ACM Journal on Emerging Technologies in Computing Systems
Special Issue on Next-generation On-Chip and Off-Chip Communication Architectures for Edge, Cloud and HPC

Guest Editors:

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Communication is becoming increasingly important with the advent of diverse computing platforms, such as many-core CPUs, GPUs, FPGAs, machine learning (ML) accelerators, and other domain-specific processors. Movement of data is becoming a greater challenge not only within a chip but also chip-to-chip and can greatly impact overall system performance. Emerging technologies also offer a new opportunity to accelerate communication and rethink the design of interconnection networks. These trends in architecture, application, and technology require innovative communication designs, interconnection networks for on-chip networks and off-chip networks for the next generation of computing systems. This special issue will explore academic and industrial research on all topics related to interdisciplinary research on on-chip, package-scale, chip-to-chip, and datacenter rack-scale communication technology, architecture, design methods, applications and systems. Current practices, as well as future research needs in the fields below are particularly solicited.

Topics
Topics of interest to this special issue include, but not limited to, the following:
- NoC Architecture and Implementation
- NoC for Intelligent Physical Systems
- Communication Analysis, Optimization, & Verification
- NoC at the Un-Core and System-level
- Novel NoC Technologies
- Inter/Intra-Chip and Rack-Scale Networks

Important Dates
- Submissions deadline: August 20, 2021
- First-round review decisions: October 21, 2021
- Deadline for revision submissions: November 21, 2021
- Notification of final decisions: February 15, 2022
- Tentative publication: Spring 2022

Submission Information
In addition to open call, selected papers from IEEE/ACM Symposium on Networks-on-Chip (NOCS) 2021 will be invited and reviewed. Interested authors should submit their papers to https://mc.manuscriptcentral.com/jetc, and select the paper type "Special Issue on Communication Architectures." The author guidelines can be found at https://jetc.acm.org/authors.cfm.

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