# 17th Innovations in Theoretical Computer Science Conference

**ITCS 2026, January 27–30, 2026, Bocconi University, Milan, Italy**

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# Preface

The papers collected in this volume were presented at the 17th Innovations in Theoretical Computer Science (ITCS 2026) conference, held from January 27 to January 30, 2026, at Bocconi University.

ITCS aims to highlight research with innovative or bold directions – whether conceptual, technical, or methodological – whose insights have the potential to advance and inspire the broader theory community. The conference seeks papers that, for example, introduce new concepts, models, or viewpoints; open fresh lines of inquiry within established or interdisciplinary areas; develop new mathematical methods or novel applications of existing techniques; articulate ambitious visions or preliminary approaches; make notable progress on longstanding problems; or reveal surprising connections across disparate topics.

This year, the conference received 325 submissions, of which the program committee accepted 118. The high acceptance rate reflects the overall strength of the submission pool. To foster a sense of community and encourage cross-area dialogue, the conference followed a single-session format. Because of this format and the large number of accepted papers, each talk was limited to about 10 minutes. Authors were therefore asked to submit 20-25 minute prerecorded videos, which are linked on the conference website. Among the many strong submissions, one paper – Hardness of Range Avoidance and Proof Complexity Generators from Demi-Bits by Hanlin Ren (University of Oxford), Yichuan Wang (UC Berkeley), and Yan Zhong (Johns Hopkins University) – received the Best Student Paper Award.

The program committee (PC) consisted of 41 fantastic members (excluding the chair):

Josh Alman (Columbia University), Amey Bhangale (UC Riverside), Arnab Bhattacharyya (University of Warwick), Eshan Chattopadhyay (Cornell University), Shahar Dobzinski (Weizmann Institute of Science), Yuval Filmus (Technion), Noah Fleming (Columbia University and Lund University), Uma Girish (Columbia University), Gramoz Goranci (University of Vienna), Tom Gur (University of Cambridge), Max Hopkins (Institute for Advanced Study), Christian Ikenmeyer (University of Warwick), Michael Kapralov (École Polytechnique Fédérale de Lausanne), Dakshita Khurana (University of Illinois Urbana-Champaign and NTT Research), Pravesh Kothari (Princeton University), Michal Koucký (Charles University), Jerry Li (University of Washington), Yang Liu (Carnegie Mellon University), Inbal Livni Navon (Ben-Gurion University of the Negev), Shachar Lovett (UC San Diego), Noam Mazor (New York University), Ankur Moitra (Massachusetts Institute of Technology), Anand Natarajan (Massachusetts Institute of Technology), Ryan O'Donnell (Carnegie Mellon University), Debmalya Panigrahi (Duke University), Seth Pettie (University of Michigan), Nicolas Resch (University of Amsterdam), Noga Ron Zewi (University of Haifa), Aviad Rubinstein (Stanford University), Rahul Santhanam (University of Oxford), C. Seshadhri (UC Santa Cruz), Omri Shmueli (NTT Research), Shay Solomon (Tel Aviv University), Kevin Tian (UT Austin), Eliad Tsfadia (Bar-Ilan University), Ali Vakilian (Virginia Tech), Santhoshini Velusamy (Toyota Technological Institute at Chicago), Aravindan Vijayaraghavan (Northwestern University), Ilya Volkovich (Boston College), David Woodruff (Carnegie Mellon University), and Henry Yuen (Columbia University).

I am deeply grateful to all members of the Program Committee, who worked exceptionally hard under tight time constraints to assemble a fantastic program and provide valuable feedback to the authors – both for accepted papers and those not selected. The review process was double-blind: throughout, PC members did not have access to author identities on the HotCRP system. The purpose of this procedure was to help reviewers form judgments

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without unconscious bias, not to prevent them from discovering the authors by other means. Authors were therefore free to post their papers publicly or share them as they wished. Although the conference did not include a formal rebuttal phase, the PC, coordinated by the chair, maintained interactive communication with authors throughout the process to address potential misunderstandings, such as questions about errors or missing attributions.

The program schedule was organized into sessions of seven to eight papers each. In keeping with ITCS tradition, each session chair provided a brief "rant" highlighting the contributions of the papers, discussing their innovations, and, when possible, drawing thematic connections among them. We also continued the wonderful tradition of "graduating bits," in which students and postdocs on the job market give short presentations. I would like to extend my thanks to Bocconi University for hosting the event. Local organizers Tommaso D'Orsi and Adam Polak were outstanding, handling numerous unexpected challenges with great efficiency. I am also grateful to Guy Rothblum, chair of the ITCS Steering Committee, for his guidance, his patience in answering my many questions, and his steady leadership.

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