

16th International Symposium on Parameterized and Exact Computation

IPEC 2021, September 8–10, 2021, Lisbon, Portugal

Edited by

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■ Preface

This volume contains the papers presented at IPEC 2021: the 16th International Symposium on Parameterized and Exact Computation. IPEC 2021 was held on September 8–10. It was a part of the ALGO 2021 congress, and took place virtually due to the Covid 19 pandemic.

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. Started in 2004 as a biennial workshop, it became an annual event in 2009.

In response to the call for papers, 52 abstracts were submitted, which led to 48 papers considered by the program committee. Each considered submission received at least 3 reviews. The reviews came from the 18 members of the program committee and from 61 external reviewers, together contributing 150 reviews. The program committee held electronic meetings through the EasyChair platform. In the end, the program committee selected 25 of the submissions for presentation at the symposium and inclusion in these proceedings.

Previous iterations of I(W)PEC	
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	Münich, Germany
2020	Hong Kong, China

The Best Paper Award was given jointly to two co-winners:

- Guillaume Ducoffe, for his paper *Maximum Matching in Almost Linear Time on the Graphs of Bounded Clique-width*;
- Shaohua Li and Marcin Pilipczuk, for their paper *Hardness of Metric Dimension in Graphs of Constant Treewidth*.

The Best Student Paper Award was given to

- Vít Jelínek, Michal Opler, Jakub Pekárek, for their paper *Long Paths Make Pattern-counting Hard, and Deep Trees Make it Harder*.

IPEC 2021 hosted an award ceremony with a plenary talk for the 2021 EATCS-IPEC Nerode Prize for outstanding papers in the area of multivariate algorithmics. The Nerode prize committee consisted of Fedor V. Fomin, Anuj Dawar, and Virginia Vassilevska Williams. They awarded the prize to

- Cristian Calude, Sanjay Jain, Bakhadyr Khoushainov, Wei Li, Frank Stephan, for their paper *Deciding Parity Games in Quasi-polynomial Time* from STOC 2017.

Bakhadyr Khoushainov and Frank Stephan presented an invited talk.

IPEC 2021 also invited Édouard Bonnet to present a tutorial on twin-width of graphs. Finally, IPEC 2021 hosted the award ceremony of the sixth Parameterized Algorithms and Computational Experiments challenge, PACE. This yearly challenge was conceived in Fall 2015 to deepen the relationship between parameterized algorithms and practice. These proceedings contain a report by Leon Kellerhals, Tomohiro Koana, André Nichterlein and Philipp Zschoche on the 2021 PACE challenge and brief communications of the winners about their solvers.



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We would like to thank the program committee, together with the external reviewers, for their commitment in the difficult paper selection process. We also thank all the authors who submitted their work for consideration. We are grateful to the local organizers of ALGO 2021 for their work on the local arrangements.

Petr A. Golovach and Meirav Zehavi
Bergen and Beer-Sheva, October 2021

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