About the Contributors

**Martin Beer** is a Principal Lecturer in the Department of Computing and the Communications and Computing Research Centre of Sheffield Hallam University. His research interests include the use of agents to assist learners in collaborative online learning environments and in the management of care for the elderly and others, such as autism sufferers, developing improved multilingual support within relational database systems, improved design techniques for mobile applications and the development of personalisation services within recommender systems for local government and other public services. He has organised workshops considering the educational issues of multi-agent systems at AAMAS at Budapest in 2009 and AAMAS at Toronto in 2010. He is one of the organisers of a similar workshop at AAMAS at Taipai in 2011. He is a Chartered Engineer, Chartered Scientist and Fellow of the British Computer Society.

**Maria Fasli** is a Senior Lecturer in the School of Computer Science and Electronic Engineering at the University of Essex. She obtained her Ph.D. in Computer Science in 2000. Her current research interests lie in agents and their theoretical foundations and practical applications such as electronic markets, web service discovery and composition, web search and dynamic user profiles. She has published papers on logics for reasoning agents, formal models of multi-agent systems, trading agents and platforms, trust, and web search assistants. She is the author of “Agent Technology for E-commerce” (John Wiley and Sons, 2007). Her interests extend to technology-enhanced learning and she was also awarded a National Teaching Fellowship for her innovative approaches to learning and teaching.

**Debbie Richards** is currently an Associate Professor in the Computing Department at Macquarie University in Sydney, Australia. She has been interested in expertise and knowledge from a theoretical and practical point of view since the early 80s. This was initially inspired by her work in the ICT industry with experts and explored further in her Masters and PhD theses, following completion of a Bachelor of Business. Virtual worlds provide much potential for educating and training people using safe environments with greater ecological validity than a laboratory or classroom setting. Agent-based systems provide the intelligence needed to achieve this experience. Currently she is working, with Meredith, on developing a Multi-User Virtual Environment for science inquiry in Australian secondary schools. Our key challenge is creating intelligent animals and avatars to allow students to observe and interact with advanced behaviours such as predator-prey and flocking. The world is being built using Unity3D, chosen as a result of the study conducted by Arda.

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Esteve del Acebo was born in Madrid in 1964. He earned his degree in Computer Science at the Universitat Autònoma de Barcelona in 1988. He has been since then teaching and doing research at the University of Girona, where he has obtained his doctorate in 2010. His main research interests include fuzzy logic and systems, heuristic search, swarm intelligence systems and multi-agent systems.

Olapeju Latifat Ayoola completed her BSc (Hons) in 2007 at the University College Dublin in Ireland. Her final year dissertation focused on an e-learning client-server application that adopted learning techniques in order to provide effortless and adequate tutoring process for every student that uses the system. In 2007, she was awarded a three year scholarship from the University College Dublin to complete her postgraduate studies which specialises in Artificial Intelligence. In 2010, she was awarded one more year scholarship to finish her postgraduate studies. Olapeju Latifat Ayoola focuses her research interests on agent-based technology, mobile technology, adaptive personalization human-computer interaction and m-learning. She has given presentations on learning and ubiquitous applications for third level education.

Karel van den Bosch is senior researcher and program manager at the TNO Institute of Defence, Security & Safety. He received his PhD in Psychology from the Radboud University Nijmegen. He manages and performs national and international projects, involving fundamental and applied research on the training of complex cognitive tasks. The objective of his current work is to make simulation-based training more effective by using cognitive software agents.

Emma Bowring is an Assistant Professor of Computer Science at the University of the Pacific. She completed her PhD in Computer Science at the University of Southern California in the area of multi-agent systems. She is keenly interested in innovations in undergraduate education in Computer Science, and continues to pursue research in the area of agents and multi-agent systems.

Bradley Brummel is an Assistant Professor of Psychology at The University of Tulsa. He received his PhD in Industrial/Organizational Psychology from the University of Illinois at Urbana-Champaign in 2008. His research focuses on Training and Development, Job Attitudes, and Personality in the Workplace. Dr. Brummel conducts interdisciplinary research with colleagues in Management, Computer Science, Engineering, and Law. He has published research in a variety of academic journal including Science and Engineering Ethics, Journal of Management, Military Psychology, and Personnel Psychology.

Konstantina Chatzara is a visiting Lecturer at the Department of Information Technology, of the Technological Educational Institute (TEI) of Thessaloniki in Greece. She is also a PhD candidate at the Department of Special Education of the University of Thessaly, in Volos, Greece. She has previously worked in London, UK and in Thessaloniki, Greece in commercial multimedia projects as well as in research projects in the area of e-learning in the Centre for Research and Technology – Hellas, Informatics and Telematics Institute, Thessaloniki, Greece. Her research interests lay in the area of human computer interaction, affective computing and personalized e-learning systems with self-regulated learning.

Rose F. Gamble is a Professor of Computer Science at the University of Tulsa, where she is supervises the software engineering curriculum. She received B.S. degrees in Mathematics and Computer Science from Westminster College in Pennsylvania, and the M.S. and D.Sc. degrees from Washington
University, St. Louis, MO in Computer Science. Dr. Gamble is the Director of the Software Engineering and Architecture Team, whose research spans software interoperability and adaptability, Web application development and security, and security policy modelling for distributed software systems.

Frank Grove was born in Tulsa, Oklahoma and attended the University of Tulsa for both Bachelors and Masters programmes. My Masters education has been funded under the National Science Foundation Graduate Research Fellowship and I am grateful to the NSF for this assistance. I am interested in developing societal collaborative decision systems that empower users with the novel use of intelligent agents. The domains I have applied these ideas to include creative software engineering and political organization. I am also interested in the application of machine learning algorithms in the domain of neuroscience. I am currently applying these computational methods on fMRI data to elucidate understanding about neural cognition at the Laureate Institute for Brain Research.

Maaike Harbers is a PhD student at Utrecht University and TNO Human Factors. Her current work involves the development and evaluation of self-explaining agents in virtual training systems. In 2006 she received a MSc in Artificial Intelligence and a MA in the Philosophy of Cognitive Science, both at the University of Groningen. Her main research interests are artificial intelligence, philosophy of mind, multi-agent systems, social simulation, cognitive modelling, theory of mind and explainable AI.

Nicolás Hormazábal Llona is a R+D engineer in EASY Innova, and a PhD student at the University of Girona (UdG). He gained his MSc at UdG in 2008, researching in the field of Virtual Organizations and other types of agent coalitions. He also has research related to recommender systems and monitoring tools for digital environments. He received his degree on Computer Engineering at the Universidad Diego Portales in Chile the year 2003, and was rewarded by the Chilean’s Engineering Association (Colegio de Ingenieros de Chile) with the best graduate’s award.

Noah Jorgenson has a B.S. in Computer Science from the University of Tulsa, where he is currently pursuing a Master’s degree in Computer Science. He is a member of the Software Engineering and Architecture Team and current lead programmer for the SEREBRO web application. He often finds himself lost on the internet, in a sea of 50+ wikipedia, changelog and documentation tabs in his constant searching for new, especially open source, software. Noah is a self-proclaimed code cowboy, constantly squeezing any feature he can out of any resource. Noah has research interests that include, but are not limited to, web development, applications and design, bioinformatics and cloud computing.

Charalampos Karagiannidis is an Associate Professor at the Department of Special Education of the University of Thessaly, in Volos, Greece. He has been previously employed by the University of Aegean, Department of Cultural Informatics, Lesvos Greece; the Centre for Research and Technology – Hellas, Informatics and Telematics Institute, Thessaloniki, Greece; and the Foundation for Research and Technology – Hellas, Institute of Computer Science, Heraklion, Greece. He is working on the applications of ICT in education and human-computer interaction, with an emphasis on people with special needs. He is involved in a large number of R&D projects, and he is acting as an expert consultant of the European Commission in e-Learning.
Petros Kefalas is an Honorary Professor of the University of Sheffield and a Vice Principal for Teaching and Learning of the University’s International Faculty at Thessaloniki. He holds a MSc in Artificial Intelligence and a PhD in Computer Science, both with the University of Essex. He has published over a hundred papers in journals and conference proceedings and co-authored the most popular Greek textbook in Artificial Intelligence. He is currently involved in investigating the applicability of formal methods for modelling and verifying Multi-Agent Systems, with focus on biological and biologically-inspired systems with emergent behaviour. He teaches Logic Programming, Artificial Intelligence and Intelligent Agents. Finally, he has published a good number of papers in quality assurance issues in teaching and learning.

Simon Lynch is a lecturer at Teesside University. Before occupying his current post, Simon worked in the HE sector in Southern Africa and on the Indian Subcontinent. He is involved with research into multi-agent systems, multimodal dialog and using agents to model natural systems (e.g. predator-prey relationships and the evolution of communication). He is the lead developer of “Boris” – a multi-agent platform which allows agents to be specified in Java, Lisp and C# and which links to .NET, Galaxy Communicator and NetLogo.

Eleni Mangina was appointed in 2002 to the position of College Lecturer in the Department of Computer Science at UCD and in 2007 has been promoted to Senior Lecturer. Dr Eleni Mangina has focused her research interests on agent-based technology and given numerous presentations on the area of Intelligent agents and applications in engineering. Dr Eleni Mangina’s current research profile includes active research in the area of applications of agent-based technology and knowledge engineering in a number of different application domains like engineering, bioinformatics, education, agriculture, supply chain management and music.

John-Jules Ch. Meyer studied mathematics at Leyden University. In 1985 he obtained his Ph.D. from the Vrije Universiteit in Amsterdam. From 1988 to 1993 he was a professor of “Logic for distributed systems and artificial intelligence” at the computer science department at the VU Amsterdam. From 1989 to 1993 he also was a professor of theoretical computer science at the Katholieke Universiteit Nijmegen. Since 1993 he has been a professor at the Computer Science Department of Utrecht University. At the moment he is heading the Intelligent Systems Group. He is a member of the editorial boards of, amongst other ones, the Journal of Autonomous Agents & Multi-Agent Systems. He is a Fellow of the European Coordinating Committee for Artificial Intelligence. Currently he is also the director of the Alan Turing Institute, Almere, which specializes in multi-disciplinary (including AI and agent) research for the health sciences, and senior advisor at TNO Human Factors, Soesterberg.

Miquel Montaner completed his hD studies at the University of Girona (UdG), Girona, in 2008. Part of this thesis was carried out at the Carnegie Mellon University (USA). The implementation of his thesis (the IRES/GenialChef project) was awarded with the Special Prize to the best system deployed in the Agentcities network in 2003 and the Prize to the Best University Project in the e-Tech’03. In 2003, he was hired by Agents Inspired Technologies where he was working during 2 years as R+D manager. From July 2006 he is the promoter of the EASY Transference Centre at the University of Girona accredited as TECNIO from ACCIÓ (Government of Catalonia). From July 2007, he is also working for
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Keerthi Rajendran currently works as Coordinator for the International Foundation Programme in Science and Engineering at INTO Newcastle University. She recently completed her PhD entitled “A Framework for Simplifying the Development of Multimodal Systems” from Teesside University. Her areas of interest are multimodal dialog systems and the development and integration of other systems using the multi-agent model. She is currently investigating the use of multi-agent systems for cloud computing architectures.

Josep Lluís de la Rosa MSc and Ph.D. in Computer Engineering at the Autonomous University of Barcelona (UAB), in 1989 and 1993, and MBA in 2002. He is professor of the Universitat de Girona (UdG) and was visiting professor at Rensselaer Polytechnic Institute (RPI) in 2008-2010. His research interests focus on intelligent agents, understanding the agency property of introspection or self-awareness, as well as understanding its impact in the emergent behaviour of billions of agents by means of the computational ecologies models or social search. He has participated in several successful EU projects like ONE, Open Negotiation Environments FP6-2005-IST-5, grant agreement num. 34744 (2006-2009); Mecosind-Industrial Ecology, ref. XMR/LLG C-C-105 (2004-2006), Interreg IIIC; Agentcities AC-NET.02.050, On the Integration of Restaurant Services (2002-2003), PROTAGE Grant agreement no. 216746 PRervation Organizations using Tools in AGent Environments, FP7-2007-ICT -1-4.1 Digital libraries and technology-enhanced learning (2007-2010), and iSAC6+ an IST-PSP grant agreement num. 238887 A Unique European Citizen’s Attention Service (2009-2012).

Ilias Sakellariou is a Lecturer in the Department of Applied Informatics in the University of Macedonia. He received a BSc in Physics in 1995 from the Aristotle University of Thessaloniki, an MSc degree in Knowledge Based Systems in 1996 from the University of Edinburgh, Scotland and a PhD in 2006 in Distributed Constraint Logic Programming from the Dept. of Informatics, Aristotle University of Thessaloniki, Greece. He has been involved in projects concerning distributed expert systems, distributed constraint logic programming and Semantic Web Services. He is a co-author of a book on Parallel and Constraint Logic Programming and a textbook in Artificial Intelligence (in Greek). His research interests include parallel constraint logic programming, modelling using constraints, agent systems and AI planning and scheduling. He is a member of Hellenic Artificial Intelligence Society and a member of IEEE and ACM.

Sandip Sen is a Professor of Computer Science at the University of Tulsa with primary research interests in multi-agent 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 250 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 AAAI, IJCAI, ICMAS, AA, AAMAS, ICGA, etc. He served as the co-chair of the Program Committee of the 5th International Conference on Autonomous Agents held in Montreal Canada in 2001 and as a General Co-Chair of AAMAS-2010 held in Toronto, Canada. 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 and short course on different multi-agent systems topics in association with the leading international conferences on autonomous agents and multi-agent systems.

Demosthenes Stamatis is a Professor at the Department of Information Technology, of the Alexander Technological Educational Institute of Thessaloniki, in Greece. He holds a B.Sc. degree in Mathematics from the University of Ioannina and a Ph.D. in Computer Science from the Aristotle University of Thessaloniki. His research interests include Artificial Intelligence, Intelligent Agents, Logic Programming and the use of Information and Communication Technologies in Education/e-learning. He was involved in European research projects in the area of e-learning and he teaches courses on Programming Methodologies, Data Structures, Artificial Intelligence and Distance Learning.

Ioanna Stamatopoulou is a Lecturer at the Computer Science Department of CITY College, an International Faculty of the University of Sheffield in Thessaloniki, Greece. She holds a Master’s degree in Artificial Intelligence from the University of Edinburgh and a PhD in Computer Science from the University of Sheffield. She teaches Logic Programming, Artificial Intelligence, Agents & Robotics. She is a member of the Intelligence, Modelling & Computation Research Group of CITY College and her research interests lie in the area of formal modelling of biology-inspired dynamically structured multi-agent systems.

Forrest Stonedahl is a PhD Candidate in Computer Science at Northwestern University. He is dedicated to improving the quality of computer science education at all academic levels, and takes a particular interest in exploring innovative curricula. His other research interests span a variety of subjects, with publications in the areas of artificial intelligence, evolutionary computation, social networks, and multi-agent modelling of complex systems. Stonedahl is a firm believer in interdisciplinary collaboration, and his past projects include applications from archaeology to zoology, from linguistics to marketing, and from urban development to materials science. Through the excitement of exploring emergent phenomena in multi-agent systems, Stonedahl seeks to inspire a new generation of computer scientists and computational thinkers, who can harness the power of this world’s increasingly distributed and decentralized technology for the benefit of tomorrow’s society.

Milind Tambe is a Professor of Computer Science and Industrial and Systems Engineering at the University of Southern California (USC). He received his Ph.D. from the School of Computer Science at Carnegie Mellon University. He leads the TEAMCORE Research Group at USC, with research is focused on agent-based and multi-agent systems. He is a fellow of AAAI (Association for Advancement of Artificial Intelligence) and recipient of the ACM (Association for Computing Machinery) “Autonomous Agents Research Award”. He is also the recipient of the Christopher Columbus Fellowship Foundation Homeland security award, a special commendation given by the Los Angeles World Airports police from the city of Los Angeles, USC Viterbi School of Engineering use-inspired research award, Okawa foundation faculty research award, the RoboCup scientific challenge award, USC Steven B. Sample Teaching and Mentoring award and the ACM recognition of service award. Prof. Tambe and his research group’s papers have been selected as best papers or finalists for best papers at a dozen premier Artificial Intelligence and Operations Research Conferences and workshops, and their algorithms have been
deployed for real-world use by several agencies including the LAX police, the Federal Air Marshals service and the Transportation security administration.

**Meredith Taylor** graduated from Macquarie University with a Bachelor of Computer Science in 2007. She completed honours in 2008 with her thesis ‘Finding and validating experts’, which explored methods of creating and regulating an expert recommender system which would return the most valuable results to users. She is currently a research programmer at Macquarie University for the Faculties of Science and Business & Economics. Her current projects include a web-based system to assist with the processing of Macquarie University student equivalence and exemption applications and a 3D virtual environment to study the effectiveness of agent-agent based systems and virtual worlds in education.

**Arda Tezcan** graduated from Isik University in 2008 with honours in Computer Science and Engineering and immediately moved to Australia to advance his knowledge in the field of IT. Arda commenced his first Masters degree at Macquarie University, Australia, and attained this qualification in 2009. During the final project at Macquarie University, he was enthusiastically and deeply immersed in the area of Multi-User Virtual Environments and this resulted in his contribution towards this book. He is currently pursuing a second master’s degree in IT at Charles Sturt University, Australia, and advancing his career as a business analyst.

**Albert Trias i Mansilla** received a BSc degree on Computer Engineering at the Universitat de Girona (UdG) in 2008 and a MSc on Industrial Computing and Automatics on 2010. He participated in the European Project no. 216746 PROTAGE - PReservation Organizations using Tools in AGent Environments, FP7-2007-ICT -1-4.1 Digital libraries and technology-enhanced learning (2007-2010). His research interests include social search and multi-agent systems. Currently he is member of the Agents Research Lab, the TECNO Centre on Industrial Informatics and Intelligent Systems (EASY) of the Institute of Informatics and Applications at the UdG, where he is a PhD candidate, under the supervision of Prof. de la Rosa, and holds a University pre-doctoral research fellowship.

**Uri Wilensky** is a professor of Learning Sciences, Computer Science and Complex Systems at Northwestern University. He is the founder and director of the Centre for Connected Learning and Computer-Based Modelling. For the past two decades he has investigated ways of engaging students in computational thinking and in doing deep science using the lenses of computational thinking and complex systems. His NetLogo agent-based modelling software is in widespread use worldwide in both research and educational settings. Prof. Wilensky received his Ph.D from the MIT Media Lab. Prof. Wilensky has published more than two hundred research articles. He is a recipient of the National Science Foundation’s Career Award as well as the Spencer Foundation’s Post-Doctoral Award. By providing a “low threshold” language for exploring and constructing models, Prof. Wilensky hopes to promote modelling literacy -- the sharing and critiquing of computational models in the scientific community, in education and in the public at large.

**Michelle Wilkerson-Jerde** is a PhD Candidate in the Learning Sciences program at Northwestern University. She is a member of the Centre for Connected Learning and Computer-Based Modelling at Northwestern, holds undergraduate degrees in Mathematics and Education, and completed a fellowship in the U. S. Department of Education-sponsored Multidisciplinary Program for Education Sciences. Her
research deals with understanding and supporting the ways that learners make sense of an increasingly interconnected and information-rich world. She is especially interested in the design and use of technological tools that can support learners as they integrate knowledge from different topics and experiences to make sense of computational, mathematical, and scientific problems.