

26th International Conference on Rewriting Techniques and Applications

RTA'15, June 29 to July 1, 2015, Warsaw, Poland

Edited by

Maribel Fernández



Editor

Maribel Fernández
Department of Informatics
King's College London, UK
Maribel.Fernandez@kcl.ac.uk

ACM Classification 1998

D.1 Programming Techniques, D.2 Software Engineering, D.3 Programming Languages, F.1 Computation by Abstract Devices, F.2 Analysis of Algorithms and Problem Complexity, F.3 Logics and Meanings of Programs, F.4 Mathematical Logic and Formal Languages, I.1 Symbolic and Algebraic Manipulation, I.2 Artificial Intelligence

ISBN 978-3-939897-85-9

Published online and open access by

Schloss Dagstuhl – Leibniz-Zentrum für Informatik GmbH, Dagstuhl Publishing, Saarbrücken/Wadern, Germany. Online available at <http://www.dagstuhl.de/dagpub/9978-3-939897-85-9>.

Publication date

June, 2015

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 <http://dnb.d-nb.de>.

License

This work is licensed under a Creative Commons Attribution 3.0 Unported license (CC-BY 3.0): <http://creativecommons.org/licenses/by/3.0/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.RTA.2015.i

■ Contents

Preface	
<i>Maribel Fernández</i>	vii

Invited Talks

Port Graphs, Rules and Strategies for Dynamic Data Analytics – Extended Abstract	
<i>Hélène Kirchner</i>	1
Matching Logic – Extended Abstract	
<i>Grigore Roşu</i>	5
Executable Formal Models in Rewriting Logic	
<i>Carolyn Talcott</i>	22

Regular Papers

Certification of Complexity Proofs Using CeTA	
<i>Martin Avanzini, Christian Sternagel, and René Thiemann</i>	23
Dismatching and Local Disunification in \mathcal{EL}	
<i>Franz Baader, Stefan Borgwardt, and Barbara Morawska</i>	40
Nominal Anti-Unification	
<i>Alexander Baumgartner, Temur Kutsia, Jordi Levy, and Mateu Villaret</i>	57
A faithful encoding of programmable strategies into term rewriting systems	
<i>Horatiu Cirstea, Sergueï Lenglet, and Pierre-Etienne Moreau</i>	74
Presenting a Category Modulo a Rewriting System	
<i>Florence Clerc and Samuel Mimram</i>	89
Confluence of nearly orthogonal infinitary term rewriting systems	
<i>Łukasz Czajka</i>	106
No complete linear term rewriting system for propositional logic	
<i>Anupam Das and Lutz Straßburger</i>	127
A Coinductive Framework for Infinitary Rewriting and Equational Reasoning	
<i>Jörg Endrullis, Helle Hansen, Dimitri Hendriks, Andrew Polonsky, and Alessandra Silva</i>	143
Proving non-termination by finite automata	
<i>Jörg Endrullis and Hans Zantema</i>	160
Reachability Analysis of Innermost Rewriting	
<i>Thomas Genet and Yann Salmon</i>	177
Network Rewriting II: Bi- and Hopf Algebras	
<i>Lars Hellström</i>	194
Leftmost Outermost Revisited	
<i>Nao Hirokawa, Aart Middeldorp, and Georg Moser</i>	209

26th International Conference on Rewriting Techniques and Applications (RTA'15).

Editor: M. Fernández



Leibniz International Proceedings in Informatics

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

Conditional Complexity <i>Cynthia Kop, Aart Middeldorp, and Thomas Sternagel</i>	223
Constructing Orthogonal Designs in Powers of Two: Gröbner Bases Meet Equational Unification <i>Ilias Kotsireas, Temur Kutsia, and Dimitris E. Simos</i>	241
Improving Automatic Confluence Analysis of Rewrite Systems by Redundant Rules <i>Julian Nagele, Bertram Felgenhauer, and Aart Middeldorp</i>	257
Certified Rule Labeling <i>Julian Nagele and Harald Zankl</i>	269
Transforming Cycle Rewriting into String Rewriting <i>David Sabel and Hans Zantema</i>	285
Confluence of Orthogonal Nominal Rewriting Systems Revisited <i>Takaki Suzuki, Kentaro Kikuchi, Takahito Aoto, and Yoshihito Toyama</i>	301
Matrix Interpretations on Polyhedral Domains <i>Johannes Waldmann</i>	318

System Description Papers

Inferring Lower Bounds for Runtime Complexity <i>Florian Frohn, Jürgen Giesl, Jera Hensel, Cornelius Aschermann, and Thomas Ströder</i>	334
A Simple and Efficient Step Towards Type-Correct XSLT Transformations <i>Markus Lepper and Baltasar Trancón y Widemann</i>	350
DynSem: A DSL for Dynamic Semantics Specification <i>Vlad Vergu, Pierre Neron, and Eelco Visser</i>	365