Special Interest Group on Design Automation
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**SIGDA - The Resource for EDA Professionals**

This newsletter is a free service for current SIGDA members and is added automatically with a new SIGDA membership.

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

# SIGDA News

1. **US Outlines AI Sovereignty Initiative at India AI Impact Summit**
The US has used the India AI Impact Summit 2026 in New Delhi to push a partner-centric approach to national control over AI systems, while explicitly promoting US "stack" exports as the fastest route to deployment.

2. **NVIDIA Vera Rubin GPU Samples Ship to Customers ahead of 2026 Ramp**
NVIDIA says it has shipped first customer samples of its next-generation Vera Rubin platform, a milestone that typically signals that key performance and power targets have been frozen and that partners can begin qualification work ahead of volume availability.

3. **Meta Scales AI Data Centers with NVIDIA**
Meta is doubling down on its AI infrastructure with a broad, multiyear partnership with NVIDIA that spans CPUs, GPUs, networking and security technologies.

4. **AMD and Meta Deepen AI Partnership with 6GW GPU Roadmap**
AMD and Meta have expanded their strategic partnership with a multi-year agreement to deploy up to 6 gigawatts of AMD Instinct GPUs for Meta's next-generation AI infrastructure.

5. **Capgemini Partners with OpenAI to Scale Enterprise AI Agents**
Capgemini has entered a strategic partnership with OpenAI to help enterprises move from AI experimentation to real, scalable business impact. The collaboration centers on Frontier, OpenAI's new platform for building and managing AI "coworkers" that can operate across the enterprise.

6. **AI sensor Boom to Drive $85.6B MEMS Packaging Market by 2030**
The global MEMS packaging market is on track for sharp growth this decade, as demand for sensors continues to expand across consumer, automotive, industrial, and medical electronics. According to a new report from Valuates, the market is expected to rise from $48.08bn in 2024 to $85.64 billion by 2030.

# Message from the EiC

Dear SIGDA members,

In this edition, we bring you the latest news and activities in our community, upcoming conferences, paper deadlines, an insightful article on What are AI Compilers, 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

7. **Wireless EV charging market forecast to hit $12.4 billion by 2033**
According to the report from Allied Market Research, the global wireless electric vehicle charging market was valued at $466 million in 2023 and is forecast to reach $12.4 billion by 2033. The report estimates this expansion will occur at a CAGR of 38.6% from 2024 to 2033

8. **Semiconductor Sales Set New Record as Logic and Memory Lead Growth**
Global semiconductor sales surged to a new high in 2025, underscoring the scale and speed of the industry's rebound. According to the European Semiconductors Industry Association (ESIA), worldwide chip sales reached US$ 791.69 billion for the year, marking a 26.1% increase compared to 2024.

# What are AI Compilers?

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**AI Compilers – The Not-So-Hidden Success Factor of AI Chips**

Generative AI—most notably image and text generation powered by large language models—has dramatically accelerated the adoption of AI across society. At the same time, a quieter revolution is unfolding in the embedded domain: Edge AI and tinyML workflows now make it possible to deploy machine-learning models directly at the point of data generation—close to sensors—unlocking major benefits in autonomy, data privacy, latency, and cost. This shift enables a wide range of applications, from automotive vision systems for autonomous driving and anomaly detection in industrial processes to smart wearables for human activity recognition. Each of these use cases comes with highly specific requirements, both at the application level and in terms of the underlying hardware platform.

To meet these diverse needs, a broad spectrum of edge platforms has emerged, ranging from microcontroller units (MCUs) to single-board computers, industrial PCs, and centralized compute units. AI acceleration is provided either through integrated GPU-like devices or dedicated Neural Processing Units (NPUs). These NPUs themselves span a wide design space, including digital systolic arrays, coarse-grained reconfigurable arrays (CGRAs), as well as analog and neuromorphic architectures [1].

Despite this hardware diversity, machine-learning practitioners typically develop models using high-level, Python-based frameworks such as PyTorch or TensorFlow, often with limited awareness of the target hardware. This is where **ML compilers** become essential. These toolchains bridge the gap between abstract model descriptions and efficient execution on real devices by importing trained models and generating optimized runtime code for inference. Along the way, they may perform hardware-aware neural architecture search, quantization and pruning, operator tiling, fusion, and low-level tuning. AI compiler frameworks such as TVM, TensorFlow Lite, and IREE provide suitable intermediate representations for these transformations, as well as runtime environments that enable rapid deployment.

# SIGDA E-News Editorial Board

In recent years, AI compiler methodologies have advanced significantly. Works such as [2,3] allow fast estimation of inference latency across different hardware platforms, avoiding costly deployment and measurement cycles. Distributed inference techniques make it possible to partition deep-learning models across multiple devices [4]. Furthermore, the tight coupling of hardware-aware neural architecture search, operator mapping, and architectural exploration enables ML/SW/HW co-design approaches [5] or for in-memory computing architectures [6].

Yet the field remains under constant pressure. The rapid evolution of deep-learning models continuously challenges hardware platforms and compiler stacks to keep pace. The ability to provide timely support for emerging model architectures and new hardware generations may ultimately determine the success of an AI platform. As a result, accelerating the integration of novel models on the software side and new hardware capabilities on the system side remains a central driver of ongoing research in the AI compiler field.

**References:**


[1] W. -L. Chen, F. -Y. Gu, I. -C. Lin, G. L. Zhang, B. Li and U. Schlichtmann, "A Novel and Efficient Block-Based Programming for ReRAM-Based Neuromorphic Computing," 2023 IEEE/ACM International Conference on Computer Aided Design (ICCAD), San Francisco, CA, USA, 2023, pp. 1-9, doi: 10.1109/ICCAD57390.2023.10323793.

[2] M. Wess, M. Ivanov, C. Unger, A. Nookala, A. Wendt and A. Jantsch, "ANNETTE: Accurate Neural Network Execution Time Estimation With Stacked Models," in IEEE Access, vol. 9, pp. 3545-3556, 2021, doi: 10.1109/ACCESS.2020.3047259

[3] A. Parashar et al., "Timeloop: A Systematic Approach to DNN Accelerator Evaluation," 2019 IEEE International Symposium on Performance Analysis of Systems and Software (ISPASS), Madison, WI, USA, 2019, pp. 304-315, doi: 10.1109/ISPASS.2019.00042

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[6] H. Farzaneh et. al.: “C4CAM: A Compiler for CAM-based In-memory Accelerators.” Proceedings of the 29th ACM International Conference on Architectural Support for Programming Languages and Operating Systems, (ASPLOS '24), Vol. 3.


# 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.

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.

# Paper Deadlines

**ICLAD'26 - IEEE International Conference on LLM-Aided Design**
Standford, CA, USA
Abstracts due: Mar. 2, 2026
Deadline: Mar 9, 2026
July 30-31, 2026
https://iclad.ai/

**ISLPED’26 – ACM/IEEE Int’l Symposium on Low Power Electronics and Design**
Chicago, IL, USA
Abstracts due: Mar. 2, 2026
Deadline: Mar. 9, 2026
Aug. 5-7, 2026
http://www.islped.org

**ESWEEK – ACM/IEEE Embedded Systems Week**
Barcelona, Spain
Abstracts due: Mar. 20, 2026
Deadline: Mar. 27, 2026
Oct. 4-9, 2026
https://esweek.org/

**IWLS'26 - International Workshop on Logic & Synthesis**
Hong Kong, China
Abstracts due: Mar. 20, 2026
Deadline: Mar. 27, 2026
May 29-31, 2026
https://www.iwls.org

**MICRO’26 – IEEE/ACM Int'l Symposium on Microarchitecture**
Athens, Greece
Abstracts due: Mar. 31, 2026
Deadline: Apr. 7, 2026
Oct. 31 - Nov. 4, 2026
http://www.microarch.org/micro59

**VLSI-SoC’26 – IFIP/IEEE Int’l Conference on Very Large Scale Integration**
Limassol, Cyprus
Abstracts due: Apr. 20, 2026

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

## ACM/SIGDA Pioneering Achievement Award

The ACM/SIGDA Pioneering Achievement Award honors an individual for lifetime, outstanding contributions within the scope of electronic design automation. These contributions may be evidenced by pioneering ideas introduced through publications, industrial products, or other significant achievements. The award recognizes the enduring impact of the nominee's contributions over the course of their career.

**Eligibility**

The award is open to researchers in the field of electronic design automation who have made outstanding lifetime contributions to the field. Current members of the ACM SIGDA Executive Committee or members of the Award Selection Committee are not eligible for the award. The awardee is typically invited to present a lecture at ICCAD.

**Award Items**

The award consists of a plaque, a citation, and a USD 1,000 honorarium. The honorarium is funded by the SIGDA annual budget.

**Nominee Solicitation**

The call for nominations is typically announced via email to SIGDA members, posted on the ACM SIGDA website, and advertised in the SIGDA newsletter. Nominations must be submitted by someone other than the nominee.

A complete nomination package should include the following:

- A nomination letter containing:
  - A concise 100-word summary describing the nominee's contributions and their overall impact
  - A detailed description of up to ten major products, such as papers, patents, or software, explaining the contributions embodied in these works and their impact
  - A list of up to ten citations corresponding to the major products discussed
- Up to three letters of recommendation, excluding letters from the nominator or the nominee
- Contact information for the nominator
- Biographical information for the nominee, including education and employment history, professional activities, publications, and prior recognition
- Up to three additional endorsements attesting to the impact of the nominee's work

All standard conflict-of-interest regulations as defined by ACM policy apply. Members of the Award Selection Committee will recuse themselves from consideration of any nomination where a conflict of interest exists.

The submission deadline for the 2026 ACM/SIGDA Pioneering Achievement is the **10th April 2026**. Please email the nomination to sigda.awards@acm.org.

Deadline: Apr. 27, 2026
Oct. 11-14, 2026
http://www.vlsi-soc.com

**MLCAD'26 - ACM/IEEE International Symposium on Machine Learning for CAD**
Jeju Island, Korea
Abstracts due: May 16, 2026
Deadline: May 23, 2026
Sep. 7-9, 2026
https://mlcad.org/symposium/

**Selection and Basis for Judging**

This award honors an individual who has made outstanding technical contributions within the scope of electronic design automation over the course of their lifetime. Selection is based on the breadth, depth, and sustained impact of the nominee's contributions. Nominees from academia, industry, and government worldwide are eligible and encouraged.

This is not a best-paper or single-contribution award. Rather, it recognizes lifetime achievement and long-term influence on the EDA field.

**Presentation**

The ACM/SIGDA Pioneering Achievement Award is presented annually at the Design Automation Conference (DAC) and is also recognized at the SIGDA Annual Member Meeting and Dinner at ICCAD.

## ACM Outstanding Ph.D. Dissertation Award in Electronic Design Automation (OPDA)

Design automation has gained widespread acceptance within the VLSI circuits and systems design community. Continued advances in computer-aided design methodologies, algorithms, and tools are essential to addressing rapidly increasing design complexity, rising performance and energy-efficiency demands, and ever-shorter time-to-market requirements.

To encourage innovative and ground-breaking research in electronic design automation, SIGDA established an annual award recognizing an outstanding Ph.D. dissertation that makes the most substantial contribution to the theory and or application of electronic design automation.

The award consists of a plaque and a USD 1,000 honorarium. The recipient is selected by a committee of experts from academia and industry, appointed by ACM in consultation with the SIGDA Chair.

**Eligibility and Nomination Requirements**

For the 2026 award cycle, the nominated dissertation must have been completed and dated between 1 July 2024 and 31 December 2025.

Each nomination package must include the following materials:

- A PDF copy of the Ph.D. dissertation, written in English
- A statement of up to two pages from the nominee describing the significance, originality, and major contributions of the dissertation
- A nomination letter endorsing the application, submitted by the nominee's advisor, department chair, or dean of the school
- Up to three optional letters of recommendation from experts in the field

The submission deadline for the 2026 ACM Outstanding Ph.D. Dissertation Award in Electronic Design Automation will be the **30th April 2026**. Please email the nomination to sigda.awards@acm.org.

**2025 Award Committee**

Ismail Bustany (AMD), Mustafa Badaroglu (Qualcomm), Jintong Hu (University of Pittsburgh), Sharad Malik (Princeton University), Mark Ren (NVIDIA), Aviral Shrivastava

# Upcoming Conferences

**ISPD'26 – ACM Int'l Symposium on Physical Design**
Bonn, Germany
Mar 15-18, 2026
http://www.ispd.cc/

**ISQED'26 - Int'l Symposium on Quality Electronic Design**
San Francisco, CA, USA
Apr. 8-10, 2026
http://www.isqed.org

**DATE'26 - Design Automation and Test in Europe**
Verona, Italy
Apr. 20-22, 2026
http://www.date-conference.com

**HOST'26 – IEEE Int'l Symposium on Hardware-Oriented Security and Trust**
Washington DC, USA
May 4-7, 2026
http://www.hostsymposium.org

**FCCM' 26 - IEEE International Symposium On Field-Programmable Custom Computing Machines**
Atlanta, GA, USA
May 13-16, 2026
https://www.fccm.org/

**MDTS'26 – IEEE Microelectronics Design & Test Symposium**
Albany, NY, USA
May 18-20, 2026
http://natw.ieee.org

**RTAS'26 - IEEE Real-Time and Embedded Technology and Applications Symposium**
Saint Malo, France
May 12-14, 2026
http://2026.rtas.org

(Arizona State University), Linghao Song (Yale University), Peh Li Shiuan (National University of Singapore), Natarajan Viswanathan (Cadence), Robert Wille (Technical University of Munich).

All standard conflict-of-interest regulations as stated in ACM policy apply.

## ACM SIGDA Outstanding New Faculty Award (ONFA)

The ACM SIGDA Outstanding New Faculty Award (ONFA) recognizes a junior faculty member early in their academic career who demonstrates outstanding potential as an educator and or researcher in the field of electronic design automation. While prior teaching and research accomplishments are important, the selection committee places particular emphasis on the impact achieved during the initial years of the candidate's academic appointment, both within their department and in the broader EDA community.

The award consists of a USD 1,000 cash prize, along with a plaque and a citation.

**Eligibility**

Outstanding new faculty developing academic careers in areas related to electronic design automation are encouraged to apply. This award is not intended for senior or highly experienced investigators who have already established independent research careers, even if they are new to academia.

Eligible candidates must have completed at least one full academic year and no more than four and a half full academic years in a tenure-track position. Applications will also be considered from individuals in continuing (non-visiting) academic positions with substantial educational responsibilities, regardless of whether they are tenure track. Individuals holding research-only positions are not eligible.

Exceptions to the timing requirements may be made for candidates who have interrupted their academic careers for substantive reasons, such as family or medical leave. The presence of such reasons must be attested by the sponsoring institution; no further explanation is required.

**Application Requirements**

Applicants must submit the following materials to the selection committee:

- A two-page statement summarizing the candidate's teaching and research accomplishments since beginning their current academic position, along with plans for further development over the next five years
- A current curriculum vitae
- A letter of endorsement from the candidate's department chair or dean

The submission deadline for the 2026 ACM SIGDA Outstanding New Faculty Award is the **30th April 2026**. Please email the nomination to sigda.awards@acm.org.

**2025 Award Committee**

Ron Duncan (Synopsys), Tsung-Yi Ho (The Chinese University of Hong Kong), Ambar Sarkar (NVIDIA), Chengmo Yang (University of Delaware), Dirk Ziegenbein (Bosch).

All standard conflict-of-interest regulations as stated in ACM policy apply. Any award committee member will recuse themselves from consideration of any candidate where a conflict of interest exists.

**ISCAS'26 – IEEE Int'l Symposium on Circuits and Systems**
Shanghai, China
May 24-27, 2026
https://2026.ieee-iscas.org/

**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/

# Technical Activities

1. **Cadence Unveils ChipStack AI Agent for Agentic Chip Design and Verification**

Cadence Design Systems claims an industry first in AI-driven front-end silicon design and verification with the announcement of its ChipStack AI Super Agent. The agentic workflow promises up to a 10× productivity gain, completing in minutes digital design and verification tasks that typically take human engineers several hours…

2. **Physical AI: Fueling the Next Wave of Semiconductor Growth**

There is a tremendous push to process data at edge nodes rather than in the cloud to reduce latency and improve privacy, reliability, and overall cost. The number of platforms at the edge is growing rapidly to accommodate these workloads. In the physical AI domain, the automotive and robotics segments are fueling this growth due to the need for real-time decision-making while keeping compute costs low. Silicon providers are reshaping their product roadmaps to design chips capable of addressing such requirements…

3. **Building the Autonomous Edge with Agentic AI**

AI will no longer simply be confined to server racks far from the action. Instead, it will be complemented by edge AI, which will step into the physical world and inhabit the machines and devices that surround us daily. This shift marks the emergence of the autonomous edge: where AI not only senses but acts in the physical world – independently, in real time, locally, and in ways that mirror human judgment…

4. **AMD Accelerates Shift-Left SDV Development with Microsoft, Siemens**

The rise of software-defined vehicles (SDVs) is accelerating automotive innovation. To keep pace, automotive developers are adopting a shift-left approach that enables software validation and testing earlier in the design cycle…

# Job Positions

## University of California San Diego, USA

**Job Title:** Postdoc in LLM/AI-Based Optimization for Design Automation

**Description:** The Center for Machine Intelligence, Computing, and Security (MICS) at UC San Diego, under the direction of Prof. Farinaz Koushanfar, is seeking a Postdoctoral Researcher to pioneer methods at the intersection of Large Language Models (LLMs), Graph Neural Networks (GNNs), and design automation. This role will focus on developing novel AI architectures—including small/medium-sized LLMs, GNNs, GraphRAG, and Mixture of Experts—to advance AI-assisted synthesis, verification, and debugging. You will conduct impactful research, publish at top ML/AI and EDA venues, and help build the next generation of intelligent, trustworthy hardware design systems.

We are looking for a recent PhD with a strong background in modern ML, including hands-on experience with LLMs (fine-tuning/prompting), GNNs, RAG, or MoE architectures, along with proficiency in Python/PyTorch. A passion for applying AI to

structured, real-world problems is essential; familiarity with hardware design (RTL, verification) is a plus but not required. The position offers a competitive salary, access to state-of-the-art GPU/EDA resources, and a collaborative research environment within UCSD MICS. Interested candidates are encouraged to apply via the link below or send a direct message. https://forms.gle/E5SBpQuPA8ZPHxri6

## IQS School of Engineering, Spain

**Job Title:** Associate Professor in Electrical Engineering

**Description:** Associate Professor to join the Department of Industrial Engineering for teaching and developing research activities as well as other academic duties. Main job functions include: Teaching in the Electrical Engineering area of knowledge in the Master of Industrial Engineering, Bachelor Degree in Industrial Engineering and other related areas/degrees. Developing research in the priority topics included in IQS and Ramon Llull University scientific policy, especially in Electrical Engineering, integrating and coordinating with research activities of the Department of Industrial Engineering. Actively engaged in securing competitive research funding, establishing and participating in projects of technology transfer, and establishing internal collaborative research programs with other professors and researchers at IQS. Establishing and fostering international research collaborations. For more information, please refer to https://facultyvacancies.com/research-associate-in-computer-science,i44525.html.

## University of St.Gallen, Switzerland

**Job Title:** Senior Lecturer in Computer Science

**Description:** We are looking for a team-oriented and committed personality whose research activities offer links to other research groups at the School of Computer Science, as well as to institutes and schools across research fields represented at the University of St. Gallen. It is expected that the successful candidate will become an active member of the faculty and bring sufficient academic maturity and independence. Ideally, they already have experience collaborating with company partners and in acquiring external funding from private entities or public funding bodies. The School of Computer Science currently hosts almost 100 academic and administrative employees from diverse backgrounds and has been committed to increasing diversity across dimensions since its inception. We are strongly committed to promoting equal opportunities and specifically encourage women and applicants from backgrounds underrepresented among our current faculty to apply. Candidates should submit their application, including a cover letter, curriculum vitae, teaching portfolio, research statement, publication list, and the names of three individuals who could be contacted to provide references, in electronic form to the President of the University of St. Gallen, Prof. Dr. Manuel Ammann (online via unisg.ch/professorships).

## Stockholm University, Sweden

**Job Title:** PhD Student in Computer Sciences

**Description:** This project will focus on advanced data mining and machine learning methods for extracting insights from large-scale, complex, and often heterogeneous

multimodal data, with a particular emphasis on temporal and time-dependent data. The research will investigate how meaningful patterns and predictive signals can be identified from data that evolve over time, such as longitudinal, behavioral, interaction, or event-based data, particularly in critical domains such as healthcare. The project will build on ongoing research in machine learning for structured, semi-structured, and unstructured data, as well as on methodological aspects of interpretable and trustworthy data science. The project is expected to combine solid methodological foundations with empirical evaluation on real-world datasets, and to contribute to both scientific understanding and practical relevance. For more information, please refer to https://facultyvacancies.com/phd-student-in-computer-sciences,i44916.html.

## Notice to authors