

FACS 2014

The 11th International Symposium on
Formal Aspects of Component Software
10-12 September 2014, Bertinoro, Italy

<http://facs2014.cs.unibo.it>



Topics of Interest

The symposium seeks to address the development and application of formal methods in all aspects of software components and services. Specific topics include, but are not limited to:

- formal models for software components and their interaction
- formal aspects of services, service oriented architectures, business processes, cloud computing, ensembles, or similar programming artifacts
- design and verification methods for software components and services
- composition and deployment: models, calculi, languages
- formal methods and modeling languages for components and services
- model based and GUI based testing of components and services
- models for QoS and other extra-functional properties (e.g., trust, compliance, security) of components and services
- components for real-time, safety-critical, secure, and/or embedded systems
- stochastic techniques for modelling and verification
- simulation techniques for complex networks of interacting components
- industrial or experience reports, and case studies
- update and reconfiguration of component and service architectures
- component systems evolution and maintenance
- autonomic components and self-managed applications
- formal and rigorous approaches to software adaptation and self-adaptive systems
- tools supporting the formal methods for components and services

Invited Speakers:

Sophia Drossopoulou, Imperial College (iFM)
Helmut Veith, TU Wien (iFM and FACS)
Rocco De Nicola, IMT Lucca (iFM and FACS)
Jean-Bernard Stefani, INRIA (FACS)

Call for Papers

We solicit high-quality submissions reporting on:

- A – original research contributions (18 pages max)
- B – applications and experiences (18 pages max)
- C – surveys, comparisons, and state-of-the-art reports (18 pages max)
- D – tool papers (6 pages max)

In addition, we solicit submissions to the Doctoral Track of FACS 2014, in the form of abstracts (3 pages max) concisely capturing work in progress, related topic, context, research questions, envisaged contributions, and partial results.

All submissions must be original, unpublished, and not submitted concurrently for publication elsewhere. Papers should be formatted according to the guidelines for Springer LNCS papers.

All accepted papers will appear in the pre-proceedings of FACS 2014. Revised versions of accepted papers in the categories A-D above will appear in the post-proceedings of the symposium that will be published as a volume in Springer's LNCS series. A best paper award will be given in collaboration with EASST. The authors of a selected subset of accepted papers will be invited to submit extended versions of their papers to appear in a special issue of the Elsevier's Science of Computer Programming journal.

Scope

Component-based software development is a paradigm that has been proposing sound engineering principles and techniques for coping with the complexity of software-intensive systems. However, many challenging conceptual and technological issues remain that require further research.

Moreover, the advent of service-oriented and cloud computing has brought to the fore new dimensions, such as quality of service and robustness to withstand inevitable faults, which require established concepts to be revisited and new ones to be developed in order to meet the opportunities offered by those architectures. As software applications become themselves components of wider socio-technical systems, further challenges arise from the need to create and manage interactions, which can evolve in time and space, and rely on the use of resources that can change in non-computable ways.

FACS 2014 is concerned with how formal methods can be used to make component-based development fit for the new architectures of today and the systems that are now pervading the socio-economic world.

Formal methods have provided foundations for component-based software through research on mathematical models for components, composition and adaptation, and rigorous approaches to verification, deployment, testing, and certification. Whilst those avenues still need to be further explored, time is also ripe to bring new techniques to the fore, such as those based on stochastic models and simulation.

Important Dates

- Abstract submission: June 9, 2014
- Paper submission: June 16, 2014
- Notification: July 21, 2014
- Final version due: August 8, 2014

Colocated Workshops: <http://facs2014.cs.unibo.it/workshops.html>
Business Impact of Application of Formal Methods to Security relevant Devices (FM - BIASED)
Harnessing Theories for Tool Support in Software (TTSS)
Logics and Model-checking for Self-* Systems (MOD*)
Tools and Methods for Cyber-Physical Systems of Systems
ENVISAGE Contracts for SLAs