

Nikolas Schonsheck — Curriculum Vitæ

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Education

Ph.D. in Mathematics, The Ohio State University	Expected May 2021
M.S. in Mathematics, The Ohio State University	December 2018
B.A. in Mathematics, general and subject honors, Vassar College	May 2015
Minor in social and political philosophy	

Papers

On the chromatic localization of the homotopy completion tower for O -algebras (with C. Ogle).
Submitted. Available at <https://arxiv.org/abs/2012.10539>.

TQ-completion and the Taylor tower of the identity functor. Submitted. Available at https://people.math.osu.edu/schonsheck.2/research_files/Taylor_tower_of_identity.pdf.

Fibration theorems for TQ-completion of structured ring spectra. Tbilisi Math. Journal: Special Issue on Homotopy Theory, Spectra, and Structured Ring Spectra (2020). Also available at https://people.math.osu.edu/schonsheck.2/research_files/Fibration_theorems.pdf.

On the cop number of generalized Petersen graphs (with T. Ball, R. Bell, J. Guzman, and M. Hanson-Colvin.)
Discrete Mathematics, 340 (2017), no.6, 1381-1388. Undergraduate research from Michigan State University REU. Available at <https://www.sciencedirect.com/science/article/abs/pii/S0012365X16303387/>.

Teaching Experience

The Ohio State University

Instructor

Math 1149: Trigonometry	Summer 2018
Designed syllabus, course calendar, homework assignments, and exams; oversaw one teaching assistant.	

Co-instructor

Math 1125: Mathematics for Elementary Teachers I	Fall 2019
Active learning, “flipped” classroom with a strong emphasis placed on students presenting material to one another in each class meeting; helped plan lessons, quizzes, and exams.	

Math 1149: Trigonometry	Summer 2017
Helped design syllabus, course calendar, homework assignments, and exams. Delivered several lectures throughout the semester.	

Graduate Teaching Associate

Regular duties included planning material for and conducting two recitation meetings per week, writing and grading quizzes, grading homework.

Math 1150: Precalculus	Fall 2020
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Math 1161: Accelerated Calculus I	Fall 2018, Fall 2017
Math 1151: Calculus I	Spring 2018, Fall 2016 Spring 2016, Fall 2015
Math 1152: Calculus II	Spring 2017

Undergraduate research mentoring

Knots and Graphs undergraduate research working group	Summer 2020
This is a summer research program similar to an REU but only open to OSU students. I volunteered to mentor two groups of four undergraduate students working on problems in graph coloring.	
Directed reading program	Spring 2019
Oversaw a reading course on introductory algebraic topology.	

Vassar College

Undergraduate Assistant	Fall 2014-Spring 2015
Held six office hours per week for upper-level mathematics classes.	

Honors, Awards, & Fellowships

Teaching

Phil Huneke Distinguished Graduate Teaching Associate Award	Spring 2021
Departmental. This award recognizes “mathematics graduate students who have demonstrated excellence in the classroom and a high level of commitment to undergraduate mathematics education.” Awarded for the 2019-2020 academic year, but awards delayed to 2021 due to the COVID-19 pandemic.	
Graduate Associate Teaching Award	Spring 2020
University-wide. “Ohio State’s highest recognition of teaching done by graduate students.” Ten recipients chosen each year out of approximately 3,000 graduate TA’s.	
First-year Graduate Teaching Associate Award	Spring 2016
Departmental. “This award recognizes outstanding first year Graduate Teaching Associates within the OSU Department of Mathematics.”	

Research & Scholarship

Research Training Groups (RTG) Fellowship	Summer 2020, Spring 2020
Department of Mathematics, The Ohio State University	
Mary Evelyn Wells and Gertrude Smith Prize	Spring 2011
Department of Mathematics, Vassar College	

Service

Invited Panelist, AWM Chapter at Marian University	Spring 2021
Served as a panelist for a discussion on transitioning from an undergraduate liberal arts school to graduate school/industry in STEM fields.	
Buckeye Aha! Math Moments	Summer 2020
Volunteered to mentor and review student work for this outreach initiative of the Department of Mathematics at OSU.	
Mentor for TA training	Summer 2020, 2019, 2018, 2017
Assisted in summer training of incoming TA’s at Ohio State.	

TA Peer mentor

Fall 2019, 2018, 2017, 2016

Served in the peer-mentoring program for new TA's at Ohio state; oversaw a total of 14 new teaching associates.

Conferences & Research Talks*Invited and contributed talks*

Topology Seminar, University of Iowa "Fibration theorems, functor calculus, and chromatic connections in O -algebras"	April 2021
Graduate Student Topology and Geometry Conference, Indiana University "Functor calculus and chromatic connections in O -algebras"	April 2021
Topology Seminar, University of Regina "Fibration theorems, functor calculus, and chromatic connections in O -algebras"	January 2021
Graduate Conference in Algebra and Topology, Binghamton University "TQ-completion: fibration theorems and connections to functor calculus"	November 2020
Algebraic Topology Seminar, UCLA "Fibration theorems and functor calculus for structured ring spectra"	October 2020
Topology Seminar, Pennsylvania State University-Altoona "TQ-completion: fibration theorems and connections to functor calculus"	September 2020
Topology Seminar, University of Virginia "TQ-completion: fibration theorems and connections to functor calculus"	September 2020
AMS Sectional Special Session on Homotopy Theory, University of Virginia "TQ-completion of certain fibration sequences" (This conference was canceled due to the COVID-19 pandemic; notes available at http://people.virginia.edu/~jeb2md/Schonsheck2020.pdf)	March 2020
Young Topologists Meeting, EPFL, Switzerland "Topological Quillen homology of structured ring spectra"	July 2019
Mathematics Colloquium, Vassar College "Homotopy theory—from the fundamental group to structured ring spectra"	February 2019
Young Topologists Meeting, University of Copenhagen "An introduction to symmetric spectra"	July 2018

Informal talks

GOATS 2 Online Mini-Conference "Fibration Theorems for TQ-completion of structured ring spectra" (Available at https://youtu.be/NZ71N1-CUZQ)	June 2020
GROOT Summer Seminar, online "Fibration Theorems for TQ-completion of structured ring spectra" (Available at https://youtu.be/DkjCgY1kjF8 and https://youtu.be/EUAh8fwjF9M)	May 2020
Student Homotopy Seminar, Ohio State Mathematics Department "Pro-nilpotent homology types" "Fibration theorems for TQ-completion of structured ring spectra" "Long homology localization towers" "Localization and completion with respect to topological Quillen homology" "Cosimplicial resolution model structures" "The role of principal fibrations"	2018-2020

“Completion of spaces and ring spectra with respect to homology”
 “Operads and the recognition principle”
 “Comparing $H\mathbb{Z}$ -algebras in Sp^Σ to unbounded chain complexes”
 “Why symmetric spectra?”

Graduate Student Seminar, Ohio State Mathematics Department
 “Homotopy theory—from the fundamental group to structured ring spectra”

January 2019

Seminar- ∞ , Ohio State Mathematics Department
 “The Dold-Kan Correspondence”
 “Eilenberg-Zilber and geometric realization”

Fall 2017

Various Presentations
 “The game of Cops and Robbers on graphs”

2014-2015

Conference participation

Graduate Student Topology and Geometry Conference, Indiana University

April 2021

Graduate Conference in Algebra and Topology, Binghamton University

November 2020

Midwest Topology Seminar, Virtual

October 2020

GOATS 2 Online Mini-Conference

June 2020

AMS Sectional Meeting, University of Wisconsin-Madison

September 2019

Young Topologists Meeting, EPFL, Switzerland

July 2019

Midwest Topology Seminar, Michigan State University

May 2019

Graduate Student Topology and Geometry Conference, UIUC

March 2019

Functor Calculus Workshop, Ohio State University

March 2019

Midwest Topology Seminar, University of Kentucky

September 2018

Young Topologists Meeting, University of Copenhagen

July 2018

Midwest Topology Seminar, Indiana University

April 2018

AMS Sectional Meeting, Ohio State University

March 2018

Midwest Topology Seminar, Northwestern University

March 2018

Midwest Topology Seminar, Wayne State University

November 2017

Homotopy theory: tools and applications, UIUC

July 2017