



# COOL Chips 27

## CALL FOR PARTICIPATION

COOL Chips is an International Symposium initiated in 1998 to present advancement of low-power and high-speed chips and systems. The symposium covers leading-edge technologies in all areas of microprocessors and their applications. The COOL Chips 27 is to be held on April 17-19, 2024, and is targeted at the architecture, design and implementation of chips with special emphasis on the areas listed below.

- Low Power-High Performance Processors and Systems for AI, IoT, Multimedia, Digital Consumer Electronics, Mobile, Graphics, Encryption, Robotics, Automotive, Networking, Medical, Healthcare, and Biometrics.
- Novel Architectures and Schemes for Single Core, Multi-Core, Embedded Systems, Reconfigurable Computing, Grid, Ubiquitous, Dependable Computing, GALS and Wireless.
- Cool Software including - Parallel Schedulers, Embedded Real-time Operating System, Binary Translations, Compiler Issues and Low Power Application Techniques.

### Dates and Location

**April 17 (Wed) – 19 (Fri), 2024**

**Takeda Hall, The University of Tokyo, Bunkyo-ku, Tokyo, Japan**

### Keynote Presentations

- "Accelerating AI with Analog In-Memory-Computing",  
*Stefano Ambrogio (IBM Research)*
- "Optical Neural Networks With In-Memory Computation and Tensor Decomposition",  
*Stanley Cheung (Hewlett Packard Enterprise)*
- "Processing-in-Memory: from Technology to Products",  
*Kyomin Sohn (Samsung Electronics)*
- "Intel Foundry Advanced Packaging: enabling low-power client through AI and HPC",  
*Patrick Stover (Intel)*
- "Hot AI by COOL SoCs",  
*Hoi-Jun Yoo (KAIST)*

### Panel Discussion

- Topics: "Exploring the Potential, Limits, and Challenges of PiM (Processing-in-Memory) and CiM (Computation-in-Memory)",  
Moderator: *Yasuhiko Nakashima (NAIST)*  
Panelists: *Stefano Ambrogio (IBM Research)*,  
*Yu-Guang Chen (Nat'l Central Univ.)*,  
*Kyomin Sohn (Samsung Electronics)*,  
*Hoi-Jun Yoo (KAIST)*

### Special Sessions (invited lectures)

- "Navigating Aging Realities: Integrating Reliability into Cutting-Edge Computing Systems",  
*Andy Yu-Guang Chen (Nat'l Central Univ. Taiwan)*
- "Radiation-hardened circuit design for space application",  
*SinNyoung Kim (IMEC)*

(in alphabetical order)

For detailed and up-to-date information, please visit  
< <https://www.coolchips.org/> >

### Symposium Registration

In order to make a registration, please visit COOL Chips 27 web site: < <https://www.coolchips.org/> >

#### == REGISTRATION FEES ==

Registration Fees include a copy of the proceedings (copies of speakers' slides) of all plenary and technical sessions and special sessions presented on April 17-19, 2024.

(including tax)	Early Registration by April 5, 2024	Late Registration from April 6, 2024
Member of any of IEEE, IEICE or IPSJ	44,000 yen	55,000 yen
Student (Member)	15,000 yen *1	19,000 yen *1
Life/Retired (Member)	15,000 yen	19,000 yen
Non-Member	55,000 yen	70,000 yen
Student (Non-Member)	19,000 yen *1	23,000 yen *1

\*1 Non-author students are FREE (0 yen)

#### == PAYMENT ==

Only credit cards via Whova Registration-site

Note: Credit card charges will be billed in Yen.

#### == PARTICIPATION ==

Participation information will be provided severally by email from COOL Chips 27 no later than April 16.

#### == CONTACT to ==

Organizing Committee Secretaries

E-mail: [cool\\_27@coolchips.org](mailto:cool_27@coolchips.org)

<https://www.coolchips.org/>

Sponsored by the Technical Committees on  
Microprocessors and Microcomputers and Computer  
Architecture of the IEEE Computer Society.  
In cooperation with the IEICE Electronics Society  
and IPSJ.



(As of March 21, 2024)