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Feb. 7, 2018

Computing the future in Manchester at HiPEAC18

With over 530 participants from 35 countries, the thirteenth HiPEAC conference (https://www.hipeac.net/2018/manchester/) demonstrated the breadth and depth of expertise within the HiPEAC community once again. Taking place in Manchester on 22-24 January 2018, the conference included sessions on everything from machine learning to secure and safe real-time systems, from exascale computing to the latest cyber-physical innovations.

As HiPEAC18 John Goodacre (University of Manchester/Arm) noted, Manchester was a fitting location. 'Manchester has a long history of great inventions: the idea that a computer would run a program out of stored memory was done here, and the idea that it could run more than one application at the same time was demonstrated here. More recently, the SpiNNaker programme has been trying to simulate what a brain looks like with a million Arm processors.'

Keynote talks from Maria Girone (CERN openlab) (https://www.hipeac.net/events/activities/7556/computing-challenges-at-the-large-hadron-collider-lhc/), Dileep Bhandarkar (Qualcomm Datacenter Technologies) (https://www.hipeac.net/events/activities/7555/emerging-trends-in-the-datacenter/) and Daniel Belov (DeepMind) (https://www.hipeac.net/events/activities/7557/what-machine-learning-can-do-for-you-and-what-you-can-do-for-machine-learning/) gave insights into computing challenges at CERN's Large Hadron Collider, emerging trends in data centres and the fascinating world of machine learning.

Artificial intelligence was also a major theme in many of the workshops on offer, as Sandro D'Elia of the European Commission noted. 'This is a clear demonstration of the fact that this is a technology which is coming of age and which will change our lives in the future,' he commented. Sandro gave the HiPEAC community an overview of European research directions in digital technology (https://www.hipeac.net/events/activities/7581/what-is-european-union-doing-in-digital-tech/), as well as highlighting trends in cyber-physical systems (https://www.hipeac.net/events/activities/7560/cps-success-stories-workshop/).

Complementing the packed conference programme – comprising the ACM TACO (https://taco.acm.org/) paper track, 27 workshops and eight tutorials in addition to the keynote talks – the exhibition once again highlighted on university, project and industry-led research and innovations. Multinational companies including Arm, DeepMind, Atos and Samsung were joined by European small/medium enterprises (SMEs) in the industry exhibition, while many companies took advantage of the industrial session (https://www.hipeac.net/events/activities/7559/industrial-session/) to pitch their work.

In addition to exchanging ideas and finding new clients, many companies came to the conference to attract high-quality candidates. In this, they had support from HiPEAC's dedicated recruitment services at the HiPEAC mobile careers unit, featuring job offers from across Europe. For the first time, the conference also included a science, technology, engineering and mathematics (STEM) student day (https://www.hipeac.net/events/activities/7579/stem-student-day/), through which undergraduate students had the chance to learn about next-generation computing systems and find out what opportunities the HiPEAC community could offer them.

The success of the conference was in large part due to the generosity of HiPEAC's sponsors, who contributed a record amount to this year's event. The full list of sponsors is available on the HiPEAC18 website (https://www.hipeac.net/2018/manchester/sponsorship/).

Photos from the event can be viewed in the HiPEAC18 Google Photos album (https://photos.app.goo.gl/mKjR3XtfU7Vzkqe43).

Videos from the event, including full-length videos of the keynote talks, can be found on the HiPEAC YouTube channel (https://www.youtube.com/playlist?list=PLUU79oBORyMgITSVYVzlfB5-fmvWnw6k4).

About HiPEAC

Since 2004, the HiPEAC (High Performance and Embedded Architecture and Compilation) project has provided a hub for European researchers in computing systems; today, its network, the biggest of its kind in the world, numbers around 1,500 specialists. The project offers training, mobility support and dissemination and recruitment services, along with numerous networking facilities to its members. The latest incarnation of the project, HiPEAC 4, was launched on 1 January 2016 and is delivered by 12 partners, led by Ghent University. It is a Coordination and Support Action funded by the European Union's Horizon 2020 research and innovation programme under grant agreement no. 687698.

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The HiPEAC project has received funding from the European Union's Horizon2020 research and innovation programme under grant agreement number 687698.