

ARCS 2018

31stGI/ITG INTERNATIONAL CONFERENCE ON ARCHITECTURE OF COMPUTING SYSTEMS THIS YEAR'S FOCUS: ARCHITECTURES FOR ROBOTICS, AUTONOMOUS VEHICLES, AND AUTOMATION SYSTEMS

Braunschweig, Germany
April 09 - 12, 2018
<http://arcs2018.itec.kit.edu/>

CALL FOR PAPERS

Extended Submission Deadline: November 15, 2017

The ARCS conferences series has over 30 years of tradition reporting leading edge research in computer architecture and operating systems. The focus of the 2018 conference will be on architectures for robotics, autonomous vehicles, and automation systems.

ARCS 2018 will be organized by the Chair for Chip Design for Embedded Computing (C3E) at TU Braunschweig.

The proceedings of ARCS 2018 will be published in the Springer Lecture Notes on Computer Science (LNCS) series. After the conference, it is planned that authors of selected papers will be invited to submit an extended version of their contribution for publication in a special issue of the Journal of Systems Architecture. Further, a best paper and best presentation award will be presented at the conference.

Paper submission: Authors are invited to submit original, unpublished research papers on one or more of the following topics:

- Architectures
 - Multi-/many-core architectures, memory systems, and interconnect networks.
 - Generic and application-specific architectures such as reconfigurable systems in hardware and software.
 - Cyber-physical systems and distributed computing architectures.
 - Robust and fault-tolerant systems structures.
 - Architectures for robotics, autonomous vehicles, and automation systems.
 - Post-Moore Architectures, including but not limited to quantum and neuromorphic computing.
- Programming Models and Runtime Environments
 - Programming models, runtime systems, and middleware support for many-core and/or heterogeneous computing platforms.
 - Operating Systems, including but not limited to scheduling, memory management, power management, and real-time OS (RTOS) concepts.
- Tool Environments
 - Design methods and tool for real-time embedded systems.
 - Tool support for performance optimization, debugging, and verification.

- Cross-sectional Topics
 - Organic and autonomic computing including both theoretical and practical results on self-organization, self-configuration, self-optimization, self-healing, and self-protection techniques.
 - Energy and power-aware computing, including green computing topics.
 - System aspects of ubiquitous and pervasive computing such as sensor nodes, novel input/output devices, novel computing platforms, architecture modeling, and middleware.
 - Applications of embedded and cyber-physical systems
 - Autonomous and reasoning platforms
 - High-performance and large scale parallel computing.
 - Approximate computing.

Submission guidelines: Submissions should be done through the link that is provided on the conference website <https://easychair.org/conferences/?conf=arcs2018>. Papers must be submitted in PDF format.

They should be formatted according to Springer LNCS style (see: <https://www.springer.com/gp/computer-science/lncs/conference-proceedings-guidelines>) and must not exceed 12 pages, including references and figures.

Workshop and Tutorial Proposals: Proposals for workshops and tutorials within the technical scope of the conference are solicited. Submissions should be done through email directly to the corresponding chair: Carsten Trinitis, (Carsten.Trinitis@tum.de)

Important Dates:

Paper submission deadline:	October 27, 2017
Workshop and tutorial proposals:	December 01, 2017
Notification of acceptance:	December 15, 2017
Camera-ready papers:	January 12, 2018

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