

# Nerses Aramyan

Department of Mathematics  
University of Illinois at Urbana-Champaign  
1409 W. Green St., Urbana, IL 61801, USA

Phone: +1 (201) 562-8788  
E-mail: aramyan2@illinois.edu

## Education

- 
- University of Illinois at Urbana-Champaign (UIUC)** *June 2016 (expected)*  
PhD in Mathematics  
Adviser: Matthew Ando  
Thesis Title: Constructions of Extended Topological Quantum Field Theories
- Massachusetts Institute of Technology (MIT)** *June 2010*  
B.S. in Mathematics & Physics

## Research Interests

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I am interested in applying techniques from algebraic topology to study notions that come from physics. Currently my focus is on constructions of topological quantum field theories from the point of view of higher category theory using differential geometry. I intend to uncover strong and deep connections between topological quantum field theories and differential cohomology theories.

## Papers in Preparation

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- The Integration Pairing and Extended Topological Quantum Field Theories ~ 30 pages
  - The Geometric Realization of Bordism  $(\infty, n)$ -Categories ~ 15 pages

## Seminar Organization

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- Graduate Homotopy Seminar** *Fall 2013*  
*Topic: Higher Category Theory and Topological Quantum Field Theories*  
*Contributed Talks: Complete Segal Spaces; Topological Quantum Field Theories from Physics*
- K-Seminar** *Summer 2013*  
*Topic: Definitions and Constructions in Higher Algebraic K-Theory*  
*Contributed Talks: Quillen +, Q Constructions and the Definition of Higher K-Theory; Towards Motivic Cohomology*
- Graduate Homotopy Seminar** *Spring 2013*  
*Topic: Chromatic Homotopy Theory*  
*Contributed Talks: Bousfield Localization; Stacks, Formal Groups and Landweber Exact Functor Theorem; S-Modules and a Construction of Morava K-Theories*

## Conference and Seminar Talks

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- University of Chicago Topology Seminar** (Chicago, IL) *November 2015*
- Northwestern University Topology Seminar** (Evanston, IL) *November 2015*
- Johns Hopkins University Topology Seminar** (Baltimore, MD) *November 2015*
- Lehigh University Geometry/Topology Conference** (Bethlehem, PA) *May 2015*
- Purdue University Topology Seminar** (West Lafayette, IN) *April 2015*

## Conferences Attended

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- Simons Center: Supermoduli Workshop** (Stony Brook, NY) *May 2015*
- MSRI Workshop: Reimagining the Foundations of Algebraic Topology** (Berkeley, CA) *April 2014*
- MSRI Introductory Workshop: Algebraic Topology** (Berkeley, CA) *February 2014*
- MSRI Graduate Student Workshop, Algebraic Topology** (Berkeley, CA) *June 2013*
- Midwest Topology Seminar** (Urbana, IL) *February 2013*
- 50<sup>th</sup> Cornell Topology Festival** (Ithaca, NY) *May, 2012*

<b>10<sup>th</sup> Annual Graduate Student Topology and Geometry Conference</b> (Bloomington, IN)	<i>April 2012</i>
<b>Midwest Topology Seminar</b> (Evanston, IL)	<i>March 2012</i>
<b>Midwest Topology Seminar</b> (Normal, IL)	<i>October 2011</i>
<b>9<sup>th</sup> Annual Graduate Student Topology and Geometry Conference</b> (East Lansing, MI)	<i>April 2011</i>

† = gave a talk at the event

## Scholarships and Awards

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<b>AGBU US Graduate Student Fellowship</b>	<i>September 2015 - May 2016</i>
<b>Luys Foundation Scholarship</b>	<i>September 2009 - May 2010</i>
<b>International Mathematics Olympiad</b> (Ljubljana, Slovenia) <i>Bronze Medal</i>	<i>July 2006</i>
<b>International Mathematics Olympiad</b> (Mérida, Mexico) <i>Bronze Medal</i>	<i>July 2005</i>

## Teaching Experience

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<b>Teaching Assistant, Math 241 Calculus III</b> (UIUC) * <i>Supervisor: Christopher Leininger</i>	<i>Fall 2014</i>
<b>Teaching Assistant, Math 241 Calculus III</b> (UIUC) * <i>Supervisor: Henry Schenck</i>	<i>Spring 2013</i>
<b>Teaching Assistant, Math 231 Calculus II for Engineers</b> (UIUC) <i>Supervisor: Jeremy Tyson</i>	<i>Fall 2012</i>
<b>Teaching Assistant, Math 220 Calculus I</b> (UIUC) <i>Supervisor: Robert Murphy</i>	<i>Spring 2011</i>
<b>Tutor, 8.012 Physics I: Classical Mechanics</b> (MIT) <i>Supervisor: Adam Burgasser</i>	<i>Fall 2008</i>

\* = was in the List of Teachers Ranked as Excellent by their students

## Language Skills

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**Armenian** (*native*)      **English** (*fluent*)      **Russian** (*fluent*)

## Computer Skills

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**Python, C++, Java, L<sup>A</sup>T<sub>E</sub>X, Matlab, Mathematica**

## References

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**Matthew Ando**  
Professor, Department of Mathematics  
University of Illinois at Urbana-Champaign  
1409 W. Green St., Urbana, IL 61801  
*Phone: +1 (217) 244-2846*  
*E-mail: mando@illinois.edu*

**Randy McCarthy**  
Professor, Department of Mathematics  
University of Illinois at Urbana-Champaign  
1409 W. Green St., Urbana, IL 61801  
*Phone: +1 (217) 333-1108*  
*E-mail: rmcCarthy@illinois.edu*

**Charles Rezk**  
Professor, Department of Mathematics  
University of Illinois at Urbana-Champaign  
1409 W. Green St., Urbana, IL 61801  
*Phone: +1 (217) 265-6309*  
*E-mail: rezk@illinois.edu*

**David Gepner**  
Professor, Department of Mathematics  
Purdue University  
150 N. University St., West Lafayette, IN 47907  
*Phone: +1 (765) 494-1956*  
*E-mail: dgepner@purdue.edu*