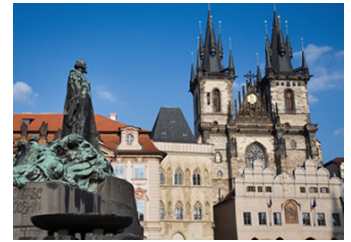




# VVASS 2017

The IEEE QRS 2017 Workshop on Verification and Validation of Adaptive Software Systems  
Prague, Czech Republic, July 25-29, 2017  
<http://vvass2017.ist.tugraz.at>



The complexity of software and software-enabled systems and the need to reduce and master this complexity has led the software quality community to look for inspiration in diverse fields such as robotics, control theory and biology. Self-adaptive systems, i.e., systems that are able to adjust their behavior at run-time in response to the perception of the environment and the system itself have become an important topic within the software engineering community.

Fail-operational systems must continue to operate even in the case of a critical failure. Such systems place themselves automatically into a safe mode by fulfilling specific safety requirements. On the other hand, the connection of different distributed machines and people into an integrated network results in the emergence of cyber-physical-social systems. Elastic computing is applied in run-time systems with high availability, especially when there is need for dynamic scaling of resources. Here unneeded resources are removed whereas others are added on demand in an automated manner.

In such context, the task of verification and validation (V&V) is to provide suitable processes and evidence-based methods as well as techniques to guarantee a number of functional and non-functional properties during the operation of the system.

Additionally, runtime verification and monitoring can be applied to ensure the safety of non-functional properties of a system during run-time. The quality assurance and measurement of non-functional properties, such as performance and scalability, must be realized with the help of corresponding metrics and simulations.

Requirements engineering, testing and diagnosis represent a major challenge for every of these systems, mainly because of the high number of interacting elements and its indeterministic character.

## AREAS OF INTEREST

- ◆ Reducing uncertainty in V&V of adaptive systems
  - Requirements traceability
  - Program understanding
  - Machine learning
  - Reasoning under uncertainty
  - Software analytics
  - Bio-/Socio-inspired techniques
- ◆ Case studies in adaptive systems
  - V&V of reliability, resilience, security
  - V&V of non-functional quality attributes
  - Benchmarking V&V
  - V&V of cyber-physical systems
  - Decision making in V&V
  - Socio-technical aspects
- ◆ Modeling and verification of adaptive systems
  - Requirements modeling
  - Model-based systems
  - Run-time verification
  - Monitoring
  - (Re)configuration
  - Modular approach for decentralization
  - Elastic computing
  - Quality assurance
  - Fail-operational systems
- ◆ Testing of adaptive systems
  - Test case derivation
  - Test case selection
  - Test execution
  - Test oracles
  - Passive testing
  - Model-based testing
  - Model-based diagnosis
  - Performance metrics
  - Scalability

## WORKSHOP PROCEEDINGS

IEEE Computer Society Conference Publishing Services (CPS) will publish the proceedings. Accepted papers will also be submitted for inclusion in the IEEE Xplore and to other abstracting and indexing partners such as the EiCompendex.

## Call for Papers

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### IMPORTANT DATES

- |                  |                       |
|------------------|-----------------------|
| ◆ April 23, 2017 | Submission deadline   |
| ◆ May 25, 2017   | Author notification   |
| ◆ June 5, 2017   | Camera-ready articles |
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### SUBMISSION

The organizers and the program committee welcome original manuscripts (not published or considered elsewhere) either in the form of a full paper (at most 6 pages) or fast abstracts (at most 2 pages) fitting into the listed areas and related areas. Fast abstracts should sketch position statements that address an important problem for future research or an interesting lesson learned. Each paper should include a title and the name and affiliation of each author. The format of your submission must follow the guidelines for IEEE conference proceedings.

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### COMMITTEE

- |                     |   |   |
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| ◆ Program Chair     | Bernhard Peischl<br>Benedikt Eberhardinger<br>Josip Bozic   | Graz University of Technology, Austria<br>University of Augsburg, Germany<br>Graz University of Technology, Austria   |
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### GENERAL INQUIRIES

For more detailed and updated information, please refer to the website: <http://vvass2017.ist.tuGraz.at> or contact Dr. Bernhard Peischl (Graz University of Technology, Austria) at [bernhard.peischl@ist.tuGraz.at](mailto:bernhard.peischl@ist.tuGraz.at).

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