
Advances in Database Technology — EDBT 2016

19th International Conference
on Extending Database Technology
Bordeaux, France, March 15–18, 2016
Proceedings

Editors

Evaggelia Pitoura
Sofian Maabout
Georgia Koutrika
Amelie Marian
Letizia Tanca
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Foreword

Welcome to the 19th edition of the International Conference of Extending Database Technology (EDBT). Originally biennial, the EDBT conference has been held annually and jointly with ICDT (“International Conference on Database Theory”) since 2009. This year, EDBT is taking place in Bordeaux, France, on March 15–18, 2016, continuing its long tradition as a top venue for presenting and discussing recent advancements in data management.

This year we received 137 submissions to the research track, 18 submissions to the vision track, 24 submissions to the industrial/application track, 28 submissions to the demo track and 11 tutorial proposals. The high quality of these submissions made the job of selecting the best of them rather challenging. The various program committees after thorough reviewing and careful consideration selected 38 research papers, 5 vision papers, 9 industrial/application papers, 16 demos and 3 tutorials. The proceedings include these contributions. A new addition this year is the poster track for presenting novel ongoing work. There were 64 submissions from which the poster program committee selected 31 contributions included in this proceedings.

The proceedings also include an overview of the keynote talk by Elisa Bertino (Purdue), an overview of the keynote talk by Gustavo Alonso (ETHZ) and a laudation concerning the EDBT 2016 Test of Time Award that was given to the paper

“Bridging Physical and Virtual Worlds: Complex Event Processing for RFID Data Streams” by Fusheng Wang, Shaorong Liu, Peiya Liu, Yijian Bai, published in the EDBT 2006 proceedings.

The EDBT 2016 program is the result of the joint effort of many people that I would like to take this opportunity to thank. Ioana Manolescu (Vision Track Chair), Georgia Koutrika (Industrial/Application Track Chair), Letizia Tanca (Demo Track Chair) and Amelie Marian (Tutorial Chair), all did an excellent job, as Themis Palpanas with the workshops (whose proceedings appear in a companion volume). Thanks also to the members of the program committees of the various tracks that worked very hard to review each submission in detail and engaged in many discussions to create the best possible program.

Special mention should be made to the Test of Time Award committee members: Sihem Amer-Yahia, Yannis Ioannidis and Christian S. Jensen. The general chair, Sofian Maabout and the local organizers worked hard with all arrangements necessary for securing a successful event. Special thanks to Kostas Stefanidis, the proceedings chair, and Patrick Mary, the website chair, for their invaluable contribution to this event. Christine Collet and Norman Paton were instrumental in advising and coordinating with the EDBT Executive Board.

And lastly and most importantly, thanks to all the authors that submitted their work to EDBT 2016. Their contributions were what made this a strong program. I hope that you find the EDBT 2016 conference informative, enjoyable and thought-provoking!

Evaggelia Pitoura
EDBT 2016 Program Chair

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Test-of-Time Award

In 2014, EDBT began awarding the EDBT Test-of-Time (ToT) Award, with the goal of recognizing one paper, or a small number of papers, presented at EDBT earlier and that have best met the “test of time”, i.e., that has had the most impact in terms of research, methodology, conceptual contribution, or transfer to practice over the past decade(s). The EDBT ToT Award for 2016 will be presented during the EDBT/ICDT 2016 Joint Conference, March 15–18, 2016, in Bordeaux (France). The EDBT 2016 Test-of-Time Award committee was formed by Sihem Amer-Yahia (CNRS, Laboratoire d’Informatique de Grenoble, France), Yannis Ioannidis (University of Athens, Greece), Christian S. Jensen (Aalborg University, Denmark), and all PC chairs of former EDBT conferences including EDBT 2006.

The committee was asked to select a paper or a small number of papers from the EDBT 2006 (Munich) proceedings. After careful consideration, the committee and the EDBT Executive Board have decided to select the following paper as the EDBT ToT Award winner for 2016:

**Bridging Physical and Virtual Worlds:
Complex Event Processing for RFID Data Streams**

by Fusheng Wang, Shaorong Liu, Peiya Liu, Yijian Bai

published in the EDBT 2006 proceedings, 588–607

The paper proposes an event-oriented approach to the processing of RFID data which makes it possible to automate the translation of RFID based application semantics through complex event detection. In particular, it demonstrates the ability to process complex events by capturing temporal constraints in an algebra. The resulting declarative event-based approach is shown to simplify RFID data processing and is shown to be scalable. The paper pioneers declarative event-based RFID processing. The simplicity and expressiveness of the proposed framework are admirable. For example, the framework makes it possible to express object tracking on historical data as well as to formulate real-time monitoring.

The committee and the EDBT Executive Board find that this paper stands out in terms of relevance, impact, and influence in databases. It has had substantial impact. In particular, it has impacted real systems, and the engine it proposes has been integrated into Siemens RFID Middleware. It is also the most cited EDBT 2006 paper, has spurred a significant amount of follow-up work, and remains relevant today.

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