Preface

This volume contains the papers presented at the 1st Workshop on Quantitative Formal Methods: Theory and Applications, which was held in Eindhoven on 3 November 2009 as part of the International Symposium on Formal Methods - FM2009.

Quantitative Formal Methods deals with systems whose behaviour of interest is more than the traditional Boolean "correct" or "incorrect" judgment. Today there are many quantitative aspects of system design: they include timing (whether discrete, continuous or hybrid); probabilistic aspects of success or failure including cost and reward; and quantified information flow. The aim of the workshop was to create a new forum where current and novel theories and application areas of quantitative methods could be discussed, together with the verification techniques that might apply to them. The workshop invited three distinguished speakers, whose talks illustrated both the diversity of quantitative aspects in the design of modern applications and the theory required for their formal treatment:
In response to the call for papers we received 15 full paper submissions. The programme committee selected 6 full papers for presentation at the workshop and publication in these proceedings. Additional four submissions were selected for presentation at the workshop: they represent preliminary work with the potential to open up significant new areas for research. The selection has been carried out by the Programme Committee members:

- Mario Bravetti (University of Bologna, Italy)
- Pieter Collins (CWI, The Netherlands)
- Georgios Fainekos (NEC Labs America, USA)
- Ansgar Fehnker (NICTA, Australia)
- Goran Frehse (Verimag, France)
- David de Frutos-Escrig (Complutense University of Madrid, Spain)
- Bjarte Helvik (Norwegian University of Science and Technology, Norway)
- Anton Kučera (Masaryk University, Czech Republic)
- Larissa Meinicke (Macquarie University, Australia)
- Anna Philippou (University of Cyprus, Cyprus)
- Jeremy Sproston (University of Torino, Italy)
- Paulo Tabuada (UCLA, USA)
- Elena Troubitsyna (Bo Akademi University, Finland)
- Verena Wolf (Saarland University, Germany)

and subreferees

- Pepijn Crouzen (Saarland University, Germany)
- Luuk Groenewegen (Leiden University, The Netherlands)
- Yolanda Ortega-Mallén (Complutense University of Madrid, Spain)
- Oleg Sokolsky (University of Pennsylvania, USA)
- Anton Tarasyuk (Bo Akademi University, Finland)

We would like to thank the authors of the submitted papers, the invited speakers, the members of the programme committee, and their subreferees for their contribution, and to all workshop participants for making this event fruitful and worthwhile. The organizers gratefully acknowledge the financial support from FME and IPA, and the organizational support from the FMweek 2009 organizers Erik de Vink and Tijn Borghuis.

The QFM'09 Organizing Committee

- Suzana Andova
- Pedro D'Argenio
- Pieter Cuijpers
- Annabelle McIver
- Jasen Markovski
- Carroll Morgan
- Manuel Ne...