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Foreword

As future generation information technology (FGIT) becomes specialized and fragmented, it is easy to lose sight that many topics in FGIT have common threads and, because of this, advances in one discipline may be transmitted to others. Presentation of recent results obtained in different disciplines encourages this interchange for the advancement of FGIT as a whole. Of particular interest are hybrid solutions that combine ideas taken from multiple disciplines in order to achieve something more significant than the sum of the individual parts. Through such hybrid philosophy, a new principle can be discovered, which has the propensity to propagate throughout multifaceted disciplines.

FGIT 2009 was the first mega-conference that attempted to follow the above idea of hybridization in FGIT in a form of multiple events related to particular disciplines of IT, conducted by separate scientific committees, but coordinated in order to expose the most important contributions. It included the following international conferences: Advanced Software Engineering and Its Applications (ASEA), Bio-Science and Bio-Technology (BSBT), Control and Automation (CA), Database Theory and Application (DTA), Disaster Recovery and Business Continuity (DRBC; published independently), Future Generation Communication and Networking (FGCN) that was combined with Advanced Communication and Networking (ACN), Grid and Distributed Computing (GDC), Multimedia, Computer Graphics and Broadcasting (MulGraB), Security Technology (SecTech), Signal Processing, Image Processing and Pattern Recognition (SIP), and u- and e-Service, Science and Technology (UNESST).

We acknowledge the great effort of all the Chairs and the members of the advisory boards and Program Committees of the above-listed events, who selected 28% of over 1,050 submissions, following a rigorous peer-review process. Special thanks go to the following organizations supporting FGIT 2009: ECSIS, Korean Institute of Information Technology, Australian Computer Society, SERSC, Springer LNCS/CCIS, COEIA, ICC Jeju, ISEP/IPP, GECAD, PoDIT, Business Community Partnership, Brno University of Technology, KISA, K-NBTC and National Taipei University of Education.

We are very grateful to the following speakers who accepted our invitation and helped to meet the objectives of FGIT 2009: Ruay-Shiung Chang (National Dong Hwa University, Taiwan), Jack Dongarra (University of Tennessee, USA), Xiaohua (Tony) Hu (Drexel University, USA), Irwin King (Chinese University of Hong Kong, Hong Kong), Carlos Ramos (Polytechnic of Porto, Portugal), Timothy K. Shih (Asia University, Taiwan), Peter M.A. Sloot (University of Amsterdam, The Netherlands), Kyu-Young Whang (KAIST, South Korea), and Stephen S. Yau (Arizona State University, USA).

We would also like to thank Rosslin John Robles, Maricel O. Balitanas, Farkhod Alisherov Alisherovish, and Feruza Sattarova Yusfovna – graduate students of Hannam University who helped in editing the FGIT 2009 material with a great passion.

October 2009

Young-hoon Lee
Tai-hoon Kim
Wai-chi Fang
Dominik Ślęzak

Preface

This volume contains carefully selected papers that were accepted for presentation at the events organized as parts of the First International Mega-Conference on Future Generation Information Technology (FGIT 2009), held during December 10–12, 2009, at the International Convention Center Jeju, Jeju Island, South Korea. Out of approximately 300 papers accepted for 10 out of 11 FGIT 2009 conferences, (i.e., ASEA, BSBT, CA, DTA, FGCN/ACN, GDC, MulGraB, SecTech, SIP, and UNESST), we chose 10%. The remaining accepted papers were included in the proceedings of particular events, published by Springer in the CCIS series (respective volume numbers: 59, 57, 65, 64, 56, 63, 60, 58, 61, 62).

The papers in this volume were recommended based on their scores obtained from the independent reviewing processes at particular conferences, and their relevance to the idea of constructing hybrid solutions to address the real-world challenges of IT. The final selection was also based on the attempt to make this volume as representative of the current trends in IT as possible. The papers were then split into two sections on: "Data Analysis, Data Processing, and Advanced Computation Models," and "Security, Software Engineering, and Communication and Networking." Moreover, the volume begins with two papers prepared by the FGIT 2009 keynote speakers: "Computer Science: Where Is the Next Frontier?" by Ruay-Shiung Chang, and "Video Forgery" by Timothy K. Shih et al. We would like to acknowledge all the authors of keynote and regular papers for their extremely interesting and valuable contributions.

We realize that the idea of preparing this volume, with the papers corresponding to such diverse aspects of future generation information technology, may need further, perhaps critical, analysis. FGIT 2009 is not the first attempt to grasp the concept of hybrid solutions in IT (sometimes called h*ybrid information technology*). However, this is the first case wherein the publication process comprises two stages: the review processes related to particular conferences/disciplines, and the recommendation/selection procedure finally resulting in this volume. We are grateful to Springer LNCS, especially to Alfred Hofmann, for their trust in our efforts. We welcome the feedback from everyone who may happen to study the gathered material. We strongly believe that this kind of vision is worth continuing in the future.

Once more, we would like to thank all the organizations and individuals who supported FGIT 2009 and, in particular, helped in the preparation of this volume, with their hard work.

October 2009

Young-hoon Lee
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Wai-chi Fang
Dominik Ślęzak

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