

9th ACM/SPEC International Conference on Performance Engineering (ICPE 2018)

Berlin, Germany — April 9–13, 2018



Call for Contributions

The goal of the International Conference on Performance Engineering (ICPE) is to integrate theory and practice in the field of performance engineering by providing a forum for sharing ideas and experiences between industry and academia. ICPE brings together researchers and industry practitioners to share and present their experiences, discuss challenges, and report state-of-the-art and in-progress research on performance engineering of software and systems, including performance measurement, modeling, benchmark design, and run-time performance management. The focus of ICPE is both on classical metrics such as response time, throughput, resource utilization, and (energy) efficiency, as well as on the relationship to other system properties including but not limited to scalability, elasticity, availability, reliability, and security.

<http://icpe2018.spec.org/>



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Important Dates

Research Papers and Artifacts

Abstract due: Oct 16, 2017
Paper due: Oct 18, 2017
Notification: Dec 08, 2017

For accepted full papers

Artifact registration: Dec 15, 2017
Artifact submission: Dec 22, 2017
Artifact notification: Feb 07, 2018

Industrial/Experience

Abstract due: Oct 16, 2017
Paper due: Oct 18, 2017
Notification: Dec 08, 2017

Workshop Proposals

Proposal due: Oct 13, 2017
Notification: Oct 31, 2017

Posters & Demos

Paper due: Jan 03, 2017
Notification: Jan 26, 2017

Tutorial Proposals

Proposal due: Oct 18, 2017
Notification: Nov 18, 2017

Work-in-Progress/Vision

Paper due: Jan 10, 2018
Notification: Feb 08, 2018

Doctoral Symposium

Paper due: tba
Notification: tba

Topics of Interest (detailed on the next page)

- Performance modeling of software
- Performance and software development processes/paradigms
- Performance measurement, monitoring, and analysis
- Benchmarking
- Run-time performance management
- Power and performance, energy efficiency
- Performance modeling and evaluation in different environments and application domains
- All other topics related to performance of software and systems

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Topics of Interest (detailed)

Performance modeling of software:

- Languages and ontologies
- Methods and tools
- Relationship/integration/tradeoffs with other QoS attributes
- Analytical, simulation and statistical modeling methodologies
- Model validation and calibration techniques
- Automatic model extraction
- Performance modeling and analysis tools

Performance and software development processes/paradigms:

- Software performance patterns and anti-patterns
- Software/performance tool interoperability (models and data interchange formats)
- Performance-oriented design, implementation and configuration management
- Software performance engineering and model-driven development
- Gathering, interpreting and exploiting software performance annotations and data
- System sizing and capacity planning techniques
- (Model-driven) Performance requirements engineering
- Relationship between performance and architecture
- Collaboration of development and operation (DevOps) for performance
- Performance and agile methods
- Performance in Service-Oriented Architectures (SOA)
- Performance of micro-service architectures and containers

Performance measurement, monitoring and analysis:

- Performance measurement and monitoring techniques
- Analysis of measured application performance data
- Application tracing and profiling
- Workload characterization techniques
- Experimental design
- Tools for performance testing, measurement, profiling and tuning

All other topics related to performance of software and systems.

Benchmarking:

- Performance metrics and benchmark suites
- Benchmarking methodologies
- Development of parameterizable, flexible benchmarks
- Benchmark workloads and scenarios
- Use of benchmarks in industry and academia

Run-time performance management:

- Use of models at run-time
- Online performance prediction
- Autonomic resource management
- Utility-based optimization
- Capacity management

Power and performance, energy efficiency:

- Power consumption models and management techniques
- Tradeoffs between performance and energy efficiency
- Performance-driven resource and power management

Performance modeling and evaluation in different environments and application domains:

- Web-based systems, e-business, Web services
- Big data systems, data analytics systems, and other data analysis systems
- Internet of Things
- Social networks
- Cyber-physical systems
- Industrial Internet (Industry 4.0)
- Virtualization and cloud computing
- Autonomous/adaptive systems
- Transaction-oriented systems
- Communication networks
- Parallel and distributed systems
- Embedded systems
- Multi-core systems
- Cluster and grid computing environments
- High performance computing
- Event-based systems
- Real-time and multimedia systems
- Peer-to-peer, mobile and wireless systems

Program Committee

Research Papers

J. Nelson Amaral, *University of Alberta, Canada*
Varsha Apte, *IIT Bombay, India*
Alberto Avritzer, *independent, USA*
Steffen Becker, *U Stuttgart, DE*
Umesh Bellur, *IIT Bombay, India*
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Murray Woodside, *Carleton U, Canada*
Huaming Wu, *Tianjin U, China*
Feng Yan, *U Nevada-Reno, USA*
Xiaoyun Zhu, *Futurewei Technologies Inc., USA*

Industry Papers

Klaus-Dieter Lange, *HPE, USA*
Meikel Poess, *Oracle, USA*
Tilmann Rabl, *TU Berlin, Germany*
Matthias Scholze, *QMethods, USA*
Rekha Singhal, *TCS, India*
Cloyce Spradling, *Oracle, USA*
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