Preface by the LAM'12 Organisers

This volume contains of the contributions to the *5th International Workshop on Logics, Agents, and Mobility*. The workshop took place as a satelite event of 33th International Conference on Application and Theory of Petri Nets and Other Models of Concurrency and the 12th International Conference on Application of Concurrency to System in Hamburg, Germany.

The aim of this series of workshops is to bring together active researchers in the areas of logics and other formal frameworks on the one hand, and mobile systems on the other hand. The main focus is on the field of logics and calculi for mobile agents, and multi-agent systems. Many notions used in the theory of agents are derived from philosophy, logic, and linguistics, and interdisciplinary discourse has proved fruitful for the advance of this domain.

Outside of academia, the deployment of large-scale pervasive infrastructures (mobile ad-hoc networks, mobile devices, RFIDs, etc.) is becoming a reality. This raises a number of scientific and technological challenges for the software modelling and programming models for such large-scale, open and highly-dynamic distributed systems. The agent and multi-agent systems approach seems particularly adapted to tackle this challenge, but there are many issues remaining to be investigated. For instance, the agents must be location-aware since the actual services available to them may depend on their (physical or virtual) location. The quality and quantity of resources at their disposal is also largely fluctuant, and the agents must be able to adapt to such highly dynamic environments. Moreover, mobility itself raises a large number of difficult issues related to safety and security, which require the ability to reason about the software. Logics and type systems with temporal or other kinds of modalities (relating to location, resource and/or security-awareness) play a central role in the semantic characterisation and then verification of properties about mobile agent systems.

There are still many open problems and research questions in the theory of such systems. The workshop is intended to showcase results and current work being undertaken in these areas with a focus on logics for specification and verification of dynamic, mobile systems.

We would like to thank all authors who have submitted papers. Each paper was reviewed by at least three referees. During the reviewing process the program comittee selected three contributions for publication. We wish to thank all members of the program comittee for their effort.

Finally we would like to thank our invited speaker, Julia Padberg, for her lecture: *Reconfigurable Petri Nets: Modeling and Analysis.*

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