Preface

This volume contains the papers presented at ADECS2014: International Workshop Petri Nets for Adaptive Discret-Event Control Systems held on June 23, 2014 in Tunis.There were 8 submissions. Each submission was reviewed by at least 2, and on the average 2.4, program committee members. The committee decided to accept 6 papers.

The new generation of Discrete-Event Control Systems (DECS) is addressing new important criteria as flexibility and agility. To reduce the development cost, these systems should be changed and adapted to their environment without any disturbance. Several academic and industrial research works have been made in recent years to develop reconfigurable adaptive systems. We distinguish in these works two reconfiguration policies: static and dynamic reconfigurations such that static reconfigurations are applied off-line to apply changes before any system cold start, whereas dynamic reconfigurations are dynamically applied at run-time. Two cases exist in the second policy: manual reconfigurations applied by users and automatic reconfigurations applied by intelligent agents.

Relevant topics include, but are not limited to, the following:

- Adaptive Discrete Event Control System,
- Static and Dynamic Reconfiguration,
- Petri Nets for Intelligent Systems,
- Petri Nets for Autonomous Systems,
- Reconfigurable Petri Nets-based Models,
- Validation and Execution,
- Optimal Verification of Adaptive Nets,
- Tests and Simulations of Adaptive Systems,
- Benchmarking, Adaptive Applications.

Program Committee.

- Hassane Alla, France,
- Kamel Barkaoui, France,
- Samir Ben Ahmed, Tunisia,
- Saddek Ben Salem, France,
- Slim Ben Saoud, Tunisia,

- Adel Bouhoula, Tunisia,
- Javier Campos, Spain,
- Piotr Chrzastowski-Wachtel, Poland,
- José-Manuel Colom, Spain,
- Raymond Devillers, Belgium,
- Jorge C.A de Fiqueiredo, Brazil,
- Giuliana Franceschinis, Italy,
- Georg Frey, Germany,
- Alessandro Giua, Italy,
- Luis Gomes, Portugal,
- Stefan Haar, France,
- Hans-Michael Hanisch, Germany,
- Xudong He, USA,
- Vladimir Janoušek, Czech Republic,
- Abderrazek Jemai, Tunisia,
- Peter Kemper, USA,
- Hanna Klaudel, France,
- Michael Köhler-Bußmeier, Germany,
- Radek Koci, Czech Republic,
- Lars Kristensen, Norway,
- Petrucci Laure, France,
- Robert Lorenz, Germany,
- Daniel Moldt, Germany,
- Bruno Monsuez, France
- Wojciech PencZ, Poland,
- Maria Pia Fanti, Italy,
- Spyros Reveliotis, USA,
- Heiko RÖlke, Germany,
- Kleanthis Thramboulidis, Greece,
- Murat Uzam, Turkey,
- Valeriy Viyatkin, New Zealand,
- Karsten Wolf, Germany,
- Weimin Wu, China,
- Mengchu Zhou, USA,
- Belhassen Zouari, Tunisia.

June 15, 2014 Tunisia Mohamed Khalgui Zhiwu Li

Table of Contents

Using High Level Nets for the Design of Reconfigurable Manufacturing Systems	1
Laid Kahloul, Chaoui Allaoua, Karim Djouani, Samir Bourekkache and Okba Kazar	
OF-PENDA: A Software Tool for Fault Diagnosis of Discrete Event Systems Modeled by Labeled Petri Nets Baisi Liu, Mohamed Ghazel and Armand Toguyéni	20
A high-level nets based approach for reconfigurations of distributed control systems	36
PCP-based Solution for Resource Sharing in Reconfigurable Timed Net Condition/Event Systems	52
A General Approach for the Computation of a Liveness Enforcing Supervisor for the Petri Net Model of an FMS Murat Uzam, Zhiwu Li and Umar Suleiman Abubakar	68
Extension of Batches Petri Nets by Bi-parts batch places Radhia Gaddouri, Leonardo Brenner and Isabel Demongodin	83

Program Committee

Samir Ben Ahmed
Emanuele Carpanzano
Luca Ferrarini
Georg Frey
Luis Gomes
Hans-Michael Hanisch
Mohamed Khalgui
Zhiwu Li
Olfa Mosbahi
Valeriy Viyatkin

FST Synesis Milano Polytechnico Saarland University Porto University Halle University INSAT Xidian INSAT University of Stokholm