Abstract—This is the preface of the 2nd Workshop on Distributed Adaptive Systems (DAS 2016), held at the 13th IEEE International Conference on Autonomic Computing (ICAC 2016).

Index Terms—distributed system; adaptive system;

I. INTRODUCTION

On the account of the recent advances in technology, computational systems have to be thought as ever growing distributed artificial environments in which requirements, constituent components and user needs dynamically change in unpredictable ways. Coping with such uncertainties represents an interesting challenge for the designer of these systems, specifically regarding how to guarantee adaptivity towards both functional and non-functional requirements, as well as autonomously handling coordination and collaboration aspects among constituent units that have to act as autonomous and heterogeneous agents. These agents more often rely on incomplete information regarding the whole system in which they are integrated, but yet, in order to foster their Self-* properties, they need to discover, learn and evolve their behavior by taking into account how other agents are performing within the considered environment.

Starting from these considerations, after the first edition of the Workshop on Distributed Adaptive Systems at ICAC 2015 in Grenoble,[1] in 2016 the second edition is held in Würzburg, again under the ICAC umbrella.

The purpose of this workshop is therefore to create an useful forum of discussion on how Self-* properties and design & implementation concepts that are nowadays considered in Autonomic Computing literature can be extended and exploited in case of distributed autonomous systems, hence how to create adaptivity as a whole by starting from single autonomous units.

The main topics of this workshop are:

- Models and Methods for designing DAS
- Distributed learning and experience sharing among agents
- Advances in Multi-Agent System coordination
- Formal methods and languages for distributed adaptive systems
- Modelling distributed adaptive systems
- Collectivism in distributed adaptive systems
- Optimization in distributed adaptive systems
- Framework and design patterns for distributed adaptive systems
- Bio-inspired and evolutionary approaches to distributed adaptive systems
- Tools and simulation software for distributed adaptive systems
- Case studies and real world applications.
- Mechanisms and Patterns for decentralized decision making and control
- Industrial best practices and case studies
- Surveys and Comparative studies in distributed adaptive systems

II. ACCEPTED PAPERS

Four papers were accepted to be presented at the workshop:

- Lazlso Zsolt Varga. Benefit of Online Real-time Data in the Braess Paradox with Anticipatory Routing
- Thomas Preisler, Tim Dethlefs and Wolfgang Renz. Structural Adaptations of Decentralized Coordination Processes in Self-Organizing Systems
- Vidyasagar Sadhu, Gabriel Salles-Loustau, Dario Pompili, Saman Zonouz, Vincent Sritapan. Argus: Smartphone-enabled Human Cooperation via Multi-Agent Reinforcement Learning for Disaster Situational Awareness
- Hariharasudhan Viswanathan, Parul Pandey, and Dario Pompili. Maestro: Orchestrating Concurrent Application Workflows in Mobile Device Clouds

These papers are published in these proceedings after this preface.

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REFERENCES