

# 8th International Conference on Formal Structures for Computation and Deduction

FSCD 2023, July 3–6, 2023, Rome, Italy

Edited by

Marco Gaboardi

Femke van Raamsdonk



*Editors*

**Marco Gaboardi**

Boston University, MA, USA  
gaboardi@bu.edu

**Femke van Raamsdonk**

Vrije Universiteit Amsterdam, The Netherlands  
f.van.raamsdonk@vu.nl

*ACM Classification 2012*

Theory of computation → Models of computation; Theory of computation → Formal languages and automata theory; Theory of computation → Logic; Theory of computation → Semantics and reasoning; Security and privacy → Formal methods and theory of security; Computing methodologies → Symbolic and algebraic manipulation; Software and its engineering → Formal software verification

**ISBN 978-3-95977-277-8**

*Published online and open access by*

Schloss Dagstuhl – Leibniz-Zentrum für Informatik GmbH, Dagstuhl Publishing, Saarbrücken/Wadern, Germany. Online available at <https://www.dagstuhl.de/dagpub/978-3-95977-277-8>.

*Publication date*

June, 2023

*Bibliographic information published by the Deutsche Nationalbibliothek*

The Deutsche Nationalbibliothek lists this publication in the Deutsche Nationalbibliografie; detailed bibliographic data are available in the Internet at <https://portal.dnb.de>.

*License*

This work is licensed under a Creative Commons Attribution 4.0 International license (CC-BY 4.0): <https://creativecommons.org/licenses/by/4.0/legalcode>.



In brief, this license authorizes each and everybody to share (to copy, distribute and transmit) the work under the following conditions, without impairing or restricting the authors' moral rights:

- Attribution: The work must be attributed to its authors.

The copyright is retained by the corresponding authors.

Digital Object Identifier: 10.4230/LIPIcs.FSCD.2023.0

**ISBN 978-3-95977-277-8**

**ISSN 1868-8969**

**<https://www.dagstuhl.de/lipics>**

## LIPICs – Leibniz International Proceedings in Informatics

LIPICs is a series of high-quality conference proceedings across all fields in informatics. LIPICs volumes are published according to the principle of Open Access, i.e., they are available online and free of charge.

### *Editorial Board*

- Luca Aceto (*Chair*, Reykjavik University, IS and Gran Sasso Science Institute, IT)
- Christel Baier (TU Dresden, DE)
- Mikolaj Bojanczyk (University of Warsaw, PL)
- Roberto Di Cosmo (Inria and Université de Paris, FR)
- Faith Ellen (University of Toronto, CA)
- Javier Esparza (TU München, DE)
- Daniel Král' (Masaryk University - Brno, CZ)
- Meena Mahajan (Institute of Mathematical Sciences, Chennai, IN)
- Anca Muscholl (University of Bordeaux, FR)
- Chih-Hao Luke Ong (University of Oxford, GB and Nanyang Technological University, SG)
- Phillip Rogaway (University of California, Davis, US)
- Eva Rotenberg (Technical University of Denmark, Lyngby, DK)
- Raimund Seidel (Universität des Saarlandes, Saarbrücken, DE and Schloss Dagstuhl – Leibniz-Zentrum für Informatik, Wadern, DE)

**ISSN 1868-8969**

**<https://www.dagstuhl.de/lipics>**



## ■ Contents

Preface	
<i>Marco Gaboardi and Femke van Raamsdonk</i> .....	0:ix–0:x
Committees	
.....	0:xi–0:xii
External Reviewers	
.....	0:xiii
Authors	
.....	0:xv–0:xvii

### Invited Talks

Nominal Techniques for Software Specification and Verification	
<i>Maribel Fernández</i> .....	1:1–1:4
How Can We Make Trustworthy AI?	
<i>Mateja Jamnik</i> .....	2:1–2:1
A Lambda Calculus Satellite	
<i>Giulio Manzonetto</i> .....	3:1–3:14
Termination of Term Rewriting: Foundation, Formalization, Implementation, and Competition	
<i>Akihisa Yamada</i> .....	4:1–4:5

### Regular Papers

Homotopy Type Theory as Internal Languages of Diagrams of $\infty$ -Logoses	
<i>Taichi Uemura</i> .....	5:1–5:19
The Formal Theory of Monads, Univalently	
<i>Niels van der Weide</i> .....	6:1–6:23
Automata-Based Verification of Relational Properties of Functions over Algebraic Data Structures	
<i>Théo Lasekoot, Thomas Genet, and Thomas Jensen</i> .....	7:1–7:22
The Sum-Product Algorithm For Quantitative Multiplicative Linear Logic	
<i>Thomas Ehrhard, Claudia Faggian, and Michele Pagani</i> .....	8:1–8:18
Generalized Newman’s Lemma for Discrete and Continuous Systems	
<i>Ievgen Ivanov</i> .....	9:1–9:17
E-Unification for Second-Order Abstract Syntax	
<i>Nikolai Kudasov</i> .....	10:1–10:22
Two Decreasing Measures for Simply Typed $\lambda$ -Terms	
<i>Pablo Barenbaum and Cristian Sottile</i> .....	11:1–11:19

8th International Conference on Formal Structures for Computation and Deduction (FSCD 2023).

Editors: Marco Gaboardi and Femke van Raamsdonk



Leibniz International Proceedings in Informatics

Schloss Dagstuhl – Leibniz-Zentrum für Informatik, Dagstuhl Publishing, Germany

Hydra Battles and AC Termination <i>Nao Hirokawa and Aart Middeldorp</i> .....	12:1–12:16
Strategies as Resource Terms, and Their Categorical Semantics <i>Lison Blondeau-Patissier, Pierre Clairambault, and Lionel Vaux Auclair</i> .....	13:1–13:22
Rewriting Modulo Traced Comonoid Structure <i>Dan R. Ghica and George Kaye</i> .....	14:1–14:21
Cost–Size Semantics for Call-By-Value Higher-Order Rewriting <i>Cynthia Kop and Deivid Vale</i> .....	15:1–15:19
Categorical Coherence from Term Rewriting Systems <i>Samuel Mimram</i> .....	16:1–16:17
Convolution Products on Double Categories and Categorification of Rule Algebras <i>Nicolas Behr, Paul-André Melliès, and Noam Zeilberger</i> .....	17:1–17:20
For the Metatheory of Type Theory, Internal Scoring Is Enough <i>Rafaël Bocquet, Ambrus Kaposi, and Christian Sattler</i> .....	18:1–18:23
The Logical Essence of Compiling with Continuations <i>José Espírito Santo and Filipa Mendes</i> .....	19:1–19:21
On the Lattice of Program Metrics <i>Ugo Dal Lago, Naohiko Hoshino, and Paolo Pistone</i> .....	20:1–20:19
Unifying Graded Linear Logic and Differential Operators <i>Flavien Breuwart, Marie Kerjean, and Simon Mirwasser</i> .....	21:1–21:21
$\alpha$ -Avoidance <i>Samuel Frontull, Georg Moser, and Vincent van Oostrom</i> .....	22:1–22:22
Partial Model Checking and Partial Model Synthesis in LTL Using a Tableau-Based Approach <i>Serenella Cerrito, Valentin Goranko, and Sophie Paillocher</i> .....	23:1–23:21
Combinatory Logic and Lambda Calculus Are Equal, Algebraically <i>Thorsten Altenkirch, Ambrus Kaposi, Artjoms Šinkarovs, and Tamás Végh</i> .....	24:1–24:19
Quotients and Extensionality in Relational Doctrines <i>Francesco Dagnino and Fabio Pasquali</i> .....	25:1–25:23
Type Isomorphisms for Multiplicative-Additive Linear Logic <i>Rémi Di Guardia and Olivier Laurent</i> .....	26:1–26:21
Cyclic Proofs for Arithmetical Inductive Definitions <i>Anupam Das and Lukas Melgaard</i> .....	27:1–27:18
Concurrent Realizability on Conjunctive Structures <i>Emmanuel Beffara, Félix Castro, Mauricio Guillermo, and Étienne Miquey</i> .....	28:1–28:21
A Quantitative Version of Simple Types <i>Daniele Pautasso and Simona Ronchi Della Rocca</i> .....	29:1–29:21

Knowledge Problems in Security Protocols: Going Beyond Subterm Convergent Theories  
*Saraid Dwyer Satterfield, Serdar Erbatur, Andrew M. Marshall, and Christophe Ringeissen* ..... 30:1–30:19

Labelled Tableaux for Linear Time Bunched Implication Logic  
*Didier Galmiche and Daniel Méry* ..... 31:1–31:17

Diller-Nahm Bar Recursion  
*Valentin Blot* ..... 32:1–32:16

Dinaturality Meets Genericity: A Game Semantics of Bounded Polymorphism  
*James Laird* ..... 33:1–33:16

Representing Guardedness in Call-By-Value  
*Sergey Goncharov* ..... 34:1–34:21





## ■ Preface

This volume contains the proceedings of the 8th International Conference on Formal Structures for Computation and Deduction (FSCD 2023), which was held July 3–6, 2023 in Rome, Italy. FSCD 2023 was co-located with the 29th International Conference on Automated Deduction, (CADE 2023), which was held July 1–4, 2023 in Rome, Italy.

The conference FSCD (<https://fscd-conference.org/>) covers all aspects of formal structures for computation and deduction, from theoretical foundations to applications. Building on two communities, RTA (Rewriting Techniques and Applications) and TLCA (Typed Lambda Calculi and Applications), FSCD embraces their core topics and broadens their scope to include closely related areas in logic and proof theory, new emerging models of computation, as well as semantics and verification in new and challenging areas.

The FSCD program featured four invited talks, given by Maribel Fernández (King’s College London, UK), Mateja Jamnik (University of Cambridge, UK), Giulio Manzonetto (LIPN&CNRS, Université Sorbonne Paris Nord, France), and Akihisa Yamada (Cyber Physical Security Research Center, National Institute of Advanced Industrial Science and Technology - AIST, Japan). The invited talks by Maribel Fernández and Mateja Jamnik were joint with CADE 2023; their contributions are also in the proceedings of CADE 2023.

The Program Committee of FSCD 2023 consisted of 31 members from 18 countries. FSCD 2023 received 60 submission with contributing authors from 19 countries. Almost every submitted paper has been reviewed by at least three PC members with the help of in total 90 external reviewers. The reviewing process, which included a rebuttal phase, took place over a period of nine weeks. A total of 30 papers were accepted for publication and are included in these proceedings. The EasyChair conference management system has been a very useful tool in all phases of the work of the Program Committee.

The Program Committee awarded the FSCD 2023 Best Paper Award by Junior Researchers to Taichi Uemura from Stockholm University for his paper ‘Homotopy type theory as internal languages of diagrams of  $\infty$ -logoses’.

In addition to the main conference, nine FSCD-associated workshop were held before or during the conference:

- DCM 2023: 13th International Workshop on Developments in Computational Models,
- HOR 2023: 11th International Workshop on Higher-Order Rewriting,
- IFIP WG 1.6: annual meeting of the IFIP Working Group 1.6 on Rewriting,
- LFMTTP 2023: International Workshop on Logical Frameworks and Meta-Languages: Theory and Practice,
- LSFA 2023: 18th International Workshop on Logical and Semantic Frameworks, with Applications,
- TLLA 2023: Seventh International Workshop on Trends in Linear Logic and Applications,
- UNIF 2023: 37th International Workshop on Unification,
- WiL 2023: 7th International Workshop Women in Logic,
- WPTE 2023: 10th International Workshop on Rewriting Techniques for Program Transformations and Evaluation.



This volume of FSCD 2023 is published in the LIPIcs series under a Creative Commons license: online access is free to all papers and authors retain rights over their contributions. We thank the Leibniz Center for Informatics at Schloss Dagstuhl, and in particular Michael Wagner and Michael Didas, for their prompt and helpful replies to our questions regarding the production of these proceedings, for their flexibility, and for their user-friendly submission system.

Many people have helped to make FSCD 2023 a successful meeting. On behalf of the Program Committee, we thank the authors of submitted papers for considering FSCD as a venue for their work. We are grateful to the Program Committee and to the external reviewers for their careful and constructive review and evaluation of the submitted papers. We thank all invited speakers for enriching the program with their talks. In addition, the associated workshops highly contributed to the lively scientific atmosphere of the meeting. We thank the organizers of the workshops, the Steering Committee Workshop Chair Cynthia Kop, and the Conference Workshop Chair Ivano Salvo for their efforts. Warm thanks to the Conference Chair of FSCD 2023, Daniele Gorla and his colleagues for the excellent organization of the conference. We thank the co-chairs of CADE 2023, Brigitte Pientka from McGill University and Cesare Tinelli of the University of Iowa, for the fruitful collaboration in the organization of our co-located events. We are very grateful to the Steering Committee of FSCD for their valuable and helpful guidance in setting up the meeting, and for ensuring that FSCD will have a bright and enduring future. We thank in particular the Steering Committee chair Herman Geuvers and the Steering Committee Publicity Chair Carsten Fuhs for their help and advice in smaller and larger matters during the preparation of the conference. Finally, we thank all participants of the conference for creating a lively and interesting event.

Marco Gaboardi and Femke van Raamsdonk  
Program Committee co-chairs of FSCD 2023

## ■ Committees

### Program Committee

Martin Avanzini	INRIA, France
Patrick Bahr	ITU Copenhagen, Denmark
Pablo Barenbaum	University of Quilmes (CONICET) & ICC, Argentina
Filippo Bonchi	University of Pisa, Italy
Sabine Broda	University of Porto, Portugal
Valeria De Paiva	Topos Institute, USA
Andrej Dudenhefner	TU Dortmund, Germany
Santiago Escobar	Universitat Politècnica de València, Spain
Claudia Faggian	University of Paris (IRIF), France
Frank (Peng) Fu	Dalhousie University, Canada
Marco Gaboardi (Co-Chair)	Boston University, USA
Silvio Ghilardi	University of Milano, Italy
Clemens Grabmayer	Gran Sasso Science Institute, Italy
Nao Hirokawa	JAIST, Japan
Mirai Ikebuchi	National Institute of Informatics, Japan
Ambrus Kaposi	Eötvös Loránd University, Hungary
Ian Mackie	University of Sussex, UK
Radu Mardare	University of Strathclyde, UK
Aart Middeldorp	University of Innsbruck, Austria
Anders Mörtberg	University of Stockholm, Sweden
Daniele Nantes-Sobrinho	Imperial College London, UK & University of Brasília, Brazil
Vincent van Oostrom	Independent researcher, The Netherlands
Femke van Raamsdonk (Co-Chair)	Vrije Universiteit Amsterdam, The Netherlands
Grigore Rosu	University of Illinois Urbana-Champaign, USA
Luca Roversi	University of Torino, Italy
Aleksy Schubert	University of Warsaw, Poland
Jakob G. Simonsen	University of Copenhagen, Denmark
Alwen Tiu	Australian National University, Australia
Valeria Vignudelli	CNRS/ENS Lyon, France
Johannes Waldmann	HTWK Leipzig, Germany
Sarah Winkler	University of Bolzano, Italy



### **Conference Chair**

Daniele Gorla      Sapienza Università di Roma, Italy

### **Workshop Chair**

Ivano Salvo      Sapienza Università di Roma, Italy

### **Steering Committee Workshop Chair**

Cynthia Kop      Radboud University Nijmegen, The Netherlands

### **Steering Committee Publicity Chair**

Carsten Fuhs      Birkbeck, University of London, UK

### **Steering Committee**

Zena Ariola	University of Oregon, USA
Alejandro Díaz-Caro	Quilmes University & ICC/CONICET, Argentina
Amy Felty	University of Ottawa, Canada
Carsten Fuhs	Birkbeck, University of London, UK
Herman Geuvers (Chair)	Radboud University Nijmegen, The Netherlands
Silvia Ghilezan	University of Novi Sad, Serbia
Jürgen Giesl	RWTH Aachen University, Germany
Stefano Guerrini	Université de Paris 13, France
Delia Kesner	Université de Paris Diderot, France
Naoki Kobayashi	University of Tokyo, Japan
Cynthia Kop	Radboud University Nijmegen, The Netherlands
Luigi Liquori	Inria, France
Daniele Nantes	Imperial College London, UK & University of Brasília, Brazil

## ■ External Reviewers


Nicolas Amat  
Pedro Ângelo  
Mauricio Ayala-Rincón  
Giorgio Bacci  
Davide Barbarossa  
Stefano Berardi  
Benno van den Berg  
Richard Blute  
Rafaël Bocquet  
Roberto Bruni  
Mihai Calancea  
Matteo Capucci  
Evan Cavallo  
David Cerna  
Jules Chouquet  
Pierre Clairambault  
Liron Cohen  
Bruce Collie  
Anupam Das  
Ivan Di Liberti  
Martín Diéguez  
Harley Eades III  
Jörg Endrullis  
Mário Florido  
Jonas Frey  
Francesco Gavazzo  
Alfons Geser  
Alexis Ghyselen  
Alessandro Gianola  
Marianna Girlando  
Tamara von Glehn  
Rajeev Gore  
Daniel Gratzner  
Adrien Guatto  
Stefano Guerrini  
Jules Hedges  
Stefan Hetzl  
Naohiko Hoshino  
Andrzej Indrzejczak  
Marie Kerjean  
Delia Kesner  
Cynthia Kop  
Clemens Kupke  
Dietrich Kuske  
Felix Laarmann

James Laird  
Salvador Lucas  
Giulio Manzonetto  
Ralph Matthes  
Nelma Moreira  
Haiko Muller  
Guillaume Munch-Maccagnoni  
Yuito Murase  
Keisuke Nakano  
Koji Nakazawa  
Lê Thành Dũng Nguyễn  
Paulo Oliva  
Dominic Orchard  
Eugenio Orlandelli  
Hugo Paquet  
Romain Péchoux  
Luc Pellissier  
Thomas Powell  
Jakob von Raumer  
Laurent Regnier  
Michel Rigo  
Alessio Santamaria  
Ralph Sarkis  
Alexis Saurin  
Gabriel Scherer  
Ezra Schoen  
Jonas Schöpf  
Ian Shillito  
Michael Shulman  
Alex Simpson  
Nicholas Smallbone  
Siva Somayyajula  
Bas Spitters  
Toby St Clere Smithe  
Lutz Straßburger  
René Thiemann  
Taichi Uemura  
Gabriele Vanoni  
Pedro Vasconcelos  
Daniel Ventura  
Luca Viganò  
Albert Visser  
Jan Willem Klop  
Akihisa Yamada  
Noson Yanofsky






## ■ List of Authors

Thorsten Altenkirch  (24)  
School of Computer Science,  
University of Nottingham, UK


Pablo Barenbaum (11)  
ICC, Universidad de Buenos Aires,  
Argentina; Universidad Nacional  
de Quilmes (CONICET), Buenos  
Aires, Argentina

Emmanuel Beffara  (28)  
Univ. Grenoble Alpes, CNRS,  
Grenoble INP, LIG, 38000  
Grenoble, France


Nicolas Behr  (17)  
CNRS, Université Paris Cité, IRIF,  
France

Lison Blondeau-Patissier (13)  
Aix Marseille Univ, CNRS, I2M  
and LIS, Marseille, France

Valentin Blot (32)  
Inria, Laboratoire Méthodes  
Formelles, Université Paris-Saclay,  
France

Rafaël Bocquet  (18)  
Eötvös Loránd University,  
Budapest, Hungary


Flavien Breuvert (21)  
LIPN, USPN, Villetaneuse, France

Félix Castro  (28)  
IRIF, Université Paris Cité,  
France; IMERL, Facultad de  
Ingeniería, Universidad de la  
República, Montevideo, Uruguay

Serenella Cerrito  (23)  
Université Paris Saclay, Univ  
EVRY, France

Pierre Clairambault  (13)  
Aix Marseille Univ, CNRS, LIS,  
Marseille, France


Francesco Dagnino  (25)  
DIBRIS, University of Genova,  
Italy


Ugo Dal Lago  (20)  
University of Bologna, Italy;  
INRIA Sophia Antipolis, France


Anupam Das  (27)  
University of Birmingham, UK

Rémi Di Guardia (26)  
Univ Lyon, EnsL, UCBL, CNRS,  
LIP, F-69342, LYON Cedex 07,  
France


Saraid Dwyer Satterfield (30)  
University of Mary Washington,  
Fredericksburg, VA, USA


Thomas Ehrhard  (8)  
Université de Paris Cité, CNRS,  
IRIF, F-75013, Paris, France

Serdar Erbatur  (30)  
University of Texas at Dallas, TX,  
USA

José Espírito Santo  (19)  
Centre of Mathematics, University  
of Minho, Portugal

Claudia Faggian (8)  
Université de Paris Cité, CNRS,  
IRIF, F-75013, Paris, France


Maribel Fernández  (1)  
Department of Informatics, King's  
College London, UK


Samuel Frontull  (22)  
Universität Innsbruck, Austria

Didier Galmiche (31)  
Université de Lorraine, CNRS,  
LORIA, Nancy, France

Thomas Genet  (7)  
Université de Rennes, IRISA,  
France

Dan R. Ghica  (14)  
University of Birmingham, UK

Sergey Goncharov  (34)  
Friedrich-Alexander-Universität  
Erlangen-Nürnberg, Germany

Valentin Goranko  (23)  
Stockholm University, Sweden; and  
University of the Witwatersrand,  
Johannesburg, South Africa  
(visiting professorship)


8th International Conference on Formal Structures for Computation and Deduction (FSCD 2023).  
Editors: Marco Gaboardi and Femke van Raamsdonk



Leibniz International Proceedings in Informatics  
Schloss Dagstuhl – Leibniz-Zentrum für Informatik, Dagstuhl Publishing, Germany

- Mauricio Guillermo  (28)  
IMERL, Facultad de Ingeniería,  
Universidad de la República,  
Montevideo, Uruguay
- Nao Hirokawa  (12)  
School of Information Science,  
JAIST, Ishikawa, Japan
- Naohiko Hoshino  (20)  
Sojo University, Japan
- Ievgen Ivanov (9)  
Taras Shevchenko National  
University of Kyiv, Ukraine
- Mateja Jamnik  (2)  
Department of Computer Science  
and Technology, University of  
Cambridge, UK
- Thomas Jensen  (7)  
Inria, Université de Rennes,  
France
- Ambrus Kaposi  (18, 24)  
Eötvös Loránd University,  
Budapest, Hungary
- George Kaye  (14)  
University of Birmingham, UK
- Marie Kerjean (21)  
CNRS, LIPN, USPN, Villetaneuse,  
France
- Cynthia Kop  (15)  
Institute for Computing and  
Information Sciences, Radboud  
University, Nijmegen, The  
Netherlands
- Nikolai Kudasov  (10)  
Innopolis University, Tatarstan  
Republic, Russia
- James Laird (33)  
Department of Computer Science,  
University of Bath, UK
- Olivier Laurent (26)  
Univ Lyon, EnsL, UCBL, CNRS,  
LIP, F-69342, LYON Cedex 07,  
France
- Théo Losekoot (7)  
Université de Rennes, IRISA,  
France
- Giulio Manzonetto  (3)  
Université Sorbonne Paris Nord,  
LIPN, UMR 7030, CNRS, F-93430  
Villetaneuse, France
- Andrew M. Marshall  (30)  
University of Mary Washington,  
Fredericksburg, VA, USA
- Lukas Melgaard (27)  
University of Birmingham, UK
- Paul-André Melliès  (17)  
CNRS, Université Paris Cité,  
INRIA, France
- Filipa Mendes (19)  
Centre of Mathematics, University  
of Minho, Portugal
- Aart Middeldorp  (12)  
Department of Computer Science,  
Universität Innsbruck, Austria
- Samuel Mimram  (16)  
LIX, École polytechnique,  
Palaiseau, France
- Étienne Miquey  (28)  
Aix-Marseille Université, CNRS,  
I2M, Marseille, France
- Simon Mirwasser (21)  
LIPN, USPN, Villetaneuse, France
- Georg Moser  (22)  
Universität Innsbruck, Austria
- Daniel Méry (31)  
Université de Lorraine, CNRS,  
LORIA, Nancy, France
- Michele Pagani  (8)  
Université de Paris Cité, IRIF,  
F-75013, Paris, France
- Sophie Paillocher (23)  
Université Paris Saclay Univ  
EVRY, France
- Fabio Pasquali  (25)  
DIMA, University of Genova, Italy
- Daniele Pautasso (29)  
Dipartimento di Informatica,  
University of Torino, Italy
- Paolo Pistone  (20)  
University of Bologna, Italy




Christophe Ringeissen  (30)  
Université de Lorraine, CNRS,  
Inria, LORIA, F-54000 Nancy,  
France


Simona Ronchi Della Rocca  
(29)  
Dipartimento di Informatica,  
University of Torino, Italy


Christian Sattler  (18)  
Chalmers University of Technology,  
Gothenburg, Sweden

Cristian Sottile (11)  
ICC, Universidad de Buenos Aires  
(CONICET), Argentina;  
Universidad Nacional de Quilmes,  
Buenos Aires, Argentina


Taichi Uemura  (5)  
Stockholm University, Sweden

Deivid Vale  (15)  
Institute for Computing and  
Information Sciences, Radboud  
University, Nijmegen, The  
Netherlands

Niels van der Weide  (6)  
Institute for Computing and  
Information Sciences, Radboud  
University, Nijmegen, The  
Netherlands

Vincent van Oostrom  (22)  
Barendrecht, The Netherlands

Lionel Vaux Auclair  (13)  
Aix Marseille Univ, CNRS, I2M,  
Marseille, France

Tamás Végh  (24)  
Eötvös Loránd University,  
Budapest, Hungary

Akihisa Yamada (4)  
National Institute of Advanced  
Industrial Science and Technology,  
Tokyo, Japan

Noam Zeilberger (17)  
École Polytechnique, LIX,  
Palaiseau, France

Artjoms Šinkarovs  (24)  
Heriot-Watt University,  
Edinburgh, UK

