

# Proceedings

## »PNSE'19«

International Workshop on  
Petri Nets and Software Engineering

Satellite event of the  
40th International Conference on  
Application and Theory of Petri Nets  
and Concurrency

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19th International Conference on  
Application of Concurrency to  
System Design

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1st International Conference on  
Process Mining

Aachen, Germany, June, 2019



Editors: Daniel Moldt,  
Ekkart Kindler and  
Manuel Wimmer

Proceedings of the International Workshop on

**P**etri

**N**ets and

**S**oftware

**E**ngineering

**PNSE'19**

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## PNSE'19 Preface

These are the proceedings of the International Workshop on *Petri Nets and Software Engineering* (PNSE'19) in Aachen, Germany, June 24, 2019. The workshop is co-located to the events of

- *Petri Nets 2019* – the 40th International Conference on Applications and Theory of Petri Nets and Concurrency,
- *ACSD 2019* – the 19th International Conference on Application of Concurrency to System Design and
- *Process Mining 2019* – the 1st International Conference on Process Mining.

More information about the workshop can be found at

<http://www.informatik.uni-hamburg.de/TGI/events/pnse19/>

For the successful realization of complex systems of interacting and reactive software and hardware components the use of a precise language at different stages of the development process is of crucial importance. Petri nets are becoming increasingly popular in this area, as they provide a uniform language supporting the tasks of modeling, validation and verification. Their popularity is due to the fact that Petri nets capture fundamental aspects of causality, concurrency, synchronization and choice in a natural and mathematically precise way without compromising readability. The use of Petri nets (P/T-nets, Coloured Petri nets and extensions) in the formal process of software engineering, covering modeling, validation, execution, simulation and verification, is presented as well as their application in several domains and tools supporting the disciplines mentioned above.

For the workshop we have chosen Jan Mendling and Hans Vangheluwe as the invited speakers. Their talks are *Quotients for Behaviour Comparisons: Monotone Precision and Recall Measures for Process Mining* and *Petri Nets in Multi-Paradigm Modelling*. Overall we received twenty high-quality contributions for these proceedings. The program now consists of five papers with long presentation, four papers with short presentation, two papers with poster contributions and the invited talks.

The international program committee of PNSE'19 was supported by the valued work of Lukasz Mikulski, Zbigniew Suraj and Tewfik Ziadi as additional reviewers. Their valuable work is highly appreciated. Furthermore, we would like to thank our colleagues in the local organization team at the RWTH Aachen University, Germany for their support. Without the enormous efforts of authors, reviewers, PC members and the organizational teams, this workshop would not provide such an interesting booklet.

Thank you very much!

Daniel Moldt, Ekkart Kindler, Manuel Wimmer  
Hamburg, June 2019

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