

MICHAEL JAMES LAMBERT

Personal Site: <https://michaeljlambert.github.io/>

211 Cedar Street, Newport, VT, 05855

michael.lambert@umb.edu, michael.james.lambert@gmail.com

EMPLOYMENT

Champlain College Adjunct Instructor	<i>Aug. 2023-ongoing</i>
University of Massachusetts-Boston Associate Lecturer of Mathematics	<i>Sept. 2020-ongoing</i>
Topos Institute Research Associate	<i>June-Aug. 2022</i>
Mount Allison University Postdoctoral Research Associate	<i>Sept. 2021-April 2022</i>
Dalhousie University Graduate Student	<i>Sept. 2014-Oct. 2019</i>
University of Missouri-Columbia Graduate Student Instructor	<i>Aug. 2011-May 2014</i>

EDUCATION

Dalhousie University PhD Mathematics Thesis: “An Elementary Account of Flat 2-Functors”	<i>2014-2019</i>
University of Missouri-Columbia MA Mathematics	<i>2011-2014</i>
University of Vermont MS Mathematics	<i>2009-2011</i>
Dartmouth College BA English Literature, Philosophy	<i>2004-2007</i>

PAPERS AND PREPRINTS

- Cartesian double theories: A double-categorical framework for categorical doctrines, with Evan Patterson, to appear in *Advances in Mathematics*, 2023.
 - Discrete 2-Fibrations
To appear in *Higher Structures*
2020 preprint: arxiv.org/abs/2001.11477
 - Double Fibrations with Geoff Cruttwell, Dorette Pronk, and Martin Szyld
Theory and Applications of Categories, 38(35), 2022
 - Double Categories of Relations
Theory and Applications of Categories, 38(33), 2022.
 - Discrete Double Fibrations
Theory and Applications of Categories, 37(22), 2021.
- Other Preprints:*

- A Topos View of Blockchain Consensus Protocols
2021 preprint: arxiv.org/abs/2111.07461
- Representation Embeddings of Cartesian Theories
2019 preprint: arxiv.org/abs/1612.02497
- A 2-Site for Continuous 2-Group Actions
2019 preprint: arxiv.org/abs/1911.05141
- Computing Weighted Pseudo-Colimits
2019 preprint: arxiv.org/abs/1711.05903
- An Elementary Account of Flat 2-Functors
2019 Dalhousie University, PhD Thesis
DalSpace Link: dalspace.library.dal.ca/handle/10222/75671
- Undecidability of the Theory of $k\langle X, Y \rangle$ -Modules
2014 University of Missouri-Columbia, MA Thesis

TALKS

A cartesian equipment bestiary

FMCS, 9-10 June 2023.

Double Categories of Relations

Virtual Double Categories Workshop, 2 December 2022.

Cartesian Equipments as Databases

AtCat Seminar, Dalhousie University, 18 October 2022

Regular Logic in a ‘Double Category of Relations’

Peripatetic Seminar, University of Calgary, 17 March, 2022.

Improvements to ‘Double Categories of Relations’

AtCat Seminar, Dalhousie University, 8 February 2022

Blockchain Safety in a Topos

Ottawa Logic Seminar, University of Ottawa, 2 December, 2021

A Topos View of Blockchain Safety

AtCat Seminar, Dalhousie University, 16 November, 2021

Discrete Double Fibrations

CT20→21, University of Genoa, 30 August, 2021

Characterizing Double Categories of Relations

Applied Category Theory 2021, Cambridge University, 16 July 2021

Discrete Double Fibrations

Peripatetic Seminar, University of Calgary, 12 February 2021

A 2-Site for Continuous 2-Group Actions

CMS Summer Meeting, University of Regina, 10 June 2019

A Site for Continuous Group Actions

AtCat Seminar, Dalhousie University, 5 March 2019

Exactness of an Internal Colimit Functor for 2-Categories

AtCat Seminar, Dalhousie University, 20 November 2018

The Calculus of Fractions in a Cosmos of Internal Categories

Octoberfest 2018, City College CUNY, 28 October 2018

Diaconescu's Theorem for 2-Toposes of Stacks

Category Theory 2018, University of Azores, 13 July 2018

A Tensor Product of Fibrations as a Codescent Object

CMS Summer Meeting 2018, University of New Brunswick, 4 June 2018

Flat Category-Valued Pseudo-Functors

AtCat Seminar, Dalhousie University, 30 January 2018

Principal Bundles and Torsors as Flat Functors

AtCat Seminar, Dalhousie University, 28 November 2017

Pseudo-Functors, Generalized Principal Bundles, and Torsors

Octoberfest 2017, Carnegie Mellon University, 28 October 2017

Generalizing Principal Bundles

Category Theory 2017, University of British Columbia, 18 July 2017

Wild Algebras in Cartesian Categorical Logic

TACL 2017, Prague, Czech Republic, 30 June 2017

Representation Embeddings of Cartesian Theories

AtCat Seminar, Dalhousie University, 10 Jan 2017

Representation Embeddings of Algebraic Theories

Union College Mathematics Conference, Union College, 3 December 2016

TEACHING

As Instructor

Math 125: Precalculus, Champlain College

Math 230: Calculus I, Champlain College

Math 240: Calculus II, Champlain College

Math 115: College Algebra, University of Massachusetts-Boston

Math 125: Introductory Statistics, University of Massachusetts-Boston

Math 129: Precalculus for Management, University of Massachusetts-Boston

Math 130: Precalculus, University of Massachusetts-Boston

Math 134: Calculus for Management, University of Massachusetts-Boston

Math 140: Calculus I, University of Massachusetts-Boston

Math 141: Calculus II, University of Massachusetts-Boston

Math 2002: Intermediate Calculus II, Dalhousie University

Math 1100: College Algebra, University of Missouri-Columbia

As Teaching Assistant

Math 1000: Calculus I, Dalhousie University

Math 1010: Calculus II, Dalhousie University

Math 1290: Engineering Mathematics II, Dalhousie University,

Math 1280: Engineering Mathematics I, Dalhousie University

Math 1500: Calculus I, University of Missouri-Columbia

AWARDS

Nova Scotia Graduate Scholarship

2014-2017

\$30,000 CAD, Dalhousie University

AARMS Student Travel Award Homotopy Type Theory Workshop

June 2016

The Fields Institute, University of Toronto \$1,000 CAD

AARMS Student Travel Award

July 2014

AARMS Summer School 2014, Dalhousie University, \$650 CAD

Excellence in Teaching Award 2013-2014

April 2014

Mathematics Department

University of Missouri-Columbia