About the Contributors

Patrick Felicia, PhD, is a lecturer, course leader, and researcher at Waterford Institute of Technology, where he teaches and supervises postgraduate students. He obtained his MSc in Multimedia Technology in 2003 and PhD in Computer Science in 2009 from University College Cork, Ireland. His research interests and expertise are mainly in Game-Based Learning, Multimedia, Educational Psychology, and Instructional Design. He has served on program committees for international Game-Based Learning and Technology-Enhanced Learning conferences, and is also Editor-In-Chief of the International Journal of Game-Based Learning (IJGBL).

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Martin Acosta was born in Bogota in 1965. He got Bachelor’s degree in Educational Science at the Pontificia Universidad Javeriana of Bogota in 1988. After that he worked in different secondary schools in Bogota as a math teacher till 1992. From 1992 to 1996 he continued his study in language and translation, specializing in technology for teaching and learning at the University of Geneva. When he returned to Bogota, he began to work at the Ministry of Education, with a project integrating technology into mathematics teaching. In 2000, he went to Europe for his Master and PhD studies in Mathematics Education at the University Joseph Fourier of Grenoble and the University of Geneva. He obtained his PhD in 2008. He is professor at the Universidad Industrial de Santander (Escuela de Matemáticas) and is expert in Theory of Didactic Situations and use of dynamic geometry software for teaching and learning geometry. As a part of his interest and research on the use of technology to teach and learn mathematics, he studies educational computer games.

Brian D. Agnew is Director of Development for the Faculty of Arts and Sciences, Newark, at Rutgers, The State University of New Jersey. He is responsible for strategic oversight of development efforts and communication for the largest of seven schools that constitute Rutgers–Newark. Mr. Agnew is currently pursuing his Doctorate in Organizational Communication with focus on Leadership at the School of Communication and Information at Rutgers University. Mr. Agnew received his undergraduate degree in Public Relations and Journalism from Utica College and a Masters in Business Administration from the Martin J. Whitman School of Management at Syracuse University.

Anna Åkerfeldt is a PhD student at Stockholm University, Sweden. Åkerfeldt has a background as a producer of custom made digital learning resources and her research interest is digital learning environment in educational settings. She is currently involved in a project called “Observation of 1:1. Learning
in a digital environment”. The project studies how teachers use and implement laptops in their teaching and how pupils use them for their learning. The project also studies what challenges the headmasters are faced with when it comes to organise education when implementing 1:1. Åkerfeldt is also one of the editors of the on-line journal Designs for learning.

Julian Alvarez obtained a PhD in communication and video game at IRIT (Institute of Computer Researh of Toulouse) and LARA (Laboratory of audiovisuel Reseach) of the Universities of Toulouse II & III (France). His research focuses on the way to use video games as tools for communications.

Krestina Amon graduated from The University of Sydney, Australia, with Honours in Behavioural and Community Health Sciences focusing on parental stress and coping with children diagnosed with Attention-Deficit/Hyperactivity Disorder (AD/HD) in 2005. She graduated with her Doctorate of Philosophy on Biofeedback video games for children with AD/HD in 2009. Part of the Prometheus Research Team at The University of Sydney, she has attended and presented at a number of national and international conferences, published in peer reviewed journals, and been invited to present her project in news media. She is currently working in children’s services.

Kostas Anagnostou has a PhD in Computer Graphics and has worked in the videogame industry (Microsoft Game Studios) for several years. He has taken part in the development of one Xbox and three Xbox360 games. He is an adjunct Lecturer at the Department of Informatics, Ionian University, Greece, where he teaches courses on the Videogame Industry and Development as well as courses on Virtual Reality and Computer Graphics. His research interests include videogame and virtual world technologies and their application in education and training. He has written a book in Greek on the videogame industry and development and is running two blogs (in Greek) on these subjects.

Neil Anderson holds the ‘Pearl Logan Chair in Rural Education’ at James Cook University, Australia and is a senior research fellow at the Cairns Institute. His research has focused on rural education, e-learning and ICT equity themes. Current research interests include leading an Australian Research Council (ARC) funded study that involves collaborative research to examine issues associated with middle schooling and ICT. Other ARC funded studies have focused on the low rates of female participation in professional ICT occupations and education pathways. Professor Neil Anderson is the chair of SiMERR Australia executive (Science, ICT and Mathematics Education for Rural and Regional Australia) and leads the ‘Wired’ research community within the multi-university consortium, The Eidos Institute (http://www.eidos.org.au). He serves on the editorial board of ‘Australian Educational Researcher’, ‘Australian Educational Computing’ and ‘Knowledge-based Innovation in China’ and ‘E-Tropic’. He is a member of the advisory board and conference committee for the Asia Pacific Professional Leaders in Education Conference (QSAPPLE) (http://www.qsapple.org).

Julien Andureu is a research engineer in the Biorobotics Department at Fatronik-Tecnalia. His main research focus concerns usability and the use of gaming for stroke rehabilitation. He received his M.Sc. degree in human factor engineering from the Ecole Nationale Supérieure de Cognitique in Bordeaux (France) in 2009. His research interests are in the field of human factors, usability, human-machine interfaces, game design, and neurorehabilitation.
About the Contributors

Leonard Annetta, an associate professor of Science Education at North Carolina State University, Dr. Annetta’s research has focused on distance learning and the effect of instructional technology on science learning of teachers and students in rural and underserved populations. His research vigorously began to parlay the results of his dissertation into a pursuit of how synchronous interaction over the Web could propel distance learning in formal and informal settings. Understanding the popularity of online, multiuser video game play, Dr. Annetta began to use his past programming knowledge to build a virtual environment that became the platform for his current research agenda. Dr. Annetta has been awarded over $5 million in grants to support his work on distance learning and the use of Serious Educational Games as a vehicle for learning STEM content and STEM career awareness.

Daniel Aranda is Associate Professor at the Open University of Catalonia (Universitat Oberta de Catalunya) where he coordinates and teaches on Mass Communication Sociology, Media Script and Media Studies. He has achieved a PhD in Media Studies (University Ramon Llull) and a Master in Education and Communication (Universidad Autónoma de Barcelona). He is currently involved in a project which is researching into youth, digital tools and devices (such as cell phones, GPS, social networks or videogames) and their use and application in leisure settings managed by non-formal education bodies, such as leisure associations for young people. Among other activities, he collaborates with the research groups SPIDER (Smarter People through Interactive Digital Entertainment Resources- http://spider-uoc.blogspot.com) and Communication & New Media (at the Internet Interdisciplinary Institute IN3).

Helen Axe, Holding a BA (Hons) in Communication Culture and Media from Coventry University, Helen has gathered over four year’s experience of working with innovative forms of technology. Working for PIXELearning for the past two years she has taken a lead Instructional Design and Project Management role on projects for a process awareness game for Shell, an EU funded project, and educational projects aimed at bringing games into education. With this, Helen has first handedly seen students and teachers respond to games as a valued medium of learning. Further, to her involvement in projects, Helen has been aiding PIXELearning in their marketing activities with the intention of spreading a positive outlook on Serious Games.

Jessica D. Bayliss received her Ph.D. in Computer Science from the University of Rochester in 2001. Her background is in Artificial Intelligence, where she has done research on the design and implementation of brain-computer interfaces as well as hyperspectral data analysis for the NASA Goddard Space Flight Centre. She joined the faculty of Computer Science at the Rochester Institute of Technology in 2001. Jessica’s research interests focus around using technology to help people and in 2005 she received a grant from Microsoft Research for using games as a context in order to teach computer programming concepts. Games turned out to be a very strong motivator for learning computing and in 2009 Jessica became a founding member of the Department of Interactive Games and Media at the Rochester Institute of Technology.

Robert Biddle is Professor of Human-Computer Interaction at Carleton University in Ottawa Canada. His research is on “the secret life of software,” meaning how software design can influence users and usage. His primary research projects are on improving computer security, and on learning and collaboration in computer games and other new media environments. He has worked in the software industry and
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**Brandy Bowling** is currently a doctoral student in Science Education at North Carolina State University. She obtained a Master of Science degree in Biology from the University of North Carolina at Greensboro and a Bachelor of Science degree in Biology from the University of North Carolina at Chapel Hill. Prior to pursuing her doctorate, Brandy worked in medical genetics research laboratories at Duke University, studying both hereditary kidney and corneal diseases.

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**Jeffrey E. Brand** (PhD, MSU; MA, UM) is Associate Professor of Communication and Media at Bond University and Director of the Centre for New Media Research. His teaching focuses on emerging media, interactive media industries, and research methods. His research explores the social psychology of audiences, their use of interactive media and the content regulation imperatives that arise from presumed media effects. His current work explores interactive media audiences, and he serves as consultant to the Australian Communications and Media Authority, the Australian Classification Board, the Special Broadcasting Service, and the Interactive Games and Entertainment Association. He is author of the Interactive Australia series of national studies on game audiences.

**Karen Butler-Purry** is a Professor in the Department of Electrical Engineering at Texas A&M University. Her research interests are in the areas of distribution automation and intelligent systems for power quality, equipment deterioration and fault diagnosis, and engineering education. She has received awards for outstanding teaching from her students and her college and is interested in the impact of teaching materials by gender and ethnicity.

**Wolfgang Bösche** (born 1971) is research assistant and lecturer at the Department of Psychology, Technische Universität Darmstadt, Germany. He received his doctorate in 2002 for his dissertation on adaptive network models of classification learning. His research and teaching interests encompass media psychology (with focus on the effects of violent video games), cognitive and mathematical psychology, and methodology.

**Andrew Campbell** is a Senior Lecturer in Psychology at The University of Sydney and has been researching the use of the Internet, mobile phones and computer games and their impact on human behaviour for more than 10 years. Andrew is the Director of Prometheus (www.prometheus.net.au), a
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**Stefan Carmien** is a research scientist in Fundación Fatronik, San Sebastian, Spain. He has a MS in Computer Science (University of Colorado, 2002) and a PhD in Computer Science with a certificate in Cognitive Science (University of Colorado, 2006). His PhD work at the Centre for Lifelong Learning and Design centred on the design and evaluation of active task support for persons with cognitive disabilities and caregivers. From 2006 till 2008 he was a senior researcher in the Fraunhofer Institute for Applied Information Technology; while there, Dr. Carmien was a research partner in several European Commission projects. Since 2008 he has been working on health and gerontology related projects in the Health Unit of Fatronik-Tecnalia. Dr. Carmien has contributed 10 peer-reviewed articles, five book chapters, and is the author of the book “Leveraging Skills into Independent Living – Distributed Cognition and Cognitive Disability”.

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**Francesca Irene Cavallaro** is a research scientist in the Health Unit of Fatronik-Tecnalia. Her main research focus concerns the link between attentional skills, multisensory integration, and motor control. She obtained a Ph.D. in cognitive science from the University of Siena (Italy) in 2007 and received an excellence mention for her PhD thesis on cognitive modulation of sensorimotor integration. Her expertise ranges from acquisition and analysis of postural signals, EEG acquisition, to neuropsychological evaluation of attentional and imagery skills. Before joining the Health Unit’s team in Fundación Fatronik, she worked at Centro Piaggio, Pisa University (Italy), focusing on multisensory integration in haptics. She has formally studied geriatrics and computer based neuro-psychological assessment of cognitive impaired individuals. As a research scientist in Fatronik, she joined projects aimed at 1) improving quality of life of individuals suffering from mild cognitive impairments and Alzheimer’s, as well as 2) improving gaming design in motor rehabilitation for elders.

**Dimitrina Chakinska**, BSc, is currently a student at the VU University Amsterdam, pursuing two Master of Science degrees: Work and Organizational Psychology and Communication Science. She is
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Rebecca Cheng is a doctoral student in science education at the North Carolina State University. Her major research interests are in the area of science learning in virtual environments, emphasis on cognitive processes, personality and individual differences. She worked as an environmental educator at a zoo and aquarium in Hong Kong for eight years and dedicated to examining the role of informal contexts in STEM literacy, environmental education, and lifelong learning.

Arul Chib is an assistant professor in the Public and Promotional Communication division at Nanyang Technological University, and is the assistant director of the Singapore Internet Research Centre. Programmatically, Dr. Chib pursues action-oriented research with marginalized communities, in varied cross-cultural and socio-economic contexts, studying the impact of information and communication technologies. He has proposed theoretical frameworks of analysis, including the ICT for healthcare development and the Technology-Community-Management models. His work can be found in international refereed publications, such as the International Journal of Communication, the Journal of Computer-mediated Communication, the Asian Journal of Communication, and International Communication Association Conference theme books, and he has received top paper awards at major international refereed conferences, such as the International Communication Association, and the Telecommunications Policy and Research conference. Arul has lived and worked extensively in China, India, Indonesia, Nepal, Peru, Singapore, Thailand, and the United States of America.

Thomas Connolly is Chair of the ICT in Education Research Group at the University of the West of Scotland and is Director of the Scottish Centre for Enabling Technologies and Director for the Centre of Excellence in Games-based Learning. His specialities are online learning, games-based learning and database systems. He has published papers in a number of international journals as well as authoring the highly acclaimed books ‘Database Systems: A Practical Approach to Design, Implementation, and Management’, ‘Database Solutions’ and Business Database Systems, all published by Addison Wesley Longman. Professor Connolly also serves on the editorial boards of many international journals, as well as managing several large-scale externally funded research projects.

Andrea Corradini studied mathematics at the University of Trento, Italy. He received his Ph.D. in computer science from the Department of Neuroinformatics and Cognitive Robotics at the Technical University of Ilmenau, Germany. After his PhD, Dr. Corradini held the position of senior research associate at the Centre for Human-Computer Communication at the Oregon Graduate Institute of Science
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and Technology, Oregon, USA. Later, he took on a faculty position at the Assistant Professor level at the Natural Interactive Systems Laboratory at the University of Southern Denmark in Odense. For two years, he was funded by a Marie Curie Fellowship to work at the Department of Computational Linguistics at the University of Potsdam in Germany. Currently, he is an Associate Professor at the Institute of Business Communication and Information Science at the University of Southern Denmark in Kolding. His research interests include multimodal interaction, natural language processing, gesture/face recognition and analysis, embodied conversational characters, and interactive computer games.

**Lyn Courtney**, Psychologist, BPsysch(Hons), is nearing completion of a PhD, James Cook University (JCU), investigating successful ageing of Australian baby boom career women. Lyn, a Senior Researcher, has worked for the past six years with Prof Neil Anderson and Prof Colin Lankshear on ARC Linkage grants investigating the declining rate of girls entering Information and Communication Technology (ICT) career pathways. As ICT Coordinator of the Queensland Centre of Science, ICT and Mathematics Education for Rural and Regional Australia (SiMERR), Lyn has also worked on 12 funded projects, and has a strong publication record including four publication awards. Recently, Lyn and Prof Anderson have undertaken research on developing design thinking skills in indigenous high school students through an intervention program whereby students develop computer video games with indigenous content. Lyn is also a Lecturer and Subject Coordinator for the Masters of Guidance and Counselling teaching at JCU Singapore and JCU Cairns/Townsville.

**Boaventura DaCosta** is a researcher with Solers Research Group in Orlando, FL. He holds a B.S. in computer science and an M.A. and Ph.D. in instructional systems design. In addition to his research interests in cognitive psychology and information and communication technology innovations, Dr. DaCosta is also interested in how games can be used in learning. Complementing his work as a researcher, Dr. DaCosta has worked in the commercial and government training sectors for the past 15 years as a software engineer and has been involved in a number of defense programs.

**Vasiliki Dai** graduated from the School of English Language and Literature in the Aristotle University of Thessaloniki in 1995. She worked in private schools teaching English for 9 years. She has worked in both primary and secondary public schools. Today, she is appointed in the High School of Vartholomio, Ileia. She is also a postgraduate student at the M.Ed. in TESOL, Hellenic Open University.

**Vasilis Daloukas** has an MSc in Computer Science (2009, “The use of Games in the Teaching Process”), during which he created the Moodle’s module named ‘Game’ for the use of games, such as hangman, crossword, snakes ’n’ ladders through moodle. He graduated from the Department of Computer Engineering and Informatics in the University of Patras in 1999. He worked in the private sector for 5 years, and since 2003, has been a teacher in secondary education.

**Roman Danylak** is an artist who conducts research into Interactive Systems Design. He completed a PhD in Human-Computer Interaction in 2008 using theatre art and semiotics-a novel process for creating innovation-to research emotion and gestural system design. He has lectured in Interactive Art at Stockholm University and has presented papers at numerous international conferences on software design,
gaming, and interactive art. Danylak has also worked in film, television, and theatre as both writer and performer. He has worked in collaborative art and technology since 1996.

**Penny de Byl** (Ph.D.) is Associate Professor of Games and Multimedia at Bond University. In 2005, Dr de Byl co-founded the ALIVE (Advanced Learning and Immersive Virtual Environments) Research and Development laboratory at USQ, which employs 3 full-time associates. This project received a $215K grant from the Carrick Institute in 2006 and won Dr de Byl the 2007 Qld government Smart State Women in ICT award. Dr de Byl also initiated the study, as Project Manager, for the uptake of Moodle at USQ. Recently, Penny recently worked as Associate Professor of Serious Games in the Netherlands and collaborating with Augmented Reality industry partners. She completed her PhD in 2002 in the area of intelligent character creation for computer games and has since published two text books with a focus on this area.

**Rosario De Chiara** got a Ph.D. in Computer Science in 2005 from Università degli Studi di Salerno, Italy. He currently works as Post-doctoral Research Fellow at Dipartimento di Informatica ed Applicazioni “R.M. Capocelli” at Università degli Studi di Salerno. He co-authored about 20 scientific papers in international peer-reviewed conferences and journals. His main scientific interests concern visualization, parallel computing, and computer graphics.

**Sara De Freitas** (BA (Hons), MA, PhD, FRSA) is Director of Research and Professor of Virtual Environments at the Serious Games Institute at the University of Coventry where she leads an applied research team working closely with industry. Sara holds a visiting fellowship at the University of London, is elected Chair of the Lab Group, and is a Fellow of the Royal Society of Arts. Voted the Most Influential Woman in Technology 2009 and 2010 by US Fast Company, Sara also chairs the IEEE Serious Games and Virtual Worlds conferences (VS-Games) and is a regular speaker at international conferences. Sara currently holds 12 funded projects, funded through European, regional, and national agencies. Her current research includes multimodal interfaces, experience design, and perceptual modelling in games and virtual worlds. Sara publishes widely with over 90 publications (reports, journal articles, conference papers and books) in the areas of: pedagogy and e-learning, change management, and serious games and virtual worlds for supporting training and learning.

**Menno Deen** graduated as a (BA) designer at the Utrecht School of Arts and subsequently as (MA) cultural researcher at Utrecht University. His design and research is on virtual citizenship, homosexuality, and the educational potential of video games. Deen wrote his MA thesis on the correspondence between learning styles and playing styles. Subsequently he works as Ranj’s game researcher, validating the learning outcome of a second language learning game called CheckOut! Since 2009, Deen has been a PhD candidate at Fontys University of Applied Sciences. He has published about serious games and education (OSG), co-authored a report about the attractiveness of casual games (My Child Online Foundation), and co-authored a chapter on online casual games in Contact! Children and New Media (2010). Deen’s PhD research is on motivations for games and learning. He works on a serious game design method for educational games that may change students’ motivation towards learning for the better.
Damien Djaouti. His main interest lies in multidisciplinary approaches that can help to analyse videogames whose purpose isn’t solely entertainment (Serious Games, Art Games, Edugames...). He is currently studying design methodologies and tools that could help “non-professional” designers to create such videogames. Alongside with his research, he designs and develops Serious Games and Casual Games.

Claire Dormann is an Assistant Professor at the University of Ottawa, in the School of Information Studies. She has a multi-disciplinary background in Psychology, Computer Science and Multimedia Design. Her research is dedicated to investigating new technologies for lifelong learning through the study and design of novel forms of play and learning. Current projects relate to affective learning and computer games, serious games, humour, as well as urban games and communities. Her expertise includes computer games, educational technology, and human-computer interaction. Research interests also pertain to persuasive technology, affective design, and visual rhetoric.

Ian Dunwell is a postdoctoral researcher at the Serious Games Institute, currently leading the area of games for health. Having obtained his PhD in Computer Science from the University of Hull, he also holds a degree in Physics from Imperial College London, and is an Associate of the Royal College of Science. His research interests lie primarily in the application of an understanding of cognitive processes within virtual environments as a means for providing optimised and effective learning experiences to users, and the use and evaluation of novel HCI interface technologies (such as the NeuroSky and Emotiv headsets) to enable more meaningful and affect-based interactions between humans and machines. In the domain of serious games, he has consulted with a number of leading serious game companies including Blitz Games and PlayGen to design and develop evaluation strategies for serious games such as Patient Rescue, Ward Off Infection, i-Seed and Parent Know-How, and worked extensively with games aimed at reaching difficult demographics as well as changing the affect and motivation of learners.

Manuel Ecker is a research assistant at the University of Education Weingarten, Germany. He is member of the Media Education and Visualization Group and teaches in the Bachelor/Master program ‘Media and Education Management’ the topics media production and media design, and supports several IT projects in educational context. After his studies in Media and Computing, he received his diploma and Master’s degree in Computer Science at University of Applied Science Heidelberg, Germany in 2005 and 2007. His research work is focused on learning and teaching with digital media. He engages in the fields of E-Learning, Game-based Learning, Human-Computer Interaction, and Video-based Learning, as well as Mobile Learning. Manuel Ecker works as a consultant in several projects in the field of Information Technology, multimedia, and education in cooperation with educational institutions as well industry partners.

Monica Evans is an assistant professor of computer game design in the Arts and Technology Program at the University of Texas at Dallas. Dr. Evans received her Ph.D. from the UT Dallas in 2007, and has designed and developed serious games with numerous university partners, including the Dallas Museum of Art, Alcatel, Nortel, U.S. Army Training Doctrine and Command (TRADOC), Joint Forces Command (JFCOM), the Smart Hospital at UT Arlington, and Children’s Medical Centre of Dallas. She is affiliated with the Mobile Innovations Lab, the Virtual Worlds Lab, and the Institute for Interactive Arts and Engineering at UT Dallas, and with the Serious Games Initiative within the University of Texas System.
Dr. Evans is the principal investigator for the Digital Calculus Coach, and the project lead for the Values Games Initiative within the Centre for Values in Science, Medicine, and Technology at UT Dallas.

Ernesto Fabiani is associate professor of Civil Procedure Law at the University of Benevento and president of the degree course in Law at the Law and Economics Faculty of the University of Benevento. He authored numerous articles and monographs in the field of civil adjective law. In the last few years, he started to be interested in the use of simulation environments in legal education and established an experimental course in civil adjective law based on the serious game “Simulex.”

Ryan Flynn is a Senior Lecturer at the University of Greenwich in Games and Multimedia Technologies. He teaches how to design and develop computer and video games for a number of different platforms, including Flash, XNA and iPhone/iPod Touch. He is also currently studying for a PhD, where he is investigating the link between games and education.

Thomas Hainey is a researcher in the School of Computing at the University of the West of Scotland specialising in games-based learning and particularly evaluation of games-based learning. He has a number of journal and conference publications in this area.

Priscilla Haring, MSc, studied Marketing Management (Hogeschool Schoevers) before turning to Communication Science, and eventually specializing in Media Psychology (VU University Amsterdam) with additional minors in English Linguistics and Journalism. She wrote her Master thesis on the different media realities of two gaming genres; Alternate Reality Games and Massively Multiplayer Online Role Playing Games. During her studies, she held the position of student-assistant for several lecturers and the interfaculty institute of CAMeRA (Centre of Advanced Media Research Amsterdam) before joining the European a2e2 project (Adaptive Ambient Empowerment of the Elderly). Within this project, her research focus is on motivation and feedback. She has a very broad understanding of gaming in all its (social) aspects.

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Stephen Howell received a BSc (Hons) in Computer Applications from Dublin City University (Ireland, 1998) and is currently undertaking PhD research in University College Dublin. As a graduate, he worked as a software engineer for companies such as Sapien and IBM. He is currently a lecturer in the Institute of Technology Tallaght Dublin, where he teaches software development and interactive media design & development. He has a strong interest in innovative teaching strategies, and has received funding for several projects to explore this area.
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**Jean-Pierre Jessel.** After a Master in Computer Science, he obtained a PhD in Computer Graphics in 1992, and a Habilitation in 2000. He is head of the VORTEX Group (Computer Graphics, Augmented / Virtual Reality) at IRIT laboratory. His current research interests include distributed virtual reality applied to virtual prototyping, cultural heritage, and serious games. He is also chair of the French Computer Graphics Association.

**Sue Johnston-Wilder.** Originally a secondary mathematics teacher, Sue has worked to develop and improve the use of ICT for teaching and learning mathematics since the BBC microcomputer. She was joint-editor of Micromath, a journal of the Association of Teachers of Mathematics. She was Deputy Director of Nuffield Advanced Mathematics, integrating ICT into the 16-19 math’s curriculum. She was Director of NOF-funded ICT training in Bedfordshire and Hertfordshire. Sue’s work includes ‘Teaching Secondary Mathematics with ICT’ and ‘Developing Thinking with Geometry’ which includes a CD of applets. She was a member of the team which developed Grid Algebra and the Bowland Mathematics materials.

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Stephanie B. Linek graduated from the University of Wuerzburg in 1997 with a diploma (MS) in Psychology. From 1998 to 1999, she worked as a postgraduate researcher at the University of Heidelberg. After postgraduate studies at the University of Koblenz-Landau, in 2002, she received the Certificate “Media- and Communication Psychologist”. From 2003 to 2006, she was a postgraduate researcher at the Knowledge Media Research Centre in Tuebingen (Germany) and worked on her PhD thesis on “Gender-specific design of narrated animations: Speaker/Gender Effect and the schema-incongruity of information”. In 2007, she received her Dr. rer. nat (D.Sc.) from the University of Tuebingen. Since 2006, she has worked in the Cognitive Science Section University of Graz in several EC-research projects and (since 2008) also as university assistant. Her research interests are in several areas of games and game-based learning, as well as in evaluation and methodology.

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Angelique Nasah is a partner and researcher with Solers Research Group in Orlando, FL, and she holds a Ph.D. in instructional technology. Her research interests include the reduction of cognitive load
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**Sean Neill** originally studied animal behaviour before researching adolescent fighting; he continues to research disruptive behaviour, most recently in surveys for the National Union of Teachers. He specialises in quantitative analysis and the function of behaviour, including play. He has worked on projects on the educational applications of computers since the 1990s, including four European Union financed international collaborative projects on IT based learning.

**Eugenia M. W. Ng** is an Associate Professor in the Mathematics and Information Technology Department and Associate Dean of Graduate School at the Hong Kong Institute of Education. She has had over seventy articles published in conference proceedings, journals, newspapers and as book chapters. Her publications have appeared in *Issues in Informing Science and Information Technology, Journal of Interactive Instruction Development*, *of Information Systems Education, Journal of Quality School Education and Annals of Cases on Information Technology*. Her book chapters have appeared in *Subject Teaching and Teacher Education in the New Century: Research and Innovation, and Improving student learning: Learning-oriented assessment in action, Encyclopaedia of Information Technology Curriculum Integration, Encyclopaedia of Information Communications and Technology and Encyclopaedia of Networked and Virtual Organizations*. She is the editor of *Comparative blended learning practices and environments*, and *Co-editor-in-Chief of International Journal of Web-based Learning and Teaching Technologies*.

**Elisabet M. Nilsson** holds a Ph.D. in Educational Sciences from the School of Education, Malmö University in Sweden. Her research interest concerns how new tools and technologies, such as computer games, influence activities in society and evoke new patterns of behaviour and thinking. Two tendencies are important as a background to her work. Firstly, the rapidly increased use of digital media among young people. Secondly, the challenge digital media pose for education. The research projects presented in her doctoral dissertation “Simulated ‘real’ worlds: Actions mediated through computer game play in science education” empirically explore what happens in situ when students collaboratively play and reflect on their computer game play in a science learning context.
Cathleen Norris is a Regents Professor in the College of Information, Department of Learning Technologies at the University of North Texas. Cathie’s 14 years in K-12 classrooms—and receiving Dallas’ Golden Apple Award—has shaped her university research agenda: helping K-12 teachers move from the 19th century into the 21st century. Cathie has been President of the International Society for Technology in Education (ISTE), the leading international organization for technology-minded educators. From 1996 through 2001, she was the President of the National Educational Computing Association (NECA), the association that organized NECC, the premier conference on technology in K-12. Cathie is co-founder of GoKnow, Inc. the premier mobile learning company.

Lucia Pannese, Italian, graduated in Mathematics, has extended experience in research projects with special attention to technology enhanced learning solutions, particularly based on the use of serious games. After working for more than 10 years in mainly technology companies with training and research/innovation responsibilities, in February 2004, together with 2 partners, she founded imaginary s.r.l., a company belonging to the Innovation Network of the university Politecnico di Milano. Imaginary specialises in the design and development of Serious Games and simulation systems for different business market sectors and is currently entering the educational sector. At present, she is covering the position of CEO and manager for international (research) activities. In October 2008 she founded Games2Growth Ltd based at the Serious Games Institute, Coventry University Technology Park, another SME specialising in design and development of serious games.

Anastasia Pappa has a PhD in Astrophysics. Her research interests focus on the use of virtual worlds and videogames in science communication and physics education. She is currently involved in the designing of a physics videogame for secondary school children. She also develops educational workshops for schoolchildren and is an active science communicator. She is a regular contributor to Greek publications and runs a blog (in Greek) which discusses issues of new technologies in science education as well as science communication.

Dimitra Pappa, holds a degree in Electrical Engineering from the National Technical University of Athens Greece (NTUA), specialising in telecommunication technologies. Since the late 1990’s she has taken part in a number of European and national research and development projects in the fields of e-Learning, e-Health, e-Government and e-Commerce (under FP5 & FP6, eContentPlus, Lifelong Learning, eTEN, Ten-Telecom, ADAPT, ACTS, eLearning Initiative & EUMEDIS programmes), as scientific supervisor, project manager and/or member of the work team. The list of projects includes: OpenScout, PROLIX, PROLEARN, e-VITA, TEN-A, LIVIUS, ADAPT, GALENOS, MEDASHIP, EMISPHER, eGOV, PRAXIS. She has published several papers in refereed international scientific journals and conferences. Her current research interests revolve around the various facets of technology-enhanced learning.

Susan Pedersen joined the educational technology faculty in 2000 after completing her doctorate in Curriculum and Instruction at the University of Texas at Austin. She teaches graduate level classes in educational video, interface design, and computer-assisted instruction. Her research focuses on the use of technology to bring student-centred learning approaches, such as problem-based learning and student-directed inquiry, to K-12 environments. She was the lead instructional designer of “Alien Rescue”, winner of the 2001 Learning Software Design Competition.
About the Contributors

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Ian Pitt lectures in Usability Engineering and Interactive Media at University College, Cork, Ireland. He took his D.Phil at the University of York, UK, then worked as a research fellow at Otto-von-Guericke University, Magdeburg, Germany, before moving to Cork in 1997. He is the leader of the Interaction Design, E-learning and Speech (IDEAS) Research Group at UCC, which is currently working on a variety of projects relating to multi-modal human-computer interaction across various application domains. His own research interests centre around the use of speech and non-speech sound in computer interfaces, and the design of computer systems for use by blind and visually-impaired people.

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Maria Rigou, PhD in Computer Science (2005, Web Personalization), has been a scientific collaborator of CTI Research Unit 5 (Internet and Multimedia Technologies) since 1998. Today, she is the technical manager of 4 IT projects (3 of which relate e-learning software) and is also a lecturer (sub-
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About the Contributors

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Gareth Schott is a Senior Lecturer at the School of Arts, University of Waikato, New Zealand. He has published extensively in the emerging field of game studies over the last decade, contributing research on the topics of female gaming, game fandom and participatory cultures, the application of multi-modality theory to analysing game texts, metrics of violence and research into players, player cultures and player experience. His research has been funded by the Arts and Humanities Research Board (AHRB) and University for Industry (UfI) in the UK and Royal Society of New Zealand in NZ. He is one of the authors of Computer Games: Text, narrative and play published by Polity Press.
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Staffan Selander is professor in Didactic Science at Stockholm University, Sweden. Selander’s research has focused learning from hermeneutic, socio-cultural and semiotic perspectives, especially on questions concerning interpretation, transformation and representation. In recent years he (and his research team) has developed the approach called designs for learning. Staffan Selander has been in charge of various research projects concerning multimodal texts, toys, aesthetic learning processes, digital learning resources and learning in various contexts. He has also for many years been the president of IARTEM (www.iartem.no). Among his recent publications (in English) are Designs for learning and ludic engagement (2008), Socio-cultural theories as ideology? The need for a design-theoretic, multimodal approach to learning (2008), Coordinating multimodal social semiotics and an institutional perspective in studying assessment actions in mathematics classrooms (with Lisa Boistrup-Björklund, 2009) and Nordic identities in transition – as reflected in pedagogic texts and cultural contexts (ed. with Bente Aamotsbakken, 2009).

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She specializes in using quantitative methods to document the effectiveness of instructional materials. Her
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**Vinod Srinivasan** is a faculty member in the Department of Visualization at Texas A&M University. His primary research is in the area of applied gaming, particularly applications in education. His other research interests include applications of interactive visualization in 3D modeling, simulation, and design. He teaches game design and development, graphics programming, and 3D modeling. His current research projects include PlanetK, a game to teach digital logic design to undergraduate engineering majors, and an upcoming game to teach nutrition concepts to middle-school children. He is also the lead designer, architect, and developer of TopMod, a popular open source topological mesh modeler.

**René Saint-Pierre** has been developing and applying a research/design methodology involving digital technologies for more than twenty years. In 1999, he completed his Masters in Communications at UQAM with an interactive multimedia project on the life and work of French sculptor Armand Vail-lancourt. In 2007, he obtained a Doctorate in Art Studies and Practices from the UQAM School of Visual and Media Arts. René Saint-Pierre has also taught design and multimedia development and production techniques at the college and university level for 8 years. He is currently involved in post-doctoral studies to further develop and share his research hypotheses with the international community of researchers and practitioners working in the emerging field of serious games for education.

**Jan-Paul van Staalduinen** (1980) is a PhD researcher in the Systems Engineering Group of the Faculty of Technology, Policy and Management of Delft University of Technology (TU Delft). His research interests are education, social software, and serious games. His PhD research focuses on the integration of educational theory and game design methods. In 2004 he got his Masters in Systems Engineering & Policy Analysis at the TU Delft, with a thesis on scenarios for education support infrastructures. After graduating, he worked as an e-learning consultant for the TU Delft. After that, he worked at Unisys Netherlands, as a process analyst and trainer. From 2006 to 2008, he worked for the consultancy firm Verdonck, Klooster & Associates, where he helped governmental bodies with projects on ICT policy and strategy, information management and quality management. He is a fulltime PhD researcher since July 2008.

**Mark Stansfield** is a Senior Lecturer in the School of Computing at the University of the West of Scotland. He has written and co-written more than 80 refereed papers in areas that include e-learning, games-based e-learning and virtual campuses. He also serves on the editorial boards of several international journals that include the International Journal of Information Management, Journal of Information Systems Education, ALT-J, and the Journal of IT Education, as well as being an Editor of the Interdisciplinary Journal of E-Learning and Learning Objects. He was Project Coordinator of the European Commission co-financed project ‘Promoting Best Practice in Virtual Campuses’ and is currently working on the Web 2.0 European Resource Centre project.

**Gunilla Svingby** is Professor at the School of Education, Malmö University, Nature, Mathematics and Society. She initiated Malmö University Centre for Games Studies and the research group on Simulations and Games for Learning, Assessment, and Competency. Dr. Svingby’s research focus is formative...
assessment, computer supported collaborative learning, and simulations and games. Among her projects are “Accessibility and Learning in Higher Education” where the social dynamic of group work on the net is studied. In “The interactive examination”, students from three programs are assessed by simulated, video filmed, authentic situations, which students describe, analyse, and act on. In an ongoing project “Teachers as professionals”, a simulation game is developed to assess and support teacher students’ professional development. Dr. Svingby has worked as professor at the universities of Oslo, Tromso, Norway, Monash, Australia, Gothenburg and Lund, Sweden. She has supervised 18 Ph.D. students.

Nicolas Szilas has been working in the field of Cognitive Science for fifteen years till now. From research to industry, and from industry to research, he has been aiming at being at the heart of innovation, in the various domains that he works. After the completion of his Ph.D in 1995 and two postdoctoral positions in Montreal, he entered a video game studio in 1997, in order to manage the newly created R&D program on AI for video games. From 1999, he conducted his own research program on Interactive Drama, named IDtension. Since 2003, he has been working on this project in French, Australian and Swiss Universities. He is now associate professor at TECFA, University of Geneva, working at the intersection of games, narrative, learning, and technology. He is now involved in Swiss and European projects related to Interactive Narrative in which IDtension narrative engine is employed for both entertainment and educational applications.

Jordi Sánchez-Navarro is Associate Professor at the Department of Information and Communication Sciences at the Open University of Catalonia (Universitat Oberta de Catalunya) where he coordinates the Graduate Studies area. He has widely written on film, television, and videogames and worked as a consultant and curator in exhibitions, festivals, and conferences. He holds a PhD in Film and Media Studies (Universitat Ramon Llull). Currently he is researching on the forms of innovation in the audio-visual entertainment and how these forms interact with the new practices of cultural consumption in the contemporary media landscape. Among other activities, he collaborates with the research groups SPIDER (Smarter People through Interactive Digital Entertainment Resources-http://spider-uoc.blogspot.com) and Communication and New Media (at the Internet Interdisciplinary Institute - IN3). Recent publications include Aprovecha el tiempo y juega. Algunas claves para entender los videojuegos (Editorial UOC, 2009) and Jóvenes y ocio digital.

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Antonella Tartaglia Polcini is full professor of Civil Law and head of the Department “Persona, Mercato, Istituzioni” at the Law and Economics Faculty of the University of Benevento. He authored numerous articles and monographs in the field of civil law with special regard to arbitration. Beside
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Paul Toprac is a lecturer at The Guildhall at Southern Methodist University, where he focuses on teaching and the research, design, and implementation of game technology based applications. He has more than the twenty years of experience in the software industry, in roles ranging from CEO to product manager to consultant. During his studies at the University of Texas at Austin, Paul was the producer and designer of a science-based computer game called Alien Rescue: The Game, which was used in his dissertation, entitled “The Effects of a Problem Based Learning Computer Game on Continuing Motivation to Learn Science.” He holds a Bachelor’s of Science in Engineering, a Master’s of Business Administration, and a Ph.D. in Curriculum and Instruction from The University of Texas at Austin. In his spare time, Paul hopes to convince universities and schools that students can have fun and learn at the same time.

Sherrie Tromp is Associate Director of the University Centre for Organizational Development and Leadership at Rutgers, The State University of New Jersey. Ms. Tromp is co-author (with Brent Ruben) of Strategic Planning in Higher Education: A Guide for Leaders, 2nd Edition (NACUBO, 2010) and primary author of Process Improvement in Higher Education (Dubuque, IA: Kendall-Hunt, 1997), The Process Improvement Instructor’s Guide, and Root Cause Analysis in Higher Education (Dubuque, IA: Kendall-Hunt, 1997). Ms. Tromp received her undergraduate degree in bilingual education from Arizona State University and her Masters in cultural anthropology from Rutgers University. During her tenure at Rutgers she has also held the positions of Associate Director of Admissions and University Data Administrator. She has served as a consultant to higher education organizations, and is a member of the American Association of Higher Education, and the National Consortium for Continuous Improvement. She also served on the Rutgers Advisory Board for the Kellogg Leadership for Institutional Change Initiative.

Tony Veale is a lecturer in the department of Computer Science at University College Dublin (UCD), Ireland. He has been a researcher in the areas of Computational Linguistics, Cognitive Science, Cognitive Linguistics and Artificial Intelligence since 1988, both in industry and in academia. He obtained a B.Sc (hons) in Computer Science from University College Cork (UCC) in 1988, and an M.Sc in Computer Science in 1990, before joining Hitachi Dublin Laboratory in 1990. He received his Ph.D in Computer Science from Trinity College, Dublin in 1996. He has divided his career between academia and industry. In the latter, he has developed text-understanding and machine translation systems for Hitachi (in particular, the translation of English into American Sign language, ASL), as well as analogical reasoning tools for the CYC project in Cycorp at Austin, Texas, and patented Web-based question-answering technology for Intelliseek (Cincinnati, Ohio) and Coreintellect (Dallas, Texas), where he held the position of Chief Scientist. During his tenure on the CYC project in Cycorp Inc., he developed a model of analogical reasoning for CYC and contributed to the DARPA-funded, High-Performance-Knowledge-Bases (HPKB) and Rapid-Knowledge-Formation (RKF) projects. He was, from 2002-2007, the academic coordinator for UCD’s unique international degree programme in Software Engineering, which UCD delivers in Shanghai at Fudan University; he continues to deliver courses on this degree.
Jan Veneman holds an Engineering degree in Mechanical Engineering and a Master of Science degree in Philosophy of Science, Technology and Society, both from the University of Twente (The Netherlands). He obtained a Dr. degree from the same university in December 2007 for work on the development and evaluation of an impedance controlled robotic system for providing gait training for post-stroke patients, called LOPES. He subsequently joined Roessingh Research and Development (RRD, Enschede, the Netherlands), where he worked on the monitoring of gait recovery. His primary interests are conceptual and mechanism design, (compliant) actuation technology, haptic or mechanical human-robot interaction, technology for neurorehabilitation, and gait measurement. In October 2008, he joined the Biorobotics department of Fatronik-Tecnalia as research engineer/project manager. He has published and contributed to 5 peer reviewed journal articles, one book chapter and many conference proceedings.

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Nicola Whitton works as a Research Fellow in the Institute of Education at Manchester Metropolitan University. Her background is in Information Technology and online learning, and she is interested in pedagogic and technological innovation, particularly in the areas of collaborative and problem-based learning. Her research focuses on the use of computer games in Higher Education and in the context of lifelong learning, and she is particularly interested in the nature of motivation and engagement with games.

Ben Williamson is a Senior Researcher at Futurelab and a Research Fellow at the University of Exeter in the UK. His research focuses on curriculum innovation related to ICT in schools, on the role of videogames and creative software in young people’s social and educational experiences, and on the development of young people’s digital media literacy. Ben’s recent publications have concentrated on the use of videogames in school, curriculum innovation, teacher professional development, and children’s science-fiction literature. Ben also has a PhD in American literature, critical theory and pragmatist philosophy.
Johannes Zylka studied teaching for secondary schools in the subjects of geography, mathematics, and computer science, and is a PhD student at the University of Education Weingarten since May 2010. He received his diploma from University of Education Weingarten in media pedagogics. As a member of the Media Education and Visualization Group, he deals with the topics of media education, media literacy education, and the measurement of media- and especially computer-related skills, as well as with video game-related topics, such as Serious Games and Game-based Learning.