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2016 ACM SIGMOD/PODS HIGHLIGHTS HOW DATA SCIENCE IS TRANSFORMING SOCIETY

Field's Most Important Conference to Include Major Keynotes by Jeff Dean and Moshe Vardi

New York, NY, June 15, 2016 – Experts say that the volume of data worldwide doubles every 18 months. Even more important than the staggering numbers, data management promises transformations across society, including breakthroughs in healthcare and the natural sciences, more effective security and law enforcement practices, and advances in artificial intelligence. Big Data is also big business, as companies collect greater volumes of information to better understand and sell to consumers. At the same time, some view these trends with concern and wonder whether adequate technologies are in place to ensure privacy.

Many of these timely topics, as well as transformative innovations in the field, will be explored at ACM SIGMOD/PODS 2016, to be held in San Francisco, June 26 to July1. The annual gathering is composed of two co-aligned conferences; the largest annual conference of the ACM Special Interest Group on Management of Data (SIGMOD), with PODS, the premiere international conference on the theoretical aspects of database systems.

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 exchange techniques, tools and experiences.

This year's conference includes a fascinating technical program with research and industrial talks, tutorials, demos and focused workshops. It also hosts a poster session, an industrial exhibition, where attendees meet companies and publishers, and a career-in-industry panel with representatives from leading companies.

"One of the exciting changes this year is that we've reduced the number of concurrent tracks to just three," explains Fatma Özcan of IBM Research, the SIGMOD General Conference Chair. "With fewer tracks, participants won't feel they must choose between two offerings they really want to attend that occur at the same time. Back by popular demand, we've also reintroduced our Interactive Conference Program. Using likes, recommendations and other filtering options, conference-goers can get suggestions and updates 'on the fly' as they move through the conference."

Adds PODS General Chair Tova Milo, "We're very excited about Gems of PODS, a new series that features topics and results that have been highly influential in the PODS community. We are kicking off

the series this year with talks on Optimal Score Aggregation Algorithms, which are used to identify objects and their attributes in databases, and Hypertree Decompositions, which are helpful in determining if large classes of instances are both recognizable and solvable in polynomial time."

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Ron Fagin Special Event: Sunday, June 26
Ronald Fagin, currently an IBM Fellow at the IBM Almaden Research Center, has been recognized for his fundamental contributions to the principles of database systems. A special program will feature a series of six invited speakers, spotlighting different aspects of Fagin's work in the field. The event will close with remarks by Fagin.

PODS Keynote Talk: Monday, June 27
A Theory of Regular Queries
Moshe Y. Vardi, **George Distinguished Service Professor in Computational Engineering and Director of the Ken Kennedy Institute for Information Technology at Rice University. Vardi also serves as Editor-in-Chief of *Communications of the ACM*.**
A major theme in relational database theory is navigating the tradeoff between expressiveness and tractability for query languages, where the query-containment problem is considered a benchmark of tractability. Vardi proposes a solution using the class of regular queries (RQ) as a model.

SIGMOD Keynote Talk: Tuesday, June 28
Building Machine Learning Systems that Understand
Jeff Dean is a Google Senior Fellow in the Google Research Group. Dean is also a co-recipient of the 2012 ACM-Infosys Foundation Award in the Computer Sciences.
Over the past five years, deep learning and large-scale neural networks have made significant advances in speech recognition, computer vision, language understanding and translation, robotics, and many other fields. Dean will highlight some of the advances that have been made in deep learning and suggest some interesting directions for future research.

PODS Best Paper Award: Monday, June 27
FAQ: Questions Asked Frequently
Mahmoud Abo Khamis; Hung Ngo; Atri Rudra
The authors propose a new algorithm to solve the FAQ (Functional Aggregate Query) problem in data science.

SIGMOD Best Paper Award: Wednesday, June 29
Wander Join: Online Aggregation via Random Walks
Feifei Li; Bin Wu; Ke Yi; Zhuoyue Zhao
The paper proposes a new approach, the wander join algorithm, to the online aggregation problem.

Visit 2016 ACM SIGMOD/PODS for a complete list of papers and a full schedule of activities.

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.

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