

<https://heart2022.lila.cs.tsukuba.ac.jp>

June 9-10, 2022

HEART 2022 (Tsukuba, Japan)

12th International Symposium on
Highly Efficient Accelerators and Reconfigurable Technologies



Overview

The International Symposium on Highly Efficient Accelerators and Reconfigurable Technologies (HEART) is a forum to present and discuss new research on computing systems utilizing acceleration technology. The main theme of HEART is achieving high efficiency with accelerators. In the high-performance computing and data center domains, high efficiency mostly relates to performance. At the same time, in the mobile and IoT space, research communities think about accelerators more from a power/energy perspective. The 12th edition of HEART will take place as a hybrid symposium in person and online, held on 9 and 10, June 2022.

Topics of Interest

- **Architectures for Efficient Acceleration**
 - Novel systems/platforms based on FPGA, GPU, and other devices
 - Heterogeneous processor architectures and systems for high-performance and/or low-power
 - Domain-specific architectures
- **Design Methods and Tools for Efficient Acceleration**
 - Programming paradigms, languages, and frameworks
 - High-level synthesis and compilers
 - Runtime methodologies for heterogeneous systems
 - Performance evaluation and analysis
- **Applications and Systems**
 - Application examples that benefit from efficient acceleration to a great extent
 - Complete systems showing increased energy efficiency and/or performance
 - Comparisons between accelerator technologies

Special Session on Efficiency-Driven Computing (New in 2022)

This special session is designed to be inclusive in terms of targeted systems and applications. We are interested in contributions that target computing systems of all kinds: from the largest supercomputers to the tiniest battery-operated devices, from CPU-only systems to those accelerated using FPGA, GPU, or CGRA. We are interested in software, hardware and/or architectural techniques that can demonstrate measurable improvement in power-efficiency.

Proceedings Publication

Accepted papers will be published in the ACM International Conference Proceedings Series (ICPS) and will appear in the ACM digital library. Each accepted paper MUST have at least one author with a regular registration for the manuscript to be included and published in the proceedings. Authors are also expected to present their paper(s) at the HEART2022 symposium.

Important Dates and Deadlines

- Submission due (**Regular paper**) : ~~March 15, 2022 AOE~~ **March 29, 2022 AOE (Final)**
- Notification date (**Regular paper**) : April 25, 2022
- Submission due (**Special session paper**) : **April 1, 2022 AOE**
- Notification date (**Special session paper**) : April 28, 2022
- Conference date : June 9-10th, 2022

Organizing Committee

General Chair:

Yoshiki Yamaguchi, [University of Tsukuba](#)

Program Co-Chair:

Hayden K.H. So, [The University of Hong Kong](#)
Takaaki Miyajima, [Meiji University](#)

Publication Chair:

Ryohei Kobayashi, [University of Tsukuba](#)

Finance Chair:

Tomohiro Ueno, [RIKEN CCS](#)

Publicity Chair:

Riadh Ben Abdelhamid, [University of Tsukuba](#)

Invited Keynote Lecture

Dr. Mitsuhsa Sato
Deputy Director,
[RIKEN Center](#)
for Computational Science



Special Lecture

Dr. Hao YU
Professor,
[Southern University of Science and Technology](#)



Invited Industrial Talk

Dr. Toshitsugu Sakamoto
Co-Founder / CTO,
[Nano Bridge Semiconductor, Inc.](#)



Submission
Link:

