

Conference Reports

Recap of DATE 2019 in Florence, Italy

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■ **THE DESIGN, AUTOMATION**, and Test in Europe (DATE) 2019 Conference and Exhibition attracted more than 1600 registrations from over 40 countries and concluded with excellent feedback from both participants and exhibitors. DATE combines the world's favorite electronic systems design and test conference with an international exhibition for electronic design, automation, and test from system-level hardware and software implementation right down to integrated circuit design. This year, the conference was held in Florence, Italy, for the first time. The 22nd edition of DATE took place at the Firenze Fiera from 25 to 29 March 2019.

On Monday, the DATE week started with five in-depth technical tutorials on the main topics of DATE as well as a hands-on industry tutorial given by leading experts in their respective fields. The topics covered Machine Learning for Manufacturing and Test, OpenCL Design Flows for FPGAs, Approximate Computing, Hardware-Based Security, and Safety and Security in Automotive, while the hands-on tutorial was on Quantum Computing with IBM Q and Qiskit.

During the Opening Ceremony on Tuesday, plenary keynote lectures were given by Astrid Elbe, managing director of Intel Labs Europe, and Jürgen Bortolazzi, director driver assistance systems and highly automated driving at Porsche. On the same day, the Executive Track offered a series of business panels with executive speakers from companies leading the design and automation industry, discussing hot topics. Furthermore,

a talk by Claudio Giorgione, curator of the Leonardo Department at the National Museum of Science and Technology Milano, gave insight into the life and work of Leonardo da Vinci in honor of the 500th anniversary of his death, which is celebrated in Florence in 2019.

The main conference program, held from Tuesday to Thursday, included 58 technical sessions organized in eight parallel tracks from the following four areas:

- **D**—Design Methods and Tools
- **A**—Application Design
- **T**—Test and Dependability
- **E**—Embedded and Cyber-Physical Systems

and from several special sessions on hot topics such as Emerging Design Technologies, Design and Test of Secure Systems, Internet of Things (IoT) Security, Embedded Systems for Deep Learning, Augmented Living and Personalized Healthcare, Robotics and Industry 4.0, as well as results and lessons learned from European projects. In addition, numerous interactive presentations were given during five IP sessions. The technical program was composed of 834 submitted papers with an acceptance rate of 24%.

Two special days in the program focused on areas bringing new challenges to the system design community, including Embedded Meets Hyper-scale and HPC and Model-Based Design of Intelligent Systems. Each of the special days has had a full program of panels, tutorials and technical presentations, and a lunchtime keynote.

On Wednesday, the keynote on the topic of heterogeneous, high-scale computing in the era

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of cloud-connected devices by David Pellerin, Amazon US, was the highlight of the special day on Embedded Meets Hyperscale and HPC. During the special day on Model-Based Design of Intelligent Systems on Thursday, Edward Lee from UC Berkeley took “A Fundamental Look at Models and Intelligence” in his keynote.

The conference was complemented by an international exhibition for electronic design, automation, and test, which ran for three days (Tuesday–Thursday) and included exhibition booths from companies and collaborative research initiatives as well as European Union project presentations. We want to thank all of our participating exhibitors and sponsors. The full list including company profiles can be reviewed online at <https://www.date-conference.com/exhibitors-sponsors>.

Furthermore, there was a full program on commercial and design-related topics in the Exhibition Theater, combining presentations by exhibiting companies, best-practice reports by industry leaders on their latest design projects, and selected confer-

ence special sessions. Two of the highlights have been the newly created Publisher’s Session and the career session Inspiring Futures, allowing companies to introduce their work and job portfolios.

One of the highlights of the DATE week was the DATE Party as one of the main networking opportunities. The party took place in the Palazzo Borghese, which is located in the heart of Florence and is a beautiful example of neoclassic architecture. Local delights, entertaining music, and a visit by Leonardo da Vinci made this evening a memorable event on its own!

On Friday, ten full-day workshops covered several hot topics from areas such as Open Source and Machine Learning in EDA; Emerging Techniques for Memories, Interconnections, and Quantum Computing; Hardware Design, Synthesis, and Approximate Computing; as well as EDA in application domains such as Autonomous Systems and IoT. Furthermore, an International F1/10 Autonomous Racing Demo took place, supported by the IEEE Council on Electronic Design Automation. This presentation of open-source, affordable, and high-performance





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1/10 scale autonomous vehicles was a particular highlight on the last day of DATE 2019.

In 2020, the DATE conference will take place in Grenoble, France, from 9 to 13 March, once again bringing together industry and research in

partnership. We are already looking forward to welcoming you at the next DATE conference! ■

■ Direct questions and comments about this article to Jürgen Teich; juergen.teich@fau.de.