

Guest Editors' Introduction: Highlights of the 50th DAC

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■ **DAC CONTINUES TO** play a unique role as an **information sharing forum**, where the wide range of its offerings allows DAC participants to learn, network and conduct business. In the past 50 years, DAC has been evolved from being an EDA conference to becoming more of a design ecosystem conference and extending into design methods, IP, foundries, design services, and Embedded Systems & Software (ESS). More than ever, the 50th DAC succeeded in pulling together all the above elements of **our ecosystem**.

The 50th DAC has been truly a “grand celebration.” Hundreds of technical paper presentations were included from one of the largest pools of submissions (over 740 manuscripts), of which the top 21% have been selected. The vibrant **exhibition** showcased over 175 companies, including the largest EDA vendors, IP providers, ESS suppliers and significant foundries in today’s industry serving as a convenient one-stop-shop for all the elements of the design ecosystem. The **Management Day** program allowed managers and their designers to hear experienced executives share their challenges and expertise in management, economics and design optimization. The **Designer Track** presentations were held on the exhibition floor. This track had been created specifically for chip, IP and ESS designers and covered case studies, best practices, methodology, and practical aspects of implementa-



tion, including over 20 presentations dedicated to chips **Designed-in-Texas**. In addition, the 50th DAC held information-packed **tutorials**, interactive **panels**, six focused **workshops**, an impressive constellation of six collocated conferences, and many other offerings. New for this DAC was the **SKY Talks**, an abbreviation for Short KeYnotes. The collection of SKY talks covered a wide variety of topics with broad appeal. DAC also had the new **Insight Talks** presented by its corporate sponsors.

In the past 50 years, DAC has helped globalize our industry and wants to continue doing so in the future. To help mark its golden jubilee, the conference included, beyond this enriched program, a variety of celebratory initiatives. On the first afternoon, attendees were invited to enjoy the opening ceremony of an intriguing **Global Forum** pavilion at the exhibition floor, which featured three dozens of interactive country presentations from all over the

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Guest Editors at awards ceremony.

globe. The mayor of Austin, Lee Leffingwell, assisted in the opening of Global Forum by delivering the opening remarks and ribbon cutting. The Advanced Technology Investment Corporation (ATIC) of United Arab Emirates sponsored this highly anticipated forum represented by Sami Issa. Throughout the three days of the conference, the dedicated country representatives at the Global Forum pavilion deliberated the research and development contributions of their corresponding countries, their future plans and the potential growth opportunities. On the same evening, the industry pooled its resources to hold a lively event at the renowned **Austin City Limits**, where all DAC attendees and exhibitors were invited.

On its last evening, the 50th DAC acknowledged at a unique **banquet and award ceremony** the key individuals, who made DAC throughout the last half-century, as authors, exhibitors, and volunteers. Among the author appreciation awards: DAC recognized the authors with publication streak of 12 or more years. The Longest Publication Streak award went to Alberto L. Sangiovanni-Vincentelli for publishing papers in 23 consecutive DACs (1985–2007). The award of Most DAC Papers Published in a Single Year went to David T.

Blauuw and Dennis Sylvester for publishing ten papers in DAC 2004. For receiving the largest number of DAC Best Paper Awards, as well as the author with the Most Citations from DAC publications in DAC's 50 years history, and the Most Prolific Author for publishing 74 DAC papers the winner was Alberto L. Sangiovanni-Vincentelli. Among the exhibitor appreciation awards, DAC recognized five exhibitors that have participated 25 or more years: Cadence Design Systems, Mentor Graphics, Springer, Synopsys, and Tanner EDA. Among several categories of volunteer recognition awards the DAC Leadership

award went to the General Chairs of 50 DACs the vast majority of whom were present at the awards ceremony. The DAC service award for outstanding conference management went to the staff of MPA. Last, the DAC Foundation Award went to Pat Pistilli, the founder of DAC.

In this **D&T Special Issue**, we feature a set of significant contributions from the 50th DAC, which are not documented in the formal DAC proceedings. They include highly anticipated keynote addresses, visionary talks, and invited papers. Our intent is to share them for the first time with the general public through this Special Issue of *IEEE Design & Test*.



50th DAC Global Forum Opening By Mayor Lee Leffingwell of Austin, TX.



Past General Chairs.

The **keynote addresses** have been one of the most valuable parts of DAC, leading to our decision to double them for the 50th anniversary. The keynote speakers focused on a spectrum of advances in our ecosystem. In this Special Issue, we will showcase three keynotes, the first from Dr. Stephen Woo of Samsung featuring the experiences of a top semiconductor producer; the second from Gregg Lowe of Freescale covering automotive electronics; and the third keynote from Alberto L. Sangiovanni-Vincentelli about the future of technology, the smart earth.

Another new feature of the 50th anniversary was the short **Visionary Talks** delivered by prominent executives from our EDA & IP community, which was held during the same plenary sessions as the keynotes. The top leaders of Cadence Design Systems, Jasper Design Automation, Mentor Graphics, and Synopsys delivered these visionary talks. Given their highly informative and inspirational significance, we share all four visionary talks with the readership of this Special Issue features.

Last, but not least, the 50th DAC program included a unique collection of **three invited papers**, each of which was 30 minutes, to provide

in-depth coverage of the **history of EDA**: the first 25 years, the second 25 years, and the future of EDA. We are delighted to include this unique set of three invited papers, by Joyner, Rutenbar, and Stok, in this Special Issue.

Beyond its first 50 years, DAC remains the premier event for networking, where professionals from all over the world converge to sharpen skills, exchange ideas, and do business. We would like to take this opportunity to recognize the enormous efforts of the hundreds of dedicated volunteers who make DAC possible by donating their time, expertise, and enthusiasm. Without their hard work and dedication, DAC would not be possible. We would also like to thank the *D&T* Editorial Board, staff, and particularly its Editor-in-Chief, André Ivanov, for allowing us to share the 50th DAC experience with its readership and the general public at-large. We hope you will enjoy reading the content of this unique Special Issue and find it informative. ■

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