About the Contributors

Anastasius Moumtzoglou, Former Executive Board Member of the European Society for Quality in Health Care, President of the Hellenic Society for Quality & Safety in Health Care, holds BA in Economics, MA in Health Services Management, MA in Macroeconomics, Ph.D. in Economics. He teaches the module of quality at the graduate and postgraduate level. He has also written three books, which are the only ones in the Greek references. The first deals with “Marketing in Health Care,” the following with “Quality in Health Care,” and the third with “Quality and Patient Safety in Health Care.” He has edited the book “E-Health Systems Quality and Reliability: Models and Standards” and is the Editor-in-Chief of the International Journal of Reliable & Quality in Healthcare (IJRQE). He has served as the scientific coordinator in research programmes in Greece and participated as a researcher in European research programmes. He has been declared “Person of Quality,” with respect to Greece, for 2004.

Anastasia N. Kastania received her B.Sc. in Mathematics and her Ph.D degree in Medical Informatics from the National and Kapodistrian University of Athens, Greece. She works in the Athens University of Economics and Business, Greece since 1987. Research productivity is summarized in various articles (monographs or in collaboration with other researchers) in international journals, international conferences proceedings, international book series, and international books chapters. She has more than twenty years teaching experience in university programs, and she is the writer of many didactic books. She also maintains a long experience record in National and EU-funded research in the areas of applied informatics, telemedicine, and statistics. Research interests are telemedicine and e-health, e-learning, bioinformatics, tele-epidemiology, mathematical modeling and statistics, web engineering, quality engineering, and reliability engineering. Anastasia is Editor-in-Chief of the International Journal of Reliable and Quality E-Healthcare and the International Journal of Systems Biology and Biomedical Technologies.

I. H. Monrad Aas is a Norwegian educated at the University of Oslo (1973) with Doctoral degree (1983) from the same institution and full Professor competence (from 1994). Started in research in 1976 and has had focus on a number of issues, like health services research, telemedicine, psychiatry, health care management, health policy, and research methodology. Has authored more than 120 publications of which more than 40 are about telemedicine, been invited speaker to international conferences in Europe, Australia, USA, and the Middle East, mentor and given feedback to more than 250 research works, at the Nordic School of Public Health leading international courses at high level in management and international courses for researchers, been referee for several international journals, opponent at doctoral dissertations, evaluated research institutions in other countries, had several elected positions in organizations and member of the Royal Society of Medicine (London).
About the Contributors

Maria Adamaki is a Molecular Biologist currently occupied at the oncology lab of Aghia Sofia Children’s Hospital. She possesses a BSc (Hons) in Molecular Biology from the University of Hertfordshire, UK, and an MSc in Molecular Medicine from the Imperial College of London, UK, and has scientific research experience in inherited blood disorders and in children’s leukemias. Her current work is focused on investigating the expression of certain genes in childhood leukemias. Overall, she is a self-motivated, hard-working individual with strong communication skills, who possesses the flexibility to fit in and work well as part of a team yet she also works efficiently alone, under her own initiative.

Dimitrios Al. Alexandrou is currently holding the position of Business Services Director at UBI-TECH Research since 2006. He was also a Research Associate in Information Management Unit of School of Electrical and Computer Engineering of National Technical University of Athens. His main research interests lies in the area of e-health and more specifically in the self-adaptive healthcare business processes. Moreover, his research work involves semantic web technologies and rule-based systems.

Stavros Archondakis is a Cytopathologist MD. He graduated from the Military School of Medicine of the Aristotelio University of Thessaloniki in 1996. He currently is the Director of the Department of Cytopathology in the 401 Army Hospital and has been an active Lecturer in public Technical Schools. His main research interests include telecytology and study of lung, cervical, endometrial and thyroid cancer development. He has 6 peer reviewed publications and has been the main author of 12 books on medical issues in Greek. Furthermore, he is a member of the Greek Literature Society and has published three poetic collections with international awards.

Isabella Castiglioni, researcher, graduated in Physics cum laude in 1993. Since 1996 she is Researcher for the Molecular Bio-imaging and Physiology Institute of National Research Council and since 2000 she is Responsible for the Research Activity “Monte Carlo simulations in PET and SPECT (Bioimaging Physics).” Since 2008 she is Project leader of the CNR M.E. P06.026 project “Proteogenomic and molecular imaging in medicine,” for the CNR project “Technological Innovation-Integration in medicine.” She is thesis co-adviser, tutor, and University Instructor at the University of Milan-Bicocca. From 2002 to 2005 she was Instructor for the Specialization School in Nuclear Medicine, for University of Milan. Since 2007 she is responsible of IAEA scientific training visits and tutor for the 2nd level International Master in Nuclear and Ionizing Radiations Technologies, at University of Pavia. She is reviewer of several journals in medical imaging, medical physics, nuclear medicine, and molecular imaging. She is author and co-author of several publications on national and international journals, and invited lecturer at several national and international institutions and conferences.

Derek Corrigan is a research fellow at Royal College of Surgeons in Ireland, working in the department of general practice in the HRB centre for primary care research. He is an experienced software developer with nearly 20 years experience working on all implementation aspects of software development projects, and holds a Master’s in Health Informatics from Trinity College Dublin. He is responsible for implementing the “decision rules and evidence” work package as part of the TRANSFoRm project, focussing on development of a clinical evidence ontology to provide web service based decision support. Research interests include development of computable representations of clinical prediction rules and OpenEHR. His research work has included developing an openEHR archetype design methodology that was applied to develop a set of archetypes to support systems maintaining Cystic Fibrosis patient review records.
Ilenia D’Ambrogio is an application developer with a public-listed worldwide provider of fully comprehensive and high-availability card management solutions for global and local banks, service providers, merchants, and financial companies. Ilenia is a software developer, with experience in web and application design and development. She graduated first in class from the University of Malta with a Master’s in Information Technology, and was employed with the Department of Intelligent Computer Systems, Faculty of ICT of the same University between 2009 and 2011 where she worked as a research assistant on PINATA. She has two published co-authored papers on the project. She also holds a Bachelor’s Honours degree in Psychology with Philosophy.

Alessia D’Andrea received the M.S. degree in Communication Science at the University of Rome “La Sapienza,” Italy in 2006 and the Ph.D. degree in Multimidia Communication from the University of Udine in 2011. She is currently a young Researcher with the Institute of Research on Population and Social Policies of the National Research Council of Italy in Rome. She is mainly interested in communication science, social networks, virtual communities, human-machine-interaction, health studies, and risk management. She is author of more than 20 papers on international conferences and international books. She was reviewer of some papers for the Multimedia Tools and APplications (MTAP) journal and for the Handbook E-Novation for Competitive Advantage in Collaborative Globalization: Technologies for Emerging E-Business Strategies.

Brendan Delaney leads the Medical Decision Making and Informatics Research Group at the department of primary care and public health sciences in Kings College London. He is an experienced clinical trialist and editor of Family Practice. He was awarded the John Fry Award for Research by the Royal College of General Practitioners in 2004. Over recent years his work has focussed mainly on clinical research informatics and the integration of clinical and research data and systems. In particular, Brendan is joint lead of the US-UK electronic Primary Care Research Network project and works closely with NIHR Research Capability Programme. He is co-ordinator of the TRANSFoRm project, an €7M ICT project funded by the EU.

Alexiei Dingli is a Senior Lecturer of Artificial Intelligence within the Faculty of ICT at the University of Malta. He is also one of the founder members of the ACM student chapter in Malta, of the Web Science Research, of the International Game Developers Association (IGDA) Malta and of the Gaming group at the same University. He pursued his Ph.D. on the Semantic Web at the University of Sheffield in the UK under the supervision of Professor Yorick Wilks. While there, he worked on various large projects but his major contribution can be atributed to the Advanced Knowledge Technologies project, one of the largest Interdisciplinary Research Collaborations (IRC) funded by the Engineering and Physics Research Council (EPSRC). For this project he created two systems which were rated World Class by a panel of international experts whose chair was Professor James Handler (one of the creators of the Semantic Web). These systems were later used as a core component of the application that won the first Semantic Web challenge (2003). His recent work in Mobile Technology and Smart Cities (2011) was also awarded a first price by the European Space Agency. He has published several posters, papers, book chapters and a book in the area. For four years, he also worked as a Senior Manager in a large government corporation where he got insight into the needs, potential and deficiencies of digital natives. During this time, he also pursued an MBA with the Grenoble Business School in France specialising on Technology Management. He also gives consultancy to international organizations on large EU projects.
Fernando Ferri received the degree in Electronic Engineering in 1990 and the Ph.D. in Medical Informatics at the University of Rome “La Sapienza” in 1993. He is senior researcher of the National Research Council of Italy since 2001. He was researcher from 1990 to 2001. He was contract Professor from 1993 to 2000 of “Sistemi di Elaborazione” at the University of Macerata. He is author of more than 160 papers on international journals, books, and conferences. He has coordinated and participated in several national and international research projects. He has organized several international events such as scientific conferences and workshops and special issues as Guest Editor on international journals. He is member of some Program Committees of International workshops and Conferences, and member of the editorial board of some international journals. His main research areas of interest are: Social Informatics, social computing, social networks, data, and knowledge bases, human-machine interaction, user-machine natural interaction, multimodal interaction, Web 2.0 and Web 3.0, Internet of the future, user modelling, visual interaction, sketch based interfaces, geographic information systems, risk management, and medical informatics.

Francesca Gallivanone, researcher, graduated in Physics in 2007, and earned PhD in Biomedical Technologies at University of Milan-Bicocca in 2011. Since 2011, she is researcher for the Molecular Bio-imaging and Physiology Institute of National Research Council and member of the Lab of Innovation-Integration in molecular medicine (InLab). She is Project Manager of the FP-7 DECIDE project (Diagnostic Enhancement of Confidence by an International Distributed Environment), a European founded project that aims to develop and implement clinical diagnostic services on a distributed European infrastructure. Main research areas are focused on the development and validation of analytical, experimental, statistical and bioinformatical methods, to quantify and extract in vivo biomarkers of multifactorial diseases. She performed invited Lecturer at Master’s university courses, and she is author and co-author of scientific publications and patents.

Maria Carla Gilardi, Director, graduated in Physics in 1980. From 1980 to 1992 she was Researcher of the National Research Council of Italy (CNR). From 1992 to 1999 she was Associate Professor of Biomedical Technologies at the Medical Faculty, University of Milan, and from 1999 to 2001 at the Medical Faculty, University of Milano-Bicocca. Since 2001 she is Full Professor of Bioengineering at the same University. Since 2009 she is President of the Academic Foundation TECNOMED, University of Milano Bicocca, and Director of the CNR Institute of Molecular Bioimaging and Physiology. Main research areas are in the field of emission tomography, SPECT and PET, and in the field of image processing. She is author and co-author of several publications on national and international journals, and invited Lecturer at several national and international institutions and conferences.

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Lucy Hederman is a Lecturer in the School of Computer Science and Statistics at Trinity College Dublin. She is the course director of Trinity College Dublin’s MSc in Health Informatics. She was the Coordinator of the HEA-funded Medilink programme (2000-2004) which sought to link patient records with clinical knowledge represented in various forms. She worked specifically on its clinical guidelines and protocols component. Her main interest currently is in incorporating clinical guideline knowledge into electronic health care records. She is generally interested in the design of ICT systems to leverage existing organizational data and documents in support of knowledge work. Related interests include knowledge-based systems and knowledge management, clinical decision support systems, performance support systems, and online community site design.

Jennifer Hogan, BN, CCRN, M ClinEd, is an experienced simulation instructor with a Master’s Degree in Clinical Education from the University of New South Wales. Her research interests include the use and skills required to facilitate the “Pause and Discuss” technique in simulation. She has presented workshops on this topic at several international conferences. She is currently the Manager of the Southern Health Simulation Centre, a purpose-built centre and one of the first medical simulation centres in the Southern Hemisphere. She has extensive experience in simulation instructor training and linking education theory with practice.

L. Jakaite has graduated the University of Bedfordshire in 2008 and started to work on the project as a research student. She is a co-author of eight research papers and four conference presentations, and her research poster has been short-listed for the SET for Britain 2012 Science Exhibition.

Jan Kalina graduated from Faculty of Mathematics and Physics of Charles University in Prague (Czech Republic) in 2001 with major in Mathematical Statistics. He obtained the Ph.D. degree at the University of Duisburg-Essen (Germany) in Mathematics in 2007. He worked as a researcher in theoretical and applied statistics at Charles University in Prague from 2006. Since 2010 he works at the Department of Medical Informatics at the Institute of Computer Science, Academy of Sciences of the Czech Republic. His research interests include high-dimensional and robust biostatistics and medical image analysis.

Petros Karakitsos is a Cytopathologist MD and has been the Director of the Department of Cytology of the University General Hospital “ATTIKON” in Athens from 2004. His main research interests include: a) Human pappilomavirus epidemiology, pathology of infection, and mechanisms that lead to cervical carcinogenesis, b) current DNA and or RNA methods for viral and microbial detection and typing, including respiratory, genital, and gastrointestinal viruses, c) study of molecular mechanisms for cancer development in lung, cervical, endometrial, and colon cancer, and d) neural networks and advanced bioinformatic methods for maximization of diagnostic accuracy and optimal triaging of patients. He has over 100 peer reviewed publications and over 200 presentations in international and Hellenic congresses.
About the Contributors

**Vahé A. Kazandjian** is Principal, Aralez Health LLC, a consulting group assisting healthcare organizations worldwide in achieving accountability through performance measurement. From 1987 till 2011, he served as Senior Vice President, the Maryland Hospital Association (MHA), and as President of The Center for Performance Sciences, a Maryland-based international outcomes research center. He is the original architect of the Maryland Quality Indicator Project (QIP). He is Adjunct Professor of the Health Policy and Management Department of the Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland, and Adjunct Professor of Preventive Medicine and Biometrics, The Uniformed Services University of Health Sciences, Bethesda, Maryland. An epidemiologist by training, he served as Advisor to the World Bank for Latin America, to USAID for Africa, and is presently Advisor to the World Health Organization’s (WHO) Europe office. He has authored four healthcare books and more than 70 articles on quality of care and accountability.

**Haseeb Khan** is a PhD student at Knowledge and Data Engineering Group (KDEG) based in Trinity College Dublin. He is currently working on developing decision rules and evidence to as part of the implementation of decision support aspects of the TRANSFoRm project, having special focus on providing an ontology for diagnostic evidence as part of a web-based clinical evidence service. He holds an MSc in Communication Engineering from University of Kassel, Germany. He was involved in Smart Room project at ComTec, University of Kassel. His research interests include development of clinical decision support services, the semantic web, and context-awareness and pervasive computing.

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**George I. Lambrou** is a Biologist who received his training at the Philipps-Universität, Marburg Germany (Diplom) and his PhD from the Medical School of the University of Athens. He has specialized in developmental biology, neurochemistry, and molecular oncology. His main research interests include tumor cell proliferation dynamics, in particular nonlinear and chaotic models, as well as pharmacogenomics with emphasis on the glucocorticoid receptor NFκB signal transduction pathway, and resistance to glucocorticoid-induced apoptosis. He is also occupied with modeling methodologies and computational biology approaches, along with high-throughput methodologies, such as microarrays.

**Stuart Marshall**, MB.ChB., MHumanFact., MRCA, FANZCA, is a specialist Anesthetist, Simulation Instructor, and Researcher in Melbourne Australia. He completed a Master’s Degree in Human Factors/Ergonomics in 2008 and is currently a PhD candidate with the University of Queensland’s Cognitive Engineering Research Group (CERG). His research interests include the use of simulation education to
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**Shane O’Hanlon** teaches Health Informatics at the Graduate Entry Medical School, University of Limerick, in Ireland. He graduated with a degree in Medicine in 2003. He also holds a Postgraduate Certificate in Patient Safety and Risk Management, a Master’s degree in Health Informatics, and a Bachelor’s Degree in Law. He has presented papers on e-Health at national and international conferences and is a member of the programme committee for HEALTHINF 2013. He currently works as a clinician in Geriatric Medicine & Rehabilitation, and a Clinical Fellow in Medicine at University Hospital Limerick. His research interests include e-Health, patient safety, and risk associated with health information technology.

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**V. Schetinin** has joined the University of Jena (Germany) to work as a researcher on Assessment of Newborn Brain Maturity from Sleep EEG in 2000. Then he was appointed as a research fellow at the University of Exeter in 2002 to work on computational Bayesian model averaging. He joined the University of Bedfordshire as a Lecturer in 2005 and continued the research supported by the Leverhulme Trust.

**Hing-Yu So** is the Service Director of Quality & Safety of the New Territories East Cluster, Hong Kong Hospital Authority. Dr. So specialized in both anesthesiology and intensive care. He obtained his Master of Science in quality management in 2000 and has been involved in healthcare quality and safety for over a decade. Dr. So is also Certified in Medical Quality by the American Board of Medical Quality. The New Territories East Cluster (NTEC) consist of 7 hospitals serving a population of 1.3 million. Barcode system has been successfully introduced to improve safety in different areas of NTEC since 2005. Dr. So is interested in medication safety, safety culture, and hospital accreditation.

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Adel Taweel is an experienced Software Engineer and Computer Scientist at in the Medical Decision Making and Informatics research group in the medical school and in the Dept of Computer Science, Agents and Intelligent Systems group in Kings College London. He was the principal architect and was responsible for managing an international team on the electronic Primary Care Research Network project, previously working on several national e-Science projects in Manchester. He is the technical director of the TRANSFoRm project responsible for architectural design and direction. His research interests include grid computing, service-oriented architecture development, health informatics, distributed software engineering, and agent-oriented software engineering.

Spiros Vlahopoulos is a Biologist who is born in Greece. He received his biology training at the University of Cologne (Universität zu Köln), (Diplom) and his PhD from Baylor University (Texas, USA). His main research interests include Glucocorticoid Receptor and NFκB pathway signal transduction in inflammation and tumorigenesis, having contributed to the dissection of inflammatory signal pathways, and their links to signals elicited by hormones. His manuscripts in peer-reviewed journals have been corroborated by subsequent studies and earned citations by articles in prestigious publications, such as Lancet, Nature Reviews in Molecular and Cellular Biology; Nature Reviews in Cancer; Journal of Biological Chemistry, and Cell.

Bonnie Wesorick, RN, MSN, DPNAP, FAAN is the Founder and Chairman Emerita of the Elsevier CPM Resource Center and the Elsevier CPM International Consortium consisting today of over 350 rural, community and university settings working together to transform healthcare at the point of care. Her innovative work around the mission to co-create and sustain the best places to give and receive care has brought healthcare providers together from across the continent. She brought the first automated, intentionally designed, evidence-based, interdisciplinary documentation system to the healthcare arena. She led the development of a culture and professional practice framework (CPM Framework™) coupled with an implementation science methodology that provides embedded interdisciplinary evidence-based content and tools including clinical practice guidelines into the EHR that support the assessment, diagnosis, care planning, education, documentation, and coordination of care across the continuum, in order to assure safe, integrated, quality healthcare.

Apostolos Zaravinos received his BSc in Biology at the Department of Biology and his PhD at the Department of Medicine of the University of Crete. He has worked as a Post-Doctoral Research Fellow at the laboratory of Clinical Virology of the University of Crete and as an Honorary Research Scientist/Research Fellow at the Harris Birthright Research Center for Fetal Medicine of the King’s College Hospital, London. At present, he works as a Post-Doctoral Research Fellow at the laboratory of Molecular and Medical Genetics of the University of Cyprus. His main research interests lie in the field of molecular oncology. Dr A. Zaravinos has authored more than 40 publications in 22 different international journals. His most significant work includes the involvement of BRAF and RKIP genes in squamous cell carcinoma, the expression of miRNAs in triple-negative (ER, PR and Her2/neu) breast cancer and the genetic analysis of urinary bladder cancer.
Jana Zvárová, Ph.D., DSc. graduated in 1965 at Charles University in Prague, Faculty of Mathematics and Physics. She has delivered presentations and published internationally since 1969 on medical informatics and statistics issues. She received Ph.D. scientific degree in 1978 at Charles University in Prague. She passed the habilitation for Doc. (Associated Professor) at Charles University in 1991 and she was nominated by the President of the Czech Republic Vaclav Havel as Prof. (Full Professor) at Charles University in Prague in 1999. She reached the highest scientific degree DSc. (Doctor of Sciences) in the Czech Republic in 1999 at the Academy of Sciences of the Czech Republic. Since 1994 she has been the principal researcher at the Institute of Computer Science, Academy of Sciences of the Czech Republic, the Director of the European Center of Medical Informatics, Statistics and Epidemiology (EuroMISE Center), and since 2006, the Director of the Center of Biomedical Informatics. She has been the representative of the Czech Republic in the International Medical Informatics Association (IMIA) and European Federation for Medical Informatics (EFMI). She has significant professional participation in national and international initiatives in biomedical informatics and statistics, especially in the field of research and higher education. She is chairing the board of Biomedical Informatics of the Ph.D. studies of Charles University and Academy of Sciences of the Czech Republic. She has been a member of the editorial boards of national and international journals, she has served as the expert in the field for the EC and Czech governmental institutions. She has published more than 250 papers in national and international literature and received several medals for her work.