About the Contributors

**Emmanuel Udoh** is an assistant professor of computer science at the Indiana–Purdue University, Fort Wayne. He is currently serving as the editor-in-chief of the *International Journal of Grid and High Performance Computing* and also of the *Encyclopedia of Grid Computing Technologies and Applications*. In addition to being interested in grid computing, Dr. Udoh has been active in database research. Dr. Udoh has published a book and over 25 articles in journals and conference proceedings. He served as the organizing and session chairs of the IASTED International Conference on Software Engineering/Applications and International Conference on Information Technology. Dr. Udoh has been listed in American Marquis Who’s Who in the World 1993-1994.


* * *

**Khalid Abdelkader** is a PhD-student in the Department of Mathematics and Computer Science at the University of Antwerp (UA), Belgium. His research interests are distributed systems and grid computing. Currently, his main research focus is the study of grid economies in dynamic, large-scale settings.

**Enis Afgan** is currently a PhD candidate in the Department of Computer and Information Sciences at the University of Alabama at Birmingham, under the supervision of Dr. Purushotham Bangalore. His research interests focus around grid computing with the emphasis on user-level scheduling in heterogeneous environments with economic aspects. His other interests include distributed computing, optimization methods, and performance modeling. He received his BS degree in computer science from the University of Alabama at Birmingham in 2003. More information about his research activities can be found at: [http://www.cis.uab.edu/afgan/](http://www.cis.uab.edu/afgan/).

**Giovanni Aloisio** is full professor of Information Processing Systems at the Engineering Faculty of the University of Salento, Lecce, Italy. His research interests are in the area of high performance com-
puting, distributed and grid computing and are carried out at the Department of Innovation Engineering of the University of Salento. He is also director of the CACT (Center for Advanced Computational Technologies) of the National Nanotechnology Laboratory (NNL/CNR-INFM).

**Daniele Andreotti** was born in Ferrara (Italy) in 1975. Since 2001 has collaborated and worked on the BaBar experiment as developer of tools for managing data generated by the simulation production workflow. At the end of 2002 he also joined the INFN-Grid project, created by the National Institute for Nuclear Physics. Actually he is involved in the management of the local grid farm services at the University of Ferrara and in the development of tools for interfacing the traditional Monte Carlo simulation production of BaBar with the grid facilities provided by the INFN-Grid framework.

**Ashiq Anjum** works in the CCCS research centre at University of the West of England, Bristol UK and carries out research in collaboration with CERN Geneva. His areas of interest are grid and high performance computing, grid resource management and operating systems, distributed data mining and sensor networks. He has more than 30 peer reviewed publications to his credit. He holds a BS in electrical engineering, and an MS and PhD in computer science and has seven years of industry experience before entering academic research in 2001.

**Gabriel Aparicio** is a researcher in the Institute for the Applications of Advanced Information and Communication Technologies (ITACA) since 2005. He has been involved in parallel and grid computation and genomic analysis processing since this date participating in six national and European research project, being the author and co-author of more than 10 papers and posters in national and international conference proceedings.

**Valeria Ardizzone** graduated in computer science at the University of Catania (Italy). Since 2004, she is involved in the Enabling Grid for E-Science Project (EGEE and EGEE-II - http://www.eu-egee.org, as a member of NA3 (User Training and Induction) and NA4 (Application Identification and Support) activities. She is an accredited trainer on grid computing technology attending many induction and dissemination event on Grid and LCG/gLite middleware held all over the world.

**Frans Arickx** is a full professor in the Department of Mathematics and Computer Science at the University of Antwerp (UA), Belgium, and member of its computational Modeling and Programming research group. He received his PhD in physics, in 1976 at the Free University of Brussels (VUB), Belgium. His current research interests include computational science and distributed computing, applied to theoretical quantum problems.

**Eric Aubanel** is associate professor in the Faculty of Computer Science at the University of New Brunswick, Fredericton. He received his PhD in theoretical chemistry from Queen’s University, Canada. He leads the grid computing research group at UNB. His research interests include high performance parallel computing, scientific and grid computing.

**Purushotham Bangalore** is an assistant professor in the Department of Computer and Information Sciences at the University of Alabama at Birmingham (UAB) and also serves as the director of Collaborative Computing Laboratory. He has a PhD in computational engineering from Mississippi State
About the Contributors

University where he also worked as a research associate at the Engineering Research Center. His area of interest includes programming environments for parallel and grid computing, scientific computing, and bioinformatics. More information about his research activities can be found at: http://www.cis.uab.edu/puri/.

Roberto Barbera was born in Catania (Italy) in October 1963. He graduated in physics at the University of Catania where he currently holds an associated professorship. His main research activity has been done in the areas of nuclear and particle physics. Since 1999 he’s interested in grid computing. He is the director of two grid projects in Italy (TriGrid VL and PI2S2) while, at international level, he is the technical coordinator of the EELA-2 Project and has several responsibilities in other projects such as EGEE-III and EU-IndiaGrid. Since 2002 he’s the responsible of the GENIUS grid portal and, in 2004, he created the international GILDA e-infrastructure for training and dissemination.

Fernando Blanco graduated in physics from Universidad Complutense de Madrid (1983). From 1985 has been working at CIEMAT where his main interest was focused on systems administration and architecture, scientific informatics, clusters and grid computing. He previously was a fellow in the National Institute of Geology working on data acquisition. He has been involved in several national and international projects and he is currently head of the ICT Division of CIEMAT.

Ignacio Blanquer is an assistant professor at the Computer System Department of the Technical University of Valencia since 1999 and member of the GRyCAP since 1993. He has been involved in parallel computation and medical image processing since 12 years ago participating in 17 national and European research projects, being the author and co-author of more than 60 papers in national and international journals and conference proceedings. He is also a research fellow of the ITACA and CRIB and member of the board of directors of HealthGRID association.

Cesar Bonavides is an electronic engineer and received his masters degree in 1999, on information technology management. In the same year he started his scientific and academic career in the Program of Computational Genomics at the Center for Genomic Sciences, of the National University of Mexico, CCG-UNAM (formerly known as the Nitrogen Fixation Research Center); he is an academic technician at the UNAM assisting research in bioinformatics; his activities have broadened from software design and development for bioinformatics, to database design and administration of computer networks. He is co-author of RegulonDB and collaborator of EcoCyc, both are databases which perform literature-based curation of the entire genome of Escherichia coli.

Jan Broeckhove is a professor in the Department of Mathematics and Computer Science at the University of Antwerp (UA), Belgium, and member of its Computational Modeling and Programming research group. He received his PhD in physics in 1982 at the Free University of Brussels (VUB), Belgium. His current research interests include computational science and distributed computing, in particular cluster and grid computing.

Kris Bubendorfer is a senior lecturer at Victoria University of Wellington. His primary research topics are: market oriented grid computing, secure and verifiable auctions and reputation. Other projects that Kris has been involved (and is still interested) in, include: SLAs and migration in service contain-
About the Contributors

ers, SLAs and QoS scheduling and Content Distribution Networks. He has been on the academic staff at Victoria University since 2002, teaching operating systems, data communications and topics in distributed systems including mobile agents and grid computing.

Massimo Cafaro is an assistant professor at the Department of Innovation Engineering of the University of Lecce and a member of the Center for Advanced Computational Technologies. His research covers high performance, distributed and grid computing. He is also interested in computer security. Since the beginning of 1998 he is involved in grid projects. He received a degree in Computer Science from the University of Salerno and a PhD in computer science from the University of Bari. He is a member of IEEE and IEEE Computer Society, ACM and holds a visitor position at CACR Caltech.

Juan L. Chaves got the MS degree in computational engineering (Universidad de Los Andes-Venezuela) in 2005. His research area is focused on clusters and grid computing. Nowadays, he is working at the Information Centre of the Technological Park of Merida, Venezuela.

Zhili Cheng received his bachelor’s degree in department of computer science and technology, Tsinghua University, Beijing, China, in 2006. He is now studying for the master’s degree in department of computer science and technology, Tsinghua University, Beijing, China. His current research interests include grid computing, QoS, data replica, and virtualizations.

Dominic Cherry received the MS from School of Engineering and Design at Brunel University in 2005. He is currently a software engineer at the ITV Transmission Office in London.

Lin Chuang received the PhD degree in department of computer science from Tsinghua University, Beijing, China, in 1994. He is a professor and has been the head of the Department of Computer Science and Technology, Tsinghua University. His current research interests include computer networks, performance evaluation, logic reasoning, and Petri net theory and its applications. He has co-authored more than 150 papers in research journals and IEEE conference proceedings and has published three books.

Yeh-Ching Chung received a BS degree in information engineering from Chung Yuan Christian University in 1983, and the MS and PhD degrees in computer and information science from Syracuse University in 1988 and 1992, respectively. He joined the Department of Information Engineering at Feng Chia University as an associate professor in 1992 and became a full professor in 1999. From 1998 to 2001, he was the chairman of the department. His research interests include parallel and distributed processing, cluster systems, grid computing, multi-core tool chain design, and multi-core embedded systems. He is a member of the IEEE computer society and ACM.

Leandro Neumann Ciuffo was born in Brazil in 1978 and holds a BS in computer science from the Universidade Federal de Juiz de Fora (UFJJ) and an MS in computing from the Universidade Federal Fluminense (UFF), both Brazilian universities. Since September 2006 he collaborates with EELA project (http://www.eu-eela.org) at the Italian National Institute of Nuclear Physics (INFN – Catania), works as WP4 Manager for dissemination and training activities. Before joining INFN he acted as an assistant professor in some Brazilian universities.
About the Contributors

**Jie Dai** is a PhD candidate in computer architecture at the Huazhong University of Science and Technology, Wuhan, China. He obtained his BS and MS from the Huazhong University of Science and Technology, Wuhan, China.

**Piet Demeester** received his degree in electrical engineering (1984) and his PhD degree (1988) at Ghent University, where he became professor in 1993. He is heading a research group on broadband communication networks and distributed software, IBCN. The IBCN-group is also part of IBBT (the Interdisciplinary institute for BroadBand Technology). His current research interests include: multilayer networks, Quality of Service (QoS) in IP-networks, mobile and sensor networks, access networks, grid computing, energy efficient ICT, distributed software, network and service management and applications. He is co-author of over 600 publications in international journals or conference proceedings. He has been involved in over 40 European funded research projects.

**Yuhui Deng** received his PhD degree in computer architecture from Huazhong University of Science and Technology in 2004. He joined Cranfield University in February 2005 as a research officer. Dr. Deng has served as committee members for several professional conferences in the field. He has authored and co-authored more than ten international journal papers and several leading conference papers. He is on the editorial board of *International Journal of Grid and High Performance Computing*. His research interests cover data storage and computer architecture, Grid computing, parallel and distributed computing, performance evaluation etc.

**Wim Depoorter** is a PhD-student and member of the Computational Modeling and Programming (CoMP) group of the Department of Mathematics and Computer Science at the University of Antwerp (UA), Belgium. His research interests include grid economics, grid computing and aspect-oriented programming.

**David Dewolfs** is a PhD student at the Department of Mathematics and Computer Science at the University of Antwerp (UA), Belgium, and a member of its Computational Modeling and Programming research group. He currently works as a developer at Siemens. His research interests include MPI-based cluster computing, fault tolerant MPI and high performance distributed computing in general.

**Tom Dhaene** received the PhD degree in electrical engineering from Ghent University, Belgium, in 1993. In 1993, he joined the EDA company Alphabit (now part of Agilent). He was one of the key developers of the planar EM simulator ADS Momentum, ADS Model Composer, and ADS Broadband SPICE. Since 2007, he has been a full professor in the IBCN research group of the Department of Information Technology, Ghent University. He has authored or coauthored more than 120 peer-reviewed papers and abstracts in international conference proceedings, journals, and books. He is a holder of 3 U.S. patents.

**Andrea Domenici** obtained his PhD in information engineering in 1992 with a thesis on the implementation of the G" model logic programming. He has been an assistant professor at the Sant’Anna School of University Studies and Doctoral Research, Pisa, and he is currently at the Department of Information Engineering of the University of Pisa, where he teaches Software Engineering and does research in the fields of Object-oriented design and Grid architectures. In this latter field, he took part in
About the Contributors

Flavia Donno holds a PhD in information engineering from the University of Pisa, Italy. She has been involved in grid computing since the early years working in the areas of storage and data management and access, and grid infrastructures. Flavia has participated in various projects: European Data Grid (EDG), DataTag, and Worldwide LHC Computing Grid (WLCG). Flavia has also taught several Grid tutorials all over the world. She currently works at CERN in Geneva where she is in charge of the coordination of Grid Storage Services in WLCG.

Zhihui Du received his bachelor’s degree in Tianjing University, Tianjing, China, and his master’s degree and PhD in Peking University, Beijing, China. Now he is an associate professor at Tsinghua University, Department of Computer Science and Technology, Beijing, China. His research interests include cluster computing/grid computing/P2P computing, parallel algorithm based on cluster architecture, high performance communication/user level network communication, computational science and engineering research and application.

Miguel Embid graduated in chemistry but a doctorate degree in physics from Universidad Autónoma de Madrid (1999). He has been associate professor at Universidad Nacional de Educación a Distancia and works at CIEMAT since 1998. He was fellow at CERN and Unión Fenosa in the Nuclear Energy department. He has been involved in 10 international and national projects and has more than 90 contributions in journals, reviews, technical reports and books.

Armando Fella has MS in computer science and worked as a system engineer. He joined INFN-CNAF in 2006 and participated in CNAF/Tier1 computing centre and BaBar experiment. He is actually involved in the GRID middleware and service support for the experiment environment. He is responsible for Monte Carlo simulation production in the INFN-GRID approach. He is working in management and deployment of data handling systems xRootD and GPFS at CNAF too, the physics data are imported from SLAC centre in San Francisco, USA and are analyzed at CNAF by the BaBar collaboration.

Sandro Fiore was born in Galatina (LE) in 1976. He received a summa cum laude Laurea degree in computer engineering from the University of Lecce (Italy) in 2001, as well as a PhD degree in informatic engineering on innovative materials and technologies from the ISUFI-University of Lecce in 2004. Research activities focus on parallel and distributed computing, specifically on advanced grid data management. Since 2001 he has been the project principal investigator of the GReIC project. Since June 2006, he leads the Data Grid group of the Euro-Mediterranean Centre for Climate Change (CMCC) in Lecce (Italy).

Emidio Giorgio obtained his MSc degree in computer science in 2003; soon after has begun its collaboration with INFN on computational grids, joining the EGEE project in the NA3/NA4 areas, i.e., training and applications support; as trainer, he has delivered more than 30 grid tutorials in 4 years. In the context of the ICEAGE project, he has been manager for WP 4, concerning the operations for its shared training Infrastructure. He is interested also in programming and system administration, and he has developed several tools and configured services for both the grid and IT infrastructures in Catania.
**About the Contributors**

**Dirk Gorissen** received his masters degree in computer science from Antwerp University, Belgium in 2004. In addition, he obtained a master in artificial intelligence from the Katholieke Universiteit Leuven in 2007. Currently, he is a PhD student at the INTEC Broadband Communication Networks (IBCN) research group at Ghent University, Belgium. The IBCN-group is also part of IBBT (the Interdisciplinary Institute for BroadBand Technology). His current research interests include: adaptive global surrogate modeling and its application to real world problems, distributed computing and artificial intelligence.

**Gokop Goteng** is a PhD student of grid computing applications at Cranfield University and is a professional member of the British Computer Society (BCS) and student member of IEEE Computer Society. Gokop’s research interests are in grid computing, multidisciplinary optimization and collaborative IT solutions. He is the winner of the UK Grid Computing Now! Competition in 2006.

**Irfan Habib** is a post graduate research student at the Centre for Complex Co-operative Systems at the University of the West of England, Bristol. His areas of interest include grid and high performance distributed computing, operating systems, virtualization, cloud computing, machine learning. He holds a BEng in software engineering.

**Jin Hai** is currently the director of Services Computing Technology and System Lab, Cluster and Grid Computing Lab and the dean of School of Computer Science and Technology, Huazhong University of Science and Technology, China. He obtained his BS, MS and PhD from the Huazhong University of Science and Technology, Wuhan, China.

**Na Helian** received her PhD degree in computer science in 1992. She has various working experience in Japan, Singapore, and the United Kingdom. She is now a senior lecturer and the director of the MSc Data Mining Program in the Department of Computing, Communication & Mathematics, London Metropolitan University, United Kingdom. She is the co-investigator of the United Kingdom Government EPSRC/DTI grant “Grid-Oriented Storage (GOS).”

**Peter Hellinckx** is a PhD-student at the Department of Mathematics and Computer Science at the University of Antwerp (UA), Belgium, and a member of its Computational Modeling and Programming research group. His research interests include desktop grids, grid scheduling, Runtime predictions, resource availability predictions, resource management in general and computer graphics.

**Álvaro Hernández** is a research scientist of CECALCULA. He graduated in biology at the University of Los Andes. After his graduation, he worked in bioinformatics and as network, system and security administrator, he administered UNIX systems.

**Vicente Hernández** is a full professor in computer science and artificial intelligence. He is the leader of the GRyCAP (Grid and High Performance Computing Research Group). He has large experience in parallel and distributed computing, numerical methods and computer applications, applied matrix analysis, control systems and signal processing. He has managed and participated in more than 25 European projects, from the III to the VI Framework Programme, and national projects. He is also a research fellow of the ITACA and CRIB and member of the board of directors of HealthGRID association. He was a vice-chancellor of Research, Development and Innovation of the Technical University of Valencia.
Kuo-Chan Huang received his BS and PhD degrees in computer science and information engineering from National Chiao-Tung University, Taiwan, in 1993 and 1998, respectively. He is currently an assistant professor in Computer and Information Science Department at National Taichung University, Taiwan. He is a member of ACM and IEEE Computer Society. His research areas include parallel processing, cluster and grid computing, workflow computing.

Raul Isea is currently an associate researcher at the Fundación Instituto de Estudios Avanzados IDEA in Baruta-Venezuela from Aug. 2007. He got the PhD in chemistry (Universidad Complutense de Madrid–Spain) in 1996 and the BS in physics (Universidad Central de Venezuela, Caracas-Venezuela) in 1993. He was a postdoctoral research fellow at the Instituto Venezolano de Investigaciones Científicas in Caracas from 1997 until 1999. In 2000, he got a postdoctoral position at the Rice University in Texas, USA. His research interest is focused on computational biology.

Vineet Khare received his BTech degree from India Institute of Technology (IIT) Kanpur, India, in 2001. His PhD degree in computer science was awarded by The University of Birmingham in December 2006. Currently he is working as a research officer at the Centre for Grid Computing. His research interests include swarm intelligence, co-evolution, multiple neural network systems and multi-objective evolutionary algorithms.

Tevfik Kosar is an assistant professor of Computer Science at Louisiana State University. He received his MS in computer science from Rensselaer Polytechnic Institute in 1999 and his PhD in computer science from University of Wisconsin-Madison in 2005. Tevfik Kosar has profound experience in building blocks for solving the distributed data handling problem. He has introduced the concept that the data placement efforts should be regarded as first class entities and these tasks should be automated and standardized just like the systems that support and administer computational jobs. Kosar has designed and implemented the first prototype batch scheduler specialized in data placement – Stork.

Juan I. Lagares has PhD in physics. His main interest is medical and computational physics. He has been working in radiotherapy in several hospitals from Seville and Madrid with several techniques. He currently works in a project to extend the supercomputation and grid paradigms to the public hospitals in order to improve the radiation doses to be prescribed.

Maozhen Li received the PhD in 1997 from Institute of Software, Chinese Academy of Sciences, Beijing. He is a lecturer in the School of Engineering and Design at Brunel University. His research interests are in the areas of grid computing, distributed problem-solving environments for large-scale simulations, intelligent systems, service-oriented computing, semantic web. He has over 50 publications in these areas. He co-authored The Grid: Core Technologies, a research-level textbook on grid computing published by Wiley in 2005. He has been serving as a TPC member for various conferences in the area of grid computing, e.g., IEEE CCGrid’05. He is a member of IEEE.

Diego Liberati has a PhD in electronic and biomedical engineering, Milano Institute of Technology and is the director of Research, Italian National Research Council. He has authored 50 papers on ISI journals, edited books and chapters. He is the secretary of the Biomedical Engineering Society of the Italian Electronic Engineering Association (and Milano prize laureate in 1987), and has chaired
About the Contributors

Scientific Committees for Conferences and Grants. Visiting scientist at Rockefeller University, New York University, University of California and International Computer Science Institute, he has directed joint projects granted by both private and public institutions and mentored dozens of pupils toward and beyond their doctorate.

Daniel López is head of CUBAENERGIA. He graduated in nuclear engineering at the University of Havana in 1985. He obtained his master degree in reactor techniques in 1988 at the Technical University of Budapest. He has worked in transport simulations and nuclear data processing for fission, fusion and well logging applications. He is an IAEA expert in the field of nuclear data bases and nuclear data dissemination through web applications.

Yaqin Luo is a PhD candidate in computer architecture at the Huazhong University of Science and Technology, Wuhan, China. She obtained her BS and MS from the Huazhong University of Science and Technology, Wuhan, China.

Eleonora Luppi was born in Ferrara (Italy) in 1958. Since 1983 she is member of the High Energy Physics group of the Physics Department of Ferrara University and currently an associate professor in Experimental Physics. She participated in several elementary particle physics experiments, at Cern, Fermilab, Frascati INFN National Laboratory and SLAC, with responsibilities in simulations, event reconstruction and analysis, and in detector development and construction. She is involved in computing for high energy physics projects and currently is the international coordinator of the BaBarGrid project.

Rafael Mayo has a doctorate degree in physics from the Universidad Complutense de Madrid (2004). From 2006 he is also adjunct faculty at the same University in the Physics of Materials Department. Since his graduation his main research activity has been done in experimental atomic and molecular physics developing also software for the spectral analysis and data Networks. He works at CIEMAT since 2005 and has been involved in several European and National Projects in the information and communication technologies. He has more than 40 papers.

Richard McClatchey is director of the Centre for Complex Co-operative Systems at the University of the West of England, Bristol. He is a fellow of the Institute of Electrical Engineers (FIEE) and of the British Computer Society (FBCS) as well as a chartered information technology practitioner and a chartered engineer. His specialty is in the management of distributed data and processes, grid computing and the design of data models for the capture of workflow information. He has published over 150 articles in journals or in international conferences and has been on program committees of numerous conference series during his 16 years at UWE. McClatchey holds a PhD in high energy physics (from University of Sheffield in 1982) and was awarded a DPhil acknowledging his contribution to the field of Computer Science in 1999.

Esther Montes graduated in mathematical science from the Universidad Complutense de Madrid (1999), obtained an MS in mathematical engineering in 2003, and, at present time, she is preparing her master thesis in grid computing research. She is, since 2005, system architect of the ICT unit of CIEMAT in Madrid, Spain, where she is involved in several grid projects like EELA, ALICE, etc. She
has published 5 papers. Before joining CIEMAT, she worked for 3 years at Telefónica R&D division as application developer.

**Henry R. Mora** is an associate researcher to CUBAENERGIA. He graduated in nuclear engineering at the Higher Institute of Nuclear Science and Technology in 1998. He obtained his master degree in Environmental impact and protection. He has worked in mass transfer phenomena modelling, energy planning modelling and database design.

**Alessandro Negro** was born in S. Pietro Vernotico (BR) in 1981. He received a summa cum laude bachelor degree in Computer Engineering from the University of Lecce, Italy in February 2004 and a summa cum laude master degree in computer engineering from the same University in April 2006. His research interests include GUI development, data management, distributed, grid computing and Web services. He is also interested in web and pattern-oriented design. Since 2003 he is a team member of the GReIC Project. Since September 2006 he holds a contract position in the LIBI project for the University of Lecce.

**Ben Palmer** is currently completing a masters degree in computer science at Victoria University in Wellington, New Zealand. His thesis is on the verification of privacy preserving combinatorial auction protocols. This research has concentrated on using zero knowledge proofs of knowledge to construct practical protocols to provide confidence in auction results in environments with no pre-existing trust. One of the research goals is to allow anyone to run an auction, removing the need to use trusted servers. Verification plays an important part in this process by providing arguments that the auction result was conducted correctly.

**Rosario M. Piro** studied physics at the University of Heidelberg/Germany and the University of Torino/Italy, where he obtained his Laurea Specialistica degree in 2004, and a master’s degree in bioinformatics in 2006. He has worked on grid accounting and economic scheduling within the EDG, EGEE and OMII-Europe projects. Currently, he is continuing his research for INFN Torino within the EGEE-II project and as a co-chair of the Resource Usage Service working group (RUS-WG) of the Open Grid Forum, while pursuing a PhD in molecular medicine, with focus on bioinformatics, at the Molecular Biotechnology Center of the University of Torino.

**Gianni Pucciani** has been working at CERN since 2006. He obtained his PhD in information engineering at the University of Pisa in 2008 with a thesis on the replica consistency problem in data grids. From 2003 to 2006 he worked at the Italian National Institute of Nuclear Physics (INFN) where he was involved in R&D within the INFN Grid project. He collaborated with Webster University in Geneva where he taught a course on Database Applications. His research interests are in grid computing, data management, cross-technology database replication and testing and performance evaluation of grid services.

**Li Qi** is a PhD candidate in computer architecture at the Huazhong University of Science and Technology, Wuhan, China. He obtained his BS and MS from the Huazhong University of Science and Technology, Wuhan, China. He is a research assistant and has managed VMGrid, WAGA and CGSP systems.
About the Contributors

**Man Qi** is a lecturer in Dept. of Computing at Canterbury Christ Church University, UK. She was a research fellow in Dept. of Computer Science at University of Bath, UK from Jan. 2001 to Oct. 2003. Her research interests are in the areas of computer graphics, computer animation, multimedia and grid computing applications.

**Rajkumar Roy** has been leading the competitive design research at Cranfield for the last ten years. Professor Roy is known for his qualitative cost modeling, requirements management and design optimization research and has published over 20 Journals and 100 conference papers. He is currently the principal investigator of three Product-Service System projects in the areas of whole life cost and service knowledge capture. He is currently leading the new initiative on competitive creative design at Cranfield and collaboration with University of the Arts London. Professor Roy has a PhD in design optimization using soft computing techniques.

**Gerald Schaefer** obtained his PhD in computer vision from the University of East Anglia. He worked at the Colour & Imaging Institute, University of Derby as a research associate (1997-1999), as senior research fellow at the School of Information Systems, University of East Anglia (2000-2001), and as senior lecturer in Computing at the School of Computing and Informatics at Nottingham Trent University (2001-2006). In September 2006 he joined the School of Engineering and Applied Science at Aston University. His research interests include colour image analysis, physics-based vision, image retrieval, and medical imaging. He has published more than 150 papers in these areas.

**Salvatore Scifo** graduated in computer science at the University of Catania in 2001. He is currently employed with the Cometa Consortium where he works in the Grid R&D and Application Support areas. He worked as a scientific researcher at the INFN (Istituto Nazionale Fisica Nucleare) of Catania in the Grid R&D and Application Support areas. He worked with comunicando società per azioni of Catania (CT) Italy as senior software engineer on activities concerning the design and development of live services for the Vodafone Italy mobile operator. He worked with the garanet s.r.l. - Catania (CT) Italia.

**Jyotsana Sharma** is a research scholar at Thapar University, India. Under guidance of Dr. Maninder Singh, she has focused her research on deep packet inspection for forensics analysis using grid infrastructure. She has presented her work at several international and Indian meetings. In 1996 she received the Suman Sharma Award for academic distinction in the computer engineering discipline. Currently she is a senior lecturer at Maharaja Agrasen Institute of Management & Technology, Jagadhri (India).

**Po-Chi Shih** received the BS and MS degrees in computer science and Information Engineering from Tunghai University in 2003 and 2005, respectively. He is now pursuing his PhD degree in computer science at the National Tsing Hua University.

**Patrik Skogster** is currently working as a senior lecturer at the Rovaniemi University of Applied Sciences in Finland. Previously he has operated for several years in the retailing industry in various positions concerning location planning process and in various academic positions. He has master’s and Licentiate’s (lower doctoral) degrees from the Helsinki University of Technology. He is finalizing his doctoral thesis about location planning in the shopping centre context to the same institution. His recent research work has been concentrated on geographic information systems applied to the retailing and real estate industries.
**Heinz Stockinger** has been working in grid projects in Europe (CERN, etc.) and in the USA (Stanford Linear Accelerator Center) in various technical and management functions. Heinz is affiliated with the Swiss Institute of Bioinformatics where he works on diverse Grid subjects. He has been appointed “Privatdozent” at the University of Vienna - leading the Research Lab for Computational Technologies and Applications in 2005. Currently, he is also a lecturer at the Swiss Federal Institute of Technology in Lausanne (EPFL). Heinz holds a PhD degree in computer science and Business Administration from the University of Vienna, Austria.

**Xian-He Sun** received his BS in 1982 from Beijing Normal University, P.R. China, and completed his MS and PhD in 1987 and 1990, respectively, from Michigan State University. He was a post-doctoral researcher at the Ames National Laboratory, a staff scientist at ICASE, NASA Langley Research Center, an ASEE fellow at the US Navy Research Laboratories, and was a professor at Louisiana State University before joining Illinois Institute of Technology (IIT) in 1999. Currently, he is a professor of computer science at IIT. Dr. Sun’s research interests include high performance computing, performance evaluation, and distributed systems. More information about Prof. Sun can be found at www.cs.iit.edu/~sun/.

**Roger Tait** obtained his PhD in computer science from Nottingham Trent University. During his PhD he carried out research into image processing and artificial intelligence for use in non-destructive evaluation and in medical imaging. He is currently working as a research fellow in the School of Science and Technology at Nottingham Trent University.

**Ashutosh Tiwari** is a senior lecturer in Design Optimization and course director of the IT for Product Engineering MS. He is leading the research in design optimization within the Manufacturing Department. In 1998, he joined Cranfield University from where he successfully obtained his MS in manufacturing and PhD degree. He obtained the award for Best MS Student in Manufacturing. He was awarded the Academic Excellence Award for his achievements in the course. Dr Tiwari is a fellow of the Higher Education Academy, member of the Institution of Electrical and Electronics Engineers (IEEE), World Federation on Soft Computing (WFSC).

**Salvatore Vadacca** was born in Galatina (LE) in 1982. He received summa cum laude bachelor and master degrees in computer engineering from the University of Lecce, Italy in 2003 and 2006, respectively. His research interests include data management; distributed, peer-to-peer and grid computing; as well as web design and development. Since 2003, he has been a team member of the GReIC Project. In 2006 he joined the Euro-Mediterranean Centre for Climate Change (CMCC) in Lecce, Italy, where he works in the Data Grid group.

**Kurt Vanmechelen** is a PhD student and member of the Computational Modeling and Programming (CoMP) group of the Department of Mathematics and Computer Science at the University of Antwerp (UA), Belgium. His current research interests include grid economics in particular and grid resource management in general. He is a member of the steering board of the national Belgian Research Grid Initiative BEgrid.
About the Contributors

**Man Wang** received his bachelor's degree in department of computer science and technology, Fudan University, Shanghai, China, in 2005. Now, she is studying for the master’s degree in department of computer science and technology, Tsinghua University, Beijing, China. Her current research interests include grid computing and scheduling.

**Xiaoying Wang** is a PhD candidate in the Department of Computer Science and Technology at Tsinghua University, China. She received her bachelor degree in 2003 and then joined the High Performance Computing Institute at Tsinghua University. Her research interests include parallel and distributed computing, grid computing systems, and autonomic computing.

**Ian Welch** is a senior lecturer at Victoria University of Wellington. His research interests related to security include developing more efficient ways to identify malicious activity on the Internet, improving the intrusion tolerance of online auctions and developing tools for managing large scale deployments of security and network measurement instruments. His teaching interests include the foundations of engineering, concurrency, distributed systems, professional ethics for software engineers and operating systems. He has served as a reviewer for conferences and journals including the Dependability and Performance Symposium (part of the Distributed Systems and Network conference) and the *Journal of Concurrency: Practice and Experience*.

**Ming Wu** received his BE degree from Xidian University, China, in 1994, the MS degree from the University of Science and Technology of China, in 1997, and PhD degree in computer science from Illinois Institute of Technology, in 2006. His research interests include Quality of Service support in network computing, performance evaluation and task scheduling systems in distributed computing, failure analysis and modeling in high performance computing.

**Bin Yu** received the PhD from School of Engineering and Design at Brunel University in April 2007. He is currently a system analyst at Level E Limited in Edinburgh. His research interests are in the areas of service oriented computing, grid computing and applications, service discovery and composition optimization.