EDITORIAL MESSAGE

Special Track on Service-Oriented Architectures and Programming (SOAP)

Massimo Bartoletti, *University of Cagliari, Italy*

Maurice H. ter Beek, *ISTI-CNR, Pisa, Italy*

Luís Cruz-Filipe, *University of Southern Denmark, Odense, Denmark*

Hernán Melgratti, *University of Buenos Aires, Argentina*

The SOAP track aims to bring together researchers and practitioners with the objective of transforming service-oriented programming into a discipline with solid scientific foundations and mature software engineering development methodologies supported by dedicated tools. From the foundational point of view, many attempts to use formal methods for specification and verification in this setting have been made. Session correlation, service types, contract theories and communication patterns are only a few examples of the aspects that have been investigated. Moreover, several formal models based upon automata, Petri nets and algebraic approaches have been developed. However, most of these approaches concentrate on only a few features of service-oriented systems in isolation, and a comprehensive approach is still far from being achieved.

From the engineering point of view, there are open issues at many levels. At the system design level, both traditional approaches based on UML and approaches taking inspiration from business process modelling, like BPMN, are used. At the composition level, orchestration and choreography are continuously improved both formally and practically, with an evident need for their integration in the development process. At the description and discovery level, there are two separate communities pushing respectively the semantic approach (like ontologies and OWL) and the syntactic one (like WSDL). In particular, the role of discovery engines and protocols is not clear yet. In this respect, adopted standards are still to be achieved, taking features like Quality of Service, security and dependability into account.

SOAP 2017 in particular encouraged submissions on what is still needed to achieve the above goals, like

- Formal methods and standards for service-oriented computing
- Tools and middlewares for service-oriented development
- Service-oriented programming languages
- Service-oriented programming in dynamic open service ecosystems
- Service choreographies and protocol-driven service development
- Service interfaces and communication technologies (e.g., REST)
- Microservices and scalable service-oriented computing
- Engineering methodologies and patterns for service-oriented software
- Static analysis and testing of service-oriented applications
- Adaptability, dependability, and fault handling in service systems
- Security in service-oriented architectures
- Quality of Service and performance analysis
- Industrial deployment of tools and methodologies, case studies
- Trust and services

- Sustainability and services, green computing
- Cloud computing and services
- Big data and services

The PC of SOAP 2017 was formed by:

- Nazareno Aguirre   Universidad de Rio Cuarto, AR
- Farhad Arbab   Leiden University and CWI, Amsterdam, NL
- Luís Barbosa   University of Minho, Braga, PT
- Antonio Bucchiarone   FBK, Trento, IT
- Massimo Bartoletti   Università di Cagliari, IT (co-chair)
- Maurice H. ter Beek   ISTI-CNR, Pisa, IT (co-chair)
- Marco Carbone   IT University of Copenhagen, DK
- Luís Cruz-Filipe   University of Southern Denmark, Odense, DK (co-chair)
- Romain Demangeon   Université Pierre et Marie Curie, FR
- Schahram Dustdar   Vienna University of Technology, AT
- Gian Luigi Ferrari   Università di Pisa, IT
- José Fiadiero   Royal Halloway University of London, UK
- Saverio Giallorenzo   Università di Bologna, IT
- Ross Horne   Nanyang Technological University, SG
- Vasileios Koutavas   Trinity College Dublin, IE
- Alberto Lluch Lafuente   Technical University of Denmark, DK
- Hernán Melgratti   University of Buenos Aires, AR (co-chair)
- Corrado Moiso   Telecom Italia, Torino, IT
- Alberto Núñez   Universidad Complutense de Madrid, SP
- Jorge A. Perez   University of Groningen, NL
- Gustavo Petri   Purdue University, USA
- Victor Rivera   Innopolis University, RU
- Gwen Salaün   Inria Grenoble - Rhône-Alpes, FR
- Alceste Scalas   Imperial College London, UK
- Nikolay Shilov   Russian Academy of Sciences, Novosibirsk, RU
- Hugo Torres Vieira   IMT Lucca, IT
- Emilio Tuosto   University of Leicester, UK
- Yongluan Zhou   University of Southern Denmark, Odense, DK

SOAP 2017 received a total of 16 submissions. Each submission was reviewed by at least 3 PC members, after which all papers were subject to an animated discussion among the PC members. In the end, the PC decided to select only the following four papers for an oral presentation at the conference (an acceptance rate of 25%):

- Interleaving Sessions with Predicates, by Peter Thiemann
- Semantic Similarity Based Web Service Composition Framework, by Ahmed Abid, Nizar Messai, Mohsen Rouached, Mohamed Abid and Thomas Devogele
- Petri Nets and Dynamic Causality for Service-Oriented Computations, by Giovanni Casu and G. Michele Pinna
- Compatibility Flooding: Measuring Interaction of Services Interfaces, by Meriem Ouederni, Uli Fahrenberg, Axel Legay and Gwen Salaun

We would like to thank the PC members for their detailed reports and the stimulating discussions during the reviewing phase; the authors of submitted papers, the session chairs and the attendees, for contributing to the success of the event; the providers of the START system, which was used to manage the submissions; the members of the Steering Committee of SOAP for entrusting us with this year's organization; and in particular all the organizers of SAC 2017, for their invitation to organize the SOAP track also this year and for their excellent assistance and support.