35th SAC Symposium on Applied Computing

March 30-April 3, 2020 Brno, Czech Republic

SAC'20 Symposium On Applied Computing

Embedded Systems Track - Call for papers

Scope

High performance embedded computing has recently become more and more present in devices used in everyday life. A wide variety of applications, from consumer electronics to biomedical systems, require building powerful yet cheap embedded devices. In this context, embedded software is more and more complex, posing new challenges: the adoption of flexible programming paradigms/architectures is becoming almost mandatory. The development of embedded systems must rely on a tight coupling of hardware and software components and the market pressure calls for the employment of new methodologies for shortening the development time and driving the evolution of products. New efficient solutions to problems can be put into action by a joint effort of academia and industry.

Design of embedded systems must take into account a wide variety of constraints: performance, code size, power consumption, real-time constraints, maintainability, security and possibly scalability: convenient trade-offs must be found, often operating on a large number of parameters. In this scenario, solutions must be found at different levels of abstraction, making use of an assortment of tools and methodologies.

The focus of this conference track is on the application of both novel and well-known techniques to the embedded systems development. Particular attention is paid to solutions that require expertise in different fields (e.g. computer architecture, OS, compilers, security, software engineering, simulation). The track will benefit also from experiences in the employment of embedded devices in application areas. In this setting, researchers and practitioners from academia and industry will get a chance to keep in touch with problems, open issues and future directions in the field of development of embedded applications.

Paper submission and acceptance

Manuscripts must be submitted electronically in PDF format, according to the instructions contained in the main Conference web site. The review process is double blind. Please anonymize the paper submitted for review. The paper length is 8 pages, with the option to add 2 additional pages at extra charge, up to a maximum of 10 pages. Contributions must contain original unpublished work. Papers that have been concurrently submitted to other conferences or journals (double submissions) will be automatically rejected. All papers must be submitted through the SAC main conference 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/IEEE digital library. No-show of scheduled papers and posters will result in excluding them from the ACM/IEEE 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 give poster presentations of their work and compete for three top winning places. The winners will receive cash awards and SIGAPP recognition certificates. Graduate students are invited to submit abstracts (minimum 2; maximum 4 pages) following the instructions published at SAC web-site.

Topics of Interest

- Methodologies and tools for design-space exploration
- System-level design and simulation techniques for Embedded Systems
- Power-aware design and computing
- Testing, debugging, profiling and performance analysis of Embedded Systems
- Networked sensor devices and systems
- Multicore and SoC-based embedded systems and applications
- Middleware and virtual machines in Embedded Systems
- Multithreading in Embedded Systems design and development; Java embedded computing
- Software architectures and SOA for Embedded Systems
- Embedded Systems exploitation within Information Systems
- Multimedia management in Embedded Systems
- Security and dependability support within Embedded Systems
- RTOS for Embedded Systems, Safety-critical Embedded Systems
- Hardware/software support for real-time applications
- Compilation strategies, code transformation and parallelization for Embedded Systems
- Special-purpose appliances and applications
- Memory and storage management for Embedded Systems
- Non-volatile memory technologies for Embedded Systems
- Embedded applications and architecture supports for machine learning
- Case studies

Dates

Submission deadline:	September 15, 2019
Notification of acceptance:	November 10, 2019
Deadline for final manuscript:	November 25, 2019

Web site

main:
https://www.sigapp.org/sac/sac2020/

EMBS track:
https://sac2020.cs.nctu.edu.tw/

Track chairs

M. Di Natale - Scuola Superiore S. Anna
L.P. Chang - National Chiao Tung University

TPC members (tentative)

L. Abeni	Università di Trento
L. Almeida	University of Porto
P. Altenbernd	Hochschule Darmstadt
A. Bechini	University of Pisa
S. Bartolini	University of Siena
B. Brandenburg	Max Planck Institute
D. Broman	KTH and UC Berkeley
J. Cardoso	Universidade do Porto
F. Cazorla	UCB
M. Chen	East China Normal University
A. Dean	North Carolina State University
P. Derler	University of California Berkeley
N. Dutt	University of California Irvine
L. Egidi	Univ. Piemonte Orientale
M. Engels	Flanders' Mechatr. Tech. Centre
P. Foglia	University of Pisa
G. Fohler	Tech. Universität Kaiserslautern
C. Gebotys	University of Waterloo
R. Giorgi	University of Siena
E. Grolleau	ENSMA
Z. Gu	Zhejiang University
R. Guerra	Universid. Federal Fluminense
R. Gupta	UC Riverside
F. Hannig	Friedrich-Alexander-Universität
N. Jha	Princeton University
P.G. Kjeldsberg	NTNU
A. Krall	TU Wien
G. Lipari	Scuola Superiore S. Anna
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L. Palopoli	Università di Trento
R. Passerone	Università di Trento
A. Pimentel	Univesiteit van Amsterdam
C. Rochange	IRIT
B. Schlich	ABB
M. Schoeberl	Danmark Tekniske Universitet
H. Sips	TU Delft
J.P. Talpin	INRIA
H. Tomiyama	Ritsumeikan University
S. Tucci	CEA List
Y. Wang	Polytechnic Hong Kong
N. Weng	Southern Illinois University
I.L. Yen	University of Texas Dallas
W. Yi	Uppsala University
H. Zeng	Virginia Tech.
Q. Zhu	UC Riverside