

Preface

The year 2018 marked the 75th anniversary of the founding of *Mathematics of Computation*, one of the four primary research journals published by the American Mathematical Society and the oldest research journal devoted to computational mathematics. To celebrate this milestone, the symposium “Celebrating 75 Years of Mathematics of Computation” was held during November 1–3, 2018, at the Institute for Computational and Experimental Research in Mathematics (ICERM), Providence, Rhode Island. (A symposium for the 50th anniversary of the journal took place in Vancouver in 1993.)

The sixteen papers in this volume, written by the symposium speakers and editors of the journal, include both survey articles and new contributions.

On the discrete side, there are four papers covering topics in computational number theory and computational algebra. On the continuous side, there are twelve papers covering topics in machine learning, high dimensional approximations, non-local and fractional elliptic problems, gradient flows, hyperbolic conservation laws, Maxwell’s equations, Stokes’s equations, a posteriori error estimation, and iterative methods. Together they provide a snapshot of significant achievements in the past quarter century in computational mathematics and also in important current trends.

We are thankful to the administration and staff members at ICERM for everything they did to make the symposium a great success. Funding for the event by the National Science Foundation is gratefully acknowledged.

Last but not least, we thank the speakers at the symposium and the authors of the papers in this volume for their excellent contributions. A list of the nineteen invited lectures at the symposium in the order that they were presented is provided on the following page.

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