Curriculum Vita of
Hema Srinivasan

Address

Department of Mathematics
University of Missouri, Columbia, Missouri 65211

Education

Ph.D. Brandeis University, May 1986.
M.A. Indiana University, Bloomington, May 1982.
M.Sc. Nagpur University, India, August 1980.
B.Sc. (Hons.) Bombay University, India, Sept. 1978.

Research Areas

Commutative Algebra, Algebraic Geometry and Multi-linear Algebra.

Thesis Advisor

Professor David A. Buchsbaum

Positions held since Ph.D

Professor, University of Missouri, from August 1997
General Member, MSRI, 2012-2013
General Member of Mathematical Sciences Research Institute, Berkeley, (by invitation), Fall 2002
Visiting Professor, Northeastern Universiry, Jan-June 2000
Associate Professor, University of Missouri, from August 1993
Visiting Fellow, SPIC Science Foundation, Madras, Spring 1991.
Assistant Professor, University of Missouri, from August, 1989.
Research Assistant Professor, Purdue University, August 1988-June 1989.
Visiting Instructor, Michigan State University, August 1986-June 1988.

Awards and Grants

General Member, MSRI, Special year in Commutative Algebra, Dec 2012 - May 2013

NSF grant, International Programs, December 2003-June 2004

General Member, MSRI, Special Year in Commutative Algebra, Fall 2002

UM Research Board Grant June 2005- May 2006

NSA grant, Mathematical Sciences, November 2001- October 2003

UM Research Council Grant, 2002-2003

Provost's Research leave Fall 2002

UM Research Board grant June 2001-May 2002

UM Research Board grant April 2001 (to organize a conference)

NSA grant, Mathematical Sciences, Feb 2000- August 2001

UM Research Council grant, 1999-2000

Provost's Research Leave 1999-2000

International Travel Grant Summer 1998

NSF grant DMS July 1996- June 1999,

UM Research Board grant June 1996- May 97,

NSF grant DMS July 1993- June 1996,

Summer Research Fellowship, UMC, Summer 1992,

NSF grant DMS 8922794, July 1990-December 1992

NSF grant, July 1989-June 1990

UM-Research Board grant, May 1993- (To organize a conference)

IBM Fellowship, Aug. 1984-July 1986

National Science Talent Scholar, (India) Aug. 1975-July 1980

Ghia Prize for Mathematics, Bombay University, Sept. 1978.

Conferences organized

(1) Midwest-Great Plains Workshop in Commutative Algebra, June 1991, Columbia, MO, Co-organized with D.Cutkosky, J.Huckaba, I.Papick and D.Weston.
(2) Algebraic Geometry - Interactions between Algebraic Geometry and Commutative Algebra, Columbia, MO, May 28-30, 1993, Co-Organized with S.D. Cutkosky.
(3) Special Session in Commutative Algebra, AMS Meeting, in Nov 1996 in Columbia, MO, Co-organizer: S.D. Cutkosky.
(4) Special Session in Commutative Algebra, AMS Meeting, Sept 26-28, 1997, Montreal, Canada, Co-organizer: Irena Peeva.
(5) Special Session in Commutative Algebra, AMS National Meeting, Jan 2000, Washington DC, USA. Co-organizer: Irena Peeva.
(6) Algebra Weekend 2001, April 2001, Columbia, MO, Co-organizer Dale Cutkosky.
(7) AMS special session in Commutative Algebra and Algebraic Geometry, Montreal, Canada, May 3-5, 2002. Co-organizer: Irena Peeva
(8) First Joint meeting of the American and Indian Math. Societies, Special Session on Commutative Algebra and Algebraic Geomery, Dec 17-20 India ,Co organizers, S. Ghorpade, J. Verma of IIT Bombay.
(9) First Joint meeting of the AMS and Indian Math Society, Poster session, Dec 17-19, Bangalore, India. (Co-organizer Rajaram Bhatt, IISC, Bangalore)
(10) International Conference in Commutative algebra and algebraic geometry featuring young presenters, Dec. 16, Bangalore, India, (Co-organizers, S. Ghorpade, D.Patil and J. Verma).

Masters and Doctoral students

(1) David Barker (MA 2002)
  Master's Project Title: Bilinear Forms
(2) Gabriel Coon: Undergraduate student project under Hugh's program, completed 1998.
  Project title: Three Conjectures on Permenents.
(3) Sabine ElKhoury: (MA 2005)
  Masters Project title: Divided Power Algebras
(4) Natalia Svyeshnikova: (MA 2006)
  Masters project: "Magic Squares"
(5) Dennis Williams: Doctoral Student (MA 2006)
  Project title: Gröbner bases
(6) Jane Peters; (MA 2008)
  Thesis title: Non Euclidean Principal Ideal Domains
(7) Sabine El Khoury , Ph.D 2007
  Thesis: Structure of a class of grade four Gorenstein Artin Algebras.
(8) Heidi Hulsizer, Ph.D 2010
  Thesis: Minimal Resolutions of Gorenstein Determinantal Ideals.
(9) Sumi Seo: Doctoral Student, Ph.D 2010
  Thesis: Almost Complete Intersections, Hilbert Functions and Determinantal Ideals.
(10) Adrianao Marzullo , Doctoral Student Ph.d 2010
  Thesis: Periodicity of Betti numbers of certain semigroup rings under translations.
(11) Valeria D'Orazio, Doctoral studnet (2006-)

Selected Masters and Ph.D committees of students in Commutative algebra, algebraic geometry and related subjects at MU and outsider MU.

(1) Krishna Hanumanthu, (Algebraic Geometry, MU, Ph.D 2008)
(2) Samar El Hitti (Algebraic Geometry, MU, Ph.D 2008)
(3) Russell Goward, (Algebraic Geometry, MU, Ph. D 2002)
(4) Susan Cooper, (Commutative Algebra, Queens U., Canada, Ph.D 2005)
(5) Olga Kascheyeva, (Algebraic Geometry, MU, Ph.D 2003)
(6) Pramod Bommaraju (Masters Committee, MAE, MU, MS 2006)
(7) Ragini Suram, (Electrical Engineering, MU, MS 2003)
(8) Tamara Kucherenko (Modern Analysis, MU, fi 2003)
(9) Thomas Pyle, (Algebraic Geometry, MU, MA 1999)
(10) Abdul RAzak (Applied Math, Jamal Mohammed College, Trichi, India, 2007)
(11) R.S. Raja Durai, (Coding Thoery, IIT Madras, India 2003)
(12) M. Ramathilingam, (Coding Theory, Algebra, IIT-Madras, India, 2002)
(13) R. Balasubramanian, (Applied Mathematics, IIT- Madras, India, 2001)

Post doctoral mentees

(1) Srikanth Iyengar, 1998-1999, (Currently, Professor of Mathematics at University of Nebraska, Lincoln.)
(2) Laura Ghezzi, 2001-2004 (Currently, Assistant Professor at NYC College of Technology, CUNY.)
(3) Chris Francisco, 2005-2008, (Currently, Assistant Professor of Mathematics at Oklahoma State University)

(4) Kia Dalili 2007-2011

Professional memberships and Service

Member: American Math Society (AMS) and Association for Women in Mathematics (AWM)

AMS: Member of Committee on Meetings and Conferences, 2001-2004; Member of Summer Research Conferences Committee 2000-2004 Elected to Nominating Committee 2006 Member Nominating Committee: 2007-2009

MU: At the University of Missouri, my services include Campus P&T committees, Minority Affairs Committee, Status of Women Committee, Admissions Review Committee and Faculty Development and Advisory Committee.

Publication List of Hema Srinivasan

(1) *Algebra Structures on some Canonical Resolutions*, J. Algebra, vol 122, no 1, 1989., pp. 150–187.

(2) *Ranks of syzygies of Perfect Modules*, J. Pure and Applied Algebra, Vol. 65, No. 1, 1990; pp. 91–96.

(3) *Minimal Algebra Resolutions of Cyclic Modules defined by Huneke-Ulrich Ideals*, J. Algebra, Vol. 137, No. 2, 1991; pp. 433-472.

(4) *On the finite generation of the Symbolic Algebras of Monomial primes*, Communications in Algebra, Vol. 19, 1991; pp. 2557-2564.

(5) *The non-existence of a minimal algebra resolution despite the vanishing of Avramov Obstructions*, J. Algebra, Vol. 146. No. 2. 1992; pp. 251-266.

(6) *Local fundamental groups of surface singularities in characteristic p*, (with S.D. Cutkosky), Comm. Math. Helvetici 68 (1993), 319-332.

(7) *An intrinsic Criterion for Isomorphism of Singularities*, (with S.D. Cutkosky), American Journal of Mathematics, vol 115 (1993), 789-821.

(8) *Decomposition Formulas for Pfaffians*, J. Algebra 163 (1994), 312-334.

(9) *Algebra Structures for the graded free resolutions*, Contemporary Math., Vol 159 (1994), 357-365.

(10) *Finite determinancy of mappings*, in Commutative Algebra, W. Bruns, J. Herzog, M. Hochster, U. Vetter, eds, Verlag Druckerei Runge GmbH, Cloppenburg, (1994), 180-183.

(11) *A grade five cyclic Gorenstein module with no minimal algebra resolutions*, J. Algebra 179 (1996), 362-379.

(12) *Equivalence and finite determinancy of mappings*, (with S.D. Cutkosky), J. Algebra 188, 16-57 (1997)

(13) *Bounds for multiplicity*, (with J. Herzog), Transactions of the AMS, Vol 350, NO. 7 (1998), 2879-2902

(14) *A note on Multiplicities of Gorenstein Algebras*, J. Algebra. (208) 425-443 (1998)

(15) *The algebraic fundamental group of the complement of a curve singularity* (with S.D. Cutkosky), J.Algebra, (1) 2000,201-226 Volume in honor of David Buchsbaum

(16) *Isomorphism of Complexes and Lifts* (with S.D.Cutkosky), in Geometric and Combinatorial aspects of Commutative Algebra (Messina 1999), Lecture Notes in Pure and Applied Mathematics 220, Dekker NY, 2001.

(17) *Towards a criterion for isomorpism of Complexes*, (with S.D. Cutkosky) in Ideal theoretic methods in commutative algebra (Columbia MO 1999), Lecture Notes in pure and applied Mathematics 217, Dekker NY 2001.

(18) *Artinian Gorenstein Algebras of embedding dimenstion four: Components of PGORH for $H = (1, 4, 7, \cdots)$*, (With A.Iarrobino) , Journal of Pure and Applied Algebra, 201(2005), n0 1-3, 62-96

(19) *Gorenstein Sequences*, Advances in Algebra and Geometry, ed. Hindustan Publishing Agency, 2003.

(20) *Some Gorenstein Artin Algebras of embedding dimension four II*, with A. Iarrabino, in preparation

(21) *Multiplicities of Monomial Ideals*, (with Juergen Herzog), J. Algebra, 274 (2004), No 1, 230-244.

(22) *Asymptotic behavior of the length of local cohomology* with S.D.Cutkosky, Tai Ha, E.Theoderescu , Canadian Journal of Math, 57 (2005). 1178-1192.

(23) *Linkage, Betti Numbers and Degree Bounds for Zero Schemes* (With L.Gold and H. Schenk), J.P.A.A., 210 (2007), no. 2, 481–491.

(24) *Factorization of Birational Extensions of Rings* With S. D. Cutkosky, Illinois J. Math. 51 (2007), no. 1, 41–56 .

(25) *Multiplicity Conjectures* (With C. Francisco), Syzygies and Hilbert functions, Lect. Notes Pure Appl. Math., 254, Chapman & Hall/CRC, Boca Raton, FL, 2007, 145-178

(26) *Duality and Tameness*, (With M.Chardin, S. Cutkosky and J. Herzog), Special volume in honor of Melvin Hochster. Michigan Math. J. 57 (2008), 137–155.

(27) *Structure theorems for a class of Gorenstein Artin Algebras of embedding dimension four*, (with Sabine El Khoury) Communications in Algebra 37 (2009), no.9, 3259-3277.

(28) *Asymptotic growth of algebras associated to powers of ideals*,(with S. D. Cutkosky and J. Herzog) Math. Proc. Camb. Phil. Soc. 148 (2010), no 1, 55-72.

(29) *Free Resolutions and Graph Theory* Proc. National Symposium on Mathematical Methods and Applications 2008, 1-13.

(30) *Lectures on Multiplicity Conjectures* Lecture notes for the conference : Resolutioin of Singularities, Multiplicity Conjectuers and Toric Geometry, IIT, Madras, 2009

(31) *Minimal Free Resolutions for Certain Affine Monomial Curves*(with P. Gimenez, I. Sengupta), AMS Contemp. Math.Vol 555 (2011)

(32) *On Unimodality of Hilbert Functions of Gorenstein Artin Algebras of Embedding Dimension Four* With Sumi Seo, Comm. in Algebra, Volume 40, Issue 8, August 2012, pages 2893-2905arxiv. 1011.2732v1.

(33) *Minimal Graded Free Resolutions for Monomial Curves Defined by an Arithmetic Sequence* (with P. Gimenez, I. Sengupta), J. Algebra 388(2013), 294-310. arXiv:1108.3203v1.

(34) *Gorenstein Hilbert Coefficients* (with S. El khoury), to appear in J.Comm. Alg. arxiv:1201.5575v3

(35) *Periodic Occurence of Complete Intersection Monomial Curves* (with A.V. Jayanthan), Proc. AMS 141(2013) 12. 4199-4208. arxiv:1203.1991

(36) *Bounds for Multiplicities of Gorenstein Algebras*(with S. El Khoury and M. Kummini), to appear in PAMS arxiv: 1211.1316

(37) *On the number of generators of ideals defining Gorenstein Artin algebras with Hilbert function* $(1, n + 1, 1 + \binom{n+1}{2}, ..., \binom{n+1}{2} + 1, n + 1, 1)$ (with Sabine El Khoury and A.V. Jayanthan), preprint arxiv:1304:0305

(38) *A note on the Subadditivity problem for maximal shifts in free resolutions* (With J. Herzog), to appear in MSRI Proc. arxiv: 1303:6214

(39) *Note on Gorenstein Monomial Curves* (with P. Gimenez) to appear Proc. AGA12.

Books

Commutative Algebra and Algebraic Geometry, Proceedings of the First joint meeting of the American and Indian Mathematical Societies, Edited by Sudhir Ghorpade, Hema Srinivasan and Jugal Verma. Contemporary Mathematics, 390. American Mathematical Society, Providence, RI, 2005. xiv+173 pp. ISBN: 0-8218-3629-3 13-06 (14-06)

Invited Talks

(1) Seminar Talk: Michigan State University, October 1986 (3 talks) Title: Algebra Structures on some canonical resolutions
(2) Seminar Talk: Michigan State University, Spring 1987 (3 talk) Title: Basic element theory
(3) Seminar Talk: Michigan State University, Winter 1988 (2 talks)
(4) AMS Meeting - Special session in Commutative Algebra, Knoxville, Tennessee, March 1988 Title: Ranks of Syzygies of Perfect Modules
(5) Colloquium Talk: Louisiana State University, February 1988 Title: Resolutions and Algebra Structures
(6) Colloquium Talk: University of Missouri-Columbia, March 1988 Title: Free Resolutions and their Algebra Structures
(7) Seminar Talk: Purdue University, September 1988 Title: Minimal Algebra Resolutions for Huneke-Ulrich ideals
(8) Seminar Talk: Purdue University, March 1989 Title: An Intrinsic Criterion for Isomorphism of Singularities I
(9) Seminar Talk: Purdue University, March 1989 Title: An Intrinsic Criterion for Isomorphism of Singularities II
(10) Special session in Commutative Algebra, AMS meeting, Manhattan, Kansas, March 1990 Title: On the non-existence of minimal algebra resolutions despite the vanishing of Avromov obstructions
(11) Colloquium Talk: Washington University, December 4, 1990 Title: Algebra Structures on Resolutions
(12) Colloquium Talk: Tata Institute of Fundamental Research, Bombay, February, 1991 Title: Algebra Structures on Resolutions
(13) Colloquium Talk: SPIC Science Foundation, Madras, February 1991 Title: Obstructions to the existence of Multiplicative Structures on Resolutions
(14) Colloquium Talk: Institute of Mathematical Sciences, Madras, April 18, 1991 Title: Pfaffians and Multiplicative Structures
(15) Special Session in Commutative Algebra, AMS Orono mathfest, Orono, Maine, August 1991 Title: On finite generation of Symbolic Algebras of Monomial Primes
(16) Special Session in Commutative Algebra, AMS meeting, Fargo, ND, October 1991 Title: Local Fundamental Groups of Surface Singularities in Characteristic p
(17) Special Session in Commutative Algebra, AMS meeting, Springfield, MO, March 1992 Title: Resolutions of Gorenstein Algebras
(18) Colloquium Talk: University of Arkansas, April 20, 1992 Title: Minimal Algebra Resolutions
(19) AMS-IMS-SIAM Joint Summer Research conference, Commutative Algebra-Syzygies,Multiplicities and Birational Algebra, Mt.Holyoke, July 4-9, 1992 Title: Algebra Structures for Homogeneous Free Resolutions
(20) Algebra Seminar: Purdue University, Nov 1992 Title: Algebra Structures for graded free Resolutions
(21) Colloquium: SPIC Science Foundation, June 1994 Title: Finite Determinancy of Mappings
(22) Colloquium: Indian Institute of Technology, Madras, July 1994 Title: Finite Determinancy of Mappings

(23) Colloquium: Ramanujan Institute of Advanced Study in Pure Mathematics, Madras, July 1994 Title: Free Resolutions and Mulitplicative Structures

(24) Commutative Algebra- Satallite conference to the International Congress, ICM 94, Vechta Germany, July 1994 Title: Finite Determinancy of Mappings

(25) Special Session in Commutative Algebra, AMS meeting, San Francisco, CA, January 1995
    Title: A new criterion for isomorphism of singularities

(26) Special Session in Commutative Algebra, AMS meeting, Orlando, Florida, March 1995 Title: Finite determination of mappings

(27) Algebra Seminar: University of Essen, Essen, Germany, June 1995
    Title: Finite determinancy - some questions

(28) Colloquium: Institute of Mathematical Sciences, Madras, India, July 1995
    Title: Criteria for isomorphism of singularities

(29) Colloquium: Ramanujan Institute of Advanced Studies in Pure Mathematics, University of Madras, Madras, India, July 1995
    Title: Resolutions and Multiplicities

(30) Special Session in Commutative Algebra, AMS meeting, Kent, Ohio, Nov. 1995
    Title: Bounds on multiplicity

(31) Special Session in Commutative Algebra, Ams meeting, Orlando, Florida, Jan. 1996 Title: Hilbert Functions and Multiplicity

(32) Kommutative Algebra und Algebraische Geometrie, Oberwolfach, Germany, May 5-11, 1996, 45 minute talk.
    Title: Bounds for multiplicity

(33) Algebra Seminar: University of Essen, Essen, Germany, May 1996
    Title: Multiplicities

(34) Joint AMS-MAA-AWM summer meeting, Seattle Mathfest, Research Session in Commutative Algebra, August 1996
    Title: Multiplicities of Gorenstein Algebras

(35) 34. Rt 81 conference, SUNY, Albany, OCT 27-28, 1996
    Title: Resolutions of Gorenstein Algebras

(36) Commutative Algebra, CNRS, Luminy. France May 4-9, 1997
    Title: Some Identities associated to homogeneous resolutions

(37) Organizer (with Irena Peeva) of Special session in Commutative algebra, AMS meeting in Montreal, Canada, Sept. 26-28, 1997

(38) Commutative Algebra, Representation Theory and Combinetorics - A Conference in honor of David Buchsbaum, at Northeastern University, Boston, Oct 18-20, 1997. (Plenary Talk)
    Title: A Question on Determination

(39) Special Session on Commutative Algebra, Joint AMS-MAA-SIAM meeting, Baltimore, MD January, 1998 Title: A Question on Finite Determiniation

(40) Panel member on the AWM panel discussion on Women in Mahtematics from around the world, Baltimore, MD,Janauray 1998.

(41) Conference on Homological Methods, Genoa, Italy, June 12, 1998 (Plenary 50 minute talk) Title: Computation of Algebraic Fundamental Group of a Curve Singularity

(42) Conference on Schur and Weyl Modules, Genoa, Italy, June 14, 1998(Plenary 50 minute talk) Title: Algebra structures on resolutions

(43) Colloquium Talk, Tata Institute of Fundamental Research, Bombay, India, June 23, 1998 Title: Bounds for Multiplicities of Graded Algebras

(44) Colloquium Talk, SPIC Science Foundation, Madras, India, July 14, 1998, Title: Algebraic Fundamental Group of a Curve Singularity

(45) Colloquium Talk, Indian Institute of Technology, Bombay, India, July 20, 1998 Title: Conjectures on Multiplicities of graded algebras

(46) Special Session on Commutative Algebra, AMS meeting, Chicago, September 12-13, 1998 Title: Algebraic Fundamental Group of a Curve Singularity

(47) Special Session in Commutative Algebra and Algebraic Geometry, AMS meeting, San Antonio, January 15 - 16, 1999, Title: Local Fundamental Group of a Curve Singularity

(48) Conference on Commutative Algebra and Algebraic Geometry, Univ. Messina, Sicily, Italy, June 16 - 19, 1999, Title: "A Question of Finite Determination"

(49) Olga T Todd Celeberation, AWM conference in MSRI Berkely, July, 1999. Title: "Mentor for post-doctoral participants"

(50) Kommutative Algebra and Algebraische Geometrie, Oberwolfach, Germany, August 8 - 14, 1999, Title: Algebraic Fundamental Group of Curve Singularity .

(51) Algebra Day, University of Kansas, Lawrence, KS Sept 14 Title: "Detecting Koszul Complexes"

(52) Colloquium talk, Indian Institute of Science, Bangalore, India, Dec. 7, 1999, Title: Algebra Structures on Free Resolutions

(53) Colloquium talk, Mehta Research Institute of Mathematics and Mathematical Physics, Allahabad, India, Dec. 14, 1999, Title: Algebra Structures on Free Resolutions

(54) Organizer (with Irena Peeva, Special Session in Commutative Algebra and Algebraic Geoemtry at the joint AMS-MAA-AWM National Meeting, Washinton DC Jan 2000

(55) Algebra Seminar, North Eastern University, February 7, 2000, Title: Bounds for Multiplicities

(56) AMS Meeting, Special Session in Commutative Algebra and Algebraic Geometry, Lowell Massachusetts, March 30, 2000, (45 minute talk) Title: "Finite Determination of Infinite Complexes"

(57) Algebra Seminar: Michigan State University, April, 2000, Title: "Lifting Isomorphism of Complexes"

(58) Centennial Celeberation: Conference at University of Nebraska, May 29, 2000, Title: "Isomorphism of Complexes and Lifts"

(59) Algebre Commutative et Geometrie Algebrique, CIRM, Luminy, France, June 4-9, 2000, Title: "Lifting Isomorphisms of Complexes "

(60) Algebra Seminar University of Valladolid, Spain, July 17, 2000,Title: " Isomorphism of Complexes and Lifts"

(61) AMS Meeting, Special Session on Commutative Algebra and Algebraic Geometry, Toronto, Canada, Sept 23-23, 2000 Title: "Gorenstein Artin algebras of Codimension Four"

(62) AMS Meeting, Special Session on Commutative Algebra, Lawrence, Kansas, March 2001 "Gorenstein Artin Algebras"

(63) University of Messina, June 2001 (a series of two talks Title: "Multiplicities, Hilbert Functions and Regularity I and II"

(64) AMS Special Session in Commutative algebra, Williamstown, MASS, Oct 12-13, 2001, Title: "Gorenstein Artin Algebras"

(65) Conference in algebraic geometry Anapolis, MD Oct 25-28, 2001, Title: "Gorenstein Artin Algebras"

10

(66) Colloquium Talk: University of Kentucky, Nov,2001 Title: Hilbert Functions and Goresntein sequences.

(67) Colloquium Talk: Washington University, NOv 2001 Title: Gorenstein Artin Algebras.

(68) International Conference on Algebra and Geometry, University of Hyderabad, Hyderabad, India, December 7 - 12, 2001, "Resolutions of Gorenstein Algebras"

(69) Joint AMS-MAA-SIAM meeting in San Diego, CA, Jan 6-9, 2002 Lead the focus group discussion for the committee on meetings and conferences and was the mentor for two women in the AWM workshop.

(70) AMS meeting, Ann -Arbor, Michigan, Special Session in Commutative Algebra, March 1- 3, 2002, Title: "Multiplicities of Monomial ideals".

(71) Commutative Algebra Days, Nebraska, March 16, 2002, Title: "Multiplicities of Monomial Ideals".

(72) Algebra Seminar, Universitaet Essen, July 2002 Title: Taylor bound for the multiplicity.

(73) MSRI Commutative Algebra seminar, MSRI, Berkeley, Oct 2002, Title: "Monomial almost complete intersections".

(74) Colloquium talk: Indian Institute of Techonoloy, IIT, Madras, India, November 2003 Title: "Free Resolutions, Multiplicities and Antichains".

(75) Texas A and M University, Algebra seminar, Feb 20, 2003, Title: "Conjectures on Multiplicities".

(76) International conference on Commutative Algebra, Lisbon, Portugal, June 2003 (Plenary Lecture) Title: "Multiplicities of Monomial Ideals".

(77) KUMUNU, (Algebra Day, Lawrence Kansas, Sept. 20, 2003, Title: "Asymprtotic Lengths of Local Cohomology Modules".

(78) AMS meeting in Talahasse, Florida Special Session on Syzygies and Hilbert Functions, March 12-13, 2004. Title: Multiplicity Bounds

(79) AMS Special session in commutative algebra and algebraic geometry, Lawrensville, NJ, Special Session on Algebraic Geometry and Commutative Algebra, April 16-17, 2004.
Title: Asymptotic Bounds for Local Cohomology Modules

(80) Sixth International Joint meeting of the AMS and Mexican Math. Societies, Houston, Texas, May 15-17, 2004, AMS special session on Homological Methods.
Title: Multiplicity bounds for ideals linked to complete Intersections.

(81) AMS Meeting in Nashville, TN, Special Session on Algebraic Geometry and Commutative Algebra, October 17- 19, 2004
Factorization of Matrices and Birational Maps

(82) Joint AMS-MAA National Meeting in Atlanta, GA, January 4-7 2005, Special session on Commutative algebra and algebraic geometry
title: Controlled Matrix Factorizations and Birational Maps

(83) Colloquium talk: University of Nebraska, Lincoln, NE, March 4, 2005
Title: Controlled Matrix Factorizations and Birational Maps

(84) Collquium Talk: Tulane University, March 28, 2005
Title: Multiplicity Bounds

(85) Special Session on Hilbert Functions" in the International meeting off the AMS, Germany, June 2005
Title: Multiplicity Conjectures - Some Recent Results.

(86) Seminar: University of Barcelona, Spain, June, 16, 2005
Title: Multiplicity Conjectures

(87) Colloquium: Indian Institute of Technology, Bombay, Inida, July 5, 2005
    Title: Almost complete Intersection Ideals
(88) Commutative Algebra Conference honoring Phillip Griffith, Urbana, Il, Sept 17, 2005
    Title: Some Recent Results on Multiplicitty Conjectures
(89) MAGIC - Midwest Algebra, Geometry and Interactions conference, Notre Dame, Oct 9, 2005
    Title: Multiplicity Bounds
(90) Combinatorial Algebraic Geometry, AMS Special session, Notre Dame, April 2006
    Title: Taylor Bound for Multiplicity
(91) Commutative algebra and Algebraic Geometry, CIRM, Luminy, France, June 2006
    Title: Gorenstein Algebras of Codimension Four
(92) Work shop on Syzygies and Hilbert FunctionsBanff Research Station, Canada, October 2006
    Title: Structure of the resolution of a class of Codimension Four Gorenstein Artin algebras
(93) Hilbert Functions and Syzygies in commutative algebra and combinatorics, (in honor of Juergen Herzog) (Italy) from 16 to 22 September 2007.
(94) Colloquiuum, Cleveland State University, April 13, 2007
    Title: Graded Resolutions, Multiplicities and Graphs
(95) Seminar talk: Cornell University, March 2008
    Title: Resolutions of Monomial Primes
(96) Plenary Speaker: Ramanujan's Day Symposium, I.I.T., Madras, India, December 22, 2008
    Title: Free Resolutions and Graph Theory
(97) Lecture Series : Golden Jubilee Workshop on Multiplicity conjectures, Resolution of Singularities and Toric Geometry I.I.T, Madras, Dec-Jan 2008-2009
    Title: Lectures on Multiplicity Conjectures
(98) AMS Special Seesion, University of Illinois, March 2009
    Title: Generators for Monomial Primes
(99) Geometric and Combinatorial Aspects of Commutative Algebra, University of Messina, Italy, Sept 16-19, 2009
    Title: Resolution of a Gorenstein Determinantal Ideal.
(100) GSSCCF Commutative Algebra Meeting, January 23-24 2010
    Title: Gorenstein Determinantal Ideals
(101) Colloquium: Cleveland State University, April 9, 2010
    Title: Resolutions of certain Binomial Ideals
(102) Seminar: University of Valladolid, Spain, July 20, 2011
    Title: Periodicity of Betti Numbers of Monomial Curves
(103) Seminar: Chennai Math Institute, India, August 2011
    Title: Betti Numbers of Monomial Curves
(104) AMS Special Session, Utah, October 22, 2011
    Title: Betti Numbers of Affine Monomial Curves
(105) Japan-Vietnam Seminar, Quy Nhon, Vietnam, December 2011
    Title: Betti Numbers and Resolutions of Semigroup Rings
(106) AMS Special Session, Combinatorial Commutative Algebra, Lawrence, Kansas, March 2012
    Title: Bounds for Gorenstein Hilbert Coefficients

(107) AMS Special Session, Algebraic Geometry and its Applications, Lawrence, Kansas March 2012
   Title: Complete Intersection Semigroup Rings

(108) Plenary Talk in Intenrational conference in honor of Abhyankar's Birthday - July 2012 at Purdue University,
   Title: Number of Equations needed to define Monomial Curves.

(109) Chennai Math Institute: August 2012: Colloquium
   Title: When are Goresntein Ideals Determinantal?

(110) Indian Inst. of Technology, Madras, Sept 13, 2012: Colloquium
   Title: Gorenstein Determinantal Ideals

(111) IIT - Kanpur . Sep 2012 Colloquium:
   Title: A conjecutre on Monomial curves

(112) IIT- Kanpur: Sept 2012 Talk to the grad studnets:
   Title: Some open problems in Commutative Algebra.

(113) Univesity of Valladolid: November, 2012 Seminario
   Title: What makes Ideals Determinantal and Gorenstein

(114) Universidad of Autonoma de Madrid, November 2012, Seminar
   Title: Eventual Periodicity of Number of generators of Monomial curves under translation

(115) Erwin Schrodinger Internatiaon Institute, Vienna, Austria
   Title: Resolutions of Monomial Curves

(116) Syzygies and Resolutions: International Conference, Chennai, 2012: Plenary talk
   title: Minimal resolutions of Semi group Rings.

(117) Math Sciences Research Institute, Algebra Colloquium, February 2013
   Title: Periodicity of Betti Numbers of Semigroup Rings

(118) AWM Research Symposium, Santa Clara University, Ca, March 2013
   Title: Betti Numbers of Monomial Curves

(119) Texas Tech University, Colloquium, November 2013
   Title: Resolutions of powers of determinantal ideals

Teaching:

I have taught a variety of undergraduate and graduate courses at different Universities. At MU, I have taught undergraduate courses starting from freshman calculus at all levels through Abstract Algebra. Over the last 15 years, have taught Abstract Algebra and Linear Algebra courses in writing intensive format. This forms a part of the undergraduate education requirement at the University of Missouri. The students in these classes are majors in various engineering programs,mathematics, physics, chemistry and secondary education.

Graduate Courses taught at MU: First year Algebra sequence, Commutative Algebra and Algebraic Geometry.

Algebra Seminar at MU

For the past 21 years, I have been the organizer of the algebra seminar at MU. Most of the seminars are announced on the math department web site.

Selected Service to the Professional societies

I served on the AMS committee for the Summer research conferences (SRCC) 2000-2004 and on the Committee, Nominating Committee (2006-2009) on meetings and conferences (COMC) from 200-2003. I have frequently served as a mentor as part of the AWM mentorship program as well as the Advance Program at MU for various post doctoral and new women faculty.

Selected service at Missouri

I have served on many divisional and Campus committees including the Graduate Faculty Senate, Campus writing Board, Arts and Science Committee on the Status of Women, Chancellors committee on the status of Women (two 3-year period. chaired a year), Advisory committee for faculty developmental leaves, the Campus committee for Promotion and Tenure, Minority Affairs Commitee, Tenure Probationary extension committees, Honorary Degree Committee and Arts and Sciences Scholarship Committee