

## HiPEAC18 provides the expertise needed to advance computing in the face of crisis

Contributed by: [Barcelona Supercomputing Center](#)

From 2018-01-22 to 2018-01-24, United Kingdom

- **Manchester is this year's setting for Europe's largest computing research conference, which takes place from 22-24 January**
- **As the world reels from the exposure of major chip-level security flaws, HiPEAC's community of experts is more essential than ever**
- **Three keynote talks, 27 workshops, eight tutorials and 33 papers over the three-day conference will cover everything from machine learning to secure critical real-time systems**



Ghent, 15 January 2018 –From 22-24 January in Manchester, the HiPEAC conference will once again bring together the best minds in computer architecture and compilation to exploit the enormous potential of new computing paradigms while minimizing the very real risks. At a time of global crisis in computing systems, with chip-level security flaws exposing the vulnerability of our ever-more connected society and the end of Moore's Law threatening to slow the progress brought about by faster, cheaper, more powerful processing, HiPEAC's network of experts will once again showcase their solutions for everything from machine learning to secure critical real-time systems.

'The HiPEAC conference is the flagship networking event of our 2000-strong community of computing experts,' says HiPEAC coordinator Koen de Bosschere of Ghent University. 'This year we are very happy to have two leading European companies (ARM for mobile computing and DeepMind for deep learning) as the main sponsors of the event. They are creating the key technological components of future smart devices,' he adds.

Keynote talks from Maria Girone (CERN openlab) on computing challenges at the Large Hadron Collider, Dileep Bhandarkar (Qualcomm Datacenter Technologies) on emerging data centre trends and Dan Belov (DeepMind) on machine learning will kick off each day.

Further highlights from the conference include:

- SAFURE's solutions for safety and security 'by construction' in interconnected, mixed-critical, cyber-physical systems, such as connected vehicles. During this session, SYSGO will present secure update concepts addressing fundamental safety requirements such as non-interference with respect to non-updated parts.
- Coordinated European research paving the way towards exascale computing.
- GoingArm workshop on applications for the low-power Arm platform, including insights into the brain-inspired SpiNNaker machine and hands-on Arm demonstrations.
- Innovative interconnect solutions at the AISTECS workshop, including the launch of prototype memory disaggregation for cloud services developed by IBM Research - Ireland, as described in this [blog post](#) and [video](#).
- The Heterogeneity Alliance, coordinated by the TANGO project, which aims to bring heterogeneous architecture in to mainstream markets.

Beyond academic excellence, the conference also facilitates the transformation of cutting-edge research results into market-ready innovations. As well as providing a hub for researchers, industry representatives and policy makers to exchange ideas, the conference features a specific TETRAMAX workshop on technology transfer. This follows the recent HiPEAC Tech Transfer Awards, which recognized ten projects where concrete research results have been made industrial practice.

HiPEAC18 will also once again feature HiPEAC's tailored recruitment support, including a travelling careers unit, which helps companies find candidates with the specialist skills to bring about the computing systems of the future. For the first time, the conference will also feature a STEM (Science, Technology, Engineering and Mathematics) Student Day, with the aim of preparing the next generation of computer scientists who will ensure Europe's enduring competitiveness.

With the Manchester 'Baby', the world's first stored-program computer, celebrating its 70th birthday this year, the northern city provides a particularly apt location for the conference, which is testament to the power of collaborative European research in the face of political uncertainty.

Once again, the biggest international names in technology, including Arm, DeepMind, Atos and Samsung, have shown their confidence in

View the programme on the HiPEAC18 website – note that you can filter sessions by smart application area and/or technology focus:

[hipeac.net/2018/manchester/schedule](http://hipeac.net/2018/manchester/schedule)

Social media hashtag: #HiPEAC18

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## Related information

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## Subjects

[Information Processing and Information Systems - Information and communication technology applications](#)

## Keywords

high-performance computing, embedded computing, compilation, computer architecture, security, low-power computing, energy-efficient computing, interconnect, storage

**Last updated on** 2018-01-16