Preface

The 21st European Conference on Advances in Databases and Information Systems (ADBIS 2017) took place in Nicosia, Cyprus, during September 24–27, 2017. The ADBIS series of conferences aims at providing a forum for the dissemination of research accomplishments and at promoting interaction and collaboration between the database and information systems research communities from European countries and the rest of the world. The ADBIS conferences provide an international platform for the presentation of research on database theory, development of advanced DBMS technologies, and their advanced applications. As such, ADBIS has created a tradition: its 21st anniversary edition in 2017 continued the series held in St. Petersburg (1997), Poznan (1998), Maribor (1999), Prague (2000), Vilnius (2001), Bratislava (2002), Dresden (2003), Budapest (2004), Tallinn (2005), Thessaloniki (2006), Varna (2007), Pori (2008), Riga (2009), Novi Sad (2010), Vienna (2011), Poznan (2012), Genoa (2013), Ohrid (2014), Poitiers (2015), and Prague (2016). The conferences are initiated and supervised by an international Steering Committee consisting of representatives from Armenia, Austria, Bulgaria, the Czech Republic, Cyprus, Estonia, Finland, France, Germany, Greece, Hungary, Israel, Italy, Latvia, Lithuania, the FYR of Macedonia, Poland, Russia, Serbia, Slovakia, Slovenia, and the Ukraine.

The program of ADBIS 2017 included keynotes, research papers, thematic workshops, and a doctoral consortium. The conference attracted 107 paper submissions from 38 countries from many continents. After rigorous reviewing by the Program Committee (88 reviewers from 33 countries in the Program Committee and additionally by 26 external reviewers), the 26 papers included in this LNCS proceedings volume were accepted as full contributions, making an acceptance rate of 24%. Springer sponsored the ADBIS 2017 best paper award. Furthermore, the Program Committee selected 12 more papers as short contributions. The authors of the ADBIS 2017 papers come from 38 countries. The four workshop organizations acted on their own and accepted 25 papers for the BigNovelTI (50% acceptance rate), AMSD (50% acceptance rate), SW4CH (54% acceptance rate), and DaS 2017 (55% acceptance rate) workshops, as well as 3 for the doctoral consortium. Short papers, workshop papers, and the paper on Contributions from ADBIS 2017 workshops are published in a companion volume entitled New Trends in Databases and Information Systems in the Springer series Communications in Computer and Information Science. All papers were evaluated by at least three reviewers. The selected papers span a wide spectrum of topics in databases and related technologies, tackling challenging problems and presenting inventive and efficient solutions. In this volume, these papers are organized according to the nine sessions: (1) Conceptual modeling and human factors; (2) Subsequence matching and streaming data; (3) OLAP; (4) Graph databases; (5) Spatial data management; (6) Parallel and distributed data processing; (7) Query optimization, recovery, and databases on modern hardware; (8) Semantic data processing; and (9) Additional database and information systems topics. For this edition of ADBIS 2017, we had two

keynote talks: the first one by Ernesto Damiani from the Khalifa University of Science, Technology & Research, United Arab Emirates, on "Model-Based Big Data as a Service," and the second one by Demetris Zeinalipour from the University of Cyprus, Cyprus, on "Indoor Navigation Services from Mobile Data."

The best papers of the main conference and workshops were invited to be submitted to special issues of the following journals: *Information Systems* and *Informatica*.

We would like to express our gratitude to every individual who contributed to the success of ADBIS 2017. Firstly, we thank all authors for submitting their research papers to the conference. We are also indebted to the members of the community who offered their precious time and expertise in performing various roles ranging from organizational to reviewing roles – their efforts, energy, and degree of professionalism deserve the highest commendations. Special thanks to the Program Committee members and the external reviewers for their support in evaluating the papers submitted to ADBIS 2017, ensuring the quality of the scientific program. We also offer thanks to all the colleagues, secretaries, and engineers involved in the conference and workshop organization. We acknowledge the assistance and guidance of the Steering Committee, especially the Vice Chair Yannis Manolopoulos.

The conference would not have been possible without our supporters and sponsors: Austrian Airlines, Cyprus Tourism Organization, and the University of Cyprus. Finally, we thank Springer for publishing the proceedings containing invited and research papers in the LNCS series. The Program Committee work relied on EasyChair, and we thank its development team for creating and maintaining it; it offered great support throughout the different phases of the reviewing process.

July 2017   Mārīte Kirikova
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