# ICDT 2019

# Forward

The Fourteenth International Conference on Digital Telecommunications (ICDT 2019), held between March 24, 2019 and March 28, 2019 in Valencia, Spain, continued a series of special events related to telecommunications aspects in multimedia environments. The scope of the conference was to focus on the lower layers of systems interaction and identify the technical challenges and the most recent achievements.

High quality software is not an accident; it is constructed via a systematic plan that demands familiarity with analytical techniques, architectural design methodologies, implementation polices, and testing techniques. Software architecture plays an important role in the development of today's complex software systems. Furthermore, our ability to model and reason about the architectural properties of a system built from existing components is of great concern to modern system developers.

Performance, scalability and suitability to specific domains raise the challenging efforts for gathering special requirements, capture temporal constraints, and implement service-oriented requirements. The complexity of the systems requires an early stage adoption of advanced paradigms for adaptive and self-adaptive features. Online monitoring applications, in which continuous queries operate in near real-time over rapid and unbounded "streams" of data such as telephone call records, sensor readings, web usage logs, network packet traces, are fundamentally different from traditional data management. The difference is induced by the fact that in applications such as network monitoring, telecommunications data management, manufacturing, sensor networks, and others, data takes the form of continuous data streams rather than finite stored datasets. As a result, clients require long-running continuous queries as opposed to one-time queries. These requirements lead to reconsider data management and processing of complex and numerous continuous queries over data streams, as current database systems and data processing methods are not suitable. Event stream processing is a new paradigm of computing that supports the processing of multiple streams of event data with the goal of identifying the meaningful events within those streams.

We take here the opportunity to warmly thank all the members of the ICDT 2019 technical program committee, as well as all the reviewers. The creation of such a high quality conference program would not have been possible without their involvement. We also kindly thank all the authors who dedicated much of their time and effort to contribute to ICDT 2019. We truly believe that, thanks to all these efforts, the final conference program consisted of top quality contributions.

We also thank the members of the ICDT 2019 organizing committee for their help in handling the logistics and for their work that made this professional meeting a success.

We hope that ICDT 2019 was a successful international forum for the exchange of ideas and results between academia and industry and to promote further progress in the domain of digital telecommunications. We also hope that Valencia, Spain provided a pleasant

environment during the conference and everyone saved some time to enjoy the historic charm of the city.

**ICDT 2019 Chairs**

**ICDT 2019 General Chair**
Jaime Lloret Mauri, Universitat Politecnica de Valencia, Spain

**ICDT Steering Committee**
Constantin Paleologu, University Politehnica of Bucharest, Romania
Jaime Lloret Mauri, Polytechnic University of Valencia, Spain
Ioannis Moscholios, University of Peloponnese - Tripolis, Greece
Sathiamoorthy Manoharan, University of Auckland, New Zealand
Bernd E. Wolfinger, University of Hamburg, Germany
Stan McClellan, Texas State University - San Marcos, USA

**ICDT Industry/Research Advisory Committee**
Tomohiko Taniguchi, Fujitsu Laboratories Limited, Japan
Scott Trent, IBM Research – Tokyo, Japan