# DEPEND 2011

## Foreword

The Fourth International Conference on Dependability (DEPEND 2011), held between August 21-27, 2011 in Nice/Saint Laurent du Var, France, continued a series of special events related to the new challenges in dependability on critical and complex information systems

Most of critical activities in the areas of communications (telephone, Internet), energy & fluids (electricity, gas, water), transportation (railways, airlines, road), life related (health, emergency response, and security), manufacturing (chips, computers, cars) or financial (credit cards, on-line transactions), or refinery& chemical systems rely on networked communication and information systems. Moreover, there are other dedicated systems for data mining, recommenders, sensing, conflict detection, intrusion detection, or maintenance that are complementary to and interact with the former ones.

With large scale and complex systems, their parts expose different static and dynamic features that interact with each others; some systems are more stabile than others, some are more scalable, while others exhibit accurate feedback loops, or are more reliable or fault-tolerant.

Inter-system dependability and intra-system feature dependability require more attention from both theoretical and practical aspects, such as a more formal specification of operational and non-operational requirements, specification of synchronization mechanisms, or dependency exception handing. Considering system and feature dependability becomes crucial for data protection and recoverability when implementing mission critical applications and services.

Static and dynamic dependability, time-oriented, or timeless dependability, dependability perimeter, dependability models, stability and convergence on dependable features and systems, and dependability control and self-management are some of the key topics requiring special treatment. Platforms and tools supporting the dependability requirements are needed.

To deal with dependability, sound methodologies, platforms, and tools are needed to allow system adaptability. The balance dependability/adaptability may determine the life scale of a complex system and settle the right monitoring and control mechanisms. Particular challenging issues pertaining to context-aware, security, mobility, and ubiquity require appropriate mechanisms, methodologies, formalisms, platforms, and tools to support adaptability.

We take here the opportunity to warmly thank all the members of the DEPEND 2011 technical program committee as well as the numerous reviewers. The creation of such a broad and high quality conference program would not have been possible without their involvement. We also kindly thank all the authors that dedicated much of their time and efforts to contribute to the DEPEND 2011. We truly believe that thanks to all these efforts, the final conference program consists of top quality contributions.

This event could also not have been a reality without the support of many individuals, organizations and sponsors. We also gratefully thank the members of the DEPEND 2011 organizing committee for their help in handling the logistics and for their work that is making this professional meeting a success.

We hope the DEPEND 2011 was a successful international forum for the exchange of ideas and results between academia and industry and to promote further progress in the area of dependability.

We hope Côte d'Azur provided a pleasant environment during the conference and everyone saved some time for exploring the Mediterranean Coast.

**DEPEND 2011 Chairs**

**Advisory Chairs**
Reijo Savola, VTT Technical Research Centre of Finland, Finland
Sergio Pozo Hidalgo, University of Seville, Spain
Manuel Gil Perez, University of Murcia, Spain
Petre Dini, Concordia University, Canada / China Space Agency Center - Beijing, China

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Szu-Chi Wang, National Ilan University, Taiwan

**Hardware dependability**
Peter Tröger, Hasso Plattner Institute / University of Potsdam, Germany

**Empirical assessments**
Marcello Cinque, University of Naples Federico II, Italy

**Security and Trust**
Syed Naqvi, CETIC, Belgium