



Association for
Computing Machinery

Advancing Computing as a Science & Profession

CONTACT: Jim Ormond
212-626-0505
ormond@hq.acm.org

2017 ACM SIGMOD/PODS CONFERENCE EXPLORES GRAND CHALLENGES IN DATA MANAGEMENT

*Conference Will also Feature In-Depth Expositions of Data Management Research and
Interdisciplinary Topics Including AI, HCI and Machine Learning*

NEW YORK, NY, May 4, 2017 – Every two years the amount of human- and machine-generated data more than doubles, with many experts predicting as much as 50-fold growth from 2010 to 2020. The challenge with this exponential growth is that the available amount of data is growing much faster than hardware’s speed and capacity to process it. In an effort to solve this and discuss other emerging issues related to data management, the Association for Computing Machinery (ACM) Special Interest Group on Management of Data (SIGMOD) together with PODS, the premier international conference on the theoretical aspects of database systems, will host the annual [SIGMOD/PODS 2017](#) conference in Chicago May 14-19, 2017.

Combining the full spectrum of database research in a single event, SIGMOD/PODS is considered the most important and selective conference in the field. Database researchers, practitioners, software developers and users will gather to explore cutting-edge ideas and results, and to exchange techniques, tools and experiences.

"Most of the techniques that power today’s data management applications around the globe have been pioneered by the SIGMOD research community," said Dan Suciu, SIGMOD Program Chair. "This year, the research track of the SIGMOD conference has planned two plenary sessions, to discuss Grand Challenges in Data Management. We strongly believe that these sessions, combined with the presentations, discussions and debates during those sessions, will undoubtedly inspire the brilliant researchers of our community to innovate the new technologies needed to address future challenges."

Adds PODS Program Chair Floris Geerts, "In addition to the keynote on data citation, the conference will feature tutorials on marrying machine learning and databases, parallel database query processing, and a continuation of the 'Gems of PODS' series, featuring 29 papers on the theoretical principles of data management. For anyone interested in data management, this is an event not to be missed."

2017 ACM SIGMOD/PODS HIGHLIGHTS

PODS Keynote Talk: Monday, May 15

Data Citation: a Computational Challenge

Susan Davidson, University of Pennsylvania

Most information is now published in complex, structured, evolving datasets or databases. As such, there is increasing demand that this digital information be treated in the same way as conventional publications and cited appropriately. Unlike traditional publications, however, which have a fixed granularity to which citations can be attached (e.g. a paper in a conference proceedings, or chapter in a book), the granularity of data varies when retrieved by a query over a database. This talk will give an overview of what is being done in data citation and highlight several open research problems, both practical and theoretical.

SIGMOD Keynote Talks: Tuesday, May 16

Grand Challenges in Data Management: Transactions

Anastasia Ailamaki, Ecole Polytechnique Federale de Lausanne (EPFL) Switzerland

Andy Pavlo, Carnegie Mellon University

The first talk will discuss the implications of recent trends on the design of next-generation transaction processing engines, as well as ongoing projects to address the issues stemming from the changing hardware and software landscape. The second talk focuses on the need to rethink the agenda for concurrency control research.

Career in Industry Panel

Featuring: Donald Kossmann (Microsoft), C. Mohan (IBM), Sailesh Krishnamurthy (Amazon), John Cieslewicz (Google), Shasank Chavan (Oracle), Jianjun Chen (Huawei) and Mostafa Mokhtar (Cloudera)

As the field of data science continues to grow, demand is increasing among leading companies to hire skilled new employees. This panel is designed to give potential job-seekers an opportunity to learn more about the work culture of the leading data science companies that they might not ordinarily address in a job interview. Topics include: “How does publishing and patenting work?” and “Are projects typically open source or internal?”

Inaugural Student Research Competition

Sponsored by ACM, SIGMOD, and Microsoft Research

Selected from more than 40 submissions from institutions around the world, this unique competition offers six undergraduate and 12 graduate students a forum to experience the database research community, present their research results to conference attendees and compete for prizes.

SIGMOD Tutorials

Tutorial 1: Crowdsourced Data Management: Overview and Challenges

Sunday, May 14, 2017: 9-10:30 a.m.

Many important data management and analytics tasks cannot be completely addressed by automated processes. This tutorial will show crowdsourcing as an effective way to harness human cognitive abilities to process difficult computer-hard tasks, such as entity resolution, sentiment analysis, and image recognition.

Tutorial 9: Data Management Challenges in Machine Learning: Challenges, Techniques and Systems

Friday, May 12, 2017: 9-10:30 a.m.

This tutorial provides a comprehensive review of Machine Learning (ML) systems and analyzes key data management challenges and techniques, focusing on three complementary lines of work: (1) integrating ML algorithms and languages with existing data systems (2) adapting data management-inspired techniques such as query optimization, partitioning, and compression, and (3) combining data management and ML ideas to build systems that improve ML lifecycle-related tasks.

Additional papers, tutorials, workshops and in-depth expositions will be presented throughout the multi-day conference. For a complete list of papers and a full schedule of activities, please visit:

<http://sigmod2017.org/>.

About SIGMOD

The [ACM Special Interest Group on Management of Data \(SIGMOD\)](#) is concerned with the principles, techniques and applications of database management systems and data management technology. Our members include software developers, academic and industrial researchers, practitioners, users, and students. SIGMOD sponsors the annual SIGMOD/PODS conference, one of the most important and selective in the field.

About ACM

ACM, the Association for Computing Machinery (www.acm.org), is the world's largest educational and scientific computing society, uniting computing educators, researchers and professionals to inspire dialogue, share resources and address the field's challenges. ACM strengthens the computing profession's collective voice through strong leadership, promotion of the highest standards, and recognition of technical excellence. ACM supports the professional growth of its members by providing opportunities for life-long learning, career development, and professional networking.

###