

BAKUL SATHAYE
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EDUCATION

The Ohio State University, Columbus, OH

Ph.D. Candidate, Mathematics (expected Aug 2017)

- Advisor: Jean-François Lafont

Master of Science in Mathematics Dec 2014

Indian Institute of Technology Bombay, Mumbai, India

Master of Science in Mathematics May 2010

- Project Title: Quadratic forms
- Advisor: Shripad Garge
- Graduated with First Class
- Sukhatme Memorial Award for holding 2nd rank

University of Pune, Pune, India

Bachelor of Science in Mathematics May 2008

- Graduated with First Class with Distinction
- Overall University Rank 4
- University Rank 2 in Mathematics

RESEARCH INTERESTS

Geometric topology, Geometric group theory, Low dimensional topology, Non-positively curved spaces,

RESEARCH ARTICLES

- Link homotopic but not isotopic, arXiv: 1601.05292 [math.GT]
- New obstruction to Riemannian smoothings of locally CAT(0) 4-manifolds, (In preparation)

RESEARCH TALKS

Workshop in Geometric Topology, BYU (Scheduled) <i>Obstructions to Riemannian smoothings of locally $CAT(0)$ manifolds</i>	Jun 2017
AWM Research Symposium, UCLA <i>Obstructions to Riemannian smoothings of locally $CAT(0)$ manifolds</i>	Apr 2017
Spring Topology and Dynamics Conference, New Jersey City University <i>Obstructions to Riemannian smoothings of locally $CAT(0)$ manifolds</i>	Mar 2017
Topology Seminar, Ohio State University <i>Obstructions to Riemannian smoothings of locally $CAT(0)$ manifolds</i>	Feb 2017
Topology Student Workshop, Georgia Tech <i>On links homotopic, but not isotopic to the unlink</i>	May 2016
50th Spring Topology and Dynamics Conference, Baylor University <i>On links homotopic, but not isotopic to the unlink</i>	Mar 2016

TEACHING EXPERIENCE

The Ohio State University Graduate Teaching Associate	Aug 2011 - present
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As a lecturer

- Taught one class of 20 students, both majors and non-majors
- Prepared and delivered lectures three times a week
- Taught course material along with examples
- Wrote quizzes, homework assignments and exams
- Graded the exams
- Held office hours to help with personal questions about the class content

As a recitation instructor

- Teach two to three sections of an average of 30 students, both majors and non-majors
- Conduct problem solving sessions and help students understand concepts learnt in lectures
- Work with individual students in the tutor rooms
- Hold office hours to help with personal questions about the class content
- Grade quizzes, homework assignments, and all the exams.

Topology Instructor, Headstart program for Masters students	Aug 2016
Lecturer, Calculus II	SU 2014
Recitation Instructor, Trigonometry	SP 2017
Recitation Instructor, Calculus III for Engineers	SP 2015
Recitation Instructor, Accelerated Calculus I for Engineers	AU 2014

Recitation Instructor, Calculus II for Engineers SP 2014
Recitation Instructor, Accelerated Calculus II for Engineers AU 2013
Recitation Instructor, Calculus II SP 2013, AU 2012, SP 2012
Recitation Instructor, Calculus I AU 2015, WI 2012, AU 2011

Sir Parashurambhau College, Pune, India July 2010 - June 2011
Visiting Lecturer

- Taught one class of an average of 60 Masters students in Mathematics
- Prepared and taught lectures four times a week, where new concepts were presented together with examples and problems
- Wrote and graded quizzes
- Helped students outside of class with personal questions about the class content by appointment

Lecturer, Advanced Calculus I Autumn 2010
Lecturer, Computational Geometry Spring 2011

Young Scholars Program, Ohio State University June 2013
Mentor

- Assisted in conducting the Building Mathematical Capacity Summer Experience for 9th graders.
- Worked closely with a group of 9th grade students aspiring to be first generation college students to generate interest in STEM areas, with a focus on mathematics
- Assisted in student projects to understand real-life applications of mathematics

Bhaskaracharya Pratishthan, Pune, India Jan - Apr 2011
Instructor at Regional Mathematics Olympiad training institute

- Taught a class of 20 students of 7th and 8th grade students.
- Prepared and taught lectures once a week, where new concepts were presented together with examples and problems
- Introduced students to concepts outside of school syllabus to help prepare for the Regional Mathematics Olympiad

Teaching Orientation, Ohio State University Aug 2017
Facilitator

- Will engage with and assist new TAs at the Ohio State University during a three-day orientation.
- Cofacilitator for a session on Teaching as a Grader.
- Panelist on the International TA Panel: Experienced ITAs share their perspectives.

PROFESSIONAL DEVELOPMENT

Research Conferences & Workshops

Georgia International Topology Conference, UGA	May 2017
Workshop in Geometric Topology, BYU	Jun 2017
AWM Research Symposium, UCLA	Apr 2017
Spring Topology and Dynamics Conference, New Jersey City University	Mar 2017
Joint Mathematics Meetings, Atlanta	Jan 2017
Boundaries of Groups, AIM	Oct 2016
Group actions on CAT(0) spaces, MSRI	Sept 2016
Topology Student Workshop, Georgia Tech	June 2016
50th Spring Topology and Dynamics Conference, Baylor University	Mar 2016
49th Spring Topology and Dynamics Conference, Bowling Green State University	May 2015
Bloomington Geometry Workshop, Indiana University	Apr 2015
Graduate Student Topology and Geometry Conference, University of Notre Dame	Apr 2013
RTG workshop on Random Walks on Groups, University of Michigan	Mar 2013
Annual Foundation School (Level II), Bhaskaracharya Pratishthan, Pune (A month long program with lectures in Commutative Algebra, Complex analysis and Algebraic Topology)	May 2010
Perspectives in Mathematics, India	Dec 2009
Two-day workshop at Tata Institute of Fundamental Research (TIFR) and Homi Bhabha Centre for Science Education (HBCSE), Mumbai	
Mathematics Training and Talent Search program, India (Participated in all three levels)	Summers 2007 - 2009

Teaching Conferences & Workshops

- Innovate 2017: Impact, Ohio State University May 2017
- Annual Conference on Excellence in Teaching & Learning, Ohio State University May 2017
- Participated in the following workshops facilitated by University Center for the Advancement of Teaching, Ohio State University
 - Book Group on "Small Teaching" by James M. Lang Feb-Mar 2017
 - Designing Assignments, Quizzes, and Tests Feb 2017
 - Critical Thinking Feb 2017
 - Get Students to Focus on Learning Instead of Grades: Metacognition is the Key!

- Challenges in STEM University Education Feb 2017
- Making Sense of Student Feedback Nov 2016
- Teaching Extroverts/Teaching Introverts Nov 2016
- Helping Students Reduce Procrastination and Boost Time Management Nov 2016
- Got Motivation? Strategies for Empowering Students in their Academics Oct 2016
- Active Learning Strategies for the Classroom Sept 2016
- Group Work Sept 2016
- Teaching Philosophy Mar 2016
- TA Professional Development Seminar Sept 2016 - present
Mathematics Department, Ohio State University
- Training for Graduate Teaching Assistants, Sept 2011
Mathematics Department, Ohio State University

HONORS, AWARDS AND MEMBERSHIPS

- Special Graduate Assignment, The Ohio State University Jan-May 2016
- Aug-Dec 2016
- Junior Research Fellowship Dec 2009
(Council of Scientific and Industrial Research (CSIR), India)
- M.Sc. Scholarship 2008 - 2010
(National Board for Higher Mathematics, India)
- Rank 9 in general merit list and Rank 8 in vocational merit list May 2005
(Pune Division of Higher Secondary Certificate (HSC))
- National Talent Search Scholarship, India 2003 - 2010
- Member of the American Mathematical Society
- Member of the Association for Women in Mathematics, Ohio State University Chapter
- Member of the National Center for Faculty Development and Diversity

RELEVANT SKILLS

- Languages: English (fluent), French (reading knowledge), German (reading knowledge),
Hindi (fluent), Marathi (native speaker)
- Computer skills: C, C++, HTML (basic knowledge)

SERVICE

STEM Tutoring for High School students Feb 2017
Tutored High school students to prepare for the Ohio Graduation Tests in Mathematics

Graduate Studies Committee Aug 2014 - July 2015
Served as the **Graduate representative** in the Graduate Studies Committee, Mathematics Department, Ohio State University

Mentor for Teaching Assistants July 2014
Assisted in training new Graduate Teaching Assistants in Mathematics Department at Ohio State University through mock teaching sessions.

Sankalpa Since 2011

- Member of Sankalpa, which is a non-profit organization based at Ohio State University that supports developmental and sustainable projects in India, and organizes awareness programs for the local community.
- Held the following positions:
 - Vice-president Aug 2015 - July 2016
 - Treasurer Aug 2014 - July 2015
 - President Aug 2013 - July 2014
 - Project coordinator Aug 2012 - July 2013
 - Secretary Aug 2012 - July 2013
- Awarded **Student Leadership Award** for work as the President.

REFERENCES

Dr. Jean-François Lafont, Professor
Thesis Advisor
Department of Mathematics,
The Ohio State University, Columbus
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Dr. Chris Hruska, Associate Professor
Department of Mathematical Sciences,
University of Wisconsin, Milwaukee
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Dr. Michael Davis, Professor
Department of Mathematics,
The Ohio State University, Columbus
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Dr. Dan Boros, Assistant Professor and TA
Coordinator
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