Apurva Nakade

EDUCATION

Ph.D.
in Mathematics,
Johns Hopkins University, (expected) **2019**

M.Sc.
in Mathematics,
Chennai Mathematical Institute, India, **2013**

B.Tech.
in Computer Science & Engineering,
IIT Kanpur, India, **2010**

CONTACT

5th year Grad Student,
Mathematics Department,
Johns Hopkins University.
Website: www.math.jhu.edu/~anakade1
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INTERESTS

Homotopy theory, Algebraic topology, Mathematical Physics, Symplectic Topology, Math Education, Web design

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TUTORING

Prof. Joel Dean award, JHU
An annual award to recognize graduate students and faculty who have exhibited extraordinary performance in teaching undergraduates, 2016

Direct Reading Program, JHU
Guided an undergraduate student towards learning Knot theory, 2017

Algebra Qual Prep, JHU
Coached the first year graduate students for the algebra quals, 2015, 2016

COURSE DESIGN

Designed and taught experimental courses at JHU introducing non-maths majors to various aspects of pure maths

H2G2 Algebraic Topology
2 credit intersession course, 2017

IBL Honors Calculus
4 credit semester long course, 2017

IBL Symmetries & Polynomials
1 credit intersession course, 2018

USA/CANADA MATHCAMP

Mentor
Designed and taught a variety of undergraduate level courses to high school kids, 2017

Academic (co)coordinator
Will be organizing and scheduling various academic activities, 2018

SERVICE COURSES

Instructor
Honors Single Variable Calculus, Calculus II, Differential Equations, (Online) Linear Algebra

TA
Calculus I, II and III, Hon. Linear Algebra, Hon. Multivariable Calculus, Compact Riemann Surfaces, Advanced Algebra

PAPERS

1. Manifold Calculus and the H-principle, (submitted)
2. Effect of increasing the energy gap between the two lowest energy states on the mixing time of the Metropolis algorithm, (with Somenath Biswas) Information Processing Letters, IPL4801

RESEARCH TALKS

1. Homotopy colimits and limits, European Autumn School in Topology, 2017
2. Manifold Calculus and the H-principle, AMS Special Session in Homotopy Theory, 2017

CONFERENCES ATTENDED

1. **Science of Learning Symposium, JHU 2014,16,18**

   A biannual two day conference at JHU aimed at understanding the science behind learning
2. AMS Sectional Meeting, UC Riverside
3. European Autumn School in Topology, Netherlands
4. Topology Festival, Cornell University
5. Georgia International Topology Conference, University of Georgia
6. Alpine Algebraic & Applied Topology Conference, Switzerland
7. WCATSS, University of Oregon, Eugene
8. GSTSC, Indiana University, Bloomington
9. Mid-Atlantic Topology Conference, Johns Hopkins University
10. Midwest Topology Seminar, Northwestern University
11. Geometry and Topology Conference, Lehigh University
12. Mid-Atlantic Topology Conference, University of Virginia
13. Midwest Topology Seminar, University of Illinois Chicago
14. Midwest Topology Seminar, Northwestern University
15. Modular invariants in Topology and Analysis, Regensburg
16. WCATSS on Field theories, UBC
17. Introductory Workshop on Algebraic Topology, MSRI
18. Joint Mathematical Meetings, Baltimore
19. Classification of Manifolds, NEHU
20. H-principle, Chennai Mathematical Institute
21. Groups and geometries, ISI Bangalore
22. String Topology, Vivekananda University
23. Kervaire Invariant One, ISI Kolkata
24. Number Theory workshop, Tezpur University
25. Lie algebras and their representations, CMI
26. Nurture camp, Institute of Mathematical Sciences

PRE COLLEGE

1. **IMO bronze medal**, Slovenia, highest scorer from India
2. **273 rank** at Indian Institutes of Technology
3. Elegant solution award at IMO training camp
4. National Talent Search Examination, (NTSE) scholarship
5. Kishore Vaigyanik Protsahan Yojana, (KVPY) scholarship

OTHER INTERESTS

Web Design

I've designed and maintain a blog on Github using Hugo, SASS, JQuery

Expository Math Writing

I have dozens of notes from various courses, conferences, and research available freely on my website