



VVASS 2018

The IEEE QRS 2018 Workshop on Verification and Validation of Adaptive Software Systems

July 16-20, 2018, Lisbon, Portugal

<http://vvass2018.ist.tugraz.at>



Among the verification and validation (V&V) strategies software testing methods are the ones most commonly used in industry. Software testing can be very effective both in revealing failures and assessing functional correctness, however, testing cannot provide evidence of the absence of faults. More rigorous and effective strategies to reason about correctness range from model checking to model-based software testing methods. These V&V methods are typically applied at design time. Therefore, the assessment of system properties occurring during system execution for reassuring these system properties after adaption requires not only traditional V&V methods to be applied at runtime but also the adoption of novel ones to be applied in the various adaption phases. For example, the system may be adapted and reach a state that was unforeseen at design time, thus the system has not been verified for that state. Therefore, the following questions arise:

- Which properties can be exclusively verified/tested at design time?
- Which properties can be verified/tested at time of system configuration?
- Which properties need to be verified/tested at runtime?
- Which properties can be verified/tested either at design time, configuration time, or run-time?

Therefore, this workshop brings together academics and practitioners to exchange and discuss the latest synergies on adaptive systems as well as methods and techniques for V&V of these systems. We explicitly encourage participation of researchers from different communities that intersect with self-adaptive systems and their V&V. The workshop will be set in an informal and cooperative atmosphere with a specific format allotted to discussions. Beside of topical cross-fertilization, VVASS 2018 provides an excellent networking opportunity.

AREAS OF INTEREST

- ◆ Simulation and continuous experimentation
 - Simulation environments
 - Context dependent requirements
 - Feedback-loops to handle uncertainties
 - Explicit boundaries for adaptive behavior
 - Model evolution
 - Continuous experimentation and cyber-physical systems
- ◆ SELF-* and runtime monitoring
 - Run-time verification
 - V&V monitors
 - (Re)configuration
 - Adaption properties such as stability, robustness, consistency, security or safety
 - Context monitoring
 - Context-dependent properties
- ◆ Case studies and use cases
 - Fail-operational systems
 - Adaption mechanisms
 - Elastic computing
 - Machine-learning based adaptive mechanisms
 - Models at runtime
- ◆ Testing methods for adaptive systems
 - Test case derivation & selection
 - Test execution
 - Test oracles
 - Model-based testing

WORKSHOP PROCEEDINGS & SPECIAL ISSUE JOURNAL

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 Ei Compendex. Authors of all accepted contributions will be invited to submit an extended version to a special issue of the [Software Quality Journal](#) (Springer). Submission will be evaluated following the guidelines set by the Software Quality Journal. Only those submissions which satisfy all criteria will be accepted for publication.

Call for Papers

IMPORTANT DATES

- | | |
|------------------|-----------------------|
| ◆ April 15, 2018 | Submission deadline |
| ◆ May 15, 2018 | Author notification |
| ◆ June 1, 2018 | Camera-ready articles |

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.

COMMITTEE

- | | | |
|---------------------|--|---|
| ◆ Program Chairs | Bernhard Peischl
Benedikt Eberhardinger
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GENERAL INQUIRIES

For more detailed and updated information, please refer to the website: <http://vvass2018.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).