (CI) - Action Editor

Editor

2015-now Communications of the ACM (Research Highlights)
 2013-2014 Artificial Intelligence Journal (AIJ)
 2013-2016 Computational Cognitive Science (Springer) [ceased to exist in 2016]
 2012-now Progress in Artificial Intelligence (Springer)
 2010-now Artificial Intelligence Magazine – 2012-2018: Competition Report Co-Editor (initiated effort), 2016-2018:
 AI in Industry Co-Editor (initiated effort)
 2006-2011 International Journal of Advanced Robotic Systems - Editorial Consultant Board
 2000-2003 Journal of Artificial Intelligence Research (JAIR)

Guest Editor of Special Journal Issues

2005-2006 International Journal of Robotics Research (IJRR) - Special Issue of Best Papers from Robotics: Science and
 Systems
 2004-2006 Journal of Machine Learning Research (JMLR) - Special Track on Learning in Large Probabilistic
 Environments
 2001-2003 Artificial Intelligence Journal (AIJ) - Special Issue on Planning with Uncertainty and Incomplete
 Information)

Long-Term Organizational Steering, Executive or Advisory Committees

2017-now IEEE Global Initiative on Ethics of Autonomous and Intelligent Systems (formerly: IEEE Global Initiative
 for Ethical Considerations in Artificial Intelligence and Autonomous Systems) – Executive Committee (and
 part of the Working Group “Embedding Values into Autonomous Intelligent Systems”)
 2014-now Lifeboat Foundation - Advisory Board (Robotics/Artificial Intelligence)
 2013-2016 Association for the Advancement of Artificial Intelligence (AAAI) – Council (2013-2014: Conference

Outreach Committee, International Committee and Government Liaison Committee, 2014-2015: Conference Committee, Membership Committee and International Committee, 2015-2016: Conference Committee, Ethics Committee and Education Committee, 2016: Membership Committee (Chair), Nominating Committee, Conference Committee, International Committee, Policy and Government Relations Committee, Ethics Committee and Education Committee), 2016-2018: Conference Committee and Education Committee (continued))

2011-2015 National ICT Australia Optimization Group - Advisory Board

Long-Term Editorial Steering, Executive or Advisory Committees

2018-2021 Artificial Intelligence Magazine – Advisory Board

2012 Versita Open Access Books Program in Engineering, Industry, Transportation [became inactive] – Advisory Board

2007/8-2016 Journal of Artificial Intelligence Research (JAIR) – Advisory Board

Long-Term Conference Steering, Executive or Advisory Committees

2018-now AAAI/ACM Conference on Artificial Intelligence, Ethics, and Society (AIES) – Steering Committee

2017-now Symposium on Educational Advances in Artificial Intelligence (EAAI) – Steering Committee

2014-now ACM Special Interest Group on Artificial Intelligence (SIGAI) – (appointed) Conference Coordination Officer (2014-2016) and (elected) Chair (2016-now)

2010-2015 International Symposium on Combinatorial Search (SoCS) - Governing Council

2005-2014 Robotics: Science and Systems (RSS) - Co-Founder and Conference Board (2009-2010: Board of Directors, 2010-2014: Advisory Board)

2004-2010 International Conference on Automated Planning and Scheduling (ICAPS) - Executive Council (2006: elected Secretary, 2008: re-elected Secretary)

2002-now Symposium on Abstraction, Reformulation and Approximation (SARA) - Steering Committee [the last symposium was held in 2013]

2003-2005 Americas School on Agents and Multiagent Systems - Advisory Committee

Program Committees of Special Journal Issues

1997 Autonomous Robots - Special Issue on Robot Learning

Conference Chair or Co-Chair

2018 International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS) Area Chairs: 22, SPC: 101, and PC: 427 (Innovations: cooperation with two other major AI conferences, IJCAI and ICML, as well as SoCS and ICCBR to form the First Federated AI Meeting, first student lunch with an expert)

2017 Symposium on Educational Advances in Artificial Intelligence (EAAI) – PC: 50

2016 Symposium on Educational Advances in Artificial Intelligence (EAAI) – PC: 49

2013 NSF/NRI-Sponsored Workshop on Robot Planning in the Real World: Research Challenges and Opportunities – Workshop Co-Chair

2009 International Symposium on Combinatorial Search (SoCS) - Co-Founder - PC: 21

2004 International Conference on Automated Planning and Scheduling (ICAPS) - PC: 62

2002 (3-Day) Symposium on Abstraction, Reformulation and Approximation (SARA) - PC: 28

Conference Program Chair or Co-Chair

2018 International Conference on Automated Planning and Scheduling (ICAPS) – PC: 202 (Innovation: experimented with a new paper review model)

2015 AAAI Conference on Artificial Intelligence (AAAI) - SPC: 89 and PC: 974 (Themes: robotics, ethics; Innovations: software demonstration programs, virtual agent exhibition, computer-game showcase, funding information session with program directors from different funding agencies, blue sky idea talks on visions intended to stimulate new directions in AI research, open house for the general public, substantially extended technical, mentoring and social activities for students, AAAI community meeting and the AAAI/ACM SIGAI job fair; New cooperations: IEEE Robotics and Automation Society, RoboCup Federation and Robotics: Science and Systems Foundation in the context of the Shakey celebration, invited paper presentations from Robotics: Science and Systems 2014, invited presentations from robotics student fellowship recipients, robotics exhibition with RoboCup soccer exhibition match, NSF-sponsored workshop on Research Issues at the Boundary of AI and Robotics and many more activities; Received submissions:

- 1991 – a record in 2015)
- 2008 Nectar Program of AAAI Conference on Artificial Intelligence (AAAI) - PC: 69
- 2007 Nectar Program of AAAI Conference on Artificial Intelligence (AAAI) - PC: 60
- 2005 International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS) - SPC: 40, PC: 333

Conference Advisory Committees

- 2015 International Conference on Collaboration Technologies and Systems (CTS)
- 2014 International Conference on Collaboration Technologies and Systems (CTS)
- 2013 International Conference on Collaboration Technologies and Systems (CTS)

Conference Organizing Committees

- 2017 International Joint Conference on Artificial Intelligence (IJCAI) - Robot Competition and Exhibition Co-Chair
- 2016 AAAI/ACM SIGAI Job Fair at AAAI-16 – Co-Organizer
- 2015 AAAI/ACM SIGAI Job Fair at AAAI-15 – Initiator and Co-Organizer
- 2015 International Conference on Automated Planning and Scheduling – Doctoral Consortium Co-Chair
- 2014 International Conference on Automated Planning and Scheduling – Tutorial Co-Chair
- 2005 Robotics: Science and Systems (RSS) - Workshop Co-Chair
- 2002 AAAI Conference on Artificial Intelligence (AAAI) - Student Abstract and Poster Program Co-Chair - PC: 28
- 1999-2000 2x AAAI Conference on Artificial Intelligence (AAAI) - Student Abstract and Poster Program Chair

Senior Conference Program Committees

- 2018 AAAI Conference on Artificial Intelligence (AAAI) – Area Chair
- 2017 AAAI Conference on Artificial Intelligence (AAAI)
- 2016 International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS)
- 2016 International Joint Conference on Artificial Intelligence (IJCAI) – Area Chair
- 2015 International Joint Conference on Artificial Intelligence (IJCAI) – Video Competition and Sister Conference Tracks
- 2015 International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS)
- 2014 AAAI Conference on Artificial Intelligence (AAAI)
- 2013 AAAI Conference on Artificial Intelligence (AAAI) - Associate Chair
- 2013 International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS) - Challenges and Vision Track
- 2013 International Joint Conference on Artificial Intelligence (IJCAI)
- 2012 International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS)
- 2012 AAAI Conference on Artificial Intelligence (AAAI) - Area Chair
- 2011 International Joint Conference on Artificial Intelligence (IJCAI) - Area Chair
- 2011 International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS)
- 2010 AAAI Conference on Artificial Intelligence (AAAI)
- 2009 International Conference on Automated Planning and Scheduling (ICAPS)
- 2009 International Joint Conference on Artificial Intelligence (IJCAI) - Area Chair
- 2008 International Conference on Machine Learning (ICML)
- 2007 International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS)
- 2006 AAAI Conference on Artificial Intelligence (AAAI)
- 2006 International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS)

Conference Program Committees

- 2018 AAAI/ACM Conference on Artificial Intelligence, Ethics, and Society (AIES)
- 2018 IEEE Conference on Computational Intelligence in Games (CIG)
- 2018 International Symposium on Combinatorial Search (SoCS)
- 2018 AAAI Spring Symposium on Integrating Representation, Reasoning, Learning and Execution for Goal Directed Autonomy (SIRLE)

2018 International Workshop on Optimization in Multiagent Systems (OptMAS)

2018 ICAPS Workshop on Planning and Robotics (PlanRob)

2017 International Symposium on Combinatorial Search (SoCS)

2017 International Conference on Automated Planning and Scheduling (ICAPS) – Main Track and Robotics Track

2017 Annual AAAI Conference on AI and Interactive Digital Entertainment (AIIDE)

2017 Symposium on Educational Advances in Artificial Intelligence (EAAI)

2017 IEEE Conference on Computational Intelligence in Games (CIG)

2017 ACM SIGGRAPH Conference on Motion in Games (MIG)

2017 FLAIRS Special Track on Autonomous Robots and Agents

2017 AAAI Workshop on Knowledge-Based Techniques for Problem Solving and Reasoning (KnowProS)

2017 ICAPS Workshop on Planning and Robotics (PlanRob)

2017 AAMAS Workshop on Optimization in Multi-Agent Systems (OPTMAS)

2016 AAAI Conference on Artificial Intelligence (AAAI) – Senior Member Paper Track

2016 International Conference on Automated Planning and Scheduling (ICAPS) – Journal Presentation Track

2016 Annual AAAI Conference on AI and Interactive Digital Entertainment (AIIDE)

2016 FLAIRS Special Track on Autonomous Robots and Agents

2016 International Symposium on Combinatorial Search (SoCS)

2016 AAMAS Workshop on Optimization in Multi-Agent Systems (OPTMAS)

2016 ICAPS Workshop on Planning and Robotics (PlanRob)

2016 RSS Workshop on On-Line Decision-Making in Multi-Robot Coordination (DEMUR)

2016 IJCAI Workshop on Knowledge-Based Techniques for Problem Solving and Reasoning (KnowProS)

2016 RSS Workshop on Robot Learning and Planning (RLP)

2016 International Conference on Motion in Games (MIG)

2016 International Workshop on the Algorithmic Foundations of Robotics (WAFR)

2015 International Conference on Automated Planning and Scheduling (ICAPS) – Robotics Track and Journal Presentation Track

2015 Annual AAAI Conference on AI and Interactive Digital Entertainment (AIIDE)

2015 International Symposium on Combinatorial Search (SoCS)

2015 International Conference on Motion in Games (MIG)

2015 IROS Workshop on On-Line Decision Making in Multi-Robot Coordination (DEMUR)

2014 International Conference on Automated Planning and Scheduling (ICAPS) – Main Track, Robotics Track and Journal Presentation Track

2014 Annual AAAI Conference on AI and Interactive Digital Entertainment (AIIDE)

2014 International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS) - Challenges and Vision Track

2014 Robotics: Science and Systems (RSS)

2014 Symposium on Educational Advances in Artificial Intelligence (EAAI)

2014 FLAIRS Special Track on Intelligent Autonomous Systems (IAS)

2014 International Symposium on Combinatorial Search (SoCS)

2014 ICAPS Workshop on Planning and Robotics (PlanRob)

2014 International Joint Workshop on Optimization in Multi-Agent Systems and Distributed Constraint Reasoning (OPTMAS-DCR)

2014 International Workshop on the Algorithmic Foundations of Robotics (WAFR)

2014 International Workshop on Intelligence on Networked Agents (WEIN)

2014 International Conference on Motion in Games (MIG)

2013 Symposium on Abstraction, Reformulation and Approximation (SARA)

2013 International Conference on Motion in Games (MIG)

2013 Annual AAAI Conference on AI and Interactive Digital Entertainment (AIIDE)

2013 International Symposium on Combinatorial Search (SoCS)

2013 ICAPS Workshop on Planning and Robotics (PlanRob)

2013 Symposium on Educational Advances in Artificial Intelligence (EAAI)

2013 Robotics: Science and Systems (RSS)

2013 International Conference on Automated Planning and Scheduling (ICAPS) – Main Track and Journal Presentation Track

2013 AAMAS Workshop on Optimization in Multi-Agent Systems (OPTMAS)

2013 IJCAI Video Competition

2012 International Conference on Motion in Games (MIG)

2012 Annual AAAI Conference on AI and Interactive Digital Entertainment (AIIDE)

2012 International Conference on Automated Planning and Scheduling (ICAPS)

2012 International Symposium on Combinatorial Search (SoCS)

2012 FLAIRS Special Track on Artificial Intelligence Education

2012 AAMAS Workshop on Optimization in Multi-Agent Systems (OPTMAS)

2012 ICAPS Workshop on Heuristics and Search for Domain-Independent Planning (HSDIP)

2012 ICAPS Workshop on Combining Task and Motion Planning for Real-World Applications (TAMPRA)

2011 International Symposium on Combinatorial Search (SoCS)

2011 International Conference on Automated Planning and Scheduling (ICAPS)

2011 Annual AAAI Conference on AI and Interactive Digital Entertainment (AIIDE)

2011 AAAI Workshop on Automated Action Planning for Autonomous Mobile Robots (PAMR)

2010 AAAI Bridging the Gap between Task and Motion Planning (BTAMP)

2010 AAAI Workshop on Abstraction, Reformulation and Approximation (WARA)

2010 Annual AAAI Conference on AI and Interactive Digital Entertainment (AIIDE)

2010 International Conference on Automated Planning and Scheduling (ICAPS)

2010 International Symposium on Combinatorial Search (SoCS)

2010 International Symposium on Artificial Intelligence and Mathematics (ISAIM)

2010 Educational Advances in Artificial Intelligence (EAAI)

2010 ICAPS Workshop on Planning in Games

2010 AAMAS Satellite Workshop on Emergent Intelligence on Networked Agents (WEIN)

2010 AAMAS Workshop on Agent Mediated Electronic Commerce (AMEC)

2010 AAMAS Workshop on Optimization in Multi-Agent Systems (OPTMAS)

2010 AAMAS Workshop on Multi-Agent Sequential Decision Making in Uncertain Domains (MSDM)

2010 ICRA Workshop on Search and Pursuit/Evasion in the Physical World

2009 AAMAS Workshop on Optimization in Multi-Agent Systems (OPTMAS)

2009 AAMAS Workshop on Multi-Agent Sequential Decision Making in Uncertain Domains (MSDM)

2009 AAMAS Workshop on Agent Mediated Electronic Commerce (AMEC)

2009 ICAPS Workshop on Heuristics for Domain-Independent Planning

2009 ICAPS Workshop on Bridging the Gap between Task and Motion Planning

2009 Conference on Auctions, Market Mechanisms and Their Applications (AMMA)

2009 International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS)

2008 International Conference on Automated Planning and Scheduling (ICAPS)

2008 International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS)

2008 Brazilian Symposium on Artificial Intelligence (SBIA)

2008 International Workshop on the Algorithmic Foundations of Robotics (WAFR)

2008 AAAI Education Colloquium

2008 AAMAS Workshop on Multi-Agent Sequential Decision Making in Uncertain Domains (MSDM)

2008 AAMAS Workshop on Optimization in Multi-Agent Systems (OPTMAS)

2008 ICAPS Workshop on Multiagent Planning (MASPLAN)

2008 International Symposium on Artificial Intelligence and Mathematics (ISAIM)

2007 International Conference on Automated Planning and Scheduling (ICAPS)

2007 International Joint Conference on Artificial Intelligence (IJCAI)

2007 Symposium on Abstraction, Reformulation and Approximation (SARA)

2007 AAMAS Workshop on Multi-Agent Sequential Decision Making in Uncertain Domains
 2007 AAMAS Workshop on Coordinating Agents' Plans and Schedules
 2006 European Conference on Artificial Intelligence (ECAI)
 2006 Robotics: Science and Systems (RSS)
 2006 AAAI Workshop on Learning for Search
 2006 International Conference on Automated Planning and Scheduling (ICAPS)
 2006 IEEE International Conference on Robotics and Automation (ICRA) - Poster Committee
 2006 International Conference on Intelligent Autonomous Systems (IAS)
 2006 International Symposium on Artificial Intelligence and Mathematics (ISAIM)
 2005 International Joint Conference on Artificial Intelligence (IJCAI) - Poster Committee
 2005 AAAI Conference on Artificial Intelligence (AAAI)
 2005 Symposium on Abstraction, Reformulation and Approximation (SARA)
 2005 IEEE International Conference on Robotics and Automation (ICRA)
 2005 International Conference on Automated Planning and Scheduling (ICAPS)
 2005 Robotics: Science and Systems (RSS)
 2005 International Conference on Advanced Robotics (ICAR)
 2004 International Conference on Autonomous Agents and Multiagent Systems (AAMAS)
 2004 International Workshop on Ant Algorithms (ANTS)
 2004 International Symposium on Artificial Intelligence and Mathematics (ISAIM)
 2004 International Conference on Machine Learning (ICML)
 2004 International Conference on Intelligent Autonomous Systems (IAS)
 2003 International Conference on Automated Planning and Scheduling (ICAPS)
 2003 International Joint Conference on Artificial Intelligence (IJCAI) - Poster Committee
 2003 IEEE International Conference on Intelligent Robots and Systems (IROS)
 2003 IJCAI Workshop on Issues in Designing Physical Agents for Dynamic Real-Time Environments
 2003 ICAPS Workshop on Planning under Uncertainty and Incomplete Information
 2003 International Workshop on the Mathematics and Algorithms of Social Insects
 2002 International Conference on Artificial Intelligence Planning and Scheduling (AIPS)
 2002 AAAI Conference on Artificial Intelligence (AAAI)
 2002 International Conference on Machine Learning (ICML)
 2002 Joint AAAI/KDD/UAI Workshop on Real-Time Decision Support and Diagnosis Systems
 2001 IJCAI Workshop on Planning under Uncertainty and Incomplete Information
 2001 European Conference on Planning (ECP)
 2001 ICAI Special Session on Learning and Adapting in Artificial Intelligence Planning
 2000 International Conference on Machine Learning (ICML)
 2000 International Conference on Artificial Intelligence Planning and Scheduling (AIPS)
 2000 International Conference on Tools with Artificial Intelligence (ICTAI)
 2000 International Conference on Intelligent Autonomous Systems (IAS)
 1998 International Conference on Artificial Intelligence Planning and Scheduling (AIPS)
 1998 AAAI Conference on Artificial Intelligence (AAAI)

Conference Boards of Reviewers

2014 IEEE International Conference on Intelligent Robots and Systems (IROS)
 2010 IEEE International Conference on Intelligent Robots and Systems (IROS)
 2010 AAAI Student Abstract (and Poster) Program
 2009 IEEE International Conference on Robotics and Automation (ICRA)
 2008 IEEE International Conference on Robotics and Automation (ICRA)
 2007 AAAI Student Abstract (and Poster) Program
 2005 Neural Information Processing Systems (NIPS)
 2005 International Joint Conference on Artificial Intelligence (IJCAI) - SWAT Team

2004 Neural Information Processing Systems (NIPS)
 2003 International Joint Conference on Artificial Intelligence (IJCAI)
 2003 Neural Information Processing Systems (NIPS)
 2002 Neural Information Processing Systems (NIPS)
 2001 Neural Information Processing Systems (NIPS)
 2001 International Joint Conference on Artificial Intelligence (IJCAI)
 1999 International Joint Conference on Artificial Intelligence (IJCAI)
 1997 International Joint Conference on Artificial Intelligence (IJCAI)

Conference Session Chair or Co-Chair

2018 Session “Planning, Learning, and Search”
 at the AAAI Conference on Artificial Intelligence
 2018 Session “Multiagent Systems 1”
 at the AAAI Conference on Artificial Intelligence
 2018 Session “Planning and Scheduling 3”
 at the AAAI Conference on Artificial Intelligence
 2018 Session “FOND and Contingent Planning”
 at the International Conference on Automated Planning and Scheduling (ICAPS)
 2018 Introduction of Invited Speaker Richard Korf
 at the International Conference on Automated Planning and Scheduling (ICAPS)
 2018 Session “Search Applications”
 at the International Symposium on Combinatorial Search (SoCS)
 2018 Introduction of Invited Speaker Robert Holte
 at the International Symposium on Combinatorial Search (SoCS)
 2017 Session “MT-CG: Computer Games”
 at the International Joint Conference on Artificial Intelligence (IJCAI)
 2017 Session “MAS1: Coordination and Collaboration”
 at the AAAI Conference on Artificial Intelligence
 2017 Session “Senior Member Talks 1”
 at the AAAI Conference on Artificial Intelligence
 2016 Introduction of Invited Speaker Robert Holte
 at the International Joint Conference on Artificial Intelligence (IJCAI)
 2016 Session “Early Career Spotlight Talks - Sonia Chernova and Praddep Varakantham”
 at the International Joint Conference on Artificial Intelligence (IJCAI)
 2016 Session “Planning and Scheduling 3 :: Planning under Uncertainty 1”
 at the International Joint Conference on Artificial Intelligence (IJCAI)
 2016 Session “Combinatorial and Heuristic Search 4”
 at the International Joint Conference on Artificial Intelligence (IJCAI)
 2016 Session “Senior Member 2: Blue Sky and Summary Talks”
 at the AAAI Conference on Artificial Intelligence
 2016 Session “Planning”
 at the International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS)
 2016 Session “Distributed Multi-Agent Planning”
 at the International Conference on Automated Planning and Scheduling (ICAPS)
 2016 Session “Path Planning” (Robotics Session)
 at the International Conference on Automated Planning and Scheduling (ICAPS)
 2015 Session “Shakey Celebration: AAAI/ICRA Papers”
 at the International Conference on Robotics and Automation (ICRA)
 2015 Session “Multi-Agent Planning”
 at the International Conference on Automated Planning and Scheduling (ICAPS)
 2015 Session 2
 at the International Symposium on Combinatorial Search (SoCS)
 2014 Session “Heuristic Search and Optimization / Reinforcement Learning”

at the AAAI Conference on Artificial Intelligence
 2014 Session “Heuristic Search and Optimization / Planning and Scheduling”
 at the AAAI Conference on Artificial Intelligence
 2014 2x Session “Planning and Scheduling”
 at the AAAI Conference on Artificial Intelligence
 2014 Session “Task and Motion Planning”
 at the ICAPS Workshop on Planning and Robotics (PlanRob)
 2014 Session “Search in Applications”
 at the International Symposium on Combinatorial Search (SoCS)
 2013 Session “Real-Time Search”
 at the International Symposium on Combinatorial Search (SoCS)
 2013 Session “Heuristics and Search II”
 at the International Conference on Automated Planning and Scheduling (ICAPS)
 2013 Session “Task and Motion Planning”
 at the ICAPS Workshop on Planning and Robotics (PlanRob)
 2012 Session “Multiagent Systems I”
 at the AAAI Conference on Artificial Intelligence
 2012 Session “Multiagent Systems V”
 at the AAAI Conference on Artificial Intelligence
 2012 Session “Spotlights Track: Games”
 at the AAAI Conference on Artificial Intelligence
 2012 Session “Robotics I”
 at the International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS)
 2012 Discussant of Paper “Probabilistically Reusing Plans in Deterministic Planning”
 at the ICAPS-12 Workshop on Heuristics and Search for Domain-Independent Planning (HSDIP)
 2011 Session “Path Planning”
 at the International Symposium on Combinatorial Search (SoCS)
 2011 Session “Planning: Search”
 at the International Joint Conference on Artificial Intelligence (IJCAI)
 2011 Session “Agents: Pathfinding”
 at the International Joint Conference on Artificial Intelligence (IJCAI)
 2011 Session “Planning”
 at the International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS)
 2010 Session “Paper Session II: Using Robots in Education”
 at the Symposium on Educational Advances in Artificial Intelligence (EAAI)
 2010 Session “Search 1”
 at the AAAI Conference on Artificial Intelligence
 2010 Session “Path Planning 2”
 at the AAAI Conference on Artificial Intelligence
 2009 Session on “Distributed and Multiagent Planning and Scheduling”
 at the International Conference on Automated Planning and Scheduling (ICAPS)
 2009 Session on “Advances in A* Search”
 at the International Joint Conference on Artificial Intelligence (IJCAI)
 2009 Session on “Search in Games”
 at the International Joint Conference on Artificial Intelligence (IJCAI)
 2009 Introduction of Invited Speaker Robert Holte
 at the International Symposium on Combinatorial Search (SoCS)
 2009 Untitled Session
 at the ICAPS-09 Workshop on Bridging the Gap between Task and Motion Planning
 2008 Session on “Applications of Reinforcement Learning”
 at the Annual AAAI Conference on AI and Interactive Digital Entertainment (AIIDE)
 2008 Session on “Uncertainty in Planning and Scheduling”

at the International Conference on Automated Planning and Scheduling (ICAPS)
 2008 Session on "Nectar: Learning and Activity Recognition"
 at the AAAI Conference on Artificial Intelligence (AAAI)
 2008 Session on "Planning with Uncertainty"
 at the IEEE International Conference on Robotics and Automation (ICRA)
 2007 Session on "Multi-Robot Path Planning"
 at the IEEE International Conference on Intelligent Robots and Systems (IROS)
 2007 Session on "On-Line Planning and Execution"
 at the International Conference on Automated Planning and Scheduling (ICAPS)
 2007 Session on "Heuristic Search 3"
 at the AAAI Conference on Artificial Intelligence (AAAI)
 2007 Session on "Optimization"
 at the AAAI Conference on Artificial Intelligence (AAAI) - Ad-Hoc Replacement
 2007 Session on "Collective Inference"
 at the AAAI Conference on Artificial Intelligence (AAAI) - Ad-Hoc Replacement
 2007 Session on "Multi-Agent Planning"
 at the International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS)
 2007 Session on "Search 2"
 at the International Joint Conference of Artificial Intelligence (IJCAI)
 2007 Untitled Session
 at the Symposium on Abstraction, Reformulation and Approximation (SARA)
 2006 Session on "Planning: Plan Recognition"
 at the AAAI Conference on Artificial Intelligence (AAAI)
 2006 Session on "Robotics III"
 at the AAAI Conference on Artificial Intelligence (AAAI)
 2006 Session on "Robotics"
 at the International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS)
 2006 Session on "Markov Decision Processes"
 at the International Symposium on Artificial Intelligence and Mathematics (ISAIM)
 2005 Introduction of Invited Speaker Cynthia Breazeal
 at the International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS)
 2005 Session on "Robotics"
 at the International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS)
 2005 Session on "Markov Decision Processes 1"
 at the AAAI Conference on Artificial Intelligence (AAAI)
 2005 Session on "Multiagent Systems 2"
 at the AAAI Conference on Artificial Intelligence (AAAI)
 2005 Session on "Probabilistic Robotics"
 at Robotics: Science and Systems (RSS)
 2004 Introduction of Invited Speaker Reid Simmons
 at the International Conference on Automated Planning and Scheduling (ICAPS)
 2003 Introduction of Invited Speaker Daniela Rus
 at the International Joint Conference on Artificial Intelligence (IJCAI)
 2003 Session on "Computational Intelligence"
 at the IEEE International Conference on Intelligent Robots and Systems (IROS)
 2003 Session on "Architecture and Programming"
 at the IEEE International Conference on Intelligent Robots and Systems (IROS)
 2003 Session on "Sensing, Uncertainty and Incomplete Information"
 at the International Conference on Automated Planning and Scheduling (ICAPS)
 2002 Session on "Robotic Planning"

- 2001 at the AIPS Workshop on Is There Life Beyond Operator Sequencing
Session on “Localization”
- 1998 at the IEEE International Conference on Intelligent Robots and Systems (IROS)
Session on “Search and Limited Resources”
- 1998 at the AAAI Conference on Artificial Intelligence (AAAI)
Session on “Reinforcement Learning”
- 1998 at the AAAI Conference on Artificial Intelligence (AAAI)

Workshop Chair or Co-Chair

- 2016 IJCAI International Workshop on Multi-Agent Path Finding (includes a 40-minute talk on our research)
- 2015 NSF-Sponsored Workshop at AAAI-15: Research Issues at the Boundary of AI and Robotics
- 2008 AAAI Workshop on Search in Artificial Intelligence and Robotics
- 2006 AAAI Workshop on Auction Mechanisms for Robot Coordination
- 2005 IJCAI Workshop on Planning and Learning in A Priori Unknown or Dynamic Domains
- 2000 AIPS Workshop on Decision-Theoretic Planning
- 1999 AAAI Spring Symposium on Search Strategies for Problem Solving under Uncertainty
- 1997 AAAI Workshop on On-Line Search

Workshop Organizing Committees

- 2016 Second AAAI Workshop on Artificial Intelligence, Ethics and Society
- 2015 First AAAI Workshop on Artificial Intelligence and Ethics
- 2006 ECAI Workshop on Planning, Learning and Monitoring with Uncertainty and Dynamic Worlds
- 2002 AIPS Workshop on Is There Life Beyond Operator Sequencing? - Exploring Real World Planning

Panel Membership

- 2018 ICAPS Panel “AI Education”
- 2018 EAAI Panel “Non-Traditional Research Experiences for Undergraduates”
- 2018 Panel II: Challenges in Long-Term Autonomy at the Smart and Autonomous Systems PI Meeting
- 2017 IJCAI Panel “AI in 2027”
- 2017 EAAI Panel “AI Ethics Education” (Moderator)
- 2016 Panel “We Come in Peace” by the North-East Ohio ACM Chapter
- 2015 Panel on Meta-Reasoning at the International Symposium on Combinatorial Search (SoCS)
- 2013 AAAI Session “Funding Panel: NSF Programs” (Session Co-Organizer and Panel Co-Moderator)
- 2012 WIC Top10Qi Panel (Top 10 Fundamental Questions and Challenges in Intelligent Informatics/Computing)
- 2011 IJCAI Session “Funding Opportunities for International Research Collaborations” (Session Organizer, Panel Moderator and Panel Speaker - as NSF representative)
- 2011 AAMAS Workshop on Optimisation in Multi-Agent Systems (OPTMAS)
- 2010 ICRA Workshop on Search and Pursuit/Evasion in the Physical World: Efficiency, Scalability and Guarantees
- 2010 AAMAS Workshop on Optimisation in Multi-Agent Systems (OPTMAS)
- 2009 AAMAS Workshop on Optimisation in Multi-Agent Systems (OPTMAS)
- 2008 AAAI Artificial Intelligence Teaching Forum
- 1994 AAAI Spring Symposium on Decision-Theoretic Planning

Judge

- 2018-2021 3x ICAPS Influential Paper Awards and ICAPS Best Dissertation Awards (2020: Chair)
- 2018 SoCS Career Awards
- 2017 ACM SIGAI Student Essay Contest on the Responsible Use of AI Technologies
- 2017 AAAI/EAAI Outstanding Educator Award
- 2016 Inaugural AAAI/EAAI Outstanding Educator Award - Chair
- 2016 AAAI-16 Student Abstract and Poster Program Talks
- 2015 SoCS Best Paper Awards

2010 SoCS Oral and Poster Presentation Awards
 2007-2009 3x ICAPS Influential Paper Awards and ICAPS Best Dissertation Awards (2009: Chair)
 2006 JAIR-IJCAI Best Paper Awards
 2002-2005 3x Intel International Science and Engineering Fair (ISEF), representing AAAI
 1999-2000 2x Robot Challenge Competition at the AAAI Conference on Artificial Intelligence (AAAI)

Research Program Reviewer

2016 Research School of Computer Science, Australian National University
 2012, 2014 National ICT Australia Optimization Group (Australia)
 2005 JPL Research Program “Deep Space Mission Systems IT”

Conference Proposal Reviewer

2014 Robotics: Science and Systems Workshop Proposals (Workshop Committee)
 2001-2002 2x AAAI Workshop Proposal

Research Proposal Reviewer

CUNY Collaborative Incentive Research Grant Program 2002; 7th European Union Framework Programme for Research and Technology Development (FP7) 2008, 2009, 2010, 2013; European Union Framework Programme for Research and Innovation (Horizon 2020) 2014; Israel Science Foundation 2008, 2013, 2014, 2016, 2018; NASA 2001, 2016; National University of Singapore: Academic Research Fund 2005; NSERC Discovery Grant Program 2004; NSERC Canada Research Chair Program 2005, 2008; NSF Grant Review Panel 1998, 2000, 2005, 2x 2007, 2009, 2013; Qatar National Research Fund 2013; U.S. Army Research Office 2008, 2011 (2x), 2012, 2013, 2015, 2018.

Journal Reviewer

Adaptive Behavior Journal 1996, 1999; Algorithmica 2002; Annals of Mathematics and Artificial Intelligence 2000, 2007; Artificial Intelligence Communications 2013; Artificial Intelligence Journal 1999, 2000 (3x), 2003 (2x), 2007 (2x), 2008, 2010, 2015; Artificial Intelligence Review 2009; Autonomous Agents and Multi-Agent Systems Journal 1999, 2001 (2x), 2003, 2007, 2009, 2010; Autonomous Robots Journal 1997, 2000, 2003 (2x); Electronic Commerce Research Journal 2001; IEEE/ACM Transaction on Networking 2001; IEEE Transactions on Pattern Analysis and Machine Intelligence 1998; IEEE Transactions on Evolutionary Computation 2001; IEEE Transactions on Robotics 2004, 2005 (2x), 2006; IEEE Transactions on Robotics and Automation 1999 (2x), 2000, 2001 (3x); Information and Computation Journal 1998; International Journal of Robotics Research 2006, 2007 (2x), 2008, 2009 (3x), 2010; Journal of Artificial Intelligence Research (JAIR) 1994, 1996, 1998 (2x), 1999, 2000, 2003, 2004 (3x), 2005, 2015, 2017; Journal of the Association for Computing Machinery 1997, 2004; Journal of Field Robotics 2007; Machine Learning Journal 1993, 1994, 1998, 1999 (2x), 2000; Multiagent and Grid Systems 2008; Neural Computing and Applications 2009; Robotica 2014.

Conference Reviewer (of individual papers)

Australian Joint Conference on Artificial Intelligence 1999; Dagstuhl Seminar on Plan-Based Control of Robotic Agents 2001; International Conference on Artificial Intelligence Planning and Scheduling (AIPS) 1996; International Conference on Industrial and Engineering Applications of Artificial Intelligence and Expert Systems (IEA/AIE) 1996; IEEE International Conference on Intelligent Robots and Systems (IROS) 2007, 2008, 2015; IEEE International Conference on Robotics and Automation (ICRA) 1996, 1997; International Conference on Tools for Artificial Intelligence (TAI) 1993; AAAI Conference on Artificial Intelligence (AAAI) 1993, 1996; Pacific Rim International Conference on Artificial Intelligence (PRICAI) 2000.

Book Proposal Reviewer

2000-2001 2x Prentice-Hall
 1999 2x McGraw-Hill
 1999 Kluwer

Others

2014 Invited Participant in the New York Artificial Intelligence Summit
 2008 Invited Member of the IPTO Cognitive Mobile Robotics Technical Interchange Planning Meeting
 2008-now Member of the IEEE RAS Technical Committee on Algorithms for Planning and Control of Robot Motion
 2007 Invited Member of the DARPA Information Science and Technology Study Group on “Engineering Ensemble Effects”
 2006 Invited Participant in the Microsoft Academic Days on “Gaming Concepts and Technologies”
 2004 Organizer of the ICAPS Logo Competition

2002-now Creator and Maintainer of idm-lab.org/aaaiposters.html (a webpage for the AAI Student Abstract and Poster Program) 2002-2011, www.icaps-conference.org (the website of the ICAPS conference series) since 2003, www.search-conference.org (the website of the SoCS symposium series) since 2008, contest.usc.edu (the website of the USC Programming Contest) since 2005

1996 Member of Carnegie Mellon University's Team: AAI Robot Competition