



Special Interest Group on Design Automation ACM/SIGDA E-NEWSLETTER, Vol. 56, No. 7

SIGDA - The Resource for EDA Professionals

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Online archive: <https://www.sigda.org/newsletters/>

SIGDA News

1. [Cadence and Samsung Foundry enable 2nd gen 2nm](#)

Cadence and Samsung Foundry have developed a portfolio of Memory and Interface IP, and expanded certification of Cadence's agentic AI digital, custom, 3D-IC and system design and analysis (SDA) flows for Samsung Foundry's second-generation 2nm process.

2. [South Korea chip hub gets Samsung and SK Hynix backing](#)

Samsung Electronics and SK hynix are backing a new South Korea chip hub with a combined 800 trillion won investment plan aimed at expanding memory production for the AI infrastructure market.

3. [EU approves German €76m aid for quantum semiconductor test facility](#)

The European Commission has approved €76 million in German State aid for QuantumDiamonds GmbH to build what is expected to be the EU's first production facility for quantum sensor-based semiconductor testing equipment in Munich.

4. [Micron and Anthropic team up on AI memory infrastructure](#)

Micron Technology has signed a broad strategic agreement with AI developer Anthropic that aims to strengthen the memory and storage foundations behind next-generation artificial intelligence systems.

5. [Infineon claims first 8Tx8Rx radar transceiver for auto](#)

Infineon is sampling the RASIC CTRX8188F, an 8Tx8Rx radar transceiver for the automotive 4D and HD imaging radar market. The device is ready for production, engineered to support edge processing in combination with AURIX™ TC45 and is claimed to be the first MMIC in the market which enables centralised radar architectures.

6. [China wins No.1 supercomputer slot](#)

China's LineShine supercomputer has won the No. 1 spot on the latest Top 500 supercomputer ranking released this week. The Chinese supercomputer was able

Message from the EiC

Dear SIGDA members,

In this edition, we bring you the latest news and activities in our community, paper deadlines, upcoming conferences, an insightful article on What is Conformal Calibration, and job openings worldwide.

Please do not hesitate to write to us if you want to contribute articles and announcements or share your thoughts and feedback.

Sandeep Chandran,
Editor-in-Chief,
SIGDA e-Newsletter

to calculate 22% faster than the No. 2 contender, El Capitan at California's Lawrence Livermore National Laboratory.

7. [Vertical power delivery platform aims to ease AI infrastructure constraints](#)

Lotus Microsystems has launched a vertical power delivery platform designed to bring power conversion closer to processors while addressing thermal management within the same architecture.

8. [Intel unveils AI innovations from chip to rackscale systems at Computex](#)

At Computex 2026 in Taipei, Intel outlined a broad AI strategy spanning everything from processors to rackscale infrastructure, as the company looks to strengthen its position in the fast-growing inference and agentic AI market.

What is Conformal Calibration?

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Machine learning is now woven throughout the electronic design automation (EDA) flow [1], and the same is true in other engineering domains such as telecoms [2]. Yet machine learning models behave as black boxes: they are trained on a finite set of examples and then deployed on a new environment, e.g., on a new technology node. The prevailing recipe is best-effort: train, validate on a few held-out designs, deploy, and hope the next design resembles the training set. When it does not, a confidently wrong model output can miss its performance target without warning. This absence of guarantees is exactly what makes designers reluctant to cede control to machine learning.

Conformal calibration is a computationally lightweight framework that wraps around an existing black-box model and equips its outputs with formal statistical guarantees, without any retraining or fine-tuning. Building on conformal prediction, a framework introduced in the statistics community in the late 1990s for post-hoc calibration [3], it lets the designer fix a target reliability level and obtain guarantees that hold under a single, mild assumption: that the calibration data and the deployment data are exchangeable (for instance, drawn from the same population). Conformal calibration applies throughout the lifetime of a machine learning block [4].

Pre-deployment calibration. Rather than feed a single point prediction straight into a downstream optimizer, conformal prediction allows the conversion of that prediction into a set or interval guaranteed to contain the true value with a user-defined probability [3]. The optimizer then plans against the worst case over the predicted set, so the quality constraint provably holds at the chosen

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confidence. Many problems, however, are not of predict-then-optimize nature, but rather require a search over configurations. The learn-then-test framework casts the choice of such hyperparameters as a multiple-hypothesis-testing problem and returns only configurations with provable risk control [5,6].

Deployment-time calibration. A model calibrated on yesterday's designs may face a distribution shift on tomorrow's. Online conformal prediction monitors the realized performance and nudges the decision threshold after each observation through a simple update, tightening the threshold whenever the measured performance level does not meet the target [7,8]. This yields a deterministic, time-averaged guarantee that holds even for non-stationary or adversarially ordered sequences of designs, so reliability is maintained as the workload drifts across blocks, corners, or nodes.

In summary, conformal calibration supplies a single, lightweight statistical layer that turns black-box machine learning from a source of risk into a dependable component whose errors are bounded by design and whose deviations are detected and corrected over time.

References:

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- [2] O. Simeone, "A very brief introduction to machine learning with applications to communication systems." *IEEE Transactions on Cognitive Communications and Networking*. 2018 Nov 21;4(4):648-64.
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- [7] I. Gibbs and E. Candès. "Adaptive conformal inference under distribution shift." *Advances in Neural Information Processing Systems* 34 (2021): 1660–1672.
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SIGDA Partner Journal

[ACM Transactions on Design Automation of Electronic Systems \(TODAES\)](#)

features groundbreaking research and development in the specification, design, analysis, simulation, testing, and evaluation of electronic systems, with a focus on computer science and engineering. The journal's impact factor increased to 2.2 in 2023, more than doubling its value from 2020. Additionally, each issue highlights a notable contribution as the Editor's Pick for special recognition.

Paper Deadlines

VLSID'27 – International Conference on VLSI Design & International Conference on Embedded Systems

Bengaluru, India

Deadline: July 27, 2026

Jan. 2-6, 2027

<https://vlsid.org/>

ASP-DAC'27 - Asia and South Pacific Design Automation Conference

Tokyo, Japan

Abstracts due: July 3, 2026

Deadline: July 10, 2026

Jan. 25-28, 2027

<http://www.aspdac.com>

ISSCC'27 – IEEE Int'l Solid-State Circuits Conference

San Francisco, CA

Deadline: Sept. 9, 2026

Feb. 14-18, 2027

<http://isscc.org>

TODAES also recognizes papers and outstanding junior researchers through the [best paper](#) and [rookie of the year](#) awards. Authors can send their paper submissions to the [manuscript portal](#).

TODAES welcomes special issue proposals from leading researchers and practitioners. Such proposals should be emailed to Prabhat Mishra, Senior Associate Editor, at prabhat@ufl.edu

Call for [Special Issue on Advances in Physical Design Automation](#)
Submission Deadline: EXTENDED to July 22, 2026

For questions and further information, please contact the guest editors at:

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Call for [Special Issue on Open, Reliable, and Generalizable Datasets for AI in EDA](#)

Submission Deadline: August 31, 2026

For questions and further information, please contact the guest editors:

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SIGDA Vision 2030

ACM SIGDA is launching SIGDA Vision 2030, a community-driven initiative to identify key challenges and define strategic priorities for the Design Automation field.

You can contribute by completing a short survey (5-10 minutes): <https://bit.ly/SIGDA-Vision-2030-Survey>

The input collected will be discussed in upcoming interactive sessions at major conferences (including DATE, DAC, and ICCAD) and will contribute to a strategic report outlining priorities and concrete actions for the coming years. Your input is extremely valuable in shaping the future of the community.

Technical Activities

1. [IBM Shows Sub-1-nm Chips, Targeting Production in 5 Years](#)

IBM announced the world's first sub-1-nm (0.7-nm) chip manufacturing technology, with initial production expected from IBM partners in five years...

2. [Startup Ricursive to Create an End-to-End AI Model for Chip Design](#)

Startup Ricursive, founded by the two leads from Google's famous AlphaChip project, aims to develop an end-to-end AI model for chip design. The new AI

Upcoming Conferences

ICECET'26 - IEEE International Conference on Electrical, Computer and Energy Technologies

Rome, Italy
July 6-9, 2026
www.icecet.com

ISVLSI'26 - IEEE Computer Society Annual Symposium on VLSI

Kolkata, India
July 7-10, 2026
<http://www.ieee-isvlsi.org>

DAC'26 - Design Automation Conference

Long Beach, CA, USA
July 26-29, 2026
<http://www.dac.com/>

ICLAD'26 - IEEE International Conference on LLM-Aided Design

Stanford, CA, USA
July 30-31, 2026
<https://iclad.ai/>

ISLPED'26 - ACM/IEEE Int'l Symposium on Low Power Electronics and Design

Chicago, IL, USA
Aug. 5-7, 2026
<http://www.islped.org>

MLCAD'26 - ACM/IEEE International Symposium on Machine Learning for CAD

Jeju Island, Korea
Sep. 7-9, 2026
<https://mlcad.org/symposium/>

VLSI-SoC'26 - IFIP/IEEE Int'l Conference on Very Large Scale Integration

Limassol, Cyprus
Oct. 11-14, 2026
<http://www.vlsi-soc.com>

frontier lab is focused on hardware workload co-optimization, with the first stages of its rollout targeting workload-specific chip design for third parties...

3. [AI's Real Bottleneck Is Architecture](#)

Speaking in an exclusive interview with EE Times ahead of Leti Innovation Days 2026 in Grenoble, CEA-Leti CEO Sébastien Dauvé argued that while the next phase of AI will be constrained by energy availability, the first challenge is how to integrate memory, photonics, communications, and sensing into increasingly complex systems...

4. [The Rise of Autonomous Drone Warfare](#)

Cheap, autonomous drones developed in Ukraine are driving a new era of drone-on-drone warfare...

Job Positions

University of Colorado Boulder, US

Job Title: Assistant Professor of Computer Science

Description: The Institute of Cognitive Science (ICS) at the University of Colorado Boulder invites applications for a tenure-track Assistant Professor position in the area of AI and the Mind, with an anticipated start date of Fall 2027. Highly qualified candidates who have been recently promoted to Associate Professor level may also be considered. We seek applicants advancing research at the intersection of artificial intelligence, broadly construed, and human cognition. Candidates may bridge artificial and natural intelligence through modeling, experimentation, or theory; candidates pursuing interdisciplinary and innovative approaches are encouraged to apply. The ideal candidate will have an outstanding track record of research, as evidenced by a notable publication history and a demonstrated record of seeking and securing funding as a Principal Investigator, as appropriate to their current academic rank. For more information, please refer to <https://facultyvacancies.com/assistant-professor-of-computer-science.i45992.html>.

University of the South Pacific, Fiji

Job Title: Professor in Electrical and Electronics Engineering

Description: STEMP is one of the largest schools in the University of the South Pacific and is resourced to pursue excellence in teaching and research. The school offers several Undergraduate programs, including two Professional programmes in ICT (Bachelor of Networks & Security and Bachelor of Software Engineering) accredited by the Australian Computer Society, two Engineering programmes (Bachelor of Electrical and Electronics Engineering and Bachelor of Mechanical Engineering) accredited by Engineering New Zealand, Civil Engineering, Physics, Computer Science, Information Systems and Mathematics. The School also offers Postgraduate programmes in Information Technology, Cybersecurity, Mathematics, and Physics, as well as Master's and PhD

MICRO'26 – IEEE/ACM Int'l Symposium on Microarchitecture
Athens, Greece

Oct. 31 - Nov. 4, 2026

<http://www.microarch.org/micro59>

ICCAD'26 – IEEE/ACM Int'l Conference on Computer-Aided Design

San Jose, CA, USA

Nov 8-12, 2026

<https://iccad.com/>

ICCD'26 – IEEE Int'l Conference on Computer Design

Hong Kong, China

Nov. 16-18, 2026

<http://www.iccd-conf.com>

FPT'26 – Int'l Conference on Field-Programmable Technology

Honolulu, Hawaii, USA

Dec. 7-10, 2026

<http://icfpt.org>

iSES'26 – IEEE Int'l Symposium on Smart Electronic Systems

Goa, India

Dec. 15-17, 2026

<http://www.ieee-is-es.org>

programmes across all its disciplines. The school is now considering interested staff who can join the dynamic team and take the school forward, with particular attention to new and expanding fields in Science and Technology, and a focus on the Pacific. The school is now searching for a Professor in Electrical & Electronics Engineering. The incumbent will take a leadership role in further strengthening of the core offerings in the school including the maintenance of accreditations of the EE programmes. The incumbent will also lead the design and development of the curriculum, teaching undergraduate and postgraduate courses both on campus and through the flexible modes of delivery, conduct and lead research in relevant areas and contribute to the University's research directions. For more information, please refer to <https://professorpositions.com/professor-in-electrical-and-electronics-engineering.i45923.html>.

Ghent University, Belgium

Job Title: Postdoctoral Fellow in Computer Science

Description: This PhD research aims to investigate beyond state-of-the-art technology enablers for the next-generation cellular paradigm, called 6G. The main focus will be on Radio Access Network (RAN) optimization mechanisms within the Open-RAN (O-RAN) framework to meet strict and diverse requirements of emerging use cases in the 6G era. Specifically, this position addresses intelligent radio resource management (RRM) as a key mechanism for maintaining resilient connectivity under adversarial and disrupted conditions. The research will investigate agentic AI and reinforcement learning-based control for adaptive spectrum usage, power control, scheduling, and multi-RAT coordination (integrating 5G/6G Terrestrial/Non-Terrestrial networks and Wi-Fi). The focus is on developing decentralized, proactive, and self-healing RRM strategies that enable wireless systems to autonomously sustain performance and service continuity in the presence of active jamming, complex interference, partial infrastructure failures, and severe spectrum scarcity, without relying on static configurations or centralized control. The candidate will validate and evaluate the developed mechanisms utilizing simulation tools and in-house cutting-edge cellular/Wi-Fi testbeds. For more information, please refer to <https://facultyvacancies.com/postdoctoral-fellow-in-computer-science.i45915.html>.

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