

About the Contributors

Goran Trajkovski is the founding Editor-in-chief of the *International Journal of Agent Technologies and Systems*. He is a partner and the CEO of Algoco eLearning Consulting, and the VP for Business Development for the Americas at Kreofina. He is now the Dean of the School of Computer Information Systems and the Director of Online Education at Virginia International University in Fairfax, VA, USA. In the past, he has served as faculty at different institutions, as well as the Director of Product Strategy and Development at Laureate Education, Inc., and the Chair of the Department of Information Technologies at the Education Management Corporation (EDMC)/South University, USA. In 2003, he founded the Cognitive Agency and Robotics Laboratory (CARoL) at Towson University, Towson, MD, USA. Dr. Trajkovski's research focuses on cognitive and developmental robotics, and interaction and emergent phenomena in societies of agents. He is an affiliate of the Institute for Interactivist Studies at Lehigh University, and a member of the organizing committee of the biannual Interactivist Summer Institutes. He has authored over 300 publications, including twelve books and edited volumes. He has chaired two symposia for the Association for Advancement of Artificial Intelligence. His work has been funded by NSF, the National Academies of the Sciences, and OWASP (Open Web Application Security Project). Dr Trajkovski hold a BSc in Applied Informatics, MSc in Mathematical and Computer Sciences, and PhD in Computing Sciences from the University "SS Cyril and Methodius," Skopje, Macedonia.

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Stephane Airiau is a postdoc fellow at the Institute for Logic, Language, and Computation at the University of Amsterdam, Netherlands. He is working on collective decision making in combinatorial domains. He obtained his engineering degree from ENSEIHT, Toulouse (France) in 2001, his MSc and PhD from the University of Tulsa (Oklahoma, USA) in 2007. His dissertation addresses issues of payoff distribution and fairness in coalition formation. He visited RMIT University in Melbourne where he worked on incorporating learning in BDI agents. Stéphane's interests include learning, cooperation and fairness in multiagent systems.

Rui Pedro Barbosa is a software and systems engineer currently pursuing a Ph.D. at University of Minho, Portugal. He previously worked at IBM's Silicon Valley Laboratory in San Jose, USA, and at the market maker Saen Options in Amsterdam, The Netherlands. His main field of research is applied artificial intelligence in quantitative and algorithmic trading.

Orlando Belo is an associate professor in the Department of Informatics at Minho University, Portugal. He is also a member of the Computer Science and Technology Center in the same university,

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working in areas like Data Warehousing Systems, OLAP, and Data Mining. His main research topics are related with data warehouse design, implementation and tuning, ETL services, and distributed multidimensional structures processing. During the last few years he was involved with several projects in the decision support systems area designing and implementing computational platforms for specific applications like fraud detection and control in telecommunication systems, data quality evaluation, and ETL systems for industrial data warehousing systems.

James Braman is a Lecturer in the Department of Computer and Information Sciences at Towson University. He currently holds a Master's Degree in Computer Science and is pursuing a Doctoral Degree in Information Technology. James also serves as a joint editor-in-chief of the (ICST) Transactions on E-Education and E-Learning. His current research focus includes: art and technology, intelligent agents, affective computing and education in virtual and immersive environments.

Samuel Collins is Associate Professor of Anthropology at Towson University. His research includes cybernetics, information society, globalization and the future, both in the United States and in South Korea. He is the author of *All Tomorrow's Cultures: Anthropological Engagements with the Future* and *Library of Walls: The Library of Congress and the Contradictions of Information Society*.

Adam J. Conover is a Lecturer in the Department of Computer and Information Sciences at Towson University in Towson, Maryland. He currently holds B.S. and M.S. degrees in Computer Science, and a D.Sc. in Applied Information Technology. Additionally, he has nearly fifteen years of professional experience in software engineering, computer programming, web development, systems integration, and technical consulting. His research topics have ranged from object-oriented software engineering to agent and swarm simulation, including the properties of emergent systems. Current academic interests have expanded to include the use of modern "scripting" languages and interactive algorithm visualization as teaching tools for introductory programming. While not engaged in teaching or research, Adam can usually be found mountain biking, studying martial arts, rock climbing, or even playing bass guitar.

Kerstin Dautenhahn received her Ph.D. degree from the Department of Biological Cybernetics at University of Bielefeld, Germany. She is Professor of Artificial Intelligence in the School of Computer Science at University of Hertfordshire where she coordinates the Adaptive Systems Research Group. She has published more than 150 research articles on social robotics, robot learning, human-robot interaction and assistive technology. Prof. Dautenhahn has edited several books and frequently organises international research workshops and conferences including hosting the AISB05 convention and general Chair of IEEE RO-MAN 2006. Currently she is a general chair of HRI08, the 3rd ACM/IEEE International Conference on Human-Robot Interaction. She is involved in several FP6 and FP7 European projects (Cogniron, Robotcub, Iromec, eCircus, LIREC, I-Talk) and is Editor in Chief of the journal *Interaction Studies: Social Behaviour and Communication in Biological and Artificial Systems*.

Vladimir Eidelman is a recent graduate of Columbia University in New York City with a B.S. in Computer Science and Philosophy. He intends to begin pursuing a Ph.D. in Computer Science in the fall of 2008, with research interests in machine learning and natural language processing.

Sibylle Enz is research fellow at the Institute of Theoretical Psychology at the Bamberg University where she has been involved in the EU-funded projects VICTEC and eCIRCUS. Her scientific interests centre on empathy, problem-solving in social contexts, self-presentation and evaluation. Currently, she is also working on her PhD on the role of empathy in conflicts at the workplace.

Chris Goldspink is a Director of Incept Labs. He has seventeen years experience as a consultant to industry and government in the areas of management improvement, organizational change, and public management reform. Formerly he held senior line and staff management positions with the Australian Bureau of Statistics being variously responsible for personnel and organizational development, marketing and information services and statistical analysis and output. His career has included periods in the academy, including with the International Graduate School of Management, University of South Australia and the Centre for Research in Social Simulation at the University of Surrey. He maintains an active teaching role specializing in areas including the Australian system of government, strategy, leadership, international marketing and organizational change. Chris' research interests are with the application of complex systems concepts to understanding social and organizational change. This includes an interest in the principles and practices of social simulation. He has a PhD in Social Ecology with the University of Western Sydney.

Marek Grześ is a post-doctoral research fellow in the School of Computer Science at the University of Waterloo in Canada. He received a PhD degree in computer science from the University of York in the United Kingdom, and MSc Eng degrees, also in computer science, from Białystok Technical University in Poland. His research interests focus on simulation-based dynamic optimisation, reinforcement learning, and symbolic and decision-theoretic planning. Marek Grześ is currently working on developing intelligent, assistive systems for elderly people with dementia.

Ying Guo is currently a Senior Research Scientist in the Information Engineering Laboratory of the Information and Communication Technologies Centre (ICT Centre), the Commonwealth Scientific and Industrial Research Organisation (CSIRO) of Australia. Dr. Ying Guo received the B.E. degree in 1994 and the M.E. degree in electrical engineering in 1996, both from the Northwestern Polytechnic University, China. Dr. Guo completed a Ph.D. in machine learning at the Australian National University on November 2001. Her investigations during these years cover areas in Machine learning, Complex Systems, Intelligent Sensor Networks, Multi-Agent Systems. She has developed an innovative machine learning approach to critical damage reporting in large sensor networks. She has developed an innovative machine learning approach for distributed energy management and control. She has also proposed and implemented several innovative machine learning approaches to the design of self-assembling objects from a large number of smart agents. Her current research interests include statistical machine learning theory, data mining, analysis of machine learning algorithms, and application of machine learning algorithms in different areas, including energy management and biomedical research.

Robert J. Hammell II is an Associate Professor in the Department of Computer and Information Sciences at Towson University in Towson, Maryland; he has been with the university since the fall of 2001. He teaches graduate and undergraduate courses for the Department as well as graduate courses in the Center for Applied Information Technology. In addition to his Ph.D. in computer science, he holds a masters degree in computer systems and an undergraduate business degree. Prior to joining Towson

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University, Dr. Hammell served for 22 years in the U.S. Army, retiring as a Lieutenant Colonel. For the last six years of his career he served as a Senior Computer Scientist for the U.S. Army Research Laboratory, focusing on the area of tactical intelligent systems. His current research interests include applications of soft computing techniques for machine learning, decision support systems, pattern recognition, and chemical hazard prediction.

Chris Harman is currently a senior at Swarthmore College majoring in Computer Science and minoring in Engineering. His interests include emergent systems and artificial intelligence. Chris researched under Dr. Trajkovski during the summer of 2006 through the NSF-REU program. His plans for post-college life are as yet undecided. When not studying he enjoys traveling, reading, writing, snowboarding, surfing and playing lacrosse.

Wan Ching Ho received his first BSc and PhD degrees from University of Hertfordshire in year 2002 and 2005 respectively. The title of his PhD thesis is Computational Memory Architectures for Autobiographic and Narrative Virtual Agents. He is now working as a full-time postdoc research fellow in the Adaptive Systems Research Group in the same university. His research mainly focuses on developing control architectures for narrative and autobiographic virtual agents for an EU Framework 6 funded project eCircus (Education through Characters with emotional-Intelligence and Role-playing Capabilities that Understand Social interaction). Wan Ching Ho's research interests are interdisciplinary, including: applying theories from Cognitive Science and Psychology to computational agent control architectures, developing narrative and autobiographic agents for educational software and computer games. The common aim of these is to increase the agents' believability and the interactivity of the software application.

Gus Koehler is a President and cofounder of Time Structures, and an Adjunct Faculty in the School of Policy, Planning and Development, at the State Capital Center, University of Southern California. Time Structures is a consulting and research firm that focuses on temporal issues associated with technology, business, and government policy development and implementation. Dr. Koehler provides technical consultation to the California Economic Development Strategy Panel, the California Council on Science and Technology, California Space Authority, California Community Colleges, and the California Redevelopment Association. He is currently a member of the Council of Economic Advisors to the Workforce Investment Board. He has prepared public policy reports on, among other things, Nanotechnology, workforce development, California's foreign trade policy, Bioindustry and various aspects of biotechnology, small manufacturing, business networks, and California economic development. He received a Small Business Administration Vision 2000 award for his research on early-stage venture capital investment. He has written over 100 academic articles and studies, and has presented numerous papers and made speeches to various government, academic and private sector organizations. He has given testimony on many occasions to policy committees of the California State Legislature.

Daniel Kudenko is a lecturer in Computer Science at the University of York, UK. His research areas are machine learning (specifically reinforcement learning), AI for interactive entertainment, multi-agent systems and user modeling. Dr. Kudenko received a Ph.D. in machine learning in 1998 at Rutgers University, NJ. He has participated in several research projects at the University of York, Rutgers University, AT&T Laboratories, and the German Research Center for AI (DFKI) on various topics in

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Andrea Kulakov is Assistant Professor of Computer Science at the faculty of Electrical Engineering of the "SS Cyril and Methodius" University in Skopje, Macedonia, where both his BSc (1995) and PhD (2006) degrees are from. His MSc degree is in Cognitive Science and is from the New Bulgarian University, Sofia, Bulgaria (1998). He was a researcher in the project "Enactivist representations of environments in natural and artificial agents" (2001-2003), a senior researcher in the project "Modeling of learning in intelligent robots by applying the theories of dynamic systems and the interactivism" (2005-2008), both financed by the Ministry of Education and Science of the Republic of Macedonia. Currently he is also working on an EU FP6 project XPERO – Robotic learning by experimentation (2006-2009), as a principal investigator on the subcontractor side. He has more than 30 research papers presented on international conferences or published in international journals on Computer Science. His research interests include cognitive robotics, multi-robot cooperation, data-mining, and multimedia processing. In 2008 he has established an information technology company NI TEKNA – Intelligent Technologies.

Joona Laukkanen is a master student at Tampere University in Finland, currently working full time at the American University of Paris on the EU funded project XPERO: Learning by experimentation. Besides robotics and artificial intelligence his interests lie in Computer-Human Interaction, especially in new interaction techniques.

Rongxin Li is currently a Senior Research Scientist in the Information Engineering Laboratory of the Information and Communication Technologies Centre (ICT Centre), the Commonwealth Scientific and Industrial Research Organisation (CSIRO) of Australia. His background is in computer science and electrical engineering. He holds a Ph.D. degree in computer science from the Australian National University. He has conducted research in the areas of multi-objective optimisation, distributed and adaptive control, multi-agent systems, image segmentation, linear feature extraction, pattern recognition and visual perception. In each of these areas Rongxin has developed original algorithms that have been applied to a wide range of applications, including optimal energy distribution for minimising peak demand and the impact of price volatility, the management of renewable energy production and storage, automatic cancer screening, three-dimensional image-based surgery planning and radiation dosimetry estimation. His current research interests include distributed multi-objective optimisation, adaptive systems, statistical machine learning, image analysis and understanding, pattern discovery and recognition, and visual programming.

Mei Yii Lim was born in Malaysia. She did her Diploma, followed by Advanced Diploma in Computer Science at Tunku Abdul Rahman College, Malaysia from 1998 to 2002. At the same time, she pursued a BSc in Computer Science (major in Computer Science and Mathematics) from University of Campbell, North Carolina, USA and graduated in June 2002 with Summa Cum Laude. She was the winner of Wallace Ewart Prize for Computer Science and the Dwight Lamar Norwood prize for Mathematics. Later she received a MSc with distinction in Virtual Environments from University of Salford, UK in July 2004. In summer 2007, she completed a Ph.D. in Computing entitled Emotions, Behaviour and Belief Regulation in An Intelligent Guide with Attitude from Heriot-Watt University, Scotland. Currently, she

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Lin Padgham is Professor of Artificial Intelligence in the School of Computer Science and I.T. at RMIT University, Melbourne, Australia. She has a PhD from University of Linköping, Sweden, 1989. Lin’s research interests are in various aspects of commonsense reasoning with an emphasis on formal methods for knowledge representation which are coupled with computationally realisable algorithms. Lin’s current research is in the area of intelligent multi-agent systems, focusing on modeling, building and understanding intelligent agents for complex application areas requiring a balance between goal directed long-term behaviour and reactive response to a dynamic environment. She has investigated various extensions to standard ‘Belief Desire Intention’ (BDI) reasoning, including planning, goal conflicts, and learning. Lin has been Program Chair for AAMAS 2008, is on the Editorial Board of the Journal for Autonomous Multi Agent Systems, and regularly serves on the Program Committee for major international conferences such as KR, IJCAI and ECAI.

Gergely Palla has received his PhD in 2002 at the Eötvös University, the topic of his thesis involved quantum chaos, semiclassical approximation and mesoscopic systems. From 2003 he worked in the research group at the Biological Physics Department (formerly the Biological Physics Research Group, at present the Statistical and Biological Physics Research Group). His main field of interest concerns complex networks, with a special focus on topological phase transitions, community finding (also called as network clustering), the time evolution of communities and the studies of tagged networks. During his scientific carrier he received the following prizes: Young Scientist Prize of the Hung. Acad. of Sci. (2006), Bolyai Scholarship (2008), Imre Bródi Award (2009) and Junior Prima Award (2009).

David M.S. Rodrigues was born in Viana do Castelo in the north of Portugal and has a degree in Chemical Engineering at IST, Lisbon and a MSc. in Complexity Sciences at ISCTE-IUL, Lisbon. He is presently a researcher in Complexity Sciences Doctoral Program at ISCTE-IUL and is interested in networks dynamics, synchronization phenomena, symmetry, community detection, cellular automata and emergence. He is presently member of the EU funded ASSYST (Action for the Science of complex SYstems and Socially intelligent icT – <http://assystcomplexity.eu>) and The Observatorium (<http://theobservatorium.eu/>) projects, and participated in the past in several national and European research projects (description online at www.davidrodrigues.org). He was a member of the European Conference on Complex Systems 2010 organizing committee (<http://www.eccs2010.eu/>) and the Chair of the Young Researchers Session at ECCS’10 satellite meeting (<http://phd.eccs2010.eu>). His contact email is david@sixhat.net

Jorge A. Romero has a PhD in Management Science and also holds an MBA from The University of Texas at Dallas. He has expertise in market measures of firm performance, and accounting information systems. He currently works as Assistant Professor in the Accounting Department at Towson University. Also, he has industry experience in the United States and Latin America.

Sebastian Sardina received his BSc from Universidad Nacional del Sur, Argentina, in 1997, and his MSc and PhD from the University of Toronto, Canada, in 2000 and 2005, respectively. Since 2005, Sebastian is Postdoctoral Fellow within the Artificial Intelligence Agents Group in the School of Computer Science and Information Technology at RMIT University, Melbourne, Australia. Sebastian's research interests include intelligent multi-agent systems, reasoning about action and change, Cognitive Robotics, planning, and knowledge representation and reasoning in general. Lately, he has been working most on introducing planning capabilities into BDI agents and automatically synthesizing controllers for behavior composition. Sebastian has recently co-organized workshops within the areas of agents and knowledge representation, and regularly serves on the Program Committee for major international conferences such as IJCAI, AAI and KR.

Sandip Sen is a Professor of Computer Science in the University of Tulsa with primary research interests in multiagent systems, machine learning, and genetic algorithms. He completed his PhD in the area of intelligent, distributed scheduling from the University of Michigan in December, 1993. He has authored approximately 200 papers in workshops, conferences, and journals in several areas of artificial intelligence. In 1997 he received the prestigious CAREER award given to outstanding young faculty by the National Science Foundation. He has served on the program committees of most major national and international conferences in the field of intelligent agents including AAI, IJCAI, ICMAS, AA, AAMAS, ICGA, etc. He was the co-chair of the Program Committee of the 5th International Conference on Autonomous Agents held in Montreal Canada in 2001. He regularly reviews papers for major AI journals and serves on the panels of the National Science Foundation for evaluating agent systems related projects. He has chaired multiple workshops and symposia on agent learning and reasoning. He has presented several tutorials on multiagent systems in association with the leading international conferences on autonomous agents and multiagent systems.

Georgi Stojanov received his master's degree in 1993 and his PhD degree in Computer Science from the Faculty of Electrical Engineering, Sts Cyril and Methodius University in Skopje, Macedonia in 1997. During his graduate studies he held posts of research and teaching assistant at the University in Skopje. He spent one year (1999-2000) as a research post-doctoral fellow in the Laboratory for Human-Computer Interaction at the University in Trieste, Italy. In 2000 he founded the Cognitive Robotics Group at the Faculty of Electrical Engineering in Skopje. In 2001 he was appointed as Associate Professor at the same faculty. He is the president and a founding member of SVEST a Macedonia based NGO dealing with the impact of modern technologies. In 2004 he was a visiting scholar at Les Archives Jean Piaget in Geneva, and visiting researcher at Université de Versailles-Saint-Quentin-en-Yvelines, Paris, France. Currently, he is teaching at the American University of Paris. In 2003 Dr Stojanov and his team completed the national project "Enactivist Environment Representation in Human and Artificial Agents". He was also the main investigator in the international project "Evolving concepts in humans inhabiting simple virtual environments – a dynamic system approach" financed by US Academies Office of Central Europe and Euroasia (2004-2005), in collaboration with Towson University, and the University of California, San Diego, USA. Dr Stojanov is in the organizing or program committees in the annual Epigenetic Robotics conference and the biannual Interactivist Summer Institute.

Tamas Vicsek is a Professor of Physics at the Biological Physics Department of Eötvös University and a head of the Statistical and Biological Physics research group of the Hungarian Academy of Sci-

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ences. Over the past 25 years he has been involved in doing computational and experimental research on fractals, pattern formation, granular materials, collective motion (bacterial colonies, tissue cells in culture, flocks, crowds, etc), and the structure and evolution of complex networks. He received his PhD degree in physics at Kossuth University and has had visiting positions at various research institutes and universities, including Emory University, Yale University and the University of Notre Dame. Tamas Vicsek is a fellow of the APS and a member of Academiae Europaea and the Hungarian Acad.Sci. He has authored/co-authored 165 papers in refereed journals, published further conference proceedings papers and book chapters and authored/edited five books about the above topics.

Giovanni Vincenti is in charge of Research and Development at Gruppo Vincenti, a family-owned company with interests across several fields. His main areas of research include Fuzzy Mediation, Information Fusion, Emotionally-Aware Agent Frameworks and Robotics. He held several positions at Towson University, including a Lecturership with the Department of Computer and Information Sciences. He also taught courses for the Center of Applied Information Technology, also at Towson University. He is the author of many publications, and the father of the concept of Fuzzy Mediation, as applied to the field of Information Fusion.

Scott Watson graduated from the University of Lincoln (UK) in 2000 with a degree in Psychology, and from the University of Hertfordshire (UK) with a MSc in Research Methodology for Psychology. He taught personality, statistics, and research methods in the School of Psychology at the University of Hertfordshire for three years. In 2005 he became a Research Assistant on the EU Framework 6 project e-CIRCUS (Education through Characters with emotional-Intelligence and Role-playing Capabilities that Understand Social interaction). He is responsible for the administration of a large-scale longitudinal evaluation of the FearNot! anti-bullying software, and analysis and publication of data from these evaluations. He is also investigating the efficacy of a computational model of autobiographic memory, developed alongside Dr. Wan Ching Ho. His professional interests are personality theory, human-computer/robot interaction, and the development of ecologically valid models of artificial intelligence. Moreover, he enjoys applying rigorous psychological principles to the HCI/HRI field.

J. Heather Welzant is the Director, Quality Assurance in the Division of Institutional Oversight and Academic Integrity for Laureate Higher Education Group (LHEG). She is responsible for creating, implementing, and sustaining quality assurance processes among all LHEG institutions to ensure maximum student learning and delivery of high quality programs. In a previous role at Laureate, Dr. Welzant was Director, Program Design for interdisciplinary products within Product Strategy and Development. In that role, she was responsible for program development for multiple institutions within the Laureate network, but primarily provided strategic oversight into the development of 36 Walden University's online General Education courses, Walden's online Interdisciplinary Doctoral Research Courses, and a B.S. in Interdisciplinary Studies. Before Laureate, she worked for the University of Phoenix Online in faculty development and as an online instructor. Dr. Welzant earned her PhD in Education with a specialization in Training and Performance Improvement from Capella University. Her area of focus was student performance improvement relevant to the learner experience in online problem-based learning courses. Dr. Welzant may be reached at heather.welzant@laureate.net.

Carsten Zoll works as a research fellow at the department for general psychology at the University of Bamberg. He studied psychology and computer science. Before joining the department for general psychology, he worked at the professorship for economic and social psychology at the Technical University of Chemnitz. In his dissertation he dealt with decision making among experts of the financial markets. His scientific work focuses on simulation of humanlike behaviour, modelling the human mind, empathy, decision making and behavioral finance. Apart from his academic career, he works as a child psychologist in both a medical office doing diagnostics and psychotherapy and for the family courthouse as an expert witness.