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Preface

This volume contains the *Proceedings* of the *11th Workshop on Logic, Language, Information and Computation (WoLLIC'2004)*, held in the Fontainebleau Campus of Université Paris 12, from July 19th to 22nd, 2004.

WoLLIC is a series of workshops which started in 1994 with **the aim of fostering interdisciplinary research in pure and applied logic**. The idea is to have a forum which is large enough in the number of possible interactions between logic and the sciences related to information and computation, and yet is small enough to allow for concrete and useful interaction across logic-related disciplines. Previous versions were held at: Recife (Pernambuco, Brazil) in 1994 and 1995; Salvador (Bahia, Brazil) in 1996; Fortaleza (Ceará, Brazil) in 1997; São Paulo (Brazil) in 1998; Itatiaia (Rio de Janeiro, Brazil) in 1999; Natal (Rio Grande do Norte) in 2000; Brasília (Distrito Federal, Brazil) in 2001; Rio de Janeiro (Brazil) in 2002; Ouro Preto (Minas Gerais, Brazil) in 2003.

Scientific sponsorship comes from the *Interest Group in Pure and Applied Logics (IGPL)*, the *European Association for Logic, Language and Information (FoLLI)*, the *Association for Symbolic Logic (ASL)*, *European Association for Theoretical Computer Science (EATCS)*, the *Sociedade Brasileira de Computação (SBC)*, and the *Sociedade Brasileira de Lógica (SBL)*.

Contributions were received in the form of short papers in all areas related to logic, language, information and computation, including: logic and databases; logic programming and algebraic semantics; logic and linguistics; logic and artificial intelligence; logic, arithmetic and complexity; proof complexity, zero-knowledge proofs; proof theory, lambda calculus, categorical logic; model theory, descriptive complexity; real computation, algebraic complexity; logic and verification; natural computing.

Apart from the contributed papers (10), and the invited talks (8), the programme includes 5 tutorial lectures:

- *Web-based models of linear logic* by **Thomas Ehrhard** (Institut de Mathématiques de Luminy, Université de la Méditerranée Aix-Marseille II, France)
- *Mathematical Reasoning – Machines vs Humans* by **Manfred Kerber** (School of Computer Science, The University of Birmingham, UK)
- *Real number computations and descriptive complexity* by **Klaus Meer** (University of Southern Denmark, Odense, Denmark)
- *Natural Computing* by **Gheorghe Paun** (University of Sevilla, Spain, and Institute of Mathematics of the Romanian Academy, Romania)
- *Expressive Power of Temporal Logics* by **Alexander Rabinovich** (School of Computer Science, Tel Aviv University, Israel)

All papers in the volume were reviewed under the scientific responsibility of the programme committee consisting of

Zofia Adamowicz	(<i>Mathematics Institute, Polish Academy of Sciences, Poland</i>)
Danièle Beauquier	(<i>LACL, Université Paris XII, France</i>)
Felipe Cucker	(<i>City University of Hong Kong, Hong Kong, China</i>)
Mariangiola Dezani	(<i>Università di Torino, Italy</i>) (Chair)
Georg Gottlob	(<i>Technische Universität Wien, Austria</i>)
Erich Grädel	(<i>RWTH Aachen, Germany</i>)
Etienne Grandjean	(<i>Université de Caen, France</i>)
Irène Guessarian	(<i>LIAFA, Université Paris 6, France</i>)
Gérard Huet	(<i>INRIA, and Académie des Sciences, France</i>)
Martin Hyland	(<i>Cambridge University, UK</i>)
Gopalan Nadathur	(<i>University of Minnesota, USA</i>)
Grzegorz Rozenberg	(<i>Leiden University, The Netherlands</i>)
Anatol Slissenko	(<i>LACL, Université Paris 12, France</i>)
Igor Walukiewicz	(<i>Université de Bordeaux, France</i>)

The organising committee consisted of

- Gianluigi Bellin** (*Facoltà di Scienze, Università di Verona, Italy*)
- Alessandra Carbone** (*Université Paris 6, France*)
- Patrick Cégielski** (*Laboratoire d'Algorithmique, Complexité et Logique, Université Paris 12, France*) (Co-Chair)
- Anjolina Grisi de Oliveira** (*Centro de Informática, Universidade Federal de Pernambuco, Brazil*)
- Ruy de Queiroz** (*Centro de Informática, Universidade Federal de Pernambuco, Brazil*) (Co-Chair)

A printed version of the current volume is being distributed to the participants at the workshop in Fontainebleau.

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*Ruy de Queiroz
Patrick Cégielski*