

*THEORY AND APPLICATIONS OF CATEGORIES*

Volume 16, 2006

Monads of effective descent type and comonadicity Bachuki Mesablishvili	1
Action groupoid in protomodular categories Dominique Bourn	46
Inverting weak dihomotopy equivalence using homotopy continuous flow Philippe Gaucher	59
Frobenius algebras and ambidextrous adjunctions Aaron D. Lauda	84
Every Grothendieck topos has a one-way site Colin McLarty	123
Points of affine categories and additivity A. Carboni and G. Janelidze	127
Preserving homology Michael Barr	132
Thin fillers in the cubical nerves of omega-categories Richard Steiner	144

Free A_∞ -categories Volodymyr Lyubashenko and Oleksandr Manzyuk	174
A characterization of quantic quantifiers in orthomodular lattices Leopoldo Román	206
Exponentiability in lax slices of Top Susan Niefield	218
Closedness properties of internal relations I: A unified approach to Mal'tsev, unital and subtractive categories Zurab Janelidze	236
Closedness properties of internal relations II: Bourn localization Zurab Janelidze	262
Categorical structures enriched in a quantaloid: tensored and cotensored categories Isar Stubbe	283
Stable meet semilattice fibrations and free restriction categories J.R.B. Cockett and Xiuzhan Guo	307
TFT Construction of RCFT correlators V: Proof of modular invariance and factorisation Jens Fjelstad, Jurgen Fuchs, Ingo Runkel and Christoph Schweigert	342
Spectra of finitely generated Boolean flows John F. Kennison	434
Paths in double categories R. J. MacG. Dawson, R. Paré, and D. A. Pronk	460
Numerology in topoi Peter Freyd	522
Categorical representations of categorical groups John W. Barrett and Marco Mackaay	529
Compactifications, $C(X)$ and ring epimorphisms W.D. Burgess and R. Raphael	558

On categorical crossed modules P. Carrasco, A.R. Garzon and E.M. Vitale	585
Equivalence of 2D-multitopic category and ana-bicategory Param Jyothi Reddy R	619
Descent for Monads Pieter Hofstra and Federico De Marchi	668
Topological *-autonomous categories Michael Barr	700
Quotient models of a category up to directed homotopy Marco Grandis	709
Categories of components and loop-free categories Emmanuel Haucourt	736
Pullback and finite coproduct preserving functors between categories of permutation representations Elango Panchadcharam and Ross Street	771
Categorified algebra and quantum mechanics Jeffrey Morton	785
A cohomological description of connections and curvature over posets John E. Roberts and Giuseppe Ruzzi	855
Generating families in a topos Toby Kenney	896
Copower objects and their applications to finiteness in topoi Toby Kenney	943

THEORY AND APPLICATIONS OF CATEGORIES (ISSN 1201-561X) will disseminate articles that significantly advance the study of categorical algebra or methods, or that make significant new contributions to mathematical science using categorical methods. The scope of the journal includes: all areas of pure category theory, including higher dimensional categories; applications of category theory to algebra, geometry and topology and other areas of mathematics; applications of category theory to computer science, physics and other mathematical sciences; contributions to scientific knowledge that make use of categorical methods. Articles appearing in the journal have been carefully and critically refereed under the responsibility of members of the Editorial Board. Only papers judged to be both significant and excellent are accepted for publication. The method of distribution of the journal is via the Internet tools WWW/ftp. The journal is archived electronically and in printed paper format.

SUBSCRIPTION INFORMATION. Individual subscribers receive (by e-mail) abstracts of articles as they are published. Full text of published articles is available in .dvi, Postscript and PDF. Details will be e-mailed to new subscribers. To subscribe, send e-mail to tac@mta.ca including a full name and postal address. For institutional subscription, send enquiries to the Managing Editor.

INFORMATION FOR AUTHORS. The typesetting language of the journal is \TeX , and $\text{\LaTeX} 2_{\epsilon}$ is the preferred flavour. \TeX source of articles for publication should be submitted by e-mail directly to an appropriate Editor. They are listed below. Please obtain detailed information on submission format and style files from the journal's WWW server at <http://www.tac.mta.ca/tac/>. You may also write to tac@mta.ca to receive details by e-mail.

EDITORIAL BOARD.

Managing editor. Robert Rosebrugh, Mount Allison University: rrosebrugh@mta.ca

\TeX nical editor. Michael Barr, McGill University: mbarr@barrs.org

Transmitting editors.

Richard Blute, Université d' Ottawa: rblute@uottawa.ca

Lawrence Breen, Université de Paris 13: breen@math.univ-paris13.fr

Ronald Brown, University of North Wales: r.brown@bangor.ac.uk

Aurelio Carboni, Università dell' Insubria: aurelio.carboni@uninsubria.it

Valeria de Paiva, Xerox Palo Alto Research Center: paiva@parc.xerox.com

Ezra Getzler, Northwestern University: [getzler\(at\)math\(dot\)northwestern\(dot\)edu](mailto:getzler(at)math(dot)northwestern(dot)edu)

Martin Hyland, University of Cambridge: M.Hyland@dpms.cam.ac.uk

P. T. Johnstone, University of Cambridge: ptj@dpms.cam.ac.uk

G. Max Kelly, University of Sydney: maxk@maths.usyd.edu.au

Anders Kock, University of Aarhus: kock@imf.au.dk

Stephen Lack, University of Western Sydney: s.lack@uws.edu.au

F. William Lawvere, State University of New York at Buffalo: wlawvere@acsu.buffalo.edu

Jean-Louis Loday, Université de Strasbourg: loday@math.u-strasbg.fr

Ieke Moerdijk, University of Utrecht: moerdijk@math.uu.nl

Susan Niefield, Union College: niefiels@union.edu

Robert Paré, Dalhousie University: pare@mathstat.dal.ca

Jiri Rosicky, Masaryk University: rosicky@math.muni.cz

Brooke Shipley, University of Illinois at Chicago: bshipley@math.uic.edu

James Stasheff, University of North Carolina: jds@math.unc.edu

Ross Street, Macquarie University: street@math.mq.edu.au

Walter Tholen, York University: tholen@mathstat.yorku.ca

Myles Tierney, Rutgers University: tierney@math.rutgers.edu

Robert F. C. Walters, University of Insubria: robert.walters@uninsubria.it

R. J. Wood, Dalhousie University: rjwood@mathstat.dal.ca