Preface

The argument for performance engineering methods to be employed in computer-communication systems has always been that such systems cannot be designed or modified efficiently without recourse to some form of predictive model, just as in other fields of engineering. This argument has never been more valid than it is with today's highly complex combination of communication and computer technologies. These have created the internet, the grid, and diverse types of parallel and distributed computer systems. To be practical, performance engineering relies on tools to render its use accessible to the non-performance specialist, and in turn these depend on sound techniques that include analytical methods, stochastic models, and simulation. Tools and techniques also need to be parameterised and validated against real world observations, requiring sophisticated measurement techniques in the picosecond cyber-world. The series of "International Conferences on Modelling Techniques and Tools for Computer Performance Evaluation" (TOOLS) has provided a forum for this community of performance engineers with all their diverse interests. TOOLS 2002, held in London in April 2002, was the continuation of this series, which comprises:

1984 Paris	1991 Torino	1997 Saint Malo
1985 Sophia Antipolis	1992 Edinburgh	1998 Palma
1987 Paris	1994 Wien	2000 Chicago
1988 Palma	1995 Heidelberg	2002 London

This year we were fortunate to have two prominent invited speakers, Onno Boxma, Eindhoven University of Technology, and Peter Key of Microsoft Research, Cambridge. In addition, an invited tutorial was given by Erol Gelenbe, University of Central Florida, one of the leading researchers in Performance Modelling. A total of 57 papers were submitted, including 9 tools proposals. At the Programme Committee meeting in January, 18 excellent papers were considered to be of high enough quality to be accepted, along with 6 tools presentations. The number of tools presentations was somewhat lower than at previous conferences in the series, probably due to the new constraints imposed requiring open source software. These were introduced to facilitate greater ease of dissemination and collaboration. All of the accepted papers have been included in this volume, 10 of them in extended form, up to 20 pages long.

The conference was organised into a single track comprising eight sessions of mixed topics. Some of the papers addressed generic techniques, for example related to Stochastic Process Algebra and the analysis of Petri Nets and Markov Chains. Others concerned the development and practical application of tools in areas such as the Internet, Software Performance Engineering, Parallel and Real-time Systems, and Transaction Processing.

In addition to the 18 main papers, the volume also includes a reduced (up to 6-page) paper for each tool presented.

It is a pleasure for the Program Chairs to acknowledge the staunch efforts made by many to make this conference possible and ensure its success. The whole Program Committee worked tirelessly on a very tight timescale to produce sufficient reviews in time for the meeting in mid-January, only seven weeks after the final submission deadline. There were at least three reviews for every submission and some even had five. Moreover, the large majority gave a careful, in-depth opinion. The same applies to several external referees that supported committee members.

In particular, we wish to thank the following for their administrative, organisational, and IT contributions, without which the schedule could not have been implemented, there would have been nowhere for participants to stay, and we would not have had the superb social events arranged at the *London Eye* and *Bistro 190*:

- Dave Nichol for writing WIMPE and advising us
- Dave Thornley for local arrangements
- Imperial College and the Department of Computing in particular, for hosting the conference and providing technical support
- Denise Grant for helping us to organise the finances

February 2002   Tony Field
                                                      Peter Harrison
                                                     Jeremy Bradley
                                                        Uli Harder

Organisation

Tools 2002 was organised by the AESOP group of the Department of Computer Science, Imperial College, London.

Executive Committee

Conference Chair:	Rob Pooley (Heriot-Watt University, Edinburgh)
Programme Co-chairs:	Tony Field & Peter Harrison (Imperial College, London)
Web Chair:	Jeremy Bradley (Imperial College, London)
Tutorial Chair:	William Knottenbelt (Imperial College, London)
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Referees

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Felix Engelhard	Ken McDonell	Daniele Tessera
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Uli Harder	Johannes Lüthi	Chris Tofts
Holger Hermanns	Isi Mitrani	Jeroen Voeten
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Pierre G. Jansen	Dorina Petriu	Lourens Walters
Peter Kemper	Alma Riska	Wenguang Wang
Alexander Klemm	Nunzio Savino-Vazquez	Carey Williamson
Marco Lohmann	Kevin Schneider	
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