

# MICHAEL LAMBERT

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

## EMPLOYMENT

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<b>Mount Allison University</b> Postdoctoral Research Associate	<i>Sept. 2021-ongoing</i>
<b>University of Massachusetts-Boston</b> Associate Lecturer of Mathematics	<i>Sept. 2020-ongoing</i>
<b>Dalhousie University</b> Graduate Student	<i>Sept. 2014-Oct. 2019</i>
<b>University of Missouri-Columbia</b> Graduate Student Instructor	<i>Aug. 2011-May 2014</i>

## EDUCATION

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

## PAPERS

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- “Discrete Double Fibrations”  
*Theory and Applications of Categories*, 37(22), 2021.
  - “A Topos View of Blockchain Consensus Protocols”  
Submitted to *Compositionality*  
2021 preprint: [arxiv.org/abs/2111.07461](https://arxiv.org/abs/2111.07461)
  - “Discrete 2-Fibrations”  
Submitted to *Journal of Pure and Applied Algebra*  
2020 preprint: [arxiv.org/abs/2001.11477](https://arxiv.org/abs/2001.11477)
  - “Representation Embeddings of Cartesian Theories”  
Submitted to *Applied Categorical Structures*  
2019 preprint: [arxiv.org/abs/1612.02497](https://arxiv.org/abs/1612.02497)
- Other Preprints:*
- “Double Categories of Relations”  
2021 preprint: [arxiv.org/abs/2107.07621](https://arxiv.org/abs/2107.07621)

- “A 2-Site for Continuous 2-Group Actions”  
2019 preprint: [arxiv.org/abs/1911.05141](https://arxiv.org/abs/1911.05141)
- “Computing Weighted Pseudo-Colimits”  
2019 preprint: [arxiv.org/abs/1711.05903](https://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](https://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

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### **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

## **AWARDS**

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### **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

## **COURSES TAUGHT**

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### *As Instructor*

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

**Math 129: Precalculus for Management**, 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