This special issue contains selected papers presented at the 22nd Conference on Concurrency Theory (CONCUR 2011) held in Aachen, Germany, September 6-9, 2011. The purpose of the CONCUR conference is to bring together researchers, developers, and students in order to advance the theory of concurrency and promote its applications. The conference invites submissions in the areas of semantics, logics, verification, and analysis of concurrent systems.

The 2011 edition of the conference attracted 94 submissions, from which 32 papers were selected for presentation at the conference. Based on the ranking of the papers by the program committee and the opinion of expert reviewers we selected five papers which reflect the high quality of the conference and represent a wide range of topics. We would like to thank the authors for their excellent submissions and we are happy to present the following contributions:

- Vector Addition System Reversible Reachability Problem Jérôme Leroux;
- Coarse abstractions make Zeno behaviours difficult to detect Frédéric Herbreteau and B. Srivathsan;
- Bisimulations Meet PCTL Equivalences for Probabilistic Automata Lei Song, Lijun Zhang and Jens Chr. Godskesen;
- Static Livelock Analysis in CSP Joel Ouaknine, Hristina Palikareva, Bill Roscoe and James Worrell;

Joost-Pieter Katoen and Barbara König
Guest Editors and PC Co-Chairs of CONCUR 2011

All articles have already been published in the regular issues of Logical Methods in Computer Science.