

Call for Papers

5th International Workshop on Self-Optimisation in Autonomic and Organic Computing Systems (SAOS 2017)

co-located with GI/ITG ARCS 2017 in Vienna, Austria from April 03 to April 06, 2017

Initiatives such as Autonomic Computing (AC) and Organic Computing (OC), or the more general research field of self-adaptive and self-organising systems (SASO), are based on the insight that we are increasingly surrounded by large collections of autonomous systems, which are equipped with sensors and actuators, aware of their environment, communicating freely, and organising themselves in order to perform the required actions and services in an adequate and robust manner. The resulting presence of networks of intelligent systems in our daily environment opens fascinating application areas but, at the same time, bears the problem of their controllability.

Hence, different design concepts (such as the MAPE cycle and the Observer/Controller framework) have been developed to allow for a self-organised control process at runtime that relieves the designer from specifying all possibly occurring situations and configurations within the design process. Instead, the system itself takes over responsibility to find proper reactions on perceived changes in the environmental conditions. As designers are not able to foresee all possibly occurring situations and circumstances the system will face during its operation time, the self-organisation process of the system has to focus on self-optimising the system's behaviour. Such self-optimising behaviour can be achieved at various levels of the system's design, ranging from basic control architectures over self-organised coordination or collaboration methods and domain-specific optimisation techniques to the application and customisation of machine learning algorithms. Furthermore, several related topics (e.g. trust and security in collaborative systems) provide necessary concepts to enable self-optimising behaviour in SASO systems. In this workshop, we will discuss current research efforts that help to develop self-optimising system behaviour. Thereby, a special focus will be set on current trends and challenges, e.g. from the domain of evolutionary optimization and machine learning – especially in terms of large-scale interconnected systems with their specific characteristics. Paper submissions are expected to focus at least on one of the following categories:

- A. Architectural concepts for enabling systems to exhibit self-optimising behaviour
- B. Machine Learning and Optimisation algorithms and methods for achieving self-optimisation
- C. Security and privacy issues related to self-optimising behaviour
- D. Applications and novel scenarios for self-optimisation techniques
- E. Current trends/challenges in the field of self-optimising interconnected systems

Important Dates

- Submission deadline (extended): January 18th, 2017
- Decision notification (new): February 6th, 2017
- Camera-ready version due (new): February 15th, 2017

Submissions

- Papers should be written in English
- Papers' format should conform the IEEE CIS template in "conference mode"
- Papers should not exceed **8 pages (full paper)** or **4 pages (short paper)**
- PDF submission via EasyChair: <https://easychair.org/conferences/?conf=saos17>

Workshop Organisation

- Anthony Stein, University of Augsburg (DE)
- Sven Tomforde, University of Kassel (DE)
- Jörg Hähner, University of Augsburg (DE)
- Gregor Schiele, University of Duisburg-Essen (DE)
- Arno Wacker, University of Kassel (DE)

SAOS 2017 website

