

48th International Colloquium on Automata, Languages, and Programming

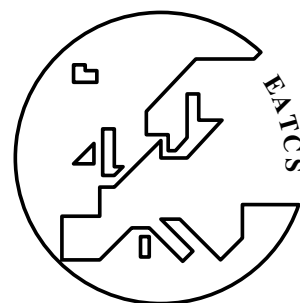
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Edited by

Nikhil Bansal

Emanuela Merelli

James Worrell



Editors

Nikhil Bansal

CWI Amsterdam, Netherlands
bansal@gmail.com

Emanuela Merelli 

University of Camerino, Italy
emanuela.merelli@unicam.it

James Worrell 

University of Oxford, UK
james.ben.worrell@gmail.com

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■ Preface

This volume contains the papers presented at the *48th International Colloquium on Automata, Languages and Programming (ICALP 2021)*, held *virtually*, hosted by the University of Glasgow, UK, during July 12–16, 2021. ICALP is a series of annual conferences of the *European Association for Theoretical Computer Science (EATCS)*, which first took place in 1972.

This year, the ICALP program consisted of two tracks:

- Track A: Algorithms, Complexity, and Games
- Track B: Automata, Logic, Semantics, and Theory of Programming

In response to the call for papers, a total of 362 submissions were received: 261 for Track A and 101 for Track B. Each submission was assigned to at least three Program Committee members, aided by 761 external subreviewers. The committees decided to accept 137 papers for inclusion in the scientific program: 108 papers for Track A and 29 for Track B. The selection was made by the Program Committees based on originality, quality, and relevance to theoretical computer science. The quality of the manuscripts was very high indeed, and many deserving papers could not be selected.

The EATCS sponsored awards for both a best paper and a best student paper in each of the two tracks, selected by the Program Committees.

The **best paper awards** were given to the following papers:

Track A: Sayan Bhattacharya and Peter Kiss. *Deterministic Rounding of Dynamic Fractional Matchings.*

Track B: Antoine Amarilli, Louis Jachiet and Charles Paperman. *Dynamic Membership for Regular Languages.*

The **best student paper awards**, for papers that are solely authored by students, were given to the following paper:

Track A: Or Zamir. *Breaking the 2^n barrier for 5-coloring and 6-coloring.*

Track B: *none.*

Apart from the contributed talks, ICALP 2021 included invited presentations by Christel Baier (Technical University of Dresden), Andrei Bulatov (Simon Fraser University, Canada), Keren Censor-Hillel (Technion, Israel), Toniann Pitassi (University of Toronto, Canada), Adi Shamir (Weizmann Institute of Science, Israel), David Woodruff (Carnegie Mellon University, USA).

This volume contains all the contributed papers presented at the conference, papers that accompany the invited talks of Christel Baier, Andrei Bulatov, Keren Censor-Hillel, Adi Shamir, David Woodruff, and an abstract of the invited presentation of Toniann Pitassi.

The program of ICALP 2021 also included presentations of the EATCS Award 2021 to Toniann Pitassi, the Presburger Award 2021 to Shayan Oveis Gharan, the EATCS Distinguished Dissertation Awards to Talya Eden, Marie Fortin, Vera Traub, and the induction of new EATCS Fellows Luca Aceto, Rajeev Alur, Samir Khuller, David Peleg, Davide Sangiorgi, Saket Saurabh.

The following workshops were held as satellite events of ICALP 2021 on July 12, 2021:

- Algorithmic Aspects of Temporal Graphs IV (AATG)
- Verification of Session Types (VEST)
- Programming Research in Mainstream Languages (PRiML)

48th International Colloquium on Automata, Languages, and Programming (ICALP 2021).

Editors: Nikhil Bansal, Emanuela Merelli, and James Worrell



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- Graph Width Parameters: from Structure to Algorithms (GWP)
- Combinatorial Reconfiguration
- Formal methods education on-line: Tips, Tricks and Tools
- Flavours of Uncertainty in Verification, Planning and Optimization (FUNCTION)

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We would like to thank Anca Muscholl, the Chair of the ICALP Steering Committee, for her continuous support and Artur Czumaj, the president of EATCS, for his generous advice on the organization of the conference.

July 2021

Nikhil Bansal
Emanuela Merelli
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■ List of Authors

- Amir Abboud (7)
Weizmann Institute of Science, Rehovot, Israel
- Samson Abramsky  (115)
Department of Computer Science,
University of Oxford, UK
- Dimitris Achlioptas (8)
Department of Informatics &
Telecommunications, University of Athens,
Greece
- Deeksha Adil (9)
University of Toronto, Canada
- Pankaj K. Agarwal (10, 11)
Department of Computer Science,
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- Marc Aiguier  (132)
Université Paris-Saclay, CentraleSupélec,
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- Shyan Akmal  (12, 13)
MIT, EECS and CSAIL, Cambridge, MA, USA
- Noga Alon (14)
Department of Mathematics,
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- Antoine Amarilli  (116)
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Technische Universität Dresden, Germany
- Tanvi Bajpai (21)
University of Illinois, Urbana-Champaign,
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- Paolo Baldan  (117)
Dipartimento di Matematica,
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- Borja Balle (118)
DeepMind, London, UK
- Etienne Bamas (22)
EPFL, Lausanne, Switzerland
- Sayan Bandyopadhyay  (23)
Department of Informatics,
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- Gabriel Bathie (119)
École normale supérieure de Lyon, France
- Eleni Batziou (24)
Technical University of Munich, Germany
- Soheil Behnezhad (19)
Department of Computer Science,
University of Maryland, College Park, MD, USA
- Ran Ben Basat  (25)
University College London, UK
- Matthias Bentert (26)
Faculty IV, Algorithmics and Computational
Complexity, Technische Universität Berlin,
Germany
- Mario Berta (82)
Department of Computing,
Imperial College London, UK;
IQIM, California Institute of Technology,
Pasadena, CA, USA;
AWS Center for Quantum Computing,
Pasadena, CA, USA
- Sayan Bhattacharya (27)
Department of Computer Science,
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- Marcin Bienkowski  (28)
Institute of Computer Science,
University of Wrocław, Poland
- Andreas Björklund (29)
Lund, Sweden
- Guy Blanc (30)
Stanford University, CA, USA

- Joakim Blikstad (31)
KTH Royal Institute of Technology,
Stockholm, Sweden
- Manuel Bodirsky  (120)
Institut für Algebra, TU Dresden, Germany
- Andrej Bogdanov  (33)
Department of Computer Science and
Engineering and Institute of Theoretical
Computer Science and Communications,
Chinese University of Hong Kong, China
- Cosmin Bonchiş (135)
West University of Timișoara, Romania
- Édouard Bonnet  (34, 35)
Univ Lyon, CNRS, ENS de Lyon, Université
Claude Bernard Lyon 1, LIP UMR5668, France
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Saarland University, Saarland Informatics
Campus, Saarbrücken, Germany;
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- Moritz Buchem (42)
Maastricht University, Maastricht,
The Netherlands
- Andrei A. Bulatov  (2)
School of Computing Science,
Simon Fraser University, Burnaby, Canada
- Brian Bullins (9)
Toyota Technological Institute at Chicago,
IL, USA
- Jan Böker  (32)
RWTH Aachen University, Germany
- Massimo Cairo (43)
Department of Computer Science,
University of Helsinki, Finland
- Antonin Callard (122)
Université Paris-Saclay, ENS Paris-Saclay,
Département Informatique, 91190 Gif-sur-Yvette,
France
- Marco Carmosino (44)
Department of Computer Science,
Boston University, MA, USA
- Antonio Casares  (123)
LaBRI, Université de Bordeaux, France
- Katrin Casel  (91)
Hasso Plattner Institute,
University of Potsdam, Germany
- Ruoxu Cen (45)
Duke University, Durham, NC, USA
- Keren Censor-Hillel (3, 46)
Department of Computer Science, Technion,
Haifa, Israel
- Deeparnab Chakrabarty (21)
Dartmouth College, Hanover, NH, USA
- Timothy M. Chan (47)
University of Illinois at Urbana-Champaign,
IL, USA
- Panagiotis Charalampopoulos  (48)
The Interdisciplinary Center Herzliya, Israel
- Krishnendu Chatterjee (124)
IST Austria, Klosterneuburg, Austria
- Chandra Chekuri (21, 49, 50)
University of Illinois, Urbana-Champaign,
Urbana, IL, USA
- Lijie Chen (51, 52)
MIT, Cambridge, MA, USA
- Yu Chen (53)
Department of Computer and Information
Science, University of Pennsylvania,
Philadelphia, PA, USA
- Kuan Cheng (54)
Peking University, Beijing, China
- Yu Cheng (45)
University of Illinois at Chicago, IL, USA
- Andrew M. Childs (55)
Joint Center for Quantum Information and
Computer Science, Department of Computer
Science, and Institute for Advanced Computer
Studies, University of Maryland, College Park,
MD, USA

- George Christodoulou (56)
University of Liverpool, UK
- Luca Ciccone  (125)
University of Torino, Italy
- Lorenzo Clemente  (126)
University of Warsaw, Poland
- Christian Coester (57)
CWI, Amsterdam, The Netherlands
- Thomas Colcombet  (123, 127)
CNRS, IRIF, Université de Paris, France
- Adrian Crăciun (135)
West University of Timișoara, Romania
- Wojciech Czerwiński  (128, 129)
University of Warsaw, Poland
- Artur Czumaj (58)
Department of Computer Science and DIMAP,
University of Warwick, Coventry, UK
- Gianlorenzo D'Angelo (59)
Gran Sasso Science Institute, L'Aquila, Italy
- Mina Dalirrooyfard (60)
MIT, Cambridge, MA, USA
- Christoph Damerius (61)
University of Hamburg, Germany
- Debarati Das (39)
Basic Algorithm Research Copenhagen (BARC),
University of Copenhagen, Denmark
- Ewan Davies  (62)
Department of Computer Science,
University of Colorado, Boulder, CO, USA
- Ronald de Wolf (110)
QuSoft, CWI, Amsterdam, The Netherlands;
University of Amsterdam, The Netherlands
- Yoann Dieudonné (36)
MIS Lab., Université de Picardie Jules Verne,
Amiens, France
- Clemens Dubslaff  (1)
Technische Universität Dresden, Germany
- Orr Dunkelman (4)
Computer Science Department,
University of Haifa, Israel
- Jonas Ellert  (63)
Department of Computer Science,
Technical University of Dortmund, Germany
- Matthias Englert (17)
University of Warwick, Coventry, UK
- Jacob Evald (64)
BARC, University of Copenhagen, Denmark
- Alireza Farhadi (54)
University of Maryland, College Park, MD, USA
- Omar Fawzi (82)
Univ Lyon, ENS Lyon, UCBL, CNRS, Inria,
LIP, F-69342, Lyon Cedex 07, France
- Nathanaël Fijalkow  (123)
CNRS, LaBRI, Université de Bordeaux, France;
The Alan Turing Institute of Data Science,
London, UK
- Johannes Fischer (63)
Department of Computer Science,
Technical University of Dortmund, Germany
- Fedor V. Fomin  (23)
Department of Informatics,
University of Bergen, Norway
- Dimitris Fotakis  (65)
National Technical University of Athens, Greece
- Viktor Fredslund-Hansen  (64)
BARC, University of Copenhagen, Denmark
- Dominik D. Freydenberger  (130)
Loughborough University, UK
- Tobias Friedrich  (66, 91)
Hasso Plattner Institute,
University of Potsdam, Germany
- Zachary Friggstad (67)
Department of Computer Science,
University of Alberta, Edmonton, Canada
- Hu Fu (68)
ITCS, Shanghai University of Finance and
Economics, China
- Florian Funke  (1)
Technische Universität Dresden, Germany
- Arun Ganesh (70)
Department of Computer Science,
University of California at Berkeley, CA, USA
- Arnab Ganguly (71)
Department of Computer Science,
University of Wisconsin – Whitewater, WI, USA
- Robert Ganian  (72)
Algorithms and Complexity Group,
TU Wien, Austria

Paritosh Garg (22)
EPFL, Lausanne, Switzerland


Paweł Gawrychowski  (48)
University of Wrocław, Poland

Colin Geniet (35)
University of Warsaw, Poland

Zeev Geyzel (4)
Mobileye, an Intel company, Jerusalem, Israel

Uma Girish (73)
Department of Computer Science, Princeton
University, NJ, USA


Sergey Goncharov  (131)
University Erlangen-Nürnberg, Germany

Alexandre Goy  (132)
Université Paris-Saclay, CentraleSupélec,
MICS, France

Andrei Graur (14)
Department of Management Science and
Engineering, Stanford University, CA, USA

Nick Gravin (74)
ITCS, Shanghai University of Finance and
Economics, China

Sander Gribling (110)
IRIF, Université de Paris, CNRS, Paris, France

Martin Grohe  (134)
RWTH Aachen University, Germany

Erich Grädel  (133)
RWTH Aachen University, Germany


Yong Gu (76)
Institute for Interdisciplinary Information
Sciences, Tsinghua University, Beijing, China


Yuzhou Gu (75)
MIT, Cambridge, MA, USA

Anupam Gupta (77)
Computer Science Department,
Carnegie Mellon University,
Pittsburgh, PA, USA

Venkatesan Guruswami (37)
Computer Science Department,
Carnegie Mellon University,
Pittsburgh, PA, USA

Maximilian Probst Gutenberg  (64)
ETH Zurich, Switzerland


Bernd Gärtner  (69)
Institute of Theoretical Computer Science,
Department of Computer Science,
ETH Zürich, Switzerland

Andreas Göbel  (66, 91)
Hasso Plattner Institute,
University of Potsdam, Germany


Bernhard Haeupler (78)
Carnegie Mellon University,
Pittsburgh, PA, USA;
ETH Zürich, Switzerland

MohammadTaghi Hajiaghayi (54)
University of Maryland, College Park, MD, USA

Thekla Hamm (72)
Algorithms and Complexity Group,
TU Wien, Austria


Kristoffer Arnsfelt Hansen  (24)
Aarhus University, Denmark

Maria Hartmann (79)
Institut für Informatik,
Freie Universität Berlin, Germany

Sebastian Haslebacher  (69)
Department of Computer Science,
ETH Zürich, Switzerland

Monika Henzinger (124)
Faculty of Computer Science,
University of Vienna, Austria

D. Ellis Hershkowitz (78)
Carnegie Mellon University,
Pittsburgh, PA, USA

Hung P. Hoang  (69)
Institute of Theoretical Computer Science,
Department of Computer Science,
ETH Zürich, Switzerland

Kenneth Hoover (44)
Department of Computer Science,
University of California, San Diego, CA, USA

Xiao Hu (11)
Duke University, Durham, NC, USA

Zhenjiang Hu (143)
Key Laboratory of High Confidence Software
Technologies (MoE), Department of Computer
Science and Technology, Peking University,
Beijing, China

Chien-Chung Huang (80)
CNRS, ENS, PSL, Paris, France

- Shih-Han Hung (55)
Joint Center for Quantum Information and
Computer Science, Department of Computer
Science, and Institute for Advanced Computer
Studies, University of Maryland, College Park,
MD, USA
- Kasper Høgh (24)
Aarhus University, Denmark
- Sharat Ibrahimpur  (81)
Department of Combinatorics and Optimization,
University of Waterloo, Canada
- Russell Impagliazzo (44)
Department of Computer Science,
University of California, San Diego, CA, USA
- Gabriel Istrate (135)
West University of Timișoara, Romania
- Louis Jachiet (116)
LTCI, Télécom Paris,
Institut Polytechnique de Paris, France
- Simon Jantsch  (1)
Technische Universität Dresden, Germany
- Arthur Jaquard  (127)
Université de Paris, CNRS, IRIF,
F-75006, Paris, France
- Hyejung H. Jee (82)
Department of Computing,
Imperial College London, UK
- Ce Jin (12)
MIT, EECS and CSAIL, Cambridge, MA, USA
- Zhengzhong Jin (54)
Johns Hopkins University, Baltimore, MD, USA
- Dominik Kaaser  (61)
University of Hamburg, Germany
- Valentine Kabanets (44)
School of Computing Science,
Simon Fraser University, Burnaby, Canada
- Sagar Sudhir Kale (124)
Faculty of Computer Science,
University of Vienna, Austria
- Tobias Kappé  (142)
Department of Computer Science,
Cornell University, Ithaca, NY, USA
- Adam Karczmarz  (83)
Institute of Informatics,
University of Warsaw, Poland
- Petteri Kaski (29)
Department of Computer Science,
Aalto University, Espoo, Finland
- Tali Kaufman (84)
Department of Computer Science,
Bar-Ilan University, Ramat-Gan, Israel
- Jenny Kaufmann  (60)
Harvard University, Cambridge, MA, USA
- Telikepalli Kavitha (85)
Tata Institute of Fundamental Research,
Mumbai, India
- Ken-ichi Kawarabayashi (86)
National Institute of Informatics, Tokyo, Japan
- Chaya Keller (4)
Department of Computer Science,
Ariel University, Israel
- Nathan Keller (4)
Department of Mathematics, Bar Ilan University,
Ramat Gan, Israel
- Sanjeev Khanna (53)
Department of Computer and Information
Science, University of Pennsylvania,
Philadelphia, PA, USA
- Sandra Kiefer  (134)
University of Warsaw, Poland;
RWTH Aachen University, Germany
- Eun Jung Kim  (35)
Université Paris-Dauphine, PSL University,
CNRS UMR7243, LAMSADE, Paris, France
- Peter Kiss (27)
Department of Computer Science,
University of Warwick, Coventry, UK
- Peter Kling  (61)
University of Hamburg, Germany
- Fabian Klute  (72)
Department of Information and Computing
Sciences, Utrecht University, The Netherlands
- Simon Knäuer (120)
Institut für Algebra, TU Dresden, Germany
- Gillat Kol (52)
Princeton University, NJ, USA
- Antonina Kolokolova (44)
Department of Computer Science,
Memorial University of Newfoundland,
St. John's, Canada

- George Kontogeorgiou (58)
Mathematics Institute, University of Warwick,
Coventry, UK
- Tuukka Korhonen  (87)
Department of Computer Science,
University of Helsinki, Finland
- Panagiotis Kostopanagiotis (65)
National Technical University of Athens, Greece
- Michal Koucký  (88)
Computer Science Institute, Charles University,
Prague, Czech Republic
- Elias Koutsoupias  (56, 57)
University of Oxford, UK
- Annamária Kovács (56)
Goethe University, Frankfurt am Main,
Germany
- Dexter Kozen  (142)
Department of Computer Science,
Cornell University, Ithaca, NY, USA
- Jakub Kozik  (89)
Theoretical Computer Science Department,
Faculty of Mathematics and Computer Science,
Jagiellonian University, Kraków, Poland
- László Kozma (79)
Institut für Informatik,
Freie Universität Berlin, Germany
- Artur Kraska  (28)
Institute of Computer Science,
University of Wrocław, Poland
- Martin S. Krejca  (66)
Sorbonne University, CNRS, LIP6, Paris, France
- Karel Král  (88)
Computer Science Institute,
Charles University, Prague, Czech Republic
- Adam Kurpisz (90)
Department of Mathematics,
ETH Zürich, Switzerland
- Rasmus Kyng (9)
ETH Zurich, Switzerland
- Arnaud Labourel  (36)
Aix Marseille Univ, Université de Toulon, CNRS,
LIS, Marseille, France
- Clara Lacroce  (118)
School of Computer Science,
McGill University, Montréal, Canada;
Mila, Montréal, Canada
- J. A. Gregor Lagodzinski  (91)
Hasso Plattner Institute,
University of Potsdam, Germany
- Michael Lampis  (92)
Université Paris-Dauphine, PSL University,
CNRS, LAMSADE, 75016, Paris, France
- Jane Lange (30)
MIT, Cambridge, MA, USA
- Sławomir Lasota  (128)
University of Warsaw, Poland
- Reut Levi  (93)
Efi Arazi School of Computer Science,
The Interdisciplinary Center Herzliya, Israel
- Tongyang Li (55)
Joint Center for Quantum Information and
Computer Science, Department of Computer
Science, and Institute for Advanced Computer
Studies, University of Maryland, College Park,
MD, USA;
Center for Theoretical Physics, MIT,
Cambridge, MA, USA
- Xin Li (54)
Johns Hopkins University, Baltimore, MD, USA
- Yangjia Li (136)
University of Tartu, Estonia;
SKLCS, Institute of Software, CAS,
Beijing, China
- Yinan Li  (110)
Graduate School of Mathematics,
Nagoya University, Japan
- Hsiang-Hsuan Liu  (28)
Utrecht University, The Netherlands
- Zhenjian Lu (51, 94)
University of Warwick, Coventry, UK
- Xin Lyu (51)
Tsinghua University, Beijing, China
- Bruce M. Maggs (70)
Department of Computer Science,
Duke University, Durham, NC, USA;
Emerald Innovations, Cambridge, MA, USA
- Rupak Majumdar  (1)
MPI-SWS, Kaiserslautern, Germany
- Noa Marelly (46)
Department of Computer Science,
Technion, Haifa, Israel
- Mathieu Mari (80)
University of Warsaw, Poland

- Dániel Marx (95)
CISPA Helmholtz Center for Information Security, Saarland Informatics Campus, Saarbrücken, Germany
- Claire Mathieu (80)
CNRS, IRIF, Université de Paris, France
- Nicolaos Matsakis (17)
Athens, Greece
- Theo McKenzie (96)
Department of Mathematics, University of California, Berkeley, CA, USA
- Michael Mitzenmacher  (25)
Harvard University, Cambridge, MA, USA
- Sidhanth Mohanty (96)
Department of Computer Science, University of California, Berkeley, CA, USA
- Bojan Mohar (86)
Department of Mathematics, Simon Fraser University, Burnaby, Canada; IMFM, Department of Mathematics, University of Ljubljana, Slovenia
- Benjamin Monmege  (137)
Aix Marseille Univ, Université de Toulon, CNRS, LIS, France
- Benjamin Moseley (77, 97)
Tepper School of Business, Carnegie Mellon University, Pittsburgh, PA, USA
- Antoine Mottet  (129, 138)
Department of Algebra, Faculty of Mathematics and Physics, Charles University, Prague, Czech Republic
- Shay Mozes  (48)
The Interdisciplinary Center Herzliya, Israel
- Lovro Mrkonjić  (133)
RWTH Aachen University, Germany
- Ansh Nagda (53)
University of Washington, Seattle, WA, USA
- Tomáš Nagy  (138)
Institut für Diskrete Mathematik und Geometrie, Technische Universität Wien, Austria; Department of Algebra, Faculty of Mathematics and Physics, Charles University, Prague, Czech Republic
- Yonatan Nakar (98)
Tel Aviv University, Israel
- Vasileios Nakos (41, 65)
Saarland University, Saarland Informatics Campus, Saarbrücken, Germany; Max Planck Institute for Informatics, Saarland Informatics Campus, Saarbrücken, Germany
- Roman Nedela (86)
University of West Bohemia, Pilsen, Czech Republic
- Maryam Negahbani (21)
Dartmouth College, Hanover, NH, USA
- Eike Neumann (99)
Max Planck Institute for Software Systems, Saarland Informatics Campus, Saarbrücken, Germany
- Ilan Newman (100)
University of Haifa, Israel
- Lê Thành Dũng (Tito) Nguyễn  (139)
Laboratoire d'informatique de Paris Nord, Villetaneuse, France
- André Nichterlein  (26)
Faculty IV, Algorithmics and Computational Complexity, Technische Universität Berlin, Germany
- Harold Nieuwboer  (110)
Korteweg-de Vries Institute for Mathematics and QuSoft, University of Amsterdam, The Netherlands
- Takaaki Nishimoto (101)
RIKEN Center for Advanced Intelligence Project, Tokyo, Japan
- Camille Noûs (139)
Laboratoire Cogitamus, Université Volante, Sevrans, France
- Igor C. Oliveira (51, 94)
University of Warwick, Coventry, UK
- Izhar Oppenheim  (84)
Department of Mathematics, Ben-Gurion University of the Negev, Be'er Sheva, Israel
- Łukasz Orlikowski (128)
University of Warsaw, Poland
- Joël Ouaknine (99)
Max Planck Institute for Software Systems, Saarland Informatics Campus, Saarbrücken, Germany
- Luca Padovani  (125)
University of Torino, Italy

- Prakash Panangaden  (118)
School of Computer Science,
McGill University, Montréal, Canada;
Mila, Montréal, Canada
- Debmalya Panigrahi (45, 70)
Duke University, Durham, NC, USA
- Charles Paperman  (116)
Univ. Lille, CNRS, INRIA, Centrale Lille, UMR
9189 CRISTAL, F-59000 Lille, France
- Marcus Pappik (66)
Hasso Plattner Institute,
University of Potsdam, Germany
- Irene Parada  (72)
TU Eindhoven, The Netherlands
- Dmitry Paramonov (52)
Princeton University, NJ, USA
- Ojas Parekh (102)
Sandia National Laboratories,
Albuquerque, NM, USA
- Julie Parreaux (137)
Aix Marseille Univ, Université de Toulon, CNRS,
LIS, France
- Paweł Parys  (140)
Institute of Informatics,
University of Warsaw, Poland
- Dhrumil Patel (71)
School of EECS, Louisiana State University,
Baton Rouge, LA, USA
- Mike Paterson (58)
Department of Computer Science and DIMAP,
University of Warwick, Coventry, UK
- Andrzej Pelc (36)
Département d'informatique,
Université du Québec en Outaouais,
Gatineau, Canada
- Will Perkins (62)
Department of Mathematics, Statistics, and
Computer Science, University of Illinois at
Chicago, IL, USA
- Enoch Peserico (103)
Università degli Studi di Padova, Italy
- Liat Peterfreund (130)
DI ENS, ENS Paris, CNRS, PSL University,
INRIA, France
- Daniela Petrișan  (132)
Université de Paris, IRIF, France
- Seth Pettie (104, 105)
University of Michigan, Ann Arbor, MI, USA
- Georgios Piliouras (65)
Singapore University of Technology and Design,
Singapore
- Michael Pinskier  (138)
Institut für Diskrete Mathematik und Geometrie,
Technische Universität Wien, Austria;
Department of Algebra, Faculty of Mathematics
and Physics, Charles University, Prague,
Czech Republic
- Jakob Piribauer  (1)
Technische Universität Dresden, Germany
- Toniann Pitassi (5)
University of Toronto, Canada
- Debashmita Poddar (59)
Gran Sasso Science Institute, L'Aquila, Italy
- Adam Polak  (75, 106)
École Polytechnique Fédérale de Lausanne,
Switzerland
- Aaron Potechin (90)
Department of Computer Science,
University of Chicago, IL, USA
- Pierre Pradic (139)
Department of Computer Science,
University of Oxford, UK
- Gautam Prakriya  (33)
Institute of Theoretical Computer Science and
Communications, Chinese University of Hong
Kong, China
- Kevin Pratt (38)
Carnegie Mellon University,
Pittsburgh, PA, USA
- Ian Pratt-Hartmann  (141)
Department of Computer Science,
University of Manchester, UK;
Institute of Computer Science,
University of Opole, Poland
- Doina Precup (118)
School of Computer Science,
McGill University, Montréal, Canada;
Mila, Montréal, Canada
- Kirk Pruhs (97)
University of Pittsburgh, PA, USA
- Karin Quaas (129)
University of Leipzig, Germany

- Kent Quanrud (49, 50)
Purdue University, West Lafayette, IN, USA
- Guillaume Rabusseau  (118)
DIRO, Université de Montréal,
Montréal, Canada;
CIFAR AI Chair, Mila, Montréal, Canada
- Francesco Ranzato  (117)
Dipartimento di Matematica,
University of Padova, Italy
- Ran Raz (73)
Department of Computer Science,
Princeton University, NJ, USA
- Luca Reggιο  (115)
Department of Computer Science,
University of Oxford, UK
- Hanlin Ren  (76)
Institute for Interdisciplinary Information
Sciences, Tsinghua University, Beijing, China
- Malte Renken  (26)
Faculty IV, Algorithmics and Computational
Complexity, Technische Universität Berlin,
Germany
- Pierre-Alain Reynier (137)
Aix Marseille Univ, Université de Toulon, CNRS,
LIS, France
- Nicolás Rivera  (107)
Department of Computer Science & Technology,
University of Cambridge, UK;
Instituto de Ingeniería Matemática,
University of Valparaíso, Chile
- Romeo Rizzi  (43)
Department of Computer Science,
University of Verona, Italy
- Lars Rohwedder  (22, 42, 106)
EPFL, Lausanne, Switzerland
- Dana Ron (98)
Tel Aviv University, Israel
- Eyal Ronen (4)
School of Computer Science,
Tel Aviv University, Israel
- Marc Roth  (108)
Merton College, University of Oxford, UK
- Aviad Rubinstein (54)
Stanford University, CA, USA
- Sebastian Rudolph  (120)
Computational Logic Group,
TU Dresden, Germany
- Amin Saberi (109)
Stanford University, CA, USA
- Sushant Sachdeva (9)
University of Toronto, Canada
- Alireza Samadian (97)
University of Pittsburgh, PA, USA
- Sai Sandeep (37)
Computer Science Department,
Carnegie Mellon University,
Pittsburgh, PA, USA
- Govind S. Sankar  (95)
Indian Institute of Technology Madras,
Chennai, India
- Thomas Sauerwald  (107)
Department of Computer Science & Technology,
University of Cambridge, UK
- Raghuvansh R. Saxena (52)
Princeton University, NJ, USA
- Philipp Schepper  (95)
CISPA Helmholtz Center for Information
Security, Saarland Informatics Campus,
Saarbrücken, Germany;
Saarbrücken Graduate School of Computer
Science, Saarland Informatics Campus, Germany
- Todd Schmid  (142)
Department of Computer Science,
University College London, UK
- Johannes Schmitt  (108)
Mathematical Institute,
University of Bonn, Germany
- Florian Schneider (61)
University of Hamburg, Germany
- Roy Schwartz (46)
Department of Computer Science,
Technion, Haifa, Israel
- Pascal Schweitzer (15, 16)
TU Kaiserslautern, Germany;
TU Darmstadt, Germany
- Michele Scquizzato (103)
Università degli Studi di Padova, Italy
- Saeed Seddighin (54)
Toyota Technological Institute,
Chicago, IL, USA
- Rahul Shah (71)
School of EECS, Louisiana State University,
Baton Rouge, LA, USA

- Adi Shamir (4)
Department of Computer Science,
Weizmann Institute of Science,
Rehovot, Israel
- Igor Shinkar (18)
Simon Fraser University, Burnaby, Canada
- Alexandra Silva  (142)
Department of Computer Science,
University College London, UK
- Kirill Simonov  (23)
Department of Informatics,
University of Bergen, Norway
- Corwin Sinnamon  (79)
Department of Computer Science,
Princeton University, NJ, USA
- Stavros Sintos (11)
University of Chicago, IL, USA
- Stratis Skoulakis (65)
Singapore University of Technology and Design,
Singapore
- Michał Skrzypczak  (126)
University of Warsaw, Poland
- Jasper Slusallek (40)
Saarland University, Saarland Informatics
Campus, Saarbrücken, Germany
- Zhao Song (52)
Institute for Advanced Study,
Princeton, NJ, US
- Carlo Sparaciari (82)
Department of Computing,
Imperial College London, UK;
Department of Physics and Astronomy,
University College London, UK
- Tatiana Starikovskaya (119)
DIENS, École normale supérieure de Paris, PSL
Research University, France
- Alex Steiger (10)
Department of Computer Science,
Duke University, Durham, NC, USA
- Kevin Sun (45)
Duke University, Durham, NC, USA
- Alexander Svozil (124)
Faculty of Computer Science,
University of Vienna, Austria
- Chaitanya Swamy  (67, 81)
Department of Combinatorics and Optimization,
University of Waterloo, Canada
- John Sylvester  (107)
Department of Computer Science & Technology,
University of Cambridge, UK;
School of Computing Science,
University of Glasgow, UK
- Yasuo Tabei (101)
RIKEN Center for Advanced Intelligence
Project, Tokyo, Japan
- Li-Yang Tan (30)
Stanford University, CA, USA
- Zhihao Gavin Tang (68, 74)
ITCS, Shanghai University of Finance and
Economics, China
- Robert E. Tarjan (79)
Department of Computer Science,
Princeton University, NJ, USA;
Intertrust Technologies, Sunnyvale, CA, USA
- Ran J. Tessler (4)
Department of Mathematics,
Weizmann Institute of Science, Rehovot, Israel
- Sharma V. Thankachan (71)
Department of Computer Science,
University of Central Florida, Orlando, FL, USA
- Stéphan Thomassé (35)
Univ Lyon, CNRS, ENS de Lyon,
Université Claude Bernard Lyon 1,
LIP UMR5668, France
- Kevin Thompson (102)
Sandia National Laboratories, Albuquerque,
NM, USA
- Alexandru I. Tomescu  (43)
Department of Computer Science,
University of Helsinki, Finland
- Tigran Tonoyan (46)
Department of Computer Science,
Technion, Haifa, Israel
- Dominique Unruh  (136)
University of Tartu, Estonia
- Joran van Apeldoorn (110)
Institute for Information Law and QuSoft,
University of Amsterdam, The Netherlands
- Pascal Vanier  (122)
Normandie Univ, UNICAEN, ENSICAEN,
CNRS, GREYC, 14000 Caen, France
- Shay Vargaftik  (25)
VMware Research, Herzliya, Israel

- Nithin Varma (100)
University of Haifa, Israel
- Virginia Vassilevska Williams (7, 13, 47)
MIT, EECS and CSAIL, Cambridge, MA, US
- Pavel Veselý (17)
Computer Science Institute of
Charles University, Prague, Czech Republic
- Cosimo Vinci (59)
Gran Sasso Science Institute, L'Aquila, Italy
- Emanuele Viola (111)
Khoury College of Computer Sciences,
Northeastern University, Boston, MA, USA
- Birgit Vogtenhuber  (72)
Graz University of Technology, Austria
- Tjark Vredeveld (42)
Maastricht University, Maastricht,
The Netherlands
- Nikhil Vyas  (20)
MIT, Cambridge, MA, USA
- Jens Vygen (80)
Research Institute for Discrete Mathematics &
Hausdorff Center for Mathematics,
University of Bonn, Germany
- David Wajc (78, 109)
Stanford University, CA, USA
- Michael Walter (110)
KdVI, ITFA, ILLC, and QuSoft,
University of Amsterdam, The Netherlands
- Dingyu Wang (104)
University of Michigan, Ann Arbor, MI, USA
- Kangning Wang (74)
Department of Computer Science,
Duke University, Durham, NC, USA
- Yuyan Wang (97)
Carnegie Mellon University,
Pittsburgh, PA, USA
- Rémi Watrigant  (35)
Univ Lyon, CNRS, ENS de Lyon,
Université Claude Bernard Lyon 1,
LIP UMR5668, France
- Oren Weimann  (48)
University of Haifa, Israel
- Philip Wellnitz  (108)
Max Planck Institute for Informatics,
Saarland Informatics Campus (SIC),
Saarbrücken, Germany
- Florian Wetzels (15)
TU Kaiserslautern, Germany
- Andreas Wiese (42)
University of Chile, Santiago, Chile
- Virginia Vassilevska Williams (75)
MIT, Cambridge, MA, USA
- Elias Samuel Wirth (90)
Institute of Mathematics, TU Berlin, Germany
- David P. Woodruff (6, 112)
Carnegie Mellon University,
Pittsburgh, PA, USA
- James Worrell (99)
Department of Computer Science,
Oxford University, UK
- Michał Wrona  (138)
Theoretical Computer Science Department,
Jagiellonian University, Kraków, Poland
- Hongxun Wu (68)
IIS, Tsinghua University, Beijing, China
- Jinzhao Wu (68)
Peking University, Beijing, China
- Christian Wulff-Nilsen  (64)
BARC, University of Copenhagen, Denmark
- Karol Węgrzycki  (106)
Saarland University, Saarland Informatics
Campus, Saarbrücken, Germany;
Max Planck Institute for Informatics, Saarland
Informatics Campus, Saarbrücken, Germany
- Han Xu (143)
Department of Computer Science and
Technology, Peking University, Beijing, China
- Yinzhan Xu (47, 75)
MIT, Cambridge, MA, USA
- Jun Yang (11)
Duke University, Durham, NC, USA
- Longhui Yin (104, 105)
Tsinghua University, Beijing, China
- Huacheng Yu (52)
Princeton University, NJ, USA
- Or Zamir (113)
Blavatnik School of Computer Science,
Tel Aviv University, Israel
- Kostas Zampetakis (8)
Department of Computer Science & Engineering,
University of California Santa Cruz, CA, USA

0:xxxviii Authors

Peter Zeman (86)
Department of Applied Mathematics,
Faculty of Mathematics and Physics,
Charles University, Prague, Czech Republic

Wei Zhan (73)
Department of Computer Science,
Princeton University, NJ, USA


Linpeng Zhang  (117)
Department of Computer Science,
University College London, UK


Qianfan Zhang (68)
IIIS, Tsinghua University, Beijing, China

Tianyi Zhang (114)
Tsinghua University, Beijing, China


Yu Zheng (54)
Johns Hopkins University, Baltimore, MD, USA


Rudy Zhou (77)
Tepper School of Business,
Carnegie Mellon University,
Pittsburgh, PA, USA

Samson Zhou  (112)
Carnegie Mellon University,
Pittsburgh, PA, USA

Robin Ziemek  (1)
Technische Universität Dresden, Germany

Elia C. Zironde (43)
Department of Mathematics,
University of Trento, Italy;
Department of Computer Science,
University of Verona, Italy

Philipp Zschoche  (26)
Faculty IV, Algorithmics and Computational
Complexity, Technische Universität Berlin,
Germany

Stanislav Živný  (121)
Department of Computer Science,
University of Oxford, UK