



Association for
Computing Machinery

Advancing Computing as a Science & Profession



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Vast Potential of Exascale Computing and Urgent Challenges in Cybersecurity Take Center Stage at ACM Europe Conference

Highlights Include Presentation on Distributed Ledgers by Turing Laureate Silvio Micali

BARCELONA, SPAIN, 7 August 2017 – The inaugural ACM Europe Conference, 7-8 September 2017, will be a truly international event, bringing together computer scientists and practitioners from around the world. The two main themes of the conference are high performance computing and cybersecurity. The conference will include a talk by 2012 Turing Award Laureate Silvio Micali.

WHO: The ACM Europe Council is organizing the conference. The ACM Europe Council works to raise the level and visibility of ACM activities across Europe.

WHAT: The first-ever ACM Europe Conference will bring together computer scientists and practitioners from around the world. Co-located events include WomENCourage 2017, HiPEAC, EXCDI, and EuroLab-4-HPC.

WHEN and WHERE: The ACM Europe conference and the co-located events will take place at the vicinity of Barcelona Supercomputing Center. On 7 September, the Turing Talk, Cybersecurity Panel, Reception and ACM Fellows Celebration will be held in Aula Magna, Faculty of Biology, Universitat de Barcelona (Avinguda Diagonal, 643 08028 Barcelona). On 8 September, the High Performance Computing track will take place in the Auditorium, Vertex building, Campus Nord – Universitat Politècnica de Catalunya (Plaça Eusebi Güell, Barcelona).

MORE: Registration to the ACM Europe Conference is free of charge. Early registration is encouraged due to limited seating. For more information, visit <http://acmeurope-conference.acm.org/>.

CONFERENCE HIGHLIGHTS

Keynote Address: 2012 Turing Award Laureate Silvio Micali is a visionary whose work has contributed to the mathematical foundations of cryptography and has advanced the theory of computation. His keynote address for the ACM Europe Conference is titled “ALGORAND: A New Distributed Ledger.” Distributed ledgers are tamperproof sequences of data that can be read and augmented by everyone. As currently implemented however, distributed ledgers cannot achieve their enormous potential. Micali will present ALGORAND as a new, truly democratic and very efficient way to implement a distributed ledger. Unlike prior implementations based on proof of work, it requires a negligible amount of computation.

Cybersecurity Panel: a roster of leading researchers and practitioners from Europe and around the world will examine the latest opportunities and challenges in the cybersecurity field. Panelists include Chris Hankin, Imperial College London (UK), Judith Gal-Ezer, Open University (Israel), Jeremy Epstein, National Science Foundation (US), Manel Medina, Politecnico University of Catalunya (Spain), and Gerhard Schimpf, Chair of the

Committee of European Chapter Leaders. This panel will be followed by a reception to celebrate ACM Fellows in Europe. Several ACM Fellows have already confirmed their presence.

High Performance Computing Track: The track will include a keynote address by Katherine Yelick of the University of California, Berkeley titled “Breakthrough Science at the Exascale.” Within the next few years, exascale systems will become available to the scientific community. Professor Yelick will present some of the exciting science opportunities, discuss the need for algorithms and mathematics to advance along with system performance, and how the variety of workloads will stress the different aspects of exascale hardware and software systems. The keynote address will be followed by a panel, composed of top world experts in HPC. The panel will review progress and current plans for the worldwide roadmap towards exascale computing. Panelists include Mateo Valero, Barcelona Supercomputing Center (Spain), Paul Messina, Argonne National Laboratory (US), Satoshi Matsuoka, Global Scientific Information and Computing Center (Japan), Alison Kennedy, High Performance Computing Center (UK), Per Stenström, Chalmers University (Sweden), and Qian Depei, Sun Yat-sen University (China). The panel will be moderated by Thomas Skordas, Director for Digital Excellence and Science Infrastructure at the European Commission.

Co-Located Meetings: A select group of influential European technology organizations will co-locate events with the inaugural ACM Europe Conference including:

- **ACM Europe Celebration of Women in Computing: WomENCourage 2017** is a scientific event, as well as an event aimed at networking and exploring career opportunities for women in computer science and related disciplines. Requires separate registration. <https://womencourage.acm.org/>
- The **European Extreme Data & Computing Initiative’s (EXCDI)** objective is to support the development and implementation of a common strategy for the European HPC Ecosystem. <https://exdci.eu/events/acm-europe-conference-exdci-final-conference-2017>
- **EuroLab-4-HPC** is a two-year Horizon 2020 funded project with the bold commitment to build the foundation for a European Research Center of Excellence in High-Performance Computing (HPC) Systems. <https://www.eurolab4hpc.eu/>
- The **European Network on High Performance and Embedded Architecture and Compilation’s (HiPEAC)** mission is to steer and increase European research in the area of high-performance and embedded computing systems, and stimulate cooperation between academia, industry, computer architects and tool builders. <https://www.hipeac.net/roadshow/events/9/acm-europe-and-exdci-final-conference-2017>

About the ACM Europe Council

The **ACM Europe Council** (europe.acm.org) aims to increase the level and visibility of ACM activities across Europe. The Council is comprised of European computer scientists and practitioners who are committed to fostering the visibility and relevance of ACM in Europe, and is focused on a wide range of European ACM activities, from high-quality ACM conferences in Europe, to expanding ACM chapters, to encouraging greater participation of Europeans in all dimensions of ACM.

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.