

*THEORY AND APPLICATIONS OF CATEGORIES*

Volume 14, 2005

Categorical structures enriched in a quantaloid: categories, distributors and functors Isar Stubbe	1
On essential ring embeddings and the epimorphic hull of $C(X)$ R. Raphael and R.G. Woods	46
Absolute homology Michael Barr	53
Thin elements and commutative shells in cubical ω -categories Philip J. Higgins	60
Adjunction models for call-by-push-value with stacks Paul Blain Levy	75
Abstract physical traces Samson Abramsky and Bob Coecke	111
A monadic approach to polycategories Juergen Koslowski	125
Introduction to coalgebra Jiri Adamek	157

A homotopy double groupoid of a Hausdorff space II: a van Kampen theorem R. Brown, K.H. Kamps, and T. Porter	200
Canonical and op-canonical lax algebras Gavin J. Seal	221
On the representability of actions in a semi-abelian category F. Borceux, G. Janelidze and G.M. Kelly	244
Groupoid enriched categories and natural systems Teimuraz Pirashvili	287
Every group is representable by all natural transformations of some set-functor Libor Barto and Petr Zima	294
Classification of concrete geometrical categories Yves Diers	310
Localic completion of generalized metric spaces I Steven Vickers	328
Enlargements of categories Lars Brunjes and Christian Serpe	357
Notes on enriched categories with colimits of some class G.M. Kelly and V. Schmitt	399
Birkhoff's variety theorem with and without free algebras Jiri Adamek and Vera Trnkova	424
Generalized Brown representability in homotopy categories Jiri Rosicky	451

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@mathstat.uottawa.ca

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

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

Jean-Luc Brylinski, Pennsylvania State University: jlb@math.psu.edu

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