

Preface

We are proud to present the proceedings of the 16th International Symposium on Intelligent Data Analysis, which took place during October 26–28 in London, UK. The series started in 1995 and was held biennially until 2009. In 2010, the symposium re-focused to support papers that go beyond established technology and offer genuinely novel and game-changing ideas, while not always being as fully realized as papers submitted to other conferences.

IDA 2017 continued this approach and sought first-look papers that might elsewhere be considered preliminary, but contain potentially high-impact research. It has been 20 years since the first independent IDA symposium. To celebrate this event, authors of the best papers presented at IDA 2017 were invited to submit a full paper for possible publication for a special issue in the Wiley Series *Statistical Analysis and Data Mining: The ASA Data Science Journal*.

The IDA Symposium is open to all kinds of modelling and analysis methods, irrespective of discipline. It is an interdisciplinary meeting that seeks abstractions that cut across domains. IDA solicits papers on all aspects of intelligent data analysis, including papers on intelligent support for modelling and analyzing data from complex, dynamical systems.

Intelligent support for data analysis goes beyond the usual algorithmic offerings in the literature. Papers about established technology were only accepted if the technology was embedded in intelligent data analysis systems, or was applied in novel ways to analyzing and/or modelling complex systems. The conventional reviewing process, which favors incremental advances on established work, can discourage the kinds of papers that were selected for IDA 2017. The reviewing process addressed this issue explicitly: Referees evaluated papers against the stated goals of the symposium, and any paper for which at least one Program Committee (PC) advisor wrote an informed, thoughtful, positive review was accepted, irrespective of other reviews. Indeed, this had a notable impact on what papers were included in the program.

We were pleased to see a very strong program. We received 70 submissions by 200 authors from 27 different countries, out of which 18 were accepted as regular papers, 10 as regular poster papers. All proceedings track submissions were reviewed by three PC members and one PC advisor. We were also pleased to include for oral presentation only four Horizon Track submissions. The Horizon Track aims to provide a forum for potentially ground-breaking research that is, however, not yet mature enough for archival dissemination.

We were honored to have the following distinguished invited speakers at IDA 2017:

- Professor Paul Cohen, University of Pittsburgh, USA, on the topic “Mining for Causal Results”
- Dr. Aldo Faisal, Imperial College London, UK, on the topic “Reverse Engineering Human Decision-Making from High-Resolution Analysis of Behavior”

- Professor Niels Peek, University of Manchester, UK, on the topic “Opportunities and Challenges of Learning Health Systems.”

The conference was hosted by the Department of Computer Science and Information Systems at Birkbeck College, University of London. It was held at Woburn House in Bloomsbury.

We wish to express our gratitude to all authors of submitted papers for their intellectual contributions; to the PC members and advisors and additional reviewers for their effort in reviewing, discussing, and commenting on the submitted papers and to the members of the IDA Steering Committee for their ongoing guidance and support. We thank Alan Mosca for running the conference website. We gratefully acknowledge Stephen Swift and Tara Orlanes-Angelopoulou for the local organization of the symposium. We thank the following who ensured the smooth running of the symposium: Abul Hasan, Thomas Nealon, and Manni Singh from Birkbeck; Awad Alyousef, Mahir Arzoky, Bashir Dodo, and Leila Yousefi from Brunel; and Chris Beyer from Magdeburg University. We are grateful to our sponsors: The Department of Computer Science and Information Systems at Birkbeck and Springer. We are especially indebted to KNIME, who funded the IDA Frontier Prize for the most visionary contribution presenting a novel and surprising approach to data analysis in the understanding of complex systems.

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