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Vladimir V. Rykov · Nozer D. Singpurwalla  
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# Analytical and Computational Methods in Probability Theory

First International Conference, ACMPT 2017  
Moscow, Russia, October 23–27, 2017  
Proceedings

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# Preface

This volume contains a selection of papers based on talks presented at the conference titled “Analytical and Computational Methods in Probability Theory and its Applications (ACMPT)” held in Moscow (Russia) October 23–27, 2017. The conference was dedicated to the memory of an outstanding Soviet mathematician, Alexander Dmitrievich Soloviev.

The aim of the conference was to provide a platform and a forum for researchers and investigators from academia, government, and industry, and from a host of countries working in applied probability and mathematical statistics.

The Organizing Committee of ACMPT received 173 submissions from authors residing in 27 countries. From these submissions 147 were accepted for presentation, and 56 submissions were selected by the Program Committee to be reviewed for inclusion in this proceedings volume. As a result of the additional review, 42 full papers were finally selected for publication. All papers selected for the proceedings are in the format presented by the authors. The contributions were deemed to be of interest to investigators working in the field of analytical and computer methods of probability theory and their applications to queueing theory, stochastic networks, reliability theory, risk, insurance models, and statistical theory.

The conference program consisted of four main themes associated with significant contributions made by A. D. Soloviev:

- Analytical methods in probability theory
- Computational methods in probability theory
- Asymptotical methods in probability theory
- History of mathematics

However, the papers in this volume are categorized in four parts according to the following areas of application.

- Part 1. Queueing theory and stochastic networks
- Part 2. Reliability theory, risk analysis, insurance and financial mathematics
- Part 3. Asymptotic methods and limit theorems
- Part 4. Statistical methods and applications

Papers are arranged within each part depending on their time of submission.

All papers were carefully reviewed by the members of international Program and Organizing Committees and other independent reviewers.

At the conference, both mathematical intensive papers with full proofs and applied works pertaining to model constructions that were written at an intuitive engineering level were presented. The editors felt it prudent to include both kinds of papers in this volume.

We thank all the authors for their interest in the ACMPT Conference, which was organized with the support of the RUDN University Program 5-100. We thank the members of the Program Committee for their contributions, and the reviewers for their efforts as well as Springer for its support of the conference. Our special gratitude to Dr. Dmitry Kozyrev whose tremendous work has resulted in the preparation of this volume for printing.

October 2017

V. Rykov  
Nozer D. Singpurwalla  
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*The original affiliations of this book were revised. The affiliations of the editors Vladimir V. Rykov and Andrey M. Zubkov have been corrected. The erratum to this book is available at*

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