

# 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 (\*tentative)

### 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 2017\*  
Notification: Oct/Nov, 2017\*

### Posters & Demos

Paper due: Jan 03, 2018  
Notification: Jan 26, 2018

### Tutorial Proposals

Proposal due: Oct 2017\*  
Notification: Nov 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

## Organizing Committee

### General Chairs

Will Knottenbelt, *Imperial College, UK*  
Katinka Wolter, *FU Berlin, DE*

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Manoj Nambiar, *TCS, India*

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### Workshops Chairs

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Thomas F. Düllmann, *U Stuttgart, DE*

### 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*  
Cor-Paul Bezemer, *Queen's U, Canada*  
Andre B. Bondi, *SPSC LLC, USA*  
Giuliano Casale, *Imperial College London, UK*  
Lucy Cherkasova, *HyTrust, USA*  
Vittorio Cortellessa, *Universita' dell'Aquila, Italy*  
Vittoria de Nitto Personè, *Università di Roma Tor Vergata, Italy*  
Tadashi Dohi, *Hiroshima U, Japan*  
Wilhelm Hasselbring, *Kiel U, DE*  
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Samuel Kounev, *U Wuerzburg, DE*  
Anne Koziolok, *KIT, DE*  
Patrick Lee, *CUHK, Hong Kong*  
Marin Litoiu, *York U, Canada*  
Catalina M. Lladó, *U Illes Balears, Spain*  
Philipp Leitner, *U Zurich, Switzerland*  
Paulo R. M. Maciel, *Federal U Pernambuco, Brazil*  
Martina Maggio, *Lund U, Sweden*  
Andrea Marin, *U Venice, Italy*  
Daniel Menasce, *George Mason U, USA*  
José Merseguer, *Universidad de Zaragoza, Spain*  
Ningfang Mi, *Northeastern U, USA*

Raffaella Mirandola, *Politecnico di Milano, Italy*  
Juan F. Perez, *Universidad del Rosario, Colombia*  
Dorina Petriu, *Carleton U, Canada*  
Alma Riska, *Network Appliances, USA*  
Evgenia Smirni, *College of William and Mary, USA*  
Nigel Thomas, *Newcastle U, UK*  
Mirco Tribastone, *IMT Institute for Advanced Studies, Italy*  
Catia Trubiani, *Gran Sasso Science Institute, Italy*  
Petr Tuma, *Charles U, Czech Republic*  
Ana Lucia Varbanescu, *U Amsterdam, the Netherlands*  
Enrico Vicario, *U Florence, Italy*  
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, *HP Enterprise, USA*  
Meikel Poess, *Oracle, USA*  
Tilmann Rabl, *TU Berlin, Germany*  
Matthias Scholze, *QMethods, USA*  
Rekha Singhal, *TCS, India*  
Cloyce Spradling, *Oracle, USA*  
Alexander Wert, *NovaTec, Germany*  
Boris Zibitsker, *BEZNext, USA*