

Apurva Nakade

Johns Hopkins University, anakade1@jhu.edu
Department of Mathematics apurnakade.github.io

Interests	Homotopy theory, Algebraic topology, Mathematical Physics, Symplectic Topology, Manifold Calculus, Stable Homotopy theory, Cobordism Categories, Math Education, Web design	
Education	Ph.D. in Mathematics, Johns Hopkins University	2019
	M.Sc. in Mathematics, Chennai Mathematical Institute	2013
	B.Tech. in Computer Science & Engineering, IIT Kanpur	2010
Papers	<i>Constructing a Homotopy Type For Triply-Graded Link Homology</i> (joint with V. Lorman), (in preparation)	
	<i>Manifold Calculus and the h-principle</i> submitted to Homotopy, Homology, and Applications, arXiv 1711.07670	2017
	<i>Effect of increasing the energy gap between the two lowest energy states on the mixing time of the Metropolis algorithm</i> (with Somenath Biswas), Information Processing Letters, IPL4801 (2012.08.012)	2012
Teaching & Mentoring	<i>William Kelso Morrill Award for Excellence in Mathematics</i>	2019
	Awarded each year to the graduate student who best displays love of teaching, love of mathematics, and concern for students	
	<i>Prof. Joel Dean award for Excellence in Teaching in Mathematics</i>	2016
	An annual award to recognize graduate students and faculty who have exhibited extraordinary performance in teaching undergraduates	
	<i>PFFF Teaching Academy Program, JHU</i> Currently enrolled in a certification course	2019
	<i>Direct Reading Program, JHU</i> <ul style="list-style-type: none">• Guided four undergraduate student towards learning knot theory, manifold theory, tensor calculus, point-set topology• Co-organizer for three semesters	2017-19
	<i>USA/Canada Mathcamp, Academic Co-coordinator</i> <ul style="list-style-type: none">• Coplanned the academic schedule• Participated in mentor hiring• Invited visiting speakers	2018

	<p><i>USA/Canada Mathcamp</i>, Mentor</p> <ul style="list-style-type: none"> Designed and taught a variety of undergraduate-level courses Was residential and academic advisor at camp 	2017-19
	<p><i>Course Design</i>, JHU</p> <ul style="list-style-type: none"> <i>H2G2 Algebraic Topology</i>, Designed and taught a two week course introducing algebraic topology to non-math majors <i>IBL Honors Single Variable Calculus</i>, Designed and taught two full semester IBL styled courses for Calculus <i>Symmetries & Polynomials</i>, Designed and taught a two week IBL course introducing Galois theory to non-math majors 	2017-19
	<p><i>Algebra Quals Prep</i>, JHU</p> <p>Coached first year math graduate students for the algebra quals</p>	2015-18
	<p><i>Science of Learning Symposium</i>, JHU</p> <p>Attended a biannual two day conference at JHU aimed at understanding the science behind learning</p>	2014-18
Research Talks	<p><i>Weiss fibration sequence</i></p> <p>MIT Talbot Workshop</p>	2019
	<p><i>Constructing a Homotopy Type For Triply-Graded Link Homology</i></p> <p>AMS Sectional Meeting, University of Hawaii</p>	2019
	<p><i>Manifold Calculus and the h-principle</i></p> <p>University of Rochester, Topology Seminar</p>	2019
	<p><i>Manifold Calculus and the h-principle</i></p> <p>Workshop on Functor Calculus, Ohio State University</p>	2019
	<p><i>Homotopy colimits and limits</i></p> <p>European Autumn School in Topology</p>	2017
	<p><i>Manifold Calculus and the h-principle</i></p> <p>AMS Special Session in Homotopy Theory</p>	2017

Service	<i>Instructor, JHU</i>	2014-18
Courses	<ul style="list-style-type: none"> • Honors Single Variable Calculus • Calculus II for Engineers • Differential Equations • (Online) Linear Algebra 	
	<p><i>TA, JHU & CMI</i></p> <p>Compact Riemann Surfaces, Advanced Algebra, Calculus I, II and III, Hon. Linear Algebra, Hon. Multivariable Calculus, Topology, Lie algebras and Lie groups</p>	2012-19
Conferences	MIT Talbot Workshop, Austin TX	2019
Attended	<p>Workshop on Functor Calculus, Ohio State University</p> <p>AMS Sectional Meeting, University of Hawaii</p> <p>Arizona Winter School, Arizona State University</p> <p>Joint Mathematical Meetings, Baltimore</p> <p>Symplectic Geometry and Homotopy Theory, UCLA</p> <p>MSRI Summer School, Fields Institute, Toronto</p> <p>Graduate Student Conference, Temple University</p> <p>AMS Sectional Meeting, UC Riverside</p> <p>European Autumn School in Topology, Netherlands</p> <p>Topology Festival, Cornell University</p> <p>Georgia International Topology Conference, University of Georgia</p> <p>Alpine Algebraic & Applied Topology Conference, Switzerland</p> <p>WCATSS, University of Oregon, Eugene</p> <p>GSTSC, Indiana University, Bloomington</p> <p>Mid-Atlantic Topology Conference, Johns Hopkins University</p> <p>Midwest Topology Seminar, Northwestern University</p> <p>Geometry and Topology Conference, Lehigh University</p> <p>Mid-Atlantic Topology Conference, University of Virginia</p> <p>Midwest Topology Seminar, University of Illinois Chicago</p> <p>Midwest Topology Seminar, Northwestern University</p> <p>Modular invariants in Topology and Analysis, Regensburg</p> <p>WCATSS on Field theories, UBC</p> <p>Introductory Workshop on Algebraic Topology, MSRI</p> <p>Joint Mathematical Meetings, Baltimore</p> <p>Classification of Manifolds, NEHU</p> <p>H-principle, Chennai Mathematical Institute</p> <p>Groups and geometries, ISI, Bangalore</p> <p>String Topology, Vivekananda University</p> <p>Kervaire Invariant One, ISI, Kolkata</p> <p>Number Theory workshop, Tezpur University</p>	<p>2018</p> <p>2017</p> <p>2016</p> <p>2015</p> <p>2013</p> <p>2012</p> <p>2011</p>

	Lie algebras and their representations, CMI	
	Nurture camp, Institute of Mathematical Sciences	2007
Pre-College	<i>IMO bronze medal</i> , Slovenia, highest scorer from India	2006
	<i>273 rank</i> at Indian Institutes of Technology (IITs)	2006
	Elegant solution award at IMO training camp	
	Cleared national astronomy and regional physics and chemistry olympiads	
	Cleared national mathematics olympiad in the ninth grade	2003
	National Talent Search Examination, (NTSE) scholarship	
	Kishore Vaigyanik Protsahan Yojana, (KVPY) scholarship	
Other Interests	<i>Web Design</i> ,	
	I've designed and maintain a blog on Github using Hugo, SASS, JQuery	
	<i>Expository Math Writing</i>	
	I have dozens of notes from various courses, conferences, and research available freely on my website	