

# Dmitry Vagner

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INFORMATION	<i>born:</i>	Moscow, Russia 03.07.1990
	<i>citizen:</i>	United States of America
	<i>email:</i>	dv[at]math.duke.edu
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	<i>paper:</i>	Duke University, Box 90320 Durham, NC 27708-0320
EDUCATION	2013–	<b>Duke University.</b> Durham, NC. <i>PhD</i> Mathematics. <i>MS</i> Computer Science. <i>Certificate</i> History and Philosophy of Science, Technology, and Medicine. <i>Certificate</i> College Teaching.
	2008–13	<b>Brown University.</b> Providence, RI.
	2013	ScM Applied Mathematics.
	2012	AB Economics // Applied Mathematics // Mathematics.
VISITING POSITIONS	2014/15	<b>Massachusetts Institute of Technology.</b> Cambridge, MA. Summer session visiting graduate student. Mentor: David I. Spivak.
FELLOWSHIPS	2017	Bass Instructional Fellowship, \$11,456
	2017	Competitive Graduate Summer Research Fellowship, \$5,500.
PAPERS & PREPRINTS	2. 2018	<i>A Smooth TQFT construction of <math>\mathfrak{sl}_n</math> Homology</i> , with Michael Abel (in preparation).
	1. 2015	<i>Algebras of Open Dynamical Systems on the Operad of Wiring Diagrams</i> , with David I. Spivak and Eugene Lerman. <i>Theory Appl. Categ.</i> , 30: Paper No.51, 1793-1822.
TEACHING		<b>Duke University</b>
	S 2018	Instructor, Math 490: Introduction to Category Theory and Mathematized Thinking.
	S 2017	Teaching Assistant, Math 216: Linear Algebra and Differential Equations.
	F 2016	Teaching Assistant, Math 216: Linear Algebra and Differential Equations.
	F 2016	Grader, Math 551: Applied Partial Differential Equations and Complex Variables.
	S 2016	Grader, Math 602: Commutative Algebra.
	S 2016	Grader, Math 401: Introduction to Abstract Algebra.
	F 2015	Instructor, Math 122L: Introduction to Calculus II with Applications.
	F 2014	Lab Instructor, Math 111L: Laboratory Calculus I.
	F 2014	Lab Instructor, Math 122L: Introduction to Calculus II with Applications.
	F 2013	Lab Instructor, Math 122L: Introduction to Calculus II with Applications.
		<b>Brown University</b>
	S 2013	Teaching Assistant, APMA 36: Honors Methods of Applied Mathematics II.
	F 2012	Teaching Assistant, APMA 35: Honors Methods of Applied Mathematics I.

INTERESTS		<p>Diagrammatics, Categorification, Categorical Algebra &amp; Logic</p> <p>Statistical Inference, Game Theory, Systems Theory, Network Theory</p> <p>Type Theory, Denotational Semantics, Functional Programming</p>
RESEARCH TALKS		<p>AMS Fall Western Sectional Meeting, Special Session on Applied Category Theory</p> <ul style="list-style-type: none"> <li>– <i>Algebras of Open Dynamical Systems on the Operad of Wiring Diagrams.</i> (11.17)</li> </ul> <p>North Carolina State University Geometry &amp; Topology Seminar</p> <ul style="list-style-type: none"> <li>– <i>A Smooth TQFT Approach to <math>\mathfrak{sl}_n</math> Homology.</i> (04.17)</li> </ul> <p>Triangle Area Graduate Mathematics Conferences (TAGMaC)</p> <ul style="list-style-type: none"> <li>– <i>A Smooth TQFT Approach to <math>\mathfrak{sl}_n</math> Homology.</i> (04.17)</li> <li>– <i>Categorification for Link Homology.</i> (12.16)</li> <li>– <i>Topological Compositionality in Doctrines.</i> (10.15)</li> </ul>
LEARNING SEMINAR TALKS		<p>Applied Category Theory Adjoint School</p> <ul style="list-style-type: none"> <li>– <i>A Categorical Semantics for Causal Structure</i> (01.18)</li> </ul> <p>Triangle Topology Learning Seminar: Khovanov Homotopy Type</p> <ul style="list-style-type: none"> <li>– <i>From Burnside Category valued functors to Homotopy Types.</i> (04.17)</li> <li>– <i>The Khovanov Flow Category.</i> (02.17)</li> <li>– <i>Introduction to Generalized Homology &amp; Spectra.</i> (11.16)</li> <li>– <i>Higher Category Theory for Low Dimensional Topology II.</i> (09.16)</li> <li>– <i>Higher Category Theory for Low Dimensional Topology I.</i> (09.16)</li> </ul> <p>Duke Graduate Geometry, Topology, &amp; Algebra Seminar</p> <ul style="list-style-type: none"> <li>– <i>Representations of Quantum Groups &amp; Link Invariants.</i> (10.16)</li> <li>– <i>Representations of Hecke Algebras &amp; the HOMFLY Polynomial.</i> (11.15)</li> <li>– <i>Lawvere Theories &amp; Categorical Universal Algebra.</i> (09.15)</li> </ul> <p>Duke Graduate / Faculty Seminar</p> <ul style="list-style-type: none"> <li>– <i>Introduction to Diagrammatic Algebra.</i> (10.17)</li> <li>– <i>Categorification in Combinatorics &amp; Representation Theory.</i> (10.16)</li> <li>– <i>The Periodic Table of Higher Categories.</i> (03.15)</li> </ul> <p>Texas A&amp;M Discrete Math Working Seminar.</p> <ul style="list-style-type: none"> <li>– <i>Introduction to Combinatorial Species.</i> (01.15)</li> </ul>
CONFERENCES & WORKSHOPS	<p>05.2018</p> <p>09.2017</p> <p>07.2017</p> <p>06.2017</p> <p>03.2017</p> <p>05.2015</p> <p>01.2014</p>	<p>*<i>Applied Category Theory.</i> Lorentz Center. Leiden, Netherlands.</p> <p><i>String Diagrams in Computation, Logic, and Physics.</i> Oxford, UK.</p> <p><sup>†</sup><i>Soergel Bimodules, Summer Graduate School.</i> MSRI. Berkeley, CA.</p> <p><sup>†</sup><i>Homotopy Type Theory, Mathematics Research Communities.</i> Snowbird, Utah.</p> <p>*<i>Gauge Theory and Categorification.</i> IPAM. Los Angeles, CA.</p> <p>*<i>Categorification in Algebra, Geometry and Physics.</i> IESC. Cargèse, France</p> <p><i>Algebraic Topology, Introductory Workshop.</i> MSRI. Berkeley, CA.</p> <p>awarded funding for:    *local accommodations    <sup>†</sup>local and travel accommodations.</p>

SERVICE	2017	Co-organizer, <i>TAGMaC @ Duke</i> Graduate Student Conference.
	2016–18	Founder & President, Duke AMS Graduate Student Chapter.
	2015–16	Co-founder & co-organizer, Duke Graduate Geometry, Topology, & Algebra Seminar.
	2014–15	Co-organizer, Duke Mathematics Graduate/Faculty Seminar.
	2013–15	Math Department Representative, Duke Graduate & Professional Student Council.
OUTREACH	2017–18	Mentoring Onkar Singh for his PRUV fellowship senior thesis research project, including independent study course in categorical algebra & logic.
	05.2017	Mentored Elijah Byrnes for 40 hours in category theory, diagrammatic algebra, and knot theory for his senior capstone project at Providence Country Day School.
	07.2016	Presented talks on higher dimensional algebra to high school students at Ranney School and Providence Country Day School.

— current as of March 1, 2018 —