About the Contributors

**Xiaodong Liu** (Reader) received his PhD in Computer Science from De Montfort University, Leicester, UK. He is the Lead of Software Systems Research Group at Edinburgh Napier University. As an active researcher, his current research focuses on context-aware services, service repositories, cloud service evolution and green software engineering. He has published over 80 papers and book chapters in established international journals and conferences, 3 book chapters and 2 edited books, and led 8 externally funded projects. He has been the chair, co-chair or PC member of a number of International Conferences, such as IEEE COMPSAC’05-’15, SEKE’07-’15 and SOSE’10-’13. He is an editorial board member of 3 international journals in software architecture and software reuse. He also registered patents as inventor in the UK, USA and at international level.

**Yang Li** is a principal researcher from British Telecom. He holds three degrees in computer science and has fourteen years industrial hand-on experience in operational research. In the past, he applied intelligent technology to solving many service operation and optimisation problems in BT, as well as providing consultancy to external organisations such as Etisalat and MoD. His work on service reservation, operational forecasting, strategic co-location, tactical re-skilling, fleet optimisation and ontology management has led to many patent filings, scientific publications and software applications that support real-world business operations. He was winner of BT best paper award, for his PhD work on applying artificial intelligence to software engineering. He also received BCS business analyst of the year medal and was highly commended by IET for his pioneering work on agent-based service analytics, a bottom-up, evidence-based, IT-driven approach to business optimisation.

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**Colin Atkinson** leads the University of Mannheim’s Software Engineering Group. His research interests include model-driven and component-based approaches for developing dependable computing systems. Atkinson received a PhD in computer science from Imperial College London.

**Bachir Bouamoud** received his engineering degree in 2010 from “Faculty of Sciences and Technologies -Fez” in Electronic and Telecommunication Systems. His current research interest is multi-objective optimization of routing protocols in mobile ad-hoc networks. He is currently PhD students at the school of Computer Science and Systems Analysis (ENSIAS) in Agdal, Rabat, Morocco. within the M3S Team: Mobile Smart Security System of Laboratory Embedded And Mobile Information Systems (EMIS).
Guy Bullen has over 20 years’ experience internationally in the communications sector, including strategy, business planning, sustainability, quality, balanced scorecard and product management. He managed strategy and business planning for BT’s operations (12000 people) from 2008-2012, and rolled out BT’s sustainability programme “Better Future” in BT’s operations in 2012, as well as managing its volunteering programme (6,000 man days per year)—reflecting his belief that values and trust are at the heart of business performance. Previously, he managed the strategy and business planning for BT’s Global Networks (3000 people), and directed a number of major strategic programmes for BT. He holds an MA from Cambridge University, an MSc from University College London and an Engineering Doctorate from UCL.

William Campbell is an associate professor in the School of Computing, Telecommunications and Networks at Birmingham City University. He is also involved in international recruitment. He took a degree in Mathematics at Glasgow University, followed by a masters in Intelligent Knowledge Based Systems at Essex University. His main research interests are in green IT, in which he has published a number of papers. He is also interested in Artificial Intelligence, in particular natural language processing. He has taught formal methods, software engineering, artificial intelligence and technology entrepreneurship.

Fei Cao received her B.S. degree in Software Engineering from Zhejiang University in 2007 and M.S. degree in Computer Science from California State University Fullerton in 2009. She received her Ph.D. degree in Computer Science from Southern Illinois University Carbondale in 2014. She is currently an Assistant Professor in the Department of Mathematics and Computer Science at University of Central Missouri. Her research interests include parallel and distributed computing, and high-performance networking.

Vanessa Chang is an Associate Professor in Information Systems at the School of Information Systems and Curtin Teaching and Learning, Curtin University. Vanessa’s research activities and interests in Information Systems are focused in the areas of leadership, governance and processes of ICT and the use of systems, applications, and data in organisations. In addition to her Information Systems research, she is an active researcher in immersive learning in 3D virtual worlds environment, mobile learning, e-learning ecosystems and learning analytics. She has also worked on a number of experiments in 3D virtual worlds in Second Life, OpenSim, and OpenWonderland. She has also collaborated with international researchers in teaching ERP/SAP enterprise systems business process in a globalized context using 3D virtual worlds. She developed the Web-based Learning Environment instrument (WEBLEI) and this instrument is active in use and adopted by researchers and institutions around the world to assess the use and effectiveness of the on-line learning environments. She has published in ranked international journals and conference proceedings.

Ernesto Damiani obtained a M.Sc. in Computer Engineering from Università di Pavia and a Ph.D. in Computer Science from Università degli Studi di Milano, Italy. He is a Full Professor at Università degli Studi di Milano and the Director of the University’s Ph.D. Program in Computer Science. He has held visiting positions at a number of research institutions in the US, the EU, the UAE, Japan and Australia. Ernesto Damiani is a leading researcher in the fields of infrastructure, process and cloud security. His pioneering work on SOA security provided an entirely new vision of the representation of services’ non-functional properties via policies acting on XML data items being exchanged during process execution.
Keith Dickerson has played an active role in the ICT industry for over 30 years. He is currently a Director of Climate Associates Ltd which provides advice to major companies on Energy Efficiency and Climate Change Mitigation issues, especially where international standards are important. Until the end of 2009, Keith was Head of Standards of BT, providing direction to all BT’s international standards activities and working closely with senior management to identify the standards required to support BT programmes such as the 21st Century Network. Keith has been a member of the ETSI Board for 12 years, leading their Green Agenda and Smart Cities work. He is also a rapporteur for work items on energy efficiency in several technical committees. Keith is also a Vice Chair of ITU-T Study Group 5 “Environment & Climate Change” developing global standards covering topics such as carbon reduction, energy efficiency and e-waste.

David Faulkner is currently a Director of Climate Associates Ltd which provides consultancy services to major companies on Energy Efficiency and Climate Change issues. He led research in the field of access networks with specialization in passive optical networks for British Telecom between 1983 and 2007, filing 18 patents as inventor. Between 1995 and 1999 he was visiting lecturer at Essex University. From 2000-2008 he was Rapporteur of ITU-T/SG15/Q2 on “Fibre Systems for Access Networks”. He chaired the ITU-T Focus Group on ICT and Climate Change in 2008-2009 and is now Co-chairman of the Joint Coordination Activity on ICT and CC. He is Associate Rapporteur of SG5 Question 14 ‘Setting up a low-cost sustainable telecommunication infrastructure for rural communications in developing countries’ and Question 15 ‘ICTs and adaptation to the effects of climate change’. He has co-chaired the annual conference on Networks and Optical Communications since its inception in 1995.

Ahmed. Habbani received a Ph.D. degree in 2007, from the Graduate School of Engineering, EMI, in Information and Computer Sciences. He received a HDR. degree in 2012. He is currently Research Professor at the School of Computer Science and System (ENSIAS). He is working within the Wireless Sensor Networks (WSN) team of the Laboratory Electronics and Telecommunication (LEC) and the M3S (Mobile Smart Security System) team of Laboratory EMBEDDED AND MOBILE INFORMATION SYSTEMS (EMIS).

Qusay Fadhel Hassan has received his Ph.D. from the Faculty of Computers and Information Systems, Mansoura University, Egypt, in 2015. His research interests include SOA, and grid and cloud computing. Qusay has authored and co-authored a number of journal and conference papers as well as book chapters. He is also a member of the editorial board of a number of associations including IEEE and AICT. Dr. Hassan has many years of experience in the software field within a number of organizations and software houses. Through those years, he has employed his knowledge and gained hands-on experience as a senior software engineer. He currently works as a systems analyst for the United States Agency for International Development (USAID) in Cairo, Egypt.

Theodora Issa is a multi-award winner, and a Senior Lecturer at the Curtin Business School, Curtin University, Australia. A visiting professor at a European Business School, she developed teaching material and facilitates a unit on Sustainable Development Business Strategies for Master of International Business students. Currently, Theodora is conducting her post-doctoral research on ethical mindsets, spirituality, and aesthetics, and currently working on a manuscript for a book on Ethical Mindsets: A Comparative Study. Theodora’s research is published in credible peer-reviewed journals. Theodora is
one of the Webmasters of her community’s Website http://soca.cjb.net (since 1995) and is one of the editors of the weekly bulletin since 1995 that is currently available online under URL http://noohro.cjb.net. Since 2012, Theodora has been an active member at the World Council of Churches on behalf her church as (a) delegate, 2012, (b) member of Central Committee 2013, and (c) member of Education and Ecumenical Formation Commission.

Tomayess Issa is a senior lecturer at the School of Information Systems at Curtin University, Australia. Tomayess completed her doctoral research in Web development and Human Factors. As an academic, she is also interested in establishing teaching methods and styles to enhance the students’ learning experiences and resolve problems that students face. Tomayess Issa is Conference and Program Co-Chair of the IADIS International Conference on Internet Technologies and Society and IADIS International Conference on International Higher Education. Furthermore, she initiated the IADIS conference for Sustainability, Green IT and Education. Currently, she conducts research locally and globally in information systems, Human-Computer Interaction, Usability, Social Networking, Teaching and Learning, Sustainability, Green IT and Cloud Computing. Tomayess participated in a couple of conferences and published her work in several peer-reviewed journals, books, book chapters, papers and research reports. Tomayess Issa is a Project leader in the International research network (IRNet-EU (Jan2014 – Dec 2017)) to study and develop new tools and methods for advanced pedagogical science in the field of ICT instruments, e-learning and intercultural competences. Finally she is a senior research member of ISRLA (Information Society Research Lab) from International Association for Development of the Information Society.

Paul Kingston is the founder of K8T Ltd specialising in computational physics for the built environment. Paul is responsible for the commercial and business development of K8T. He is very active in development and implementation of Low Energy solutions in the built environment to ensure optimal energy performance of buildings. The area of Datacentres has been a key focus for Paul over the last decade and he has been involved in a large number of Global Datacentre projects and technology developments. He was formerly an Associate Partner at Hoare Lea and Partners and founded their Virtual Engineering group in 1999. Paul has also worked as a Senior CFD Consultant at Fluent Europe (ANSYS). Paul holds a PhD and BEng(hons) in Mechanical Engineering.

Louise Krug received a BSc degree in Physics from Manchester University and an MSc in Computing Science from the University of Essex. She is a Senior Researcher in BT specializing in energy and carbon reduction of telecommunications networks. Previous research projects have included 2D-integrated optics, quality of service for wireless networks and software agents for mobility services.

Philip Moore has been awarded a Ph.D. He is an Adjunct Professor and Master Supervisor at Lanzhou University, China and a Guest Professor at Shandong Normal University. His work addresses personalisation in intelligent context-aware systems in a range of domains and has been presented in many international conferences and published in many conference proceedings, journal articles, and books. He has served as a member of international program committees and organizer for international conferences and acts as a reviewer for international conferences and journals. He is on the editorial board of international journals and has acted as a workshop, Track Chair, and Program Chair for International Conferences.
About the Contributors

**Martyn Ratcliffe** graduated with a physics degree, and started a career at British Aerospace. After several changes of department and the completion of an M.Sc. in Digital Systems he settled in the Software Department designing real-time software for weapon systems. After 8 years he left British Aerospace to take up a teaching post at Birmingham City University, where he has generally concentrated on teaching and research in Software Engineering. During his time at BCU he has completed a PhD and has been on several secondments to industry. He has published several papers relating to the application of Software Engineering techniques to practical problems.

**Fabrice Saffre** was awarded a Ph.D. in Science by the Université libre de Bruxelles. He is a Principal Researcher in BT, coordinating the Energy and Carbon theme of the company’s Strategic Research Programme. With over 25 patents and twice as many peer-reviewed publications to his name, he is an internationally recognised expert in complex systems modelling, distributed intelligence (natural and artificial), autonomics and sustainability.

**Thomas Schulze** is a project associate and doctoral researcher at the University of Mannheim’s Software Engineering Group. His research interests include eco-efficient software development, focusing on eco-efficient modelling. Schulze received a diploma in business informatics from the University of Mannheim. He has been working for the EU projects FIT4Green and All4Green and is currently involved in the EU project DC4Cities.

**Mak Sharma** started his working career with W&T Avery in 1978 as an Apprentice Development Engineer, progressing to Software Design Engineer when he left. He holds a B.Eng. in Electronic Engineering, a PgC in System Design and a PgC in Education. Mak joined the University in 1985 and is now a Head of School. He has an international reputation for embedding vendor resources into qualifications to aid employability. In recognition of this work, Mak was a Cisco nominated Olympic Torch Bearers in 2012. Mak is a member of the British Computer Society and a member of the Institution of Engineering and Technology. Mak’s research interests are in ‘The employability of graduates’ ‘Health Informatics’, ‘Cloud Security’ and ‘Network Virtualisation’.

**Giovanna Sissa**, degree in Physics, received her PhD in Computer Science from the Università degli Studi di Milano, Italy. She is temporary researcher at the Università degli Studi di Genova, Italy. Her current research focuses on Agent Based Modelling of individual behavioral changes, on environmental awareness spread mechanisms and their macro effects on energy consumption. Her overall research interest is on ICT and environmental sustainability and on this topic she published one book, several book chapters and papers in international journals and conferences. She is independent expert for the European Commission and other institutions about the ICT trends.

**Girish Tolani** was born and brought up in India. He obtained a bachelor’s degree in Information Systems and Management from Guru Nanak Dev University. He obtained a Masters in Commerce (Information Systems) from Curtin University, during which he carried out research on sustainability, green IT, and cloud computing in India. He is currently working as a desktop support engineer with JavIT.
Nigel Wall has worked as a systems engineer for nearly 40 years, the last 13 years as an independent consultant. He is a Director of Climate Associates Ltd which provides advice to major companies on Energy Efficiency and Climate Change Mitigation issues. Within Climate Associates Nigel focusses on using ICT to mitigate the carbon footprint of other systems, particularly using ICT to improve the efficiency, effectiveness and safety of transport systems. He is also the Monitoring Officer for a number of UK government funded research projects. Nigel provides thought leadership in the intelligent transport industry as chairman of the Communications Interest Group of the Intelligent Transport Society for the UK and chairs the Land Navigation and Location Group of the Royal Institute of Navigation.

Simon Watts has worked in the satellite communications since 1981. He now works in the Applied Technology team of Avanti from early 2012 on ESA and FP7 projects looking at many different aspects of the future of satellite communications. He has wide experience in the telecommunications and broadband network industries at a technical and commercial level. After graduation from Manchester University in 1981, Simon has worked in BT International for fifteen years before joining Hughes Network Systems – Europe. Most of this time has been within the satellite communications industry including working for ten years as Chief Engineer – Europe at Hughes Network Systems. Simon also spent some years working with various terrestrial systems including ADSL, 3G, WiFi, and various microwave applications.

Chase Q. Wu completed his Ph.D. dissertation at Oak Ridge National Laboratory (ORNL) and received his Ph.D. degree in computer science from Louisiana State University (LSU) in May 2003 with a nomination for the LSU Distinguished Dissertation Award. After graduation, he continued to work as a Research Fellow in the Computer Science and Mathematics Division at ORNL until he joined the faculty at the University of Memphis (UoM) in Fall 2006. Dr. Wu was an Assistant Professor and an Associate Professor at the UoM from 2006 to 2011 and from 2011 to 2015, respectively. Dr. Wu is currently an Associate Professor at New Jersey Institute of Technology and a Collaborative Research Staff at ORNL. His research interests include big data, data-intensive computing, parallel and distributed computing, high-performance networking, large-scale scientific visualization, wireless sensor networks, cyber security.

Michelle M. Zhu received her Ph.D. degree in Computer Science from Louisiana State University in 2005. She spent two years in the Computer Science and Mathematics Division at Oak Ridge National Laboratory for her PhD dissertation from 2003 to 2005. She is an Associate Professor in the Department of Computer Science at Southern Illinois University Carbondale. Her research interests include distributed and high-performance computing, remote visualization and sensor networks.