# 34th Computational Complexity Conference

**CCC 2019, July 18–20, 2019, New Brunswick, NJ, USA**

Edited by

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# Preface

The papers in this volume were accepted for presentation at the 34th Computational Complexity Conference (CCC 2019), held July 18-–20, 2019 in New Brunswick, New Jersey. The conference is organized by the Computational Complexity Foundation (CCF) in cooperation with the ACM Special Interest Group on Algorithms and Computation Theory (SIGACT) and the European Association for Theoretical Computer Science (EATCS). CCC 2019 was co-organized by the Center for Discrete Mathematics and Theoretical Computer Science (DIMACS) and co-sponsored by Microsoft Research.

The call for papers sought original research papers in all areas of computational complexity theory. Of the 99 submissions the program committee selected 32 for presentation at the conference.

The program committee would like to thank everyone involved in the conference, including all those who submitted papers for consideration as well as the reviewers (listed separately) for their scientific contributions; the board of trustees of the Computational Complexity Foundation and especially its president Venkatesan Guruswami, past president Dieter van Melkebeek and secretary Ashwin Nayak for their advice and assistance; Ran Raz and Rocco Servedio for sharing their knowledge as prior PC chairs for CCC; the Local Arrangements Committee chair Eric Allender; Dor Minzer and Ran Raz for their invited talks; and Michael Wagner for coordinating the production of these proceedings.

Amir Shpilka
Program Committee Chair, on behalf of the Program Committee

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# Awards

The program committee of the 34th Computational Complexity Conference is very pleased to present the **Best Student Paper Award** to Josh Alman for his paper

**Limits on the Universal Method for Matrix Multiplication.**

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