

PROCEEDINGS OF THE INTERNATIONAL CATEGORY THEORY CONFERENCE, CT 2006



Picture by Jürgen Koslowski

This volume holds a selection of papers from the International Category Theory Conference (CT 2006), held in White Point, Nova Scotia, June 25 – July 1, 2006.

The CT series of conferences covers all areas of pure and applied category theory. Topics represented at the 2006 conference included, among others: higher dimensional categories, categorical logic, applications of categories in algebra, topology, combinatorics, and other areas of mathematics, applications of category theory to computer science, physics and other mathematical sciences. Previous meetings in this series were held in Vancouver (2004), Como (2000), Coimbra (1999), Vancouver (1997), Halifax (1995), Tours (1994), Isle of Thorns (1992), Montreal (1991), and Como (1990).

CT 2006 was held as an active research-oriented conference. The rural seaside setting offered ample opportunities for informal discussion and collaboration, as well as for

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recreational activities.

The conference included a special commemorative session in honour of the two founders of category theory, Saunders Mac Lane and Samuel Eilenberg. This session was organized by Bill Lawvere, and featured talks by Bill Lawvere, Walter Tholen, and Peter Freyd.

- Bill Lawvere (SUNY Buffalo): *“The mathematical lives of Sammy and Saunders”*
- Walter Tholen (York University): *“Mac Lane and Factorizations”*
- Peter Freyd (University of Pennsylvania): *“New structures on old categories”*

The conference included 53 contributed talks and five invited lectures, which were selected by a scientific committee. The invited lectures were:

- Kathryn Hess (EPF Lausanne): *“Co-rings over operads”*
- Steve Lack (University of Western Sydney): *“A convenient 2-category of bicategories”*
- Tom Leinster (University of Glasgow): *“The Euler characteristic of a category”*
- Steve Schanuel (SUNY Buffalo): *“Objective number theory: the finite case”*
- Peter Selinger (Dalhousie University): *“Categorical models of quantum computation”*

The scientific committee was chaired by Walter Tholen, and consisted of the following members: Jirí Adámek, John Baez, Michael Barr, Eugenia Cheng, Maria Manuel Clementino, Marcelo Fiore, Peter Freyd, Jonathon Funk, Peter Johnstone, André Joyal, Steve Lack, Susan Niefield, Phil Scott, Ross Street, Walter Tholen (chair), Enrico Vitale.

The CT 2006 conference was partly made possible by financial support from the following organizations.

- The Atlantic Association for Research in the Mathematical Sciences (AARMS).
- Dalhousie University, President’s Office.
- Dalhousie University, Office of the Vice-President Academic.
- Dalhousie University, Faculty of Science.
- St. Mary’s University, Office of the Vice-President Academic.
- St. Mary’s University, Faculty of Science.
- St. Mary’s University, Faculty of Graduate Studies and Research.

The articles appearing in this special TAC volume were refereed by the usual TAC procedure, and there are no special issue editors. As the organizers of CT 2006, we wish to thank the TAC editorial board for the work that went into preparing this volume.

Halifax, April 2007

Robert Dawson (Saint Mary's University)

Dorette Pronk (Dalhousie University)

Peter Selinger (Dalhousie University)

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.

Full text of the journal is freely available in .dvi, Postscript and PDF from the journal's server at <http://www.tac.mta.ca/tac/> and by ftp. It is archived electronically and in printed paper format.

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