

# IPEC 2021 PUBLICITY REPORT

Frances Rosamond, Department of Informatics, University of Bergen



<b>GRANTS</b> – more detail in PC Newsletters and on the wiki at <a href="http://www.fpt.wikidot.com">www.fpt.wikidot.com</a>	<b>Euro</b>
Édouard Bonnet (ENS Lyon). French National Research Agency (ANR) Young Researcher (JCJC). <i>Twin-width: theory and applications</i> (TWIN-WIDTH).	154,000
Mateus de Oliveira Oliveira (Univ Bergen). Research Council of Norway (RCN). Symbolic Algorithms: A Parameterized Approach (SYMBOALGO).	1,200,000
Mateus de Oliveira Oliveira (Univ Bergen). Research Council of Norway (RCN). Automated Theorem Proving from the Mindset of Parameterized Complexity Theory (AUTOPROVING)	800,000
Fedor Fomin, Petr Golovach, Saket Saurabh (University of Bergen). Norwegian Research Council. <i>Beyond Worst-Case Analysis in Algorithms</i> .	1,200,000
Florent Foucaud (Université Clermont Auvergne). French National Research Agency (ANR) Young Researcher (JCJC). <i>Algorithmics for Metric Covering problems in Graphs</i> (GRALMECO).	169,000
Robert Ganian (TU Wien). Austrian Science Fund (FWF) START grant. <i>Parameterized Analysis in Artificial Intelligence</i> .	1,120,000
Steven Kelk (Maastricht Univ). Dutch Science Organization NWO. <i>Deep Kernelization for Phylogenetic Discordance</i> .	267,000

<b>GRANTS</b> – more detail in PC Newsletters and on the wiki at <a href="http://www.fpt.wikidot.com">www.fpt.wikidot.com</a>	<b>Euro</b>
Michael Lampis (LAMSADE - Université Paris-Dauphine). French National Research Agency (ANR) Young Researcher (JCJC). <i>Sub-Exponential APproximation and ParamEterized ALgorithms</i> (S-EXAP-PE-AL).	177,000
Jesper Nederlof (Utrecht). ERC Starting Grant. <i>Finding Cracks in the Wall of NP-Completeness</i> CRACKNP.	1,499,632
Aline Parreau (LIRIS -Université Claude Bernard Lyon 1). French National Research Agency (ANR) Young Researcher (JCJC). <i>Positional Games: complexity, Algorithms and StrategiEs</i> (PGASE).	169,000
Michal Pilipczuk (Univ of Warsaw). ERC Starting Grant. <i>Decomposition methods for discrete problems</i> (BOBR).	1,355,688
M. S. Ramanujan (Univ Warwick, UK). EPSRC New Investigator Award. <i>New Frontiers in Parameterizing Away from Triviality</i> (PARITY).	
M. S. Ramanujam, Graham Cormode (Univ Warwick). EPSRC Standard Research Grant. <i>Horizons in Multivariate Preprocessing</i> (MULTIPROCESS).	540,000
Saket Saurabh (Univ Bergen) The Association for Computing Machinery (ACM) India Council selected Saket as the recipient of the 2020 ACM India Early Career Researcher (ECR) Award. (Rs15 lakhs).	20,000



# HONORS



1

Cristian Calude (Univ Auckland, NZ), Sanjay Jain, Bakhadyr Khoussainov (University of Electronic Science and Technology of China, Chengdu), Wei Li, Frank Stephan (Univ Singapore) *Deciding Parity Games in Quasi-polynomial Time*. EATCS-IPEC Nerode Prize 2021.

2

Dániel Marx (MPI - CISA Helmholtz Center for Information Security.) *Parameterized graph separation problems*. EATCS-IPEC Nerode Prize 2020.

Jianer Chen Yang Liu, Songjian Lu (Texas A&M Univ.), Barry O'Sullivan (University College Cork, Ireland), Igor Razgon (Birkbeck, Univ. London). *A fixed-parameter algorithm for the directed feedback vertex set problem*. EATCS-IPEC Nerode Prize 2020.

Akanksha Agrawal (Ben-Gurion Univ, Israel). Selected to give a Rising Star Talk at the TCS Women Spotlight Workshop, part of the 52nd Annual ACM Symposium on the Theory of Computing (STOC 2020).

Bruno Courcelle (Univ of Bordeaux). Winner of the 2020 S. Barry Cooper Prize, established by the Association Computability in Europe, for his work on the definability of graph properties in Monadic Second Order Logic.

# HONORS

3



Damir Ferizovic. Winner of the German Science Foundation (DFG) Young Talent Award for his Master Thesis, *Engineering Kernelization for the Maximum Cut Problem*.

MohammadTaghi Hajiaghayi (Univ Maryland). Selected as a 2020 EATCS Fellow.

Neeldhara Misra (Indian Institute of Technology Gandhinagar). Awarded the 2021 INAE Young Engineer Award.

Neeldhara Misra (IIT Gandhinagar). Selected as an Associate of the Indian Academy of Sciences.

Sanjuka Roy. Finding Talents – Researchers Career Grants (FFG 2019, 2020). Sanjuka says that this is not a research grant. The Austria Research Promotion Agency (FFG) offers financial support of up to 80 % of the accommodation and travelling costs to a job interview in the field of research and support of up to EUR 2000 for the move to Austria based on taking up a post in research, development and innovation.

<https://www.ffg.at/en/career-grants/tender>

Saket Saurabh, (Univ. Bergen and IMSc). Named a Fellow of the Indian Academy of Science.

Selected by the Association for Computing Machinery (ACM) India Council as the recipient of the 2020 ACM India Early Career Researcher (ECR) Award.

Saket Saurabh, (Univ. Bergen and IMSc). Elected member of Academia Europaea 2020.

# HONORS

4



Roohani Sharma (IMSc). Awarded a Lise Meitner postdoctoral fellowship at MPII. Sharma was also offered the PBC Postdoctoral Award Fellowship of the Council for Higher Education of Israel.

Roohani Sharma (IMSc). ACM India Doctoral Dissertation Honorable Mention Award, for her dissertation *Advancing the Algorithmic Tool-kit for Parameterized Cut Problems*.

Moshe Vardi (Rice University) and Hector Levesque (University of Toronto). The 2020 ACM – AAAI Allen Newell Award. Vardi is cited for contributions to the development of logic as a unifying foundational framework and a tool for modeling computational systems. Levesque is recognized for fundamental contributions to knowledge representation and reasoning, and their broader influence within theoretical computer science, databases, robotics, and the study of Boolean satisfiability.

Toby Walsh (UNSW and leader of the Algorithmic Decision Theory group at Data61, Australia). Received the Donald E. Walker Distinguished Service Award at IJCAI-20.

Michal Włodarczyk (Univ. Warsaw). The Witold Lipski prize for young computer scientists in Poland.

Meirav Zehavi (Ben-Gurion Univ, Israel). The Krill Prize in Israel.

# BEST PAPER AWARDS

5



Jason Crampton, Eduard Eiben, Gregory Gutin, Daniel Karapetyan, Diptapriyo Majumdar (Royal Holloway, University of London). Best Paper Award at the 26th ACM Symposium on Access Control Models and Technologies (SACMAT) for *Valued Authorization Policy Existence Problem*, which proves FPT and  $W[1]$ -hardness results for a new access control problem.

Vít Jelínek, Michal Opler, Jakub Pekárek (Charles University, Prague). Student Best Paper Award at IPEC 2021 for *Long Paths make Pattern-counting Hard, and Deep Trees Make it Harder*.

Shaohua Li and Marcin Pilipczuk (University of Warsaw, Poland). Best Paper Award at IPEC 2021 for *Hardness of Metric Dimension in Graphs of Constant Treewidth*.

Guillaume Ducoffe (University of Bucharest, Romania). Best Paper Award IPEC 2021 for *Maximum Matching in almost linear time on the graphs of bounded clique-width*.

Łukasz Bożyk, Jan Derbisz, Tomasz Krawczyk, Jana Novotná and Karolina Okrasa (Univ. Warsaw). Best Paper Award IPEC 2020 for *Vertex deletion into bipartite permutation graphs*.

Tuukka Korhonen (Univ. Bergen). Best Paper Award IPEC 2020 for *Finding Optimal Triangulations Parameterized by Edge Clique Cover*.



## BEST PAPER AWARDS

Fedor Fomin (Univ. Bergen) and Vijayaragunathan Ramamoorthi (Indian Institute of Technology, Madras). Best Paper Award at CSR 2020 for *On the Parameterized Complexity of the Expected Coverage Problem.*

Tomá Peitl and Stefan Szeider (TU Wien). Best Paper Award at the main track of the 26th International Conference on Principles and Practice of Constraint Programming CP'2020 for *Finding the Hardest Formulas for Resolution.*

Benjamin M. Bumpus and Kitty Meeks (University of Glasgow). Best Paper Award at 32nd International Workshop on Combinatorial Algorithms (IWOCA 2021) for *Edge exploration of temporal graphs.*

Huib Donkers and Bart Jansen (TU Eindhoven). Best paper and Best Student Paper award at WG 2021 for *Preprocessing to Reduce the Search Space: Antler Structures for Feedback Vertex Set.*

Marcel Wienöbst, Max Bannach, Maciej Liskiewicz (University of Lübeck, Germany). AAAI-21 Distinguished Paper Award for *Polynomial-Time Algorithms for Counting and Sampling Markov Equivalent DAGs.*



# ONLINE PC SEMINAR

7



## Frontiers of Parameterized Complexity

Zoom talk series are about the latest discoveries in the field.

All are welcome via Zoom.

TIME: Every other Thursday at 17:00 Bergen time (GMT+1 ).

LINK: The link to join the zoom talk is <https://uib.zoom.us/j/4231169675>.

Meeting ID: 423 116 9675

PASSWORD: Name of the  $W[1]$ -complete problem, six letters, all capital. Set of pairwise adjacent vertices.

LIST of previous talks (<https://frontpc.blogspot.com/2020/>)

VIDEO recordings at [YouTube channel Frontiers of Parameterized Complexity](#).

# ONLINE PC SEMINAR

8

## India PC Online Seminar Series

Interesting recent work in parameterized complexity being presented.

**TIME:** Every Tuesday at 8:30pm IST.

**LINK:** The link is <https://sites.google.com/view/pcseminar>.

**MAILING LIST:** If you wish to be added to the mailing list or interested in giving a talk, please contact Pratibha Choudhary or Saket Saurabh.



9



# Online Social Choice and Welfare Seminar Series

10



WEBSITE: <https://sites.google.com/view/2021onlinescwseminars/home>

TIMES: Tuesdays, Check the website for the time as it varies.

Initially started by the Centre for Mathematical Social Science, University of Auckland and now made possible by the joint efforts of the following coordinators for 2021:

Youngsub Chun ([yechun@snu.ac.kr](mailto:yechun@snu.ac.kr)), Danilo Coelho ([danilo.coelho@ipea.gov.br](mailto:danilo.coelho@ipea.gov.br))

Simona Fabrizi ([s.fabrizi@auckland.ac.nz](mailto:s.fabrizi@auckland.ac.nz)), Piotr Faliszewski ([faliszew@agh.edu.pl](mailto:faliszew@agh.edu.pl))

Jobst Heitzig ([heitzig@pik-potsdam.de](mailto:heitzig@pik-potsdam.de)), Marcus Pivato ([marcuspivato@gmail.com](mailto:marcuspivato@gmail.com))

Remzi Sanver ([remzi.sanver@lamsade.dauphine.fr](mailto:remzi.sanver@lamsade.dauphine.fr)), Arkadii Slinko ([a.slinko@auckland.ac.nz](mailto:a.slinko@auckland.ac.nz)).

ZOOM LINK:

<https://auckland.zoom.us/j/91571875414?pwd=VzJ6Vkdmbk5iWW5TdjZZdlpkNGpZQ>

T09 Meeting ID: 915 7187 5414 PASSCODE: 387222

Prof. Arkadii Slinko (Univ of Auckland, NZ) [Email: a.slinko@auckland.ac.nz](mailto:a.slinko@auckland.ac.nz)

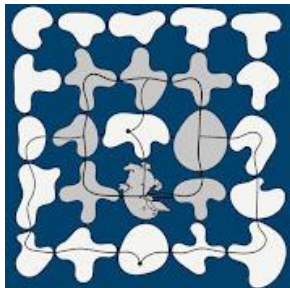
# Courses on Parameterized Algorithms

- Neeldhara Misra and Saket Saurabh presented an online course on Parameterized Algorithms from July to October 2021. Videos were being made for the lectures. There were weekly assignments and an exam for those needing certification. Over 500 registered. URL: [onlinecourses.nptel.ac.in/noc21\\_cs92/preview](https://onlinecourses.nptel.ac.in/noc21_cs92/preview)
- Daniel Marx and Pranabendu Misra presented a Parameterized Complexity course at Max Planck Institute (<https://www.mpi-inf.mpg.de/departments/algorithms-complexity/teaching/summer20/parameterized-algorithms>).

# FPT Complexity YOUTUBE CHANNEL

Contribute to the FPT COMPLEXITY Youtube Channel -  
An extensive collection of playlists, videos and channels.

CONTACT: Jungho Ahn ([junghoahn@kaist.ac.kr](mailto:junghoahn@kaist.ac.kr)) (student of Sang-il Oum).



# NEW BOOKS

Ronald de Haan (Vienna Univ of Technology).

Parameterized Complexity in the Polynomial Hierarchy: Extending Parameterized Complexity Theory to Higher Levels of the Hierarchy, Springer (2020). Free preview at Springer.



Fedor Fomin, Stefan Kratsch, Erik Jan van Leeuwen. Treewidth, Kernels, and Algorithms - Essays Dedicated to Hans L. Bodlaender on the Occasion of His 60th Birthday. Lecture Notes in Computer Science 12160, Springer 2020.

Martin Charles Golumbic, André Sainte-Laguë (University of Haifa).

The Zeroth Book of Graph Theory: An Annotated Translation of Les Réseaux (ou Graphes). (Lecture Notes in Mathematics 2261) 2021 Edition, Kindle.

# BOOK CHAPTERS

Fedor V. Fomin, Daniel Lokshtanov, Saket Saurabh, and Meirav Zehavi.  
*Parameterized Algorithms* (pp 4—32) in Beyond the Worst-Case Analysis of Algorithms by Tim Roughgarden (Columbia University, New York). Cambridge Univ publishing.

## SPECIAL ISSUES

Design of Online and Approximation Algorithms. Algorithms Journal. Edited by Prudence W.H. Wong and Hsiang-Hsuan Liu. Special Issue website:

[https://www.mdpi.com/journal/algorithms/special\\_issues](https://www.mdpi.com/journal/algorithms/special_issues)

Submission deadline 30 Sep 2021.

Selected Algorithmic Papers from CSR 2020. Algorithms Journal. Edited by Henning Fernau.

Parameterized Algorithms in Bioinformatics. Algorithms Journal. Editors Laurent Bulteau and Mathias Weller (CNRS Université Gustave Eiffel).

Parameterized Complexity and Algorithms for Nonclassical Logics. Algorithms Journal. Editor Arne Meier (Institut für Theoretische Informatik, UNI-Hannover).



## SPECIAL ISSUES

New Frontiers in Parameterized Complexity and Algorithms. Algorithms Journal. Editors Frances Rosamond (Univ Bergen), Meirav Zehavi (Ben-Gurion), Neeldhara Misra (Indian Institute of Technology Gandhinagar).

Algorithms for Hard Problems: Approximation and Parameterization. Algorithms Journal. Edited by Juraj Hromkovic, Hans-Joachim Böckenhauer and Dennis Komm (ETHZ).

Special Issue of Discrete Applied Mathematics dedicated to the Ninth Workshop on Graph Classes, Optimization, and Width Parameters, GROW 2019. Guest Editors: Robert Ganian, Jan Kratochvíl, Stefan Szeider.

# SEMINARS & WORKSHOPS

- Dagstuhl Seminar 21062 *Parameterized Complexity in Graph Drawing* POSTPONED Robert Ganian (TU Wien, AT), Fabrizio Montecchiani (University of Perugia, IT), Martin Nöllenburg (TU Wien, AT), Meirav Zehavi (Ben Gurion University – Beer Sheva, IL).
- Dagstuhl Seminar 21051 *Vertex Partitioning in Graphs: From Structure to Algorithms* POSTPONED Maria Chudnovsky (Princeton University, US), Neeldhara Misra (Indian Institute of Technology – Madras, IN), Daniel Paulusma (Durham University, GB), Oliver Schaudt (ZF Friedrichshafen, DE).
- Dagstuhl Seminar 20121 *Sparsity in Algorithms, Combinatorics and Logic* Organizers Daniel Král' (Masaryk University – Brno, CZ), Michal Pilipczuk (University of Warsaw, PL), Sebastian Siebertz (Universität Bremen, DE), Blair D. Sullivan (University of Utah – Salt Lake City, US).
- Dagstuhl Seminar 20301 *Matching Under Preferences: Theory and Practice* POSTPONED Organizers Haris Aziz (UNSW – Sydney, AU), Péter Biró (Hungarian Academy of Sciences – Budapest, HU), Tamás Fleiner (Budapest University of Technology & Economics, HU), Bettina Klaus (University of Lausanne, CH), David Manlove (University of Glasgow, GB).
- Dagstuhl Seminar 21171 *Temporal Graphs: Structure, Algorithms, Applications*. Organizers Arnaud Casteigts (University of Bordeaux, FR) Kitty Meeks (University of Glasgow, GB) George B. Mertzios (Durham University, GB) Rolf Niedermeier (TU Berlin, DE).

# SEMINARS & WORKSHOPS

- Dagstuhl Seminar 21121 *Computational Complexity of Discrete Problems*. Anna Gál (University of Texas – Austin, US), Meena Mahajan (Institute of Mathematical Sciences – Chennai, IN), Rahul Santhanam (University of Oxford, GB), Till Tantau (Universität zu Lübeck, DE).
- Dagstuhl Seminar 21151 *Counting and Sampling: Algorithms and Complexity*. CANCELLED Holger Dell (Goethe-Universität Frankfurt am Main & ITU Copenhagen), Mark R. Jerrum (Queen Mary University of London, GB), Haiko Müller (University of Leeds, GB).
- Dagstuhl Seminar 21241 *Coalition Formation Games* POSTPONED Edith Elkind (University of Oxford, GB), Judy Goldsmith (University of Kentucky – Lexington, US), Anja Rey (Universität Köln, DE), Jörg Rothe (Heinrich-Heine-Universität Düsseldorf, DE). Dagstuhl Seminar 21062 *Parameterized Complexity in Graph Drawing* POSTPONED Robert Ganian (TU Wien, AT), Fabrizio Montecchiani (University of Perugia, IT), Martin Nöllenburg (TU Wien, AT), Meirav Zehavi (Ben Gurion University – Beer Sheva, IL).
- Dagstuhl Seminar 20301 *Matching Under Preferences: Theory and Practice* POSTPONED Organizers Haris Aziz (UNSW – Sydney, AU), Péter Biró (Hungarian Academy of Sciences – Budapest, HU), Tamás Fleiner (Budapest University of Technology & Economics, HU), Bettina Klaus (University of Lausanne, CH), David Manlove (University of Glasgow, GB).

# SEMINARS & WORKSHOPS

- The CMSC /Parameterized Complexity Workshop 2022 will take place in Bergen, Norway on 8, 9, 10, 11 (Monday – Thursday) August. There will be a Parameterized Complexity workshop on 12 August (Friday) 2022 at the University of Bergen.
- PARUW 2020 Workshop The Parameterized Algorithms Retreat of the University of Warsaw (PARUW 2020) was held in Krynica, Poland in February. It was organized by Michal Pilipczuk and Pawel Rżewski, and received funding by Marcin Pilipczuk's ERC Starting grant. There were guest lectures by Bart Jansen and Andreas Feldmann.
- School in Algorithms, Combinatorics, and Complexity (SACC), organized by St. Petersburg State University and Euler International Mathematical Institute. The school had three mini-courses given by: Maria Chudnovsky (Princeton), Fedor Fomin (Univ Bergen), Madhu Sudan (Harvard).

# PAPERS AT ARXIV AND CONFERENCES

**NEEDED** Someone (a willing student) to list the FPT papers at conferences such as: STACS, STOC, SODA, SOFTSEM, ICALP, WG, MFCS, ESA, others.

**HUGE THANK YOU TO BART JANSEN who has been updating the list of FPT conference and arxiv papers and keeping up the list on the wiki ([fpt.wikidot.com](http://fpt.wikidot.com)).**

Bart reports that he is able to continue listing the papers from online. The arxiv updates appear in his mailbox daily, making it a reasonable task every day.

ARXIV PAPERS RELATED TO FPT IN 2020 = 234 papers. There were 120 in 2019.

## APPLICATION AREAS:

Access Control ACM SACMAT FPT-Best Paper Awards  
Computational Social Choice COMSOC FPT foundational papers  
Cognitive Science Cognitive Science Society, Machine Learning,  
Psychology, Computational Biology/Phylogeny

# PARAMETERIZED COMPLEXITY NEWSLETTER

- Editors: Frances.Rosamond@uib.no,  
Valia Mitsou vmitsou@irif.fr,  
Benjamin.Bergougnoux@uib.no

- More Editors welcome.

- Google form to send us information or send directly to us via email.  
<https://docs.google.com/forms/d/e/1FAIpQLScYsW5kqpW51x-8DYZR036F3FGSC540iKjxw5RDCj4PLV9ieKg/viewform>

- Available directly to your email if you are on Fran's mailing list, else see it on the wiki, else via the ISSN 2203-109X.

11



12



# UPDATE WIKIPEDIA

- All the various “...pedia”s and news sources (CNN, etc.) use Wikipedia.
- Hosts for your job interview look at your area on Wikipedia.
- Grant agencies look at your area on Wikipedia.
- Anyone introducing you looks at your area on Wikipedia.

# WHOSE PICTURE REVEALED

1. Wei Li
2. Felix Reidl
3. Robert Ganian
4. Mateus de Oliveira Oliveira
5. Kitty Meeks
6. Holger Dell
7. Meirav Zehavi
8. Roohani Sharma
9. Jesper Nederlof
10. Piotr Faliszewski
11. Benjamin Bergougnoux
12. Valia Mitsou

Thanks  
Everyone,  
  
Very best  
to all and  
have a  
great year.



Fran Rosamond