

Papers
from
12th International Baltic Conference
on
Databases and
Information Systems

DB&IS 2016

Riga, Latvia,
July 4 - 6, 2016

Foreword

This volume contains a collection of the papers presented at the 12th International Baltic Conference on Databases and Information Systems 2016 (DB&IS 2016). The conference was held during July 4–6, 2016, in Riga, Latvia. DB&IS 2016 continued the DB&IS series of biennial conferences, which have been held in Trakai (1994), Tallinn (1996, 2002, 2008, 2014), Riga (1998, 2004, 2010), and Vilnius (2000, 2006, 2012).

During this period, the DB&IS conference has become an international forum for researchers and developers in the field of databases, information systems, and related areas. The conference features original research and application papers on the theory, design, and implementation of today's information systems on a set of themes and issues.

Two collections of the presented papers were compiled this year. The first collection was published by Springer in the series *Communications in Computer and Information Science* (CCIS), and the second one was included in this volume of the *Baltic Journal of Modern Computing* (BJMC).

DB&IS 2016 was organized by the Faculty of Computing, University of Latvia. The international Program Committee had 56 representatives from 21 countries all over the world. This year, 62 submissions from 16 countries were received. At least three reviewers evaluated each conference paper applying the single-blind type of peer review. As a result, 25 papers were accepted as full papers for publication in the CCIS. The conference program was extended with several good talks, and additional nine papers were accepted for publication in BJMC. The conference was also accompanied by a doctoral consortium.

The accepted papers span a wide spectrum of topics related to the development of information systems and data processing. The most significant topics covered by the conference are following: 1) the development of ontology applications; 2) tools, technologies, and languages for model-driven development; 3) decision support systems and data mining; 4) natural language processing and building linguistic components for information systems; 5) advanced systems and technologies related to IS and databases, 6) information technologies in teaching and learning. This volume includes four papers that address several issues regarding education, e-learning and creating or improving appropriate infrastructure. Two papers propose solutions for managing business processes, and two papers are related to exploitation of ontologies. Lastly, a paper that demonstrates an application of neural network for marine traffic prediction is included in the volume.

We would like to express our warmest thanks to all authors who contributed to the 12th International Baltic Conference on Databases and Information Systems 2016. Our special thanks to the invited speakers, Prof. Andris Ambainis, Prof. Gintautas Dzemyda, and Prof. Jaak Vilo, for sharing their knowledge. We are very grateful to the members of the international Program Committee and additional referees for their reviews and comments. We are grateful to the presenters, session chairs, and conference participants for their time and effort that made the DB&IS 2016 success. We also wish to express our thanks to the conference organizing team, the University of Latvia, Exigen Services Latvia, the IEEE, the IEEE Latvia Section, and other supporters for their contribution and making the event possible. Last, but not least, we would like to thank the team of BJMC for their cooperation during the publication of the conference papers in this volume.

June 2016

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