Preface

This volume represents the refereed proceedings of the Tenth International Conference on Monte Carlo and Quasi-Monte Carlo Methods in Scientific Computing, which was held at the University of New South Wales, Sydney, Australia, from 13 to 17 February 2012. It contains a limited selection of articles based on presentations given at the conference. The conference program was arranged with the help of an international committee consisting of:

- William Chen, *Macquarie University, Australia*
- Ronald Cools, *KU Leuven, Belgium*
- Josef Dick, *University of New South Wales, Australia* (Conference organizer)
- Henri Faure, *CNRS Marseille, France*
- Alan Genz, *Washington State University, USA*
- Mike Giles, *University of Oxford, UK*
- Paul Glasserman, *Columbia University, USA*
- Michael Gnewuch, *University of Kaiserslautern, Germany*
- Stefan Heinrich, *University of Kaiserslautern, Germany*
- Fred J. Hickernell, *Illinois Institute of Technology, USA*
- Aicke Hinrichs, *University of Rostock, Germany*
- Stephen Joe, *University of Waikato, New Zealand*
- Aneta Karaivanova, *Bulgarian Academy of Science, Bulgaria*
- Alexander Keller, *NVIDIA, Germany*
- Dirk P. Kroese, *University of Queensland, Australia*
- Frances Y. Kuo, *University of New South Wales, Australia* (Conference organizer)
- Gerhard Larcher, *Johannes Kepler University Linz, Austria*
- Pierre L'Ecuyer, *Université de Montréal, Canada*
- Christiane Lemieux, *University of Waterloo, Canada*
- Peter Mathé, *Weierstrass Institute Berlin, Germany*
- Makoto Matsumoto, *Hiroshima University, Japan*
- Kerrie Mengersen, *Queensland University of Technology, Australia*
- Thomas Müller-Gronbach, *University of Passau, Germany*
- Harald Niederreiter, *RICAM Linz and University of Salzburg, Austria*
- Erich Novak, *University of Jena, Germany*
- Art B. Owen, *Stanford University, USA*

- Gareth W. Peters, *University of New South Wales, Australia, and University College London, UK* (Conference organizer)
- Friedrich Pillichshammer, *Johannes Kepler University Linz, Austria*
- Leszek Plaskota, *University of Warsaw, Poland*
- Eckhard Platen, *University of Technology Sydney, Australia*
- Klaus Ritter, *University of Kaiserslautern, Germany*
- Gareth Roberts, *University of Warwick, UK*
- Wolfgang Ch. Schmid, *University of Salzburg, Austria*
- Nikolai Simonov, *Russian Academy of Sciences, Russia*
- Ian H. Sloan, *University of New South Wales, Australia* (Conference organizer)
- Ilya M. Sobol', *Russian Academy of Sciences, Russia*
- Jerome Spanier, *Claremont, California, USA*
- Shu Tezuka, *Kyushu University, Japan*
- Xiaoqun Wang, *Tsinghua University, China*
- Grzegorz W. Wasilkowski, *University of Kentucky, USA*
- Henryk Woźniakowski, *Columbia University, USA, and University of Warsaw, Poland*

This conference continued the tradition of biennial MCQMC conferences initiated by Harald Niederreiter, held previously at:

- University of Nevada in Las Vegas, Nevada, USA, in June 1994
- University of Salzburg, Austria, in July 1996
- Claremont Colleges in Claremont, California, USA, in June 1998
- Hong Kong Baptist University in Hong Kong, China, in November 2000
- National University of Singapore, Republic of Singapore, in November 2002
- Palais des Congrès in Juan-les-Pins, France, in June 2004
- Ulm University, Germany, in July 2006
- Université de Montréal, Canada, in July 2008
- University of Warsaw, Poland, in August 2010

The next conference will be held at the KU Leuven, Belgium, in April 2014.

The proceedings of these previous conferences were all published by Springer-Verlag, under the following titles:

- *Monte Carlo and Quasi-Monte Carlo Methods in Scientific Computing* (H. Niederreiter and P.J.-S. Shiue, eds.)
- *Monte Carlo and Quasi-Monte Carlo Methods 1996* (H. Niederreiter, P. Hellekalek, G. Larcher, and P. Zinterhof, eds.)
- *Monte Carlo and Quasi-Monte Carlo Methods 1998* (H. Niederreiter and J. Spanier, eds.)
- *Monte Carlo and Quasi-Monte Carlo Methods 2000* (K.-T. Fang, F.J. Hickernell, and H. Niederreiter, eds.)
- *Monte Carlo and Quasi-Monte Carlo Methods 2002* (H. Niederreiter, ed.)
- *Monte Carlo and Quasi-Monte Carlo Methods 2004* (H. Niederreiter and D. Talay, eds.)
- *Monte Carlo and Quasi-Monte Carlo Methods 2006* (A. Keller, S. Heinrich, and H. Niederreiter, eds.)

- *Monte Carlo and Quasi-Monte Carlo Methods 2008* (P. L'Ecuyer and A. Owen, eds.)
- *Monte Carlo and Quasi-Monte Carlo Methods 2010* (L. Plaskota and H. Woźni-akowski, eds.)

The program of the conference was rich and varied with over 140 talks being presented. Highlights were the invited plenary talks given by Pierre Del Moral (INRIA and University of Bordeaux 1), Mike Giles (Oxford University), Fred J. Hickernell (Illinois Institute of Technology), Aicke Hinrichs (University of Jena), Michael Lacey (Georgia Institute of Technology), Kerrie Mengersen (Queensland University of Technology), Andreas Neuenkirch (University of Kaiserslautern), Art B. Owen (Stanford University), Leszek Plaskota (University of Warsaw), and Eckhard Platen (University of Technology Sydney), and the tutorials given by Art B. Owen (Stanford University), Pierre Del Moral (INRIA and University of Bordeaux 1), Josef Dick (University of New South Wales), and Alex Keller (NVIDIA).

The papers in this volume were carefully screened and cover both the theory and the applications of Monte Carlo and quasi-Monte Carlo methods. We thank the anonymous reviewers for their reports and many others who contributed enormously to the excellent quality of the conference presentations and to the high standards for publication in these proceedings by careful review of the abstracts and manuscripts that were submitted.

We gratefully acknowledge generous financial support of the conference by the School of Mathematics and Statistics of the University of New South Wales, the Australian Mathematical Society (AustMS), the Australian and New Zealand Industrial and Applied Mathematics (ANZIAM), the Australian Mathematical Sciences Institute (AMSI), the Commonwealth Scientific and Industrial Research Organisation (CSIRO), and the National Science Foundation (NSF).

Finally, we want to express our gratitude to Springer-Verlag for publishing this volume.

Sydney, Australia   Josef Dick
September 2013   Frances Y. Kuo
                                                                                        Gareth W. Peters
                                                                                            Ian H. Sloan

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