

FMICS-AVoCS 2017

International Workshop on Formal Methods for Industrial Critical Systems (FMICS) and Automated Verification of Critical Systems (AVoCS)

<http://www.es.mdh.se/conferences/fmics-avocs-2017/>

18-20 September 2017
University of Torino, Italy

The conference is co-located with 13th International Conference on integrated Formal Methods (iFM 2017). All information regarding the venue, registration and accommodation can be found on iFM 2017 website:

<http://ifm2017.di.unito.it/>

Call for Papers

The aim of the FMICS workshop series is to provide a forum for researchers who are interested in the development and application of formal methods in industry.

The aim of the AVoCS workshop series is to contribute to the interaction and exchange of ideas among members of the international research community on tools and techniques for the verification of critical systems.

FMICS and AVoCS combine their themes on formal methods and automated verification in the joint workshop FMICS-AVoCS 2017. For FMICS, this will be the 22nd edition, for AVoCS the 17th.

In particular, FMICS-AVoCS 2017 aims to bring together scientists and engineers that are active in the area of formal methods, develop tools and techniques for the automated verification of critical systems, and are interested in exchanging their experiences in the industrial usage of these methods and tools.

NEW for FMICS-AVoCS 2017

In 2017, the workshop will also host a special track and tool demonstrations:

- **Special Track on “Formal methods for mobile and autonomous robots”:** We invite submissions describing novel research results, applications and industrial case-studies, experience reports connected to the design and implementation of mobile and autonomous robots based on formal methods. The accepted papers will be published in LNCS, Springer, together with papers submitted to the regular track.
- **Tool Demonstrators:** We invite 2 page abstract submissions of tool demos for tools / IDE using formal methods, which have been applied to model and verify industrial systems or autonomous systems. A brief description of the tool and demo should be included.

IMPORTANT DATES

Submission of abstracts and full papers:	May 28, 2017 (extended)
Notification for full papers:	June 28, 2017
Camera ready due:	July 9, 2017
Submission of tool demo abstracts and research ideas:	June 4, 2017 (extended)
Notification tool demo abstracts and research ideas:	July 4, 2017
FMICS-AVoCS Workshop:	September 18-20, 2017

TOPICS of INTEREST include (but are not limited to):

Regular track

- Design, specification, refinement, code generation and testing of critical systems based on formal methods
- Methods, techniques and tools to support automated analysis, certification, debugging, learning, optimization and transformation of critical systems, in particular distributed, real-time systems and embedded systems
- Automated verification (model checking, theorem proving, SAT/SMT constraint solving, abstract interpretation, etc.) of critical systems
- Verification and validation methods that address shortcomings of existing methods with respect to their industrial applicability (e.g., scalability and usability issues)
- Tools for the development of formal design descriptions
- Case studies and experience reports on industrial applications of formal methods, focusing on lessons learned or identification of new research directions
- Impact of the adoption of formal methods on the development process and associated costs
- Application of formal methods in standardization and industrial forums

Special track: Formal methods for mobile and autonomous robots

- Formal domain-specific languages for robotics
- Verification of robotic applications: model checking, theorem proving, and others
- Requirements analysis and validation of robotic applications
- Probabilistic models and analysis for robotic applications
- Formal approaches to safety and security of robotic applications.

SUBMISSION and PUBLICATION

FMICS-AVoCS 2017 accepts submissions in the following categories:

- **Full paper submissions (regular and special track)** must describe authors' original research work and results. Submitted papers must not have previously appeared in a journal or conference with published proceedings and must not be concurrently submitted to any other peer-reviewed workshop, symposium, conference or archival journal. Any partial overlap with any such published or concurrently submitted paper must be clearly indicated.

Full paper submissions should clearly demonstrate relevance to industrial application. Case study papers should identify lessons learned, validate theoretical results (such as scalability of methods) or provide specific motivation for further research and development.

Full paper submissions (regular and special track) should not exceed 15 pages formatted according to the LNCS style (Springer). All submissions will be reviewed by the Program Committee who will make a selection among the submissions based on the novelty, soundness and applicability of the presented ideas and results.

- **Research ideas/position papers:** FMICS-AVoCS encourages the submissions of research ideas/position papers in order to stimulate discussions at the workshop. Reports on ongoing work, research vision, or surveys on work published elsewhere are welcome. The Program Committee will select research ideas/position papers on the basis of submitted abstracts according to their significance and general interest.

Abstracts of research ideas should not exceed 3 pages and they will not be part of the published proceedings.

- **Tool demo abstracts:** FMICS-AVoCS 2017 encourages the submission of 2-page abstracts describing tool demos of formal-methods-based tools that have been applied to model and verify industrial systems or autonomous systems. A brief description of the tool and demo should be included.

Full papers, research ideas/position papers and tool demo abstracts must be written in English and should be submitted as Portable Document Format (PDF) files using the EasyChair submission site:

<https://easychair.org/conferences/?conf=fmicsavocs2017>

The workshop proceedings will be published by Springer in their LNCS series, while authors of the best full papers will be invited to submit extended versions to a special issue of the International Journal on Software Tools for Technology Transfer.

Invited Speakers

Parosh Abdulla, Uppsala University, Sweden

Kerstin Eder, University of Bristol, UK

PC Chairs

Laure Petrucci (Université Paris 13, France)
Cristina Seceleanu (Mälardalen University, Sweden)

Special track Chair

Ana Cavalcanti (University of York, UK)

PC Members

María Alpuente (Universitat Politècnica de València, Spain)
Jiří Barnat (Masaryk University, Czech Republic)
Michael Dierkes (Rockwell Collins, France)
Kerstin Eder (University of Bristol, UK)
Alessandro Fantechi (Università di Firenze, Italy)
Francesco Flammini (Ansaldo STS, Naples, Italy)
Michael Fisher (University of Liverpool, UK)
María Del Mar Gallardo (University of Málaga, Spain)
Michael Goldsmith (University of Oxford, UK)
Gudmund Grov (Heriot-Watt University, UK)
Matthias Güdemann (Diffblue Ltd., Oxford, UK)
Marieke Huisman (University of Twente, The Netherlands)
Gerwin Klein (NICTA and University of New South Wales, Australia)
Lars Kristensen (Bergen University College, Norway)
Peter Gorm Larsen (Aarhus University, Denmark)
Thierry Lecomte (ClearSy, Aix-en-Provence, France)
Anna-Lena Lamprecht (University of Limerick, Ireland)
Radu Mateescu (INRIA Grenoble - Rhône-Alpes, France)
David Mentré (Mitsubishi Electric R&D Centre Europe, Rennes, France)
Stephan Merz (INRIA Nancy, France)
Manuel Núñez (Universidad Complutense de Madrid, Spain)
Peter Ölveczky (University of Oslo, Norway)
Charles Pecheur (Université catholique de Louvain, Belgium)
Marielle Petit-Doche (Systemel, Aix-en-Provence, France)
Ralf Pinger (Siemens AG, Braunschweig, Germany)
Jaco van de Pol (University of Twente, The Netherlands)
Markus Roggenbach (Swansea University, UK)
Matteo Rossi (Politecnico di Milano, Italy)
Marco Roveri (FBK-irst, Italy)
Thomas Santen (Microsoft Research Advanced Technology Labs Europe, Germany)
Bernhard Steffen (University of Dortmund, Germany)
Jun Sun (University of Technology and Design, Singapore)
Maurice ter Beek (CNR Pisa, Italy)
Helen Treharne (University of Surrey, UK)
Xavier Urbain (Université Claude Bernard Lyon 1, France)

Web Chair

Leo Hatvani (Mälardalen University, Sweden)