

N. MANOJ KUMMINI
Curriculum Vitæ

Department of Mathematics
Purdue University
150 N University St
West Lafayette, IN 47907-2067.

Ph: 765-496-7968 (o)
nkummini@math.purdue.edu
<http://www.math.purdue.edu/~nkummini/>

Education

- Ph. D. University of Kansas, Lawrence, KS. Advisor: C. Huneke. Dissertation: **Homological Invariants of Monomial and Binomial Ideals**. August 2008.
- M. E. (Telecom. Engg.), Indian Institute of Science, Bangalore, India. January 2002.
- B. Tech. (Electr. and Commun. Engg.), University of Calicut, India. March 1999.

Work Experience

- Research Assistant Professor, Purdue University, West Lafayette, IN. Aug 2008 — .
- Graduate Teaching Assistant, University of Kansas, Lawrence, KS. Aug 2003 – Aug 2008.
- Texas Instruments India Limited, Bangalore, India. Senior Design Engineer, Jan – Jul 2003. Design Engineer, Feb 2002 – Jan 2003.
- Sasken Commun. Tech. Ltd., Bangalore, India. Software Engineer, Apr 1999 – Jul 2000.

Publications

- [1] with S. Murai, *Regularity of canonical and deficiency modules for monomial ideals* (2009), in preparation
- [2] *Regularity, depth and arithmetic rank of bipartite edge ideals* (2009), to appear in J. Algebr. Combin.
- [3] with M. Basavaraju and L. S. Chandran, *d-regular graphs of acyclic chromatic index at least $d + 2$* (2009), to appear in J. Graph Theory
- [4] with G. Caviglia, *Some ideals with large projective dimension*, Proc. Amer. Math. Soc. **136** (2008), 505–509 (electronic)
- [5] *Alexander duality and Serre's property (S_i) for square-free monomial ideals* (2007), preprint
- [6] *Multiplicity bounds for quadratic monomial ideals* (2007), arXiv:0707.1311v1 [math.AC]

Talks

- *Arithmetic Rank of Monomial Ideals*, AMS Fall Central Sectional meeting, Waco, TX. October 2009.
- *Arithmetic Rank of Monomial Ideals*, Purdue-UIUC Algebra, Geometry, Combinatorics Day, UIUC, Urbana, IL. September 2009.
- *Solving Polynomial Equations Using Gröbner Bases*, Undergraduate colloquium, Fairfield University, Fairfield, CT. November 2008.
- *Homological invariants of bipartite edge ideals*, commutative algebra seminar, CUNY, New York, NY. November 2008.
- *Free resolutions of quadratic monomial ideals*, commutative algebra seminar, University of Nebraska, Lincoln, NE. March 2008.
- *Multiplicity Bounds for Quadratic Monomial Ideals*, Joint Mathematics Meetings, San Diego, CA. January 2008.
- *Multiplicity Conjectures*, Indian Institute of Science, Bangalore, India. July 2007.
- *Multiplicity Conjectures*, Graduate Student Research Conference On Algebra And Representation Theory, Kansas State University, Manhattan, KS. May 2006.
- *Some Ideals with Large Projective Dimension*, Cornell University, Ithaca, NY. May 2006.
- *Some Ideals with Large Projective Dimension*, Joint Mathematics Meetings, San Antonio, January 2006

Workshops and Conferences

Workshops.

- Pan American Study Institute in Commutative Algebra and its Connections to Geometry, Olinda, Brazil. August 2009.
- American Mathematical Society Mathematical Research Communities Workshop, *Computational Algebra and Convexity*, Snowbird, UT. June 2008.
- Workshop on *Commutative Algebra and Algebra Geometry*, Indian Institute of Technology, Chennai, India. June 2007.
- Workshop on *Advances in Algebra and Geometry*, Mathematical Sciences Research Institute, Berkeley, CA. May 2007.
- Workshop on *Syzygies and Hilbert Functions*, Banff International Research Station, Banff, AB. October 2006.
- Workshop on *Computational and Combinatorial Algebra*, Fields Institute, Toronto, ON. July-August 2006.
- Summer school on *Valuation Theory and Integral Closure*, University of Ottawa, Ottawa, ON. July 2006.
- Workshop on *Monomial Resolutions and Hilbert Functions*, Cornell University, Ithaca, NY. May 2006.
- Summer school on *Local Cohomology and Its Applications*, Snowbird, UT. June 2005.
- Summer school on *Interactions between and Homotopy Theory and Commutative Algebra*, University of Chicago, Chicago, IL. July-August 2004.
- Workshops on *Macaulay2*. Cornell University, Ithaca NY. March 2008. Mathematical Sciences Research Institute, Berkeley, CA. May 2005.

Conferences.

- Purdue-UIUC Algebra, Geometry, Combinatorics Day, Urbana IL. September 2009.
- Bluegrass Algebra Conference, University of Kentucky, Lexington KY. March 2009.
- AMS-MAA-SIAM Joint Mathematics Meetings: San Antonio TX. (January 2006) San Diego CA (January 2008), Washington DC (January 2009).
- UIC-Purdue Workshop on Algebraic Geometry and Commutative Algebra, Purdue University, West Lafayette IN. December 2006.
- Graduate Student Research Conference On Algebra And Representation Theory, Kansas State University, Manhattan KS. May 2006.
- AMS Fall Central Sectional Meeting, Lincoln, NE. October 2005.
- “Midwest Algebra, Geometry and their Interactions Conference” (MAGIC), University of Notre Dame, South Bend, IN. October, 2005.
- 30th Arkansas Spring Lecture Series: *Recent Developments in Tight Closure Theory*, University of Arkansas, Fayetteville, AR. April 2005.
- KUMUNU 5, September 2003; KUMUNU 6, October 2004; KUMUNU 7, November 2006. Lawrence, KS. KUMUNU 8, September 2007; Lincoln, NE.

Professional Activities

- Panelist, *What I wish I had known before I went to graduate school*, organized by the AMS Committee on the Profession, Chair: C. Huneke. AMS-MAA-SIAM Joint Mathematical Meetings, Washington, DC. January 2009.
- Student co-organizer, Mathematics Awareness Month activities, University of Kansas. 2005–07.
- Panelist, on a discussion on graduate school. Chair: T. Marley, AMS Fall Central Sectional Meeting, Lincoln, NE. October 2005.
- Member, American Mathematical Society.