
DATE 2023 Initiative on Autonomous Systems Design (ASD)

Call for Contributions

<https://www.date-conference.com/asd>

17-19 April 2022

Fueled by the progress of artificial intelligence, autonomous systems become more and more integral parts of many Internet-of-Things (IoT) and Cyber-Physical Systems (CPS) applications, such as automated driving, robotics, avionics, industrial automation and smart systems in general. Autonomous systems are self-governed and self-adaptive systems that are designed to operate in an open and evolving environment which is not completely defined at design time. This poses a unique challenge to the design and verification of dependable autonomous systems. Following the successful editions from previous years, DATE is again hosting the Initiative on Autonomous Systems together with a workshop. The initiative will include peer-reviewed papers, invited contributions and interactive sessions.

Areas of Interest

We welcome your contributions within the scope of the event. The main areas of interest include but are not limited to the following:

- Concepts, Algorithms and Formal Methods for Autonomy
- Platforms for Autonomous Systems
 - Architectures (from Chip Level to System Level) for Autonomous Systems
 - Middleware and Frameworks (e.g., ROS) for Autonomous Systems
 - Models and HW/SW Mechanisms for Self-Awareness and Self-Adaptation
- Design of Autonomous Systems
 - Mastering Emergent and Evolving Behavior (Goals, Constraints, ...)
 - Design, Verification and Test of High-Assurance Learning-Enabled Systems
 - Design Automation and Methodologies for Autonomous Systems
- Dependability and Trustworthy Autonomy
 - Functional Safety and Assurance Cases for Evolving and Learning-Enabled Systems
 - HW/SW Mechanisms for Resilient Systems
 - Autonomous Systems Security
- Applications and Case Studies of Autonomous Systems

Types of Contributions

Conference Papers:

The special initiative features regular sessions for presenting novel technical contributions. Submitted papers will undergo a peer-review process and accepted papers will appear in the DATE conference proceedings. All manuscripts should be submitted in pdf format not exceeding 6 pages, following the DATE submission instructions. Detailed submission instructions can be found here: <https://www.date-conference.com/call-for-papers#Submission-Instructions>

Abstract Submission: 06 November 2022 AoE

Full Paper Submission: 13 November 2022 AoE

Acceptance Notification: 18 December 2022 AoE

Special Sessions / Panels:

We additionally solicit proposals for special sessions, panel discussions and invited talks, targeting emerging challenges in the field of autonomous systems, especially that are of interest to the DATE conference participants. Special Session proposals must consist of a title of the session, a summary of up to 500 words in a PDF file, describing the topic, (preferably confirmed) authors/speakers, and the intended format. Submission deadline is 13 November 2022.

Submission Instructions

All submissions should follow the DATE proceedings submission instructions. Please submit your contribution at https://www.softconf.com/date23/special_ASD/

Workshop Interactive Day Contributions

The workshop Interactive Day will feature highly interactive sessions on emerging or controversial hot topics in the scope of the ASD initiative.

We also encourage sessions on business trends or public policies. The form of a session can be a special session with invited talks and panel discussions, leaving enough room for interaction among the participants. Sessions on industrial perspectives, prototypes and demos are also highly welcome.

Organizing Committee

Rolf Ernst, Technical University of Braunschweig, Germany

Dirk Ziegenbein, Robert Bosch GmbH, Germany

Selma Saidi, Technical University Dortmund, Germany

Sebastian Steinhorst, Technical University Munich, Germany