

Preface

This volume contains a selection of the papers presented at the 19th East-European Conference on Advances in Databases and Information Systems (ADBIS 2015), held during September 8–11, 2015, at Futuroscope, Poitiers, France.

The ADBIS series of conferences aims at providing a forum for the presentation and dissemination of research on database theory, development of advanced DBMS technologies, and their advanced applications. ADBIS 2015 in Poitiers continued the series after St. Petersburg (1997), Poznań (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), Poznań (2012), Genoa (2013), and Ohrid (2014). This edition was special, as it was the first time that ADBIS took place in France. The conferences are initiated and supervised by an International Steering Committee consisting of representatives from Armenia, Austria, Bulgaria, Czech Republic, Estonia, Finland, Germany, Greece, Hungary, Israel, Italy, Latvia, Lithuania, Poland, Russia, Serbia, Slovakia, Slovenia, and the Ukraine.

The program of ADBIS 2015 included keynotes, research papers, two tutorials, and thematic workshops. The conference attracted 135 paper submissions from 39 countries from all continents with 330 authors. After rigorous reviewing by the Program Committee (77 reviewers from 22 countries), the 31 papers included in this LNCS proceedings volume were accepted as full contributions, making an acceptance rate of 23 %.

Furthermore, the Program Committee selected 18 more papers as short contributions and 30 papers from seven workshops that 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 and most of them by four to five 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 15 sessions: (1) Database Theory and Access Methods, (2) User Requirements and Database Evolution, (3) Multidimensional Modeling and OLAP, (4) ETL, (5) Transformation, Extraction and Archiving, (6) Modeling and Ontologies, (7) Time Series Processing, (8) Performance and Tuning, (9) Advanced Query Processing, (10) Approximation and Skyline, (11) Confidentiality and Trust.

For this edition of ADBIS 2015, we had two keynote talks: the first one from Serge Abiteboul from Inria and ENS Cachan, France, on “The Story of Webdamlog” and the second one by Jens Dittrich, from Saarland University, Germany, on “The Case for Small Data Management.” In addition, we had two tutorials: the first by Nicolas Anceaix, Benjamin Nguyen, and Iulian Sandu Popa from Inria Paris-Rocquencourt and INSA Centre-Val de Loire, France, on “Towards an Era of Trust in Personal Data Management” and the second one by Boris Novikov, from St. Petersburg University, Russia, on “Query Processing: Beyond SQL and Relations.”

ADBIS 2015 strived to create conditions for more experienced researchers to share their knowledge and expertises with the young researchers. In addition, the following seven workshops associated with the ADBIS were co-allocated with the main conference:

- Second International Workshop on Big Data Applications and Principles (BigDap 2015), organized by Elena Baralis (Politecnico di Torino, Italy), Tania Cerquitelli (Politecnico di Torino, Italy) and Pietro Michiardi (EURECOM, France).
- Workshop on Data Centered Smart Applications (DCSA 2015), organized by Ajantha Dahanayake (Prince Sultan University, Saudi Arabia) and Bernhard Thalheim (Christian Albrechts University, Germany).
- 4th International Workshop on GPUs in Databases (GID 2015), organized by Witold Andrzejewski (Poznan University of Technology, Poland), Krzysztof Kaczmarski (Warsaw University of Technology, Poland), and Tobias Lauer (Offenburg University of Applied Sciences, Germany).
- Workshop on Managing Evolving Business Intelligence Systems (MEBIS 2015), organized by Selma Khouri (National Engineering School for Mechanics and Aeronautics (ISAE-ENSMA), France and National High School of Computer Science (ESI, Algeria), and Robert Wrembel (Poznan University of Technology, Poland).
- 4th International Workshop on Ontologies Meet Advanced Information Systems (OAIS 2015), organized by Ladjel Bellatreche (LIAS/ISAE-ENSMA, France), and Yamine Ait Ameer (IRIT-ENSEIHT, France).
- First International Workshop on Semantic Web for Cultural Heritage (SW4CH 2015), organized by Béatrice Bouchou Markhoff (LI, University François Rabelais de Tours, France) and Stéphane Jean (LIAS/ISAE-ENSMA and University of Poitiers, France).
- Workshop on Information Systems for Alarm Diffusion (WISARD 2015), organized by Rémi Delmas (ONERA, Toulouse, France), Thomas Polacsek (ONERA, Toulouse, France), Florence Sèdes (IRIT, Toulouse, France).

Each workshop has its own international Program Committee. The accepted papers were published by Springer in the series *Communications in Computer and Information Science* (CCIS).

The best papers of the main conference and workshop were invited to be submitted to special issues of the following journals: *Information Systems* - Elsevier, *Information Systems Frontiers* - Springer, and *International Journal on Semantic Web and Information Systems* - IGI.

We would like to express our gratitude to every individual who contributed to the success of ADBIS 2015. First, 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 - their efforts, energy, and degree of professionalism deserve the highest commendations. Special thanks to the Program Committee members and the external reviewers for evaluating papers submitted to ADBIS 2015, thereby ensuring the quality of the scientific program. Thanks also to all the colleagues, secretaries, and engineers involved in the conference organization, as well as the workshop organizers. We would like to thank Dr. Mickaël Baron, from LIAS/ISAE-ENSMA, for his endless

help and support. Special thanks are due to the members of the Steering Committee, in particular, its chair Leonid Kalinichenko and his vice-chair Yannis Manolopoulos for all their help and guidance.

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

- Région Poitou Charentes
- ISAE-ENSMA
- Poitiers University
- INFORSID Association
- CRITT Informatique, Futuroscope
- LIAS laboratory

Last, but not least, we thank the participants of ADBIS 2015 for sharing their works and presenting their achievements, thus providing a lively, fruitful, and constructive forum, and giving us the pleasure of knowing that our work was purposeful.

September 2015

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<http://www.springer.com/978-3-319-23134-1>

Advances in Databases and Information Systems
19th East European Conference, ADBIS 2015, Poitiers,
France, September 8-11, 2015, Proceedings
Morzy, T.; Valduriez, P.; Bellatreche, L. (Eds.)
2015, XXVIII, 474 p. 174 illus., Softcover
ISBN: 978-3-319-23134-1