

Piyush Shroff

Contact Information

Department of Mathematics
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Education

Texas A&M University, College Station, Texas, USA
Ph.D., Mathematics, September 2007 - August 2012

- Dissertation topic: Finite generation of the cohomology of quotients of PBW algebras
- Advisor: Dr. Sarah Witherspoon

University of Pune (Recently, Savitribai Phule Pune University), Maharashtra, India
Master of Science (M.Sc.) Mathematics, July 2005 - May 2007

MES Abasaheb Garware College, Pune, Maharashtra, India
Bachelor of Science (B.Sc.) Mathematics, July 2002 - April 2005

Employment

Senior Lecturer, September 2016 – present
Lecturer, September 2012 – August 2016
Department of Mathematics, **Texas State University**
San Marcos, Texas, USA

Research / Teaching Assistant, September 2007 - August 2012
Department of Mathematics, **Texas A&M University**
College Station, Texas, USA

Research Interests

Cohomology of algebras, Deformation Theory, Hopf algebras

Publications

- **Hochschild cohomology of group extensions of quantum symmetric algebras** (with Deepak Naidu and Sarah Witherspoon), Proc. Amer. Math. Soc. 139 (2011), 1553-1567.
- **Finite generation of the cohomology of quotients of PBW algebras**, J. Algebra 390 (2013), 44-55.
- **Quantum Drinfeld orbifold algebras**, Communications in Algebra 43 (2015), 1563-1570.
- **PBW deformations of skew polynomial rings and their group extensions** (with Sarah Witherspoon), J. Algebra and Its Applications 15 (2016), no. 3.
- **A proof of the Matrix Tree Theorem via Stirling covers and cycle activation** (with Ellen Robinson, Lucas Rusnak and Martin Schmidt), in preparation.

Awards and Honors

- Voted "Favorite Professor" by the Texas State University Alpha Chi National Honor Society.
- Two time Honoree by the Student Veteran Appreciation of Campus Support program, Texas State University.

- One time Honoree by the New Student Appreciation of Campus Support program, Texas State University.
- Outstanding Service Award, India Association (Student Organization), Fall 2008, Texas A&M University.
- Recipient of Regents Fellowship, Fall 2007, Texas A&M University.
- Damodar Ganesh Ramdasi Gold Medal for Highest number of Marks and stood first at Master of Science (M.Sc.) Mathematics exam April/May 2007, University of Pune, India.
- Late Principal Wrangler Gopalkrishna Laxman Chandratraya Gold Medal for Highest number of Marks and stood first at Master of Science (M.Sc.) Mathematics exam April/May, 2007, University of Pune, India.

Invited Talks

- PBW deformations of skew polynomial rings and their group extensions. The Southwestern Group Theory Day, University of Arizona, Tucson, Arizona, March 21, 2015.
- Quantum Drinfeld orbifold algebras, AMS Spring Central Section Meeting (Special Session on Non commutative Algebra, Deformations, and Hochschild Cohomology), Texas Tech University, Lubbock, Texas, April 11-13, 2014.
- Quantum Drinfeld orbifold algebras, Algebra and Combinatorics Seminar, Texas A&M University, College Station, Texas, March 21, 2014.
- Finite Generation of Cohomology, Commutative Algebra Seminar, University of Nebraska – Lincoln, Nebraska, November 16, 2011.
- Koszul Algebra, Guest Lecture, University of Pune, Maharashtra, India, January 10, 2011.
- Hochschild cohomology of group extensions of quantum symmetric algebras, Guest Lecture, University of Pune, Maharashtra, India, January 11, 2010.
- Introduction to cohomology, Guest Lecture, University of Pune, Maharashtra, India, January 2009.

Conference/ Workshop Talks

- Poster Presentation on Applications of Matrices, Graduate Mathematics Open House, Texas State University, San Marcos, Texas, November 8, 2013.
- Poster Presentation on Finite generation of the cohomology of quotients of PBW algebras, Cohomology and Support in Representation Theory and Related Topics, University of Washington, Seattle, Washington, August 1, 2012.
- Finite generation of the cohomology of quotients of PBW algebras, Young Researchers Meet, Stanford University, Stanford, California, May 26-27, 2012.
- Poster Presentation on Finite generation of cohomology of quotients of PBW algebras, Southwest Local Algebra Meeting, Texas Tech University, Lubbock, Texas, March 3-4, 2012.

- Finite generation of cohomology of quotients of a PBW algebra, AMS Contributed Paper Session on Associative and Nonassociative Algebras and Rings: Homological Algebras and Category Theory, Joint Mathematics Meeting, Boston, Massachusetts, January 7, 2012.
- Poster Presentation on Finite generation of cohomology of quotients of a PBW algebra in Project Next/Young Mathematician's Network Poster Session, Joint Mathematics Meeting, Boston, Massachusetts, January 4, 2012
- Poster Presentation on Finite generation of cohomology of quotients of PBW algebras, AMS Central Section Meeting, University of Nebraska – Lincoln, Nebraska, October 14-16, 2011.
- Cohomology of quotients of quantum symmetric algebras, UNT and TAMU Workshop on Algebras, University of North Texas, Denton, Texas, April 23, 2011.
- Poster Presentation on Cohomology of quotients of quantum symmetric algebras, Southwest Local Algebra Meeting, New Mexico State University, Las Cruces, New Mexico, March 5-6, 2011.
- Introduction to PBW algebra, Workshop on Deformations, Texas A&M University, College Station, Texas, October 23, 2010.
- Poster Presentation on Hochschild cohomology of group extensions of quantum symmetric algebras, Southwest Local Algebra Meeting, University of Texas, Arlington, Texas, March 6-7, 2010.

Local Seminar Talks

- Introduction to Game Theory, Math Club, Texas State University, San Marcos, Texas, November 11, 2015.
- Relationship between Color Lie Algebras and Quantum Drinfeld Orbifold Algebras, Discrete Math Seminar, Texas State University, San Marcos, Texas, September 25, 2015.
- Linear Systems and it's Applications, Math Club, Texas State University, San Marcos, Texas, November 5, 2014.
- Introduction to Homological Algebra, Discrete Math Seminar, Texas State University, San Marcos, Texas, November 2, 2012.
- Finite Generation of Cohomology, Algebra and Combinatorics Seminar, Texas A&M University, College Station, Texas, October 28, 2011.
- Chain Conditions, Graduate Student Organization Seminar, Texas A&M University, College Station, Texas, September 15, 2011.
- Localization, Graduate Student Organization Seminar, Texas A&M University, College Station, Texas, April 15, 2010

Conferences/ Workshops Attended

- Combina Texas, Texas A&M University, College Station, Texas, May 7-8, 2016.
- Southwest Local Algebra Meeting, Texas State University, San Marcos, Texas,

February 27-28, 2016.

- The Southwestern Group Theory Day, University of Arizona, Tucson, Arizona, March 21, 2015.
- AMS Spring Central Section Meeting, Texas Tech University, Lubbock, Texas, April 11-13, 2014.
- Southwest Local Algebra Meeting, Texas A&M University, College Station, Texas, March 1-2, 2014.
- Southwest Local Algebra Meeting, University of Arizona, Tucson, Arizona, March 2-3, 2013.
- Further Connections Between Algebra and Geometry, North Dakota State University, Fargo, North Dakota, February 2-3, 2013.
- Cohomology and Support in Representation Theory and Related Topics, University of Washington, Seattle, Washington, July 27 – August 5, 2012.
- Young Researchers Meet, Stanford University, Stanford, California, May 26-27, 2012
- Lie Theory Workshop Series – Hopf Algebras and related topics, University of Southern California, Los Angeles, California, May 5-6, 2012.
- Southwest Local Algebra Meeting, Texas Tech University, Lubbock, Texas, March 3-4, 2012.
- Joint Mathematics Meeting, Boston, Massachusetts, January 4-7, 2012.
- AMS Fall Central Section Meeting, University of Nebraska – Lincoln, Nebraska, October 14-16, 2011.
- NFS/CBMS Conference on Deformation Theory of Algebras and Modules, North Carolina State University, Raleigh, North Carolina, May 16-20, 2011.
- Southwest Local Algebra Meeting, New Mexico State University, Las Cruces, New Mexico, March 5-6, 2011.
- Southeastern Lie Theory Conference on Homological Methods in Representation Theory, University of Georgia, Athens, Georgia, May 22-24, 2010.
- Lie and Representation Theory Summer School, University of Georgia, Athens, Georgia, May 10-21, 2010.
- Southwest Local Algebra Meeting, University of Texas, Arlington, Texas, March 6-7, 2010.
- AMS Fall Central Section Meeting, Baylor University, Waco, Texas, October 16-18, 2009.
- National workshop on Fourier Analysis on finite Groups and its applications, University of Pune, Maharashtra, India, March 5-9, 2007.
- Mathematics Training and Talent Search Programme (Funded by National Board for Higher Mathematics), India, May 15- June 10, 2006
- Visiting Students Summer Programme, Harish Chandra Research Institute, Allahabad, Uttar Pradesh, India, June 7-28, 2005.

Teaching
Experience

Department of Mathematics, **Texas State University**

Fall 2012 - present

- Instructor:
 1. Plane Trigonometry, Discrete Mathematics I, Calculus for Life Sciences I & II
 2. Precalculus, College Mathematics for Business and Economics I & II, College Algebra, Elementary Statistics
 3. Calculus I, Calculus II, Calculus III
 4. Linear Algebra, Differential Equations

Department of Mathematics, **Texas A&M University**, College Station

Fall 2007 - Summer 2012

- Instructor: Mathematical Concepts- Calculus
- Recitation TA: Calculus I, Calculus II
- Help Session: Business Mathematics, Mathematical Concepts- Calculus
- Grader (Graduate level): Differential Geometry, Methods of Applied mathematics I, A survey of mathematical problems II (Online Course).
- Grader (Undergraduate level): Advanced Calculus, Modern Geometry, Linear Algebra

Center for Teaching Excellence (CTE) **Certificate** for completing **International Teaching Assistant (ITA)** forum learning community, Texas A&M University, Fall 2007.

Student
Mentoring

Department of Mathematics, **Texas State University**

- Mathworks Honors Summer Math Camp Mentor (High School Students) for 2016 Siemens Competition.
- **Undergraduate:**
 - (Co-Mentoring) Ellen Robinson, Martin Schmidt

Affiliations

- Member of American Mathematical Society (AMS)
- Member of Texas Eta Chapter of Pi Mu Epsilon (National Honorary Mathematics Society)
- Member of Texas A&M University Chapter of Sigma Xi (a scientific research society for science and engineering)

Departmental
Services

- Faculty Advisor, Texas Rho Chapter of Pi Mu Epsilon (National Honorary Mathematics Society), Fall 2015 – present.
- Help and prepare students for Putnam competition.
- Co-director, pilot of Undergraduate Training and Research Assistant (UTRA) Program, Texas State University, Fall 2014 – present. (It's a program to begin integration of undergraduate mathematicians into research).
- Co-organizer, Calculus Bee (a contest to compute derivative fastest), Department of Mathematics, Texas State University, (Fall 2014, 2015, 2016).
- Co-organizer, Graduate Student Organization Seminar, Department of Mathematics, Texas A&M University, September 2009 - May 2011.

University
Services

- Faculty Advisor, Badminton Club, Texas State University, Spring 2014 – Spring 2015.

Professional
Services

- Co-organizer, Southwest Local Algebra Meeting, San Marcos, Texas, February 27-28, 2016.

Refereeing and
Reviewing

- Reviewer: British Journal of Mathematics and Computer Science, JP Journal of Algebra, Number Theory and Applications, Asian Journal of Mathematics and Computer Research, Open access Journal operated by MDPI.