

## Editor's Notes

Welcome to the September 2018 issue of the ACM SIGMOD Record!

This issue starts with the Database Principles column featuring an article on data provenance by Buneman and Tan. The article starts with a brief survey of existing work on data provenance that was largely motivated by curated databases. It then looks at potential applications of provenance in a set of new applications, including data citation, machine learning, social media, blockchain technology, and privacy. The article is of particular interest to the reader as it describes the areas in which data provenance is finding applications and is opening up new lines of research.

The Vision column features an article by Shay et al. on database access control. It presents a vision and description for query control, a paradigm for database access control where individual queries are examined before being executed and are either allowed or denied by a pre-defined policy. This paradigm stands in contrast to traditional view-based database access control, which requires the enforcer to view the query, the records, or both, and hence is difficult to apply when the enforcer is not allowed to view database contents or the query itself, e.g., in privacy-preserving encrypted databases. This article further presents a reference implementation and discusses promising future applications of query control.

The Distinguished Profiles column includes two articles. The first article features Timos Sellis, Professor at the Royal Melbourne Institute of Technology, previously, the National Technical University of Athens, and the University of Maryland. Timos is an ACM Fellow and an IEEE Fellow. In this interview, Timos talks about his work on R+ trees, which won a VLDB 10-year Paper Award, and more generally, multi-dimensional indexing in recent applications. He also discusses the major accomplishments in his 20-year career in Greece, gives advice for fledging and mid-career database researchers, and expresses his desire to build more systems. The second article features Peter Bailis, who won the 2017 ACM SIGMOD Jim Gray Dissertation Award for his thesis entitled "Coordination Avoidance in Distributed Databases," under the supervision of Joseph Hellerstein, Ion Stoica, and Ali Ghodsi at the University of California, Berkeley. Peter is now a professor at Stanford University.

The Reports Column features two articles. The first article presents a report on the NSF BIGDATA PI meeting: In March 2017, PIs and co-PIs funded through the NSF BIGDATA program were brought together along with selected industry and government invitees to discuss current research, identify current challenges, discuss promising future directions, foster new collaborations, and share accomplishments. The breakout sessions were directed to discuss problems and available data sets in five application domains: policy, health, education, economy & finance, and environment & energy. The article summarizes the thoughts on promising big data research in these five applications domains, as well as the needs to promote interdisciplinary training and produce high quality data sets to broaden the impact of big data across different applications areas. The second article reports on the 2017 Dagstuhl Seminar on Big Stream Processing. Stream processing can generate insights from big data in real time as it is being produced. The article reports findings from the seminar, focusing on applications, systems, and languages of big stream processing.

Finally, the issue closes with two announcements, call for nomination for the ACM PODS 2019 Alberto O. Mendelzon Test-of-Test Award and call for papers for ICDT 2020.

On behalf of the SIGMOD Record Editorial board, I hope that you enjoy reading the September 2018 issue of the SIGMOD Record!

Your submissions to the SIGMOD Record are welcome via the submission site:

<http://sigmod.hosting.acm.org/record>

Prior to submission, please read the Editorial Policy on the SIGMOD Record's website:

<https://sigmodrecord.org>

Yanlei Diao

September 2018

Past SIGMOD Record Editors:

Ioana Manolescu (2009-2013)  
Ling Liu (2000-2004)  
Arie Segev (1989-1995)  
Thomas J. Cook (1981-1983)  
Daniel O'Connell (1971-1973)

Alexandros Labrinidis (2007-2009)  
Michael Franklin (1996-2000)  
Margaret H. Dunham (1986-1988)  
Douglas S. Kerr (1976-1978)  
Harrison R. Morse (1969)

Mario Nascimento (2005-2007)  
Jennifer Widom (1995-1996)  
Jon D. Clark (1984-1985)  
Randall Rustin (1974-1975)