36th SAC Symposium on Applied Computing
March 22-March 26, 2021 Gwangju, Korea

SAC'21
Symposium On Applied Computing

Cyber-Physical Systems - Call for papers

Scope

Cyber-physical Systems (CPS) are engineered systems whose operations are monitored, coordinated, controlled, and integrated by a computing and communication core embedded in all types of objects and structures in the physical environment. CPS has emerged as a unifying name for systems where the cyber parts, i.e., the computing and communication parts, and the physical parts are tightly integrated, both at the design time and during operation. Such systems use computations and communication deeply embedded in and interacting with physical processes to add new capabilities to physical systems. Such systems must be operated safely, dependably, securely, efficiently and in real-time.

These cyber-physical systems include a wide range of applications, such as transportation, healthcare, automotive, energy, manufacturing, entertainment, consumer electronics, environmental monitoring, aerospace, robotics, etc., and all of which will be essential pieces of our social infrastructure. Therefore, advances in this field will have great technical, economic and societal impacts in the near future.

However, the vision of CPS faces some core challenges of multidisciplinary research, as their relevant technologies appear in diverse areas of science and engineering. Therefore, there is an emerging consensus that new methodologies and tools are urgently needed to support cyber-physical systems.

Paper submission and acceptance

Authors are invited to submit original and unpublished papers of research and applications for this track. Full papers are limited to 8 pages with the option for up to 2 additional pages at extra charge ($80 per page). The author(s) name(s) and address(es) must not appear in the body of the paper, and self-reference should be in the third person. This is to facilitate double-blind review. Only the title should be shown at the first page without the author's information. Papers must be formatted according to the ACM SAC template. Contributions must contain original unpublished work. Papers that have been concurrently submitted to other conferences or journals (double submissions) will be automatically rejected. For full submission guidelines, please follow the instructions on the ACM SAC 2021 website. Please submit your contribution via SAC 2021 Web page.

Paper registration is required, allowing the inclusion of the paper/poster in the conference proceedings. An author or a proxy attending ACM SAC MUST present the paper. This is a requirement for the paper/poster to be included in the ACM digital library. No-show of registered papers and posters will result in excluding them from the ACM digital library.

Student Research Competition

Graduate students seeking feedback from the scientific community on their research ideas are invited to submit abstracts of their original unpublished and in-progress research work. Authors of selected abstracts will have the opportunity to share and discuss their research work through poster and oral presentations and compete for the three top wining places as selected by the SRC committee. The winners will receive cash awards and SIGAPP recognition certificates. Furthermore, invited authors are eligible to apply for the SIGAPP Student Travel Award Program (STAP) for support. SRC abstracts are limited to 4 pages and submitted via SAC 2021 Web Page. Please visit https://src.acm.org/ for more information.

Topics of Interest

- Ubiquitous and pervasive computing for enhanced user interactions with CPS
- Mobile computing and devices for CPS
- Wearable cyber-physical systems and applications
- Design automation and tool chains for CPS
- Networking and communication for CPS applications
- Cloud computing and distributed systems to support scalability and complexity of CPS
- Real-time data analytics and machine learning for CPS
- Control of CPS
- Security and privacy of CPS
- Resilient and Robust System Design for CPS
- Simulation and experimental prototypes of CPS

Dates

Submission deadline:	~~September 15, 2020~~	October 12, 2020
Notification of acceptance:	~~November 10, 2020~~	November 24, 2020
Deadline for final manuscript:	~~November 25, 2020~~	December 14, 2020
Author registration:	~~December 09, 2020~~	December 14, 2020