

Monte Carlo and Quasi-Monte Carlo Methods 2004

Harald Niederreiter

Denis Talay

Editors

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With 73 Figures and 29 Tables

 Springer

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Preface

This volume represents the refereed proceedings of the Sixth International Conference on Monte Carlo and Quasi-Monte Carlo Methods in Scientific Computing which was held in conjunction with the Second International Conference on Monte Carlo and Probabilistic Methods for Partial Differential Equations at Juan-les-Pins, France, from 7–10 June 2004. The programme of this conference was arranged by a committee consisting of Henri Faure (Université de Marseille), Paul Glasserman (Columbia University), Stefan Heinrich (Universität Kaiserslautern), Fred J. Hickernell (Hong Kong Baptist University), Damien Lambertson (Université de Marne la Vallée), Bernard Lapeyre (ENPC-CERMICS), Pierre L'Ecuyer (Université de Montréal), Pierre-Louis Lions (Collège de France), Harald Niederreiter (National University of Singapore, co-chair), Erich Novak (Universität Jena), Art B. Owen (Stanford University), Gilles Pagès (Université Paris 6), Philip Protter (Cornell University), Ian H. Sloan (University of New South Wales), Denis Talay (INRIA Sophia Antipolis, co-chair), Simon Tavaré (University of Southern California) and Henryk Woźniakowski (Columbia University and University of Warsaw). The organization of the conference was arranged by a committee consisting of Mireille Bossy and Etienne Tanré (INRIA Sophia Antipolis), and Madalina Deaconu (INRIA Lorraine). Local arrangements were in the hands of Monique Simonetti and Marie-Line Ramfos (INRIA Sophia Antipolis).

This conference continued the tradition of biennial MCQMC conferences which was begun at the University of Nevada in Las Vegas, Nevada, USA, in June 1994 and followed by conferences at the University of Salzburg, Austria, in July 1996, the Claremont Colleges in Claremont, California, USA, in June 1998, Hong Kong Baptist University in Hong Kong, China, in November 2000 and the National University of Singapore, Republic of Singapore, in November 2002. The proceedings of these previous conferences were all published by Springer-Verlag, under the 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.) and *Monte Carlo and Quasi-Monte Carlo Methods 2002* (H. Niederreiter, ed.). The next MCQMC conference will be held in Ulm, Germany, in August 2006.

The programme of the conference was rich and varied, with over 150 talks being presented. Highlights were the invited plenary talks given by Mark Broadie (Columbia University), Benjamin Jourdain (Ecole Nationale des Ponts et Chaussées), Alexander Keller (Universität Ulm), Wilfrid S. Kendall (University of Warwick), Roland Keunings (Université Catholique de Louvain), Pierre-Louis Lions (Collège de France), Art B. Owen (Stanford University) and Henryk Woźniakowski (Columbia University and University of Warsaw) as well as the special sessions that were organized by designated chairpersons. The papers in this volume were carefully screened and cover both the theory and the applications of Monte Carlo and quasi-Monte Carlo methods. Several papers are also devoted to stochastic methods for partial differential equations.

We gratefully acknowledge generous financial support of the conference by the PACA Regional Council and the General Council of Côte d'Azur. We also thank the members of the Programme Committee 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.

Finally, we want to express our gratitude to Springer-Verlag, and especially to Dr. Martin Peters, for publishing this volume and for the very helpful support and kind advice we have received from his staff.

Harald Niederreiter
Denis Talay

May 2005

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