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Applications and Theory of Petri Nets and Other Models of Concurrency, 2009

Preface

This issue is dedicated to selected papers from the *30th International Conference on Applications and Theory of Petri Nets and Other Models of Concurrency* which took place in June 2009 in Paris. For that conference, 19 regular contributions were selected among 46 submissions, in a careful reviewing process. After the conference, about one third of the papers published in the proceedings were selected with the help of the Program Committee members, and the authors were invited to revise and extend their contribution for this special issue. The extended submissions were examined in another independent reviewing process to meet the standards of FUNDAMENTA INFORMATICAE. Finally, five contributions were accepted for publication.

The accepted papers give a good overview of recent developments in the area of Petri nets and related system models. The articles *Closure operators and lattices derived from concurrency in posets and occurrence nets* by Luca Bernadinello, Lucia Pomello, and Stefania Rombolà and *Hasse diagram generators and Petri nets* by Mateus de Oliveira Oliveira contribute to the theory of partial orders as a fundamental structure for expressing concurrency. The paper *Decidability problems in Petri nets with names and replication* by Fernando Rosa-Velardo and David de Frutos Escrig continues the exploration of extensions to standard Petri net models with important aspects, useful for the representation of mobility and security. This paper received the "Best Paper" award at the conference. The contribution *Simple bisimilarity minimization in* $O(m \log n)$ *time* by Antti Valmari proposes an efficient and elegant algorithm that can be applied to Petri Nets reachability graphs as well as to other models of concurrency. The paper *Deficiency zero Petri nets and product form* by Jean Mairesse and Hoang-Thach Nguyen studies the relation between structural conditions for product form solution of Markovian Petri nets and the Deficiency zero theorem, developed in the context of chemical reaction networks.

We would like to thank the authors of the papers of this issue for their efforts to extend and revise their contributions. We are also grateful to several reviewers who gave numerous valuable suggestions to the authors. Finally, we would like to thank Damian Niwiński for giving us the opportunity to compile this issue.

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