

Australasian Workshop on Combinatorial Algorithms

Foreword

The nine papers collected in this special issue are a distillation of 30 papers, including eight invited ones, presented at the 17th Australasian Workshop on Combinatorial Algorithms, held 13–19 July 2006 at Ayres Rock (Uluru), a world heritage site in Australia’s Northern Territory. The workshop attracted about 35 participants from universities in more than a dozen different countries. AWOCA has been held every year but one since 1989, mostly in Australia, but also in Korea (once) and Indonesia (three times).

The papers published here have all been refereed according to the standards of *Fundamenta Informaticae*; in addition, care has been taken to ensure that each one constitutes a significant and substantial enhancement of the preliminary results published in the AWOCA Proceedings. (In fact, three of the nine accepted papers were submitted by invited speakers and were represented in the Proceedings only by an abstract.) The authors of 24 of the AWOCA 2006 presentations (8 invited, 16 contributed) were invited to submit to this special issue; in all 12 papers were actually submitted. It is a pleasure to thank all the authors for their interest and for their original contributions, also to express our particular appreciation of the careful and diligent, but of necessity unattributable, work of a cadre of some two dozen referees.

From perhaps rather humble beginnings, and over 17 years of ups and downs, AWOCA has emerged as an important gathering for mathematicians and computer scientists in Australia and neighbouring countries who work with combinatorial problems. In fact, AWOCA 2006 is the last AWOCA. A meeting of participants in AWOCA 2006 took the decision to upgrade and rename AWOCA as IWOCA — International Workshop on Combinatorial Algorithms — with the possibility of workshop venues anywhere in the world, publication of Proceedings by a world-class scientific publisher (College Publications), and a corresponding increased emphasis on academic quality. At the same time, the meeting stressed a need to maintain the traditional problem-oriented nature of AWOCA: in future problem sessions are to feature prominently at meetings of IWOCA, and a webpage of combinatorial problems will be maintained, accessible from the new permanent IWOCA website:

<http://www.awoca.com>

Of the nine papers published in this issue, the first four are concerned with the combinatorics of words (string algorithms), a topic of growing importance in the world of the Internet, and one dealt with not long ago in another special issue of this journal [1]. The next two contributions describe graph theoretical

algorithms also inspired by applications in the modern world: the structure and growth of large networks (such as the World Wide Web), and the efficient modelling of parallel computation. The final three papers study, respectively, the construction of Latin bitrades, specification of polynomially-bound NP maximisation problems, and a topological approach to difficult combinatorial optimization problems.

*Mirka Miller — School of Electrical Engineering & Computer Science
University of Newcastle and
School of ITMS
University of West Bohemia*

*Bill Smyth — Department of Computing & Software
McMaster University and
Digital Ecosystems & Business Intelligence Institute
Curtin University of Technology*

Special Issue Editors

[1] Special issue on Computing Patterns in Strings, Bill Smyth (ed.), *Fundamenta Informaticae* 56–1/2 (2003).