

# 18th International Symposium on Parameterized and Exact Computation

IPEC 2023, September 6–8, 2023, Amsterdam, The Netherlands

Edited by

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## ■ Preface

The International Symposium on Parameterized and Exact Computation (IPEC, formerly IWPEC) is a series of international symposia covering research in all aspects of parameterized and exact algorithms and complexity. It started in 2004 as a biennial workshop and became an annual event in 2009. Previous iterations of the symposium were:

- 2004 Bergen, Norway
- 2006 Zürich, Switzerland
- 2008 Victoria, Canada
- 2009 Copenhagen, Denmark
- 2010 Chennai, India
- 2011 Saarbrücken, Germany
- 2012 Ljubljana, Slovenia
- 2013 Sophia Antipolis, France
- 2014 Wrocław, Poland
- 2015 Patras, Greece
- 2016 Aarhus, Denmark
- 2017 Vienna, Austria
- 2018 Helsinki, Finland
- 2019 Munich, Germany
- 2020 virtual / Hong Kong, China
- 2021 virtual / Lisbon, Portugal
- 2022 Potsdam, Germany

This volume contains the papers presented at IPEC 2023: the 18th International Symposium on Parameterized and Exact Computation. IPEC 2023 was held on September 6–8 (Wed to Fri) as part of ALGO 2023, and took place in Amsterdam, the Netherlands at Centrum Wiskunde & Informatica (CWI). In response to the call for papers, 85 extended abstracts were registered, of which 10 were withdrawn or otherwise failed to submit a full version. The resulting number of 75 full submissions represents a significant increase in interest in the conference compared to previous years. 34 papers were ultimately selected for presentation at the conference and inclusion in these proceedings. The reviews were performed in a double-blind fashion, and there were 106 external reviews out of a total of 223 reviews.

The **Best Paper Award** was given to Hans L. Bodlaender (Utrecht University), Isja Mannens (Utrecht University), Jelle Oostveen (Utrecht University), Sukanya Pandey (Utrecht University) and Erik Jan van Leeuwen (Utrecht University) for their paper “The Parameterised Complexity of Integer Multicommodity Flow”. The **Best Student Paper Award** was given to Stefan Kratsch (Humboldt-Universität zu Berlin) and Pascal Kunz (Humboldt-Universität zu Berlin) for their paper “Approximate Turing kernelization and lower bounds for domination problems”. The **EATCS-IPEC Nerode Prize** was given to Marek Cygan (University of Warsaw and Nomagic), Jesper Nederlof (Utrecht University), Marcin Pilipczuk (University of Warsaw), Michał Pilipczuk (University of Warsaw), Johan M. M. van Rooij (Utrecht University) and Jakub Onufry Wojtaszczyk (Google) for their paper “Solving Connectivity Problems Parameterized by Treewidth in Single Exponential Time”. IPEC 2023 hosted an award ceremony with a talk given jointly by Michał Pilipczuk and Johan M. M. van Rooij. The Nerode Prize committee consisted of Fedor Fomin (chair; University of Bergen), Thore Husfeldt (IT University of Copenhagen) and Sang-il Oum (Korea Advanced Institute of Science and Technology). Tuukka Korhonen (University of Bergen) presented an **invited tutorial** on “New methods in FPT algorithms for treewidth”. Finally, IPEC 2023 hosted the award ceremony of the eighth Parameterized Algorithms and Computational Experiments (PACE) challenge. These proceedings contain a report on the **PACE 2023** challenge and brief communications of the winners about their solvers.

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We thank the program committee and the external reviewers for their commitment in the paper selection process. We also thank all the authors who submitted their work. We are grateful to the local organizers of ALGO 2023 for the local arrangements.

Neeldhara Misra and Magnus Wahlström  
Gandhinagar and London, October 2022

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