Preface

IFIP SaITE 2016 was held in Guimarães, Portugal, during July 5–8, 2016. The conference focused on the topic of "Stakeholders and Information Technology in Education". Open to researchers, policy makers, educators, and practitioners, the conference invited presentations on current projects and findings relating to how information technology (IT) in education was being adopted and used by different stakeholders, such as students, teachers, parents, or advisers, for example.

The conference involved 65 participants (including three who joined remotely), from across four continents (Europe, Asia-Pacific, Africa, and America). Those involved came from 22 countries, including Australia, Cyprus, Finland, France, Germany, India, Ireland, Japan, New Zealand, Norway, Slovenia, South Africa, Spain, Switzerland, the UK, and the USA.

Participant submissions covered the five key themes of the conference:

- Linking formal and informal education
- Researching transformation of applications of technologies in educational contexts
- Exploring implications of computer science education
- Preparing a new generation of computer professionals
- Strategic use and professional development in policy and management

Submissions of full papers, short papers, symposia, and system presentations were reviewed by the international Program Committee members and additional reviewers. For presentation, this was done on the basis of the quality of the submission, its relevance and potential contribution to the field, and its potential to benefit others. In total, 48 submissions were involved in a double-blind peer-review process. On average, each paper received 3.5 reviews through this two-stage process, where authors had a chance to revise their papers on the basis of the conference and reviewer feedback. Subsequently, 15 full papers and two short papers were selected for inclusion in this book.

The book is structured into four topical parts:

- The first part focuses on "Developing Practices and Involving Stakeholders in the Field of Computer Studies." In this part, you will find contributions on methodical implementation, introduction to programming, and on competency modeling in the field of computing education. Passey, Hawkins, and Clift report on fathers and male guardians becoming involved in their children's education in primary schools through computing practices; Matsuzawa, Tanaka, and Sakai identify advantages of using block-based visual language for introductory programming; Micheuz explores the challenges that Austrian secondary schools face in implementing computing; Kramer, Tobinski, and Brinda model competences in object-oriented programming; and Holvikivi, Lakkala, and Muukkonen report on outcomes of collaborative practices introduced in undergraduate computing courses.

- The second part addresses "Key Stakeholder Practices in Teacher Training". The focus of this part is the use of MOOCs in teacher training and the design of introductory student teacher education in computer science. Langseth and Haugsbakken discuss the introduction and outcomes of a blended bMOOC in Norwegian teacher training education; Bakki, Cherkaoui, Oubahssi, and George consider enhancement of learner motivation through appropriate pedagogical scenario development in cMOOCs; and Overland explores identities of and subsequent challenges for student teachers in computing.
- The third part deals with "Developments in Educational Management". The contributions in this section focus on the one hand on the digital transformation of educational institutions, and on the other hand on developments in this field over the past 20 years. Breiter explores the challenges of datafication for future educational management; Gajewski considers whether IT tools can address problems of e-cheating; Hernández-Bolaños and Rodríguez-Díaz report how business process management can lead to e-governance in a university; Correia considers the growth of entrepreneurialism in higher education and enterprise preparation of educational technologists; and Osorio and Nieves identify research maturity of IT in educational management from 20 years of conference proceedings.
- The fourth and final part is about "Information and Communication Technologies for Social and National Development". A symposium on this topic was held at the conference. The contributions give insight into this area through various studies, including a number across Africa. Mavengere and Ruohonen explore the role of digital pedagogies in developing collaboration and learning quality; Koivu, Ruohonen, Mavengere, Hederman, and Grimson report on information and ICT skill training needs for health professionals in South Africa; Pankomera and Greunen identify challenges and ways forward for ICT development in the education system in Malawi; and Ogunbase and Raisamo report how a West African Digital University might address needs for increased levels of higher education.

We hope you will enjoy reading this book. We particularly thank the authors for making new insights accessible to us all in this field.

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