

CAMBRIDGE

## Noteworthy New Titles from Cambridge!

### An Introduction to Bisimulation and Coinduction

Davide Sangiorgi

\$80.00; Hb: 978-1-107-00363-7; 264 pp.

### Advanced Topics in Bisimulation and Coinduction

*Edited by Davide Sangiorgi and Jan Rutten*

*Cambridge Tracts in Theoretical Computer Science*

\$99.00; Hb: 978-1-107-00497-9; 340 pp.

### An Introduction to Category Theory

Harold Simmons

\$90.00; Hb: 978-1-107-01087-1; 232 pp.

\$29.99; Pb: 978-0-521-28304-5

### Motivic Integration and its Interactions with Model Theory and Non-Archimedean Geometry

*Edited by Raf Cluckers, Johannes Nicaise, and Julien Sebag*

*London Mathematical Society Lecture Note Series*

Volume 1

\$65.00; Pb: 978-0-521-14976-1; 350 pp.

Volume 2

\$65.00; Pb: 978-1-107-64881-4; 270 pp.

*Second Edition*

### Graph Algorithms

Shimon Even and Guy Even

\$90.00; Hb: 978-0-521-51718-8; 208 pp.

\$32.99; Pb: 978-0-521-73653-4



### Unification Grammars

Nissim Francez

and Shuly Wintner

\$95.00; Hb: 978-1-107-01417-6; 336 pp.

### Quantifiers, Propositions and Identity

Admissible Semantics for Quantified Modal and Substructural Logics

Robert Goldblatt

*Lecture Notes in Logic*

\$75.00; Hb: 978-1-107-01052-9; 288 pp.

### Set Theory, Arithmetic, and Foundations of Mathematics

Theorems, Philosophies

*Edited by Juliette Kennedy and Roman Kossak*

*Lecture Notes in Logic*

\$70.00; Hb: 978-1-107-00804-5; 250 pp.

### A Course on Set Theory

Ernest Schimmerling

\$99.00; Hb: 978-1-107-00817-5; 178 pp.

\$34.99; Pb: 978-1-107-40048-1

### Simple Theories and Hyperimaginaries

Enrique Casanovas

*Lecture Notes in Logic*

\$75.00; Hb: 978-0-521-11955-9; 192 pp.

Price subject to change.

[www.cambridge.org/us/computerscience](http://www.cambridge.org/us/computerscience)

800.872.7423



CAMBRIDGE  
UNIVERSITY PRESS

CAMBRIDGE

JOURNALS

# Combinatorics, Probability and Computing

## Editor-in-Chief

Béla Bollobás, *DPMMS, Cambridge, UK; University of Memphis, USA*

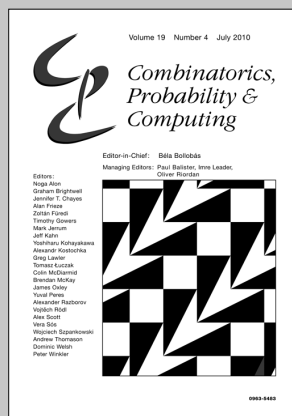
Published bimonthly, *Combinatorics, Probability & Computing* is devoted to the three areas of combinatorics, probability theory and theoretical computer science. Topics covered include classical and algebraic graph theory, extremal set theory, matroid theory, probabilistic methods and random combinatorial structures; combinatorial probability and limit theorems for random combinatorial structures; the theory of algorithms (including complexity theory), randomised algorithms, probabilistic analysis of algorithms, computational learning theory and optimisation.

## Price information

is available at: <http://journals.cambridge.org/cpc>

## Free email alerts

Keep up-to-date with new material – sign up at  
<http://journals.cambridge.org/cpc-alerts>



## *Combinatorics, Probability and Computing*

is available online at:  
<http://journals.cambridge.org/cpc>

## To subscribe contact Customer Services

### in Cambridge:

Phone +44 (0)1223 326070  
Fax +44 (0)1223 325150  
Email [journals@cambridge.org](mailto:journals@cambridge.org)

### in New York:

Phone +1 (845) 353 7500  
Fax +1 (845) 353 4141  
Email  
[subscriptions\\_newyork@cambridge.org](mailto:subscriptions_newyork@cambridge.org)

For free online content visit:  
<http://journals.cambridge.org/cpc>



CAMBRIDGE  
UNIVERSITY PRESS

## Instructions for contributors

### Editorial policy

*Mathematical Structures in Computer Science (MSCS)* is a journal of theoretical computer science which focuses on the application of ideas from the structural side of mathematics and mathematical logic to computer science. The journal aims to bridge the gap between theoretical contributions and software design, publishing original papers or broad surveys with original perspectives in all areas of computing, provided that ideas or results from logic, algebra, geometry, category theory or other areas of logic and mathematics form a basis for the work. The journal also welcomes applications to computing based on the use of specific mathematical structures (e.g. topological and order-theoretic structures) as well as on proof-theoretic notions or results. In addition, it is interested in contributions in new interdisciplinary fields bridging computer science, quantum physics, mathematics and information theory. In particular, papers on mathematical formalisms for quantum computation, quantum information processing and communication will be considered.

The journal will also consider papers on computational modelling of epigenetic phenomena, protein-protein interactions, stochasticity in molecular cascades. Mathematical approaches to System Biology will be welcomed, within the broad framework of post-genomic views of embryogenesis and evolution.

The purpose of the journal is to increase the circulation of new very high standard results in fast growing areas which are currently influencing various aspects of actual computing. Indeed, this journal is not meant to be only a 'theory journal' but, by choosing as a theme the use of mathematical methods of Computer Science independently of their area of application, it aims to highlight connections among different topics and to encourage applications of theoretical contributions.

In order to promote the use of mathematical methods in computer science, expository and introductory papers are welcome, provided that there is a clear connection to computational issues or they investigate mathematical structures whose relevance to computer science is well established. However, these contributions should be directed to the broad audience of computer scientists to which this journal is addressed. Equally, discussions of a methodological or philosophical nature concerning the foundation of Computer Science are of interest for the journal.

### Submission of manuscripts

Papers may be submitted to any member of the Editorial Board. A file .pdf should be sent accompanied by the author's address, telephone and fax number, and e-mail address.

A copy of the paper together with the name of the editor chosen should also be sent to the Editor-in-Chief who will record the submission.

Submission of a paper is taken to imply that it has not been previously published and that it is not being considered for publication elsewhere. Authors of articles published in the journal assign copyright to Cambridge University Press (with certain rights reserved) and you will receive a copyright assignment form for signature on acceptance of your paper.

The publisher encourages submission of papers written in LaTeX using the *MSCS* LaTeX style file. The LaTeX 2.09 style file *mcs.sty* together with a guide to its use *mcsguide.tex*, or the corresponding LaTeX 2e file *mcs.cls* are available via anonymous ftp from the Cambridge University Press site at <ftp.cup.cam.ac.uk> in the directories `/pub/texarchive/journals/latex/mcs-sty` or `/pub/texarchive/journals/latex/mcs-cls`. In the directory `/pub/texarchive/journals/latex/mcs-sty` you will find a concatenated file called *mcs.all*. This file contains *readme.txt*, *mcs.sty* and *mcsguid.tex*. If you Tex *mcsguid.tex* you will get a full set of instructions for using the style file. In case of difficulties obtaining these files, there is a help-line available via e-mail; please contact [texsupport@techbooks.com](mailto:texsupport@techbooks.com). While use of the *MSCS* LaTeX style file is preferred, ordinary LaTeX or plain TeX files can also be accepted.

**On final acceptance of their paper**, authors should make accessible to the Editor-in-Chief (downloadable) the LaTeX source code including all figures (line figures only), a file .pdf and author-defined macro and style files, together with a hard copy produced using the same file. Discs should be in Apple Mac or PC format and will not be returned. The publisher reserves the right to typeset any article by conventional means if the author's TeX code presents problems in production.

### Layout of manuscripts

Papers should be typewritten in **double spacing throughout**, on one side of the paper. Please avoid footnotes if possible. Papers should begin with an abstract of not more than 300 words and should end with a brief concluding section.

### Illustrations

Figures should be drawn in indian ink on good quality white paper or produced by computer to comparable quality. Wherever possible they will be reproduced with the author's original lettering. Originals of figures should not be sent until the paper has been accepted. A list of captions should be attached separately.

### References

The Harvard system of references should be used. In the text, a reference should be quoted by the author's name and date in parentheses, in date order, e.g. (Smith 1983; Jones and Jones 1985; Hunter 1986a,b). Where there are three or more authors, the first name followed by et al. should be used. A full list of references should be given at the end of the main text, listing, in alphabetical order, surname of author and initials; year of publication (in parentheses); article title; journal name abbreviated in accordance with the *World List of Scientific Periodicals* (4th edn); volume number; inclusive page numbers. For books and conference proceedings, place of publication and publisher (and Editor(s) if appropriate) should be included.

### Proof Reading

Typographical or factual errors only may be changed at proof stage. The publisher reserves the right to charge authors for correction of non-typographical errors. No page charge is made.

### Offprints

Extra offprints may be purchased from the publisher if ordered at proof stage.

© Cambridge University Press 2011

PUBLISHED BY THE PRESS SYNDICATE OF THE UNIVERSITY OF CAMBRIDGE

The Pitt Building, Trumpington Street, Cambridge CB2 1RP, United Kingdom

CAMBRIDGE UNIVERSITY PRESS

The Edinburgh Building, Cambridge CB2 8RU, United Kingdom

32 Avenue of the Americas, New York, NY 10013-2473, USA

477 Williamstown Road, Port Melbourne, VIC 3207, Australia

C/Orense, 4, planta 13, 28020 Madrid, Spain

Lower Ground Floor, Nautica Building, The Water Club, Beach Road, Granger Bay, 8005 Cape Town, South Africa

# MSCS

DECEMBER 2011 VOLUME 21 NUMBER 6

## CONTENTS

### SPECIAL ISSUE: PROGRAMMING LANGUAGE INTERFERENCE AND DEPENDENCE

**GUEST EDITORS: DAVID CLARK, ROBERTO GIACOBAZZI AND CHUNYAN MU**

- Foreword: programming language interference and dependence 1109  
DAVID CLARK, ROBERTO GIACOBAZZI AND CHUNYAN MU
- Non-disclosure for distributed mobile code 1111  
ANA ALMEIDA MATOS AND JAN CEDERQUIST
- Non-termination and secure information flow 1183  
GEOFFREY SMITH AND RAFAEL ALPÍZAR
- Secure information flow by self-composition 1207  
GILLES BARTHE, PEDRO R. D'ARGENIO AND TAMARA REZK
- Modelling declassification policies using abstract domain completeness 1253  
ISABELLA MASTROENI AND ANINDYA BANERJEE
- Provenance as dependency analysis 1301  
JAMES CHENEY, AMAL AHMED AND UMUT A. ACAR
- On the computational complexity of dynamic slicing problems for program schemas 1339  
SEBASTIAN DANICIC, ROBERT. M. HIERONS AND MICHAEL R. LAURENCE

© Cambridge University Press 2011

Cambridge Journals Online

For further information about this journal  
please go to the journal website at:  
[journals.cambridge.org/msc](http://journals.cambridge.org/msc)



MIX  
Paper from  
responsible sources  
FSC® C018127

**CAMBRIDGE**  
UNIVERSITY PRESS