FOREWORD

This is a collection of extended abstracts of the talks presented at the 12th European Conference on Combinatorics, Graph Theory and Applications 2023 (Eurocomb'23), which was held in Prague from August 28 to September 1, 2023. This year's Eurocomb conference was organized by Charles University with support from colleagues from Masaryk University. Continuing the tradition of the previous 11 conferences of the Eurocomb series, Eurocomb'23 covered the full range of combinatorics and graph theory including applications in other areas of mathematics, computer science and engineering.

Combinatorics is witnessing a steady increase in its significance within contemporary research, particularly in the fields of mathematics and computer science. However, its impact is not limited to these areas alone. This is also reflected in the increasing interest in Eurocomb conferences, which became an established forum of cutting-edge research in combinatorics world-wide. This year's Eurocomb attracted a total of 170 submissions. Out of them, 115 were presented as talks at the conference, while additional 17 were presented as posters. In addition to the contributed presentations, the conference program featured invited plenary talks by nine renowned experts - Gwenaël Joret (ULB), Eun Jung Kim (LAMSADE, Paris-Dauphine), Matthew Kwan (IST Austria), Shoham Letzter (University College London), Rose McCarty (Princeton), Dhruv Mubayi (UI Chicago), Oleg Pikhurko (Warwick), Luke Postle (Waterloo) and Martin Tancer (Charles University) - who covered recent advancements across a wide range of topics encompassing extremal, probabilistic, and structural combinatorics, as well as theoretical computer science.

Since Eurocomb'03, which was held in Prague 20 years ago, the European Prize in Combinatorics has been awarded to recognize groundbreaking contributions in combinatorics, discrete mathematics, and their applications by young European researchers not older than 35. The prize is supported by the Centre for Discrete Mathematics, Theoretical Computer Science and Applications (DIMATIA) of Charles University in Prague, the organizers of Eurocomb, Elsevier and additional sponsors.

We would like to thank all participants of Eurocomb'23, particularly the presenters, for contributing to the success of this year's Eurocomb conference. We express our special gratitude to the nine invited speakers for accepting our invitations to deliver plenary talks. We would also like to acknowledge the remarkable dedication and hard work of the pro-

gram committee members who contributed to creating an engaging conference program; their commitment played a vital role in making the program appealing. Last but not least, we would like to thank Zdeněk Dvořák, the chair of the organizing committee, together with all organizing committee members for their tremendous efforts, ensuring the smooth execution of the conference. Their commitment and meticulous planning significantly contributed to the overall success of the event.

Dan Kráľ and Jaroslav Nešetřil

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