

Foreword

The pervasive ubiquity of parallel architectures, from SMPs to multi-core laptops, has led to a new quest for mathematical algorithms and software capable of exploiting these computing resources. Symbolic computation offers exciting, but highly complex, challenges to scientists aiming to contribute to this quest.

The goal of the present workshop is to stimulate the development of parallel algorithms and software for achieving high performance in symbolic computation at all scales – from grids to personal computers. Earlier meetings in this series include *PASCO '94* in Linz, Austria and *PASCO '97* in Maui, USA. *PASCO 2007* will be held July 27-28 in London, Canada.

PASCO 2007 is affiliated with the *2007 International Symposium on Symbolic and Algebraic Computation (ISSAC 2007)*. Co-located with this workshop is *SNC 2007*, the *2007 International Workshop on Symbolic-Numeric Computation*. *SNC* and *PASCO* are held immediately prior to the *ISSAC 2007* meeting, both in London at the University of Western Ontario. *ISSAC 2007* takes place nearby in Waterloo, Canada.

The call for papers solicited contributions from all areas of parallel symbolic computation, including:

- parallel computer algebra
- design of high performance software tools and interfaces for exact and approximate procedures
- design and analysis of parallel algorithms for algebraic computations
- parallel computing for number theory, geometry, automatic theorem proving, combinatorial and discrete methods
- distributed data-structures for matrices and polynomials
- implementations of solvers on multi-cores, SMPs, clusters, supercomputers and grids
- interactive parallel symbolic computation
- volunteer computing for symbolic problems
- applications of parallel symbolic computation.

Contributed papers were accepted in two categories: *7 full papers*, representing more complete work, and *6 extended abstracts*, representing the current status of on-going projects. In addition to the contributed papers, the majority of the invited speakers provided full papers as well. One of our invited speakers, Anthony Kennedy, is joint with *SNC* and we also share our after-dinner speaker, Keith Geddes, at the joint *SNC-PASCO* banquet.

We are grateful to all who contributed to the success of our meeting: the invited speakers: Mike Bauer, Matteo Frigo, Thierry Gautier, Keith Geddes, Anthony Kennedy, Katherine Yelick; the authors of the contributed papers and extended abstracts; the members of the program committee; and the anonymous reviewers.

Finally, we wish to thank those organizations that provided support for the workshop:

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- The Ontario Research Centre for Computer Algebra
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- *SHARCNET*

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