

Curriculum Vitae

Srikanth B. Iyengar

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Department of Mathematics
University of Utah
Salt Lake City, UT 84112-0090

Recent Positions

July. 2013 – Professor, University of Utah
Aug. 2012 – Aug. 2014 Willa Cather Professor, University of Nebraska-Lincoln
Sept. 2007 – Aug. 2014 Professor, University of Nebraska-Lincoln

Education

May 1998 Ph. D., Mathematics, Purdue University
Aug. 1994 M. S., Mathematics, Purdue University
July 1991 B. Tech., Computer Science, Indian Institute of Technology-
Madras, Chennai, India

Visiting positions since 2007

July 2011 Indian Institute of Technology-Bombay, Mumbai, India.
16 June – 17 July 2009 Osaka Prefecture University, Sakai, Japan
February – July 2008 University of Paderborn, Paderborn, Germany

Honors since 2007

2018 Research Member, "Group Representation Theory and Applications", MSRI, Berkeley, April–May 2018.
2017 Buckingham Scholar, University of Miami, September 2017.
2015 Simons Visiting Researcher
Centre De Recerca Matemàtica, Barcelona, Spain, to participate in: Representation Theory, Algebraic Topology and Commutative Algebra (January to June, 2015).
2013 Fellow, American Mathematical Society
2013 Outstanding Research and Creative Achievement in the Sciences
College of Arts and Sciences, University of Nebraska
2012 Outstanding Alumnus for 2012–2013
Department of Mathematics, Purdue University, W. Lafayette
2009 Arts and Sciences College Distinguished Teaching Award.
2007 Friedrich Wilhelm Bessel Research Prize
Awarded by the Humboldt Foundation.

Grants since 2007

- June 2020 – May 2025 National Science Foundation Grant, DMS 2001368
Principal Investigator
- June 2017 – May 2020 National Science Foundation Grant, DMS 1700985
Principal Investigator
- 2016 National Science Foundation Con. Grant, DMS DMS-1624050
with Jon F. Carlson and Julia Pevtsova, in support of a summer
school and workshop in PIMS, Vancouver, July/August 2016,
- 2015 National Science Foundation Conference Grant, DMS 1501399
with Brooke Shipley, to support US participants at a program in
CRM, Barcelona.
- June 2012 – May 2017 National Science Foundation Grant, DMS 1201889
Principal Investigator
- August 2012 – July 2013 Simons Fellow in Mathematics
- 2012 National Science Foundation Conference Grant, DMS 1203469
with Graham Leuschke, Claudia Miller, and Dan Zacharia, for a
conference in Syracuse, NY, March 2012.
- 2011 National Science Foundation Conference Grant, DMS 1123059
with Sarah Witherspoon, for a Pan-American Advanced Studies
Institute at Guanajuato, Mexico, May 2012.
- August 2009 – May 2012 National Science Foundation Grant, DMS 0903493
Principal Investigator
- 2008 National Science Foundation Conference Grant
with Roger Wiegand, for the Lincoln May 2008 conference.

Ph. D. students

- 2020 – Trung C. Chau; joint direction with A. K. Singh
- 2019 – Liu Jian (University of Science and Technology, Hefei, China)
joint direction with X.-W. Chen, Hefei
- 2019 – Daniel McCormick
- 2019 – Peter McDonald; joint direction with K. Schwede
- 2017 – 2020 Janina Carmen Letz
- 2016 – 2020 Pinches Dirnfeld
- 2016 – 2019 John Hull
- 2011 – 2017 Luigi Ferraro; joint direction with L. L. Avramov
- 2011 – 2016 Jason Lutz; joint direction with L. L. Avramov
- 2011 – 2016 Haydee Lindo
- 2011 – 2015 Kat Shultis; joint direction with R. Wiegand

2009 – 2013	Amanda Croll
2006 – 2011	Justin DeVries
2006 – 2011	Micah Leamer; joint direction with R. Wiegand
2006 – 2010	Jesse Burke
2004 – 2009	Hamid Rahmati; joint direction with L. L. Avramov

Undergraduate students

2020 Spring	Lia Smith; ACCESS program
2019 – 2020	Charles Barth; undergraduate thesis

Editorial Board

July 2008 –	Journal of Pure and Applied Algebra Since January 2014, I am one of the three managing editors.
March 2014–	London Mathematical Society Editorial Advisor for Bulletin, Journal, Proceedings.
February 2021–	Collectanea Mathematica, Associate Editor.

Special volumes edited

- [4] *Recent developments in Commutative Algebra*
(co-editors A. Conca, A. Singh), CIME-CIRM course, Levic Terme, July 1–5, 2019, Springer Proc. Math. Stat., *to appear*.
- [3] *Geometric and topological aspects of the representation theory of finite groups*
(co-editors J. F. Carlson, J. Pevtsova), PIMS Summer School and Workshop, July 27–August 5, 2016, Springer Proc. Math. Stat. **242**, Springer 2018.
- [2] *Commutative algebra and noncommutative algebraic geometry. Vol. I & Vol. II*
(co-editors M. Van den Bergh, D. Eisenbud, A. Singh, T. Stafford), Math. Sci. Res. Inst. Publ., **68**, Cambridge Univ. Press, New York, 2015.
- [1] *Special issue in honor of H. B. Foxby*
(co-editors L. L. Avramov, W. Bruns), J. Pure Appl. Algebra **219** (2015).

Books

- [2] *Representations of finite groups: Local cohomology and support*
(with D. Benson, H. Krause), Oberwolfach Seminar **43**, Birkhäuser 2012.
- [1] *Twenty-four hours of local cohomology*
(with G. Leuschke, A. Leykin, C. Miller, E. Miller, A. Singh, U. Walther)
Graduate Stud. Math. **87**, American Mathematical Society, Providence, RI, 2007.

Refereed publications and preprints

- [93] *Maximal Cohen-Macaulay complexes and their uses: a partial survey*, (with L. Ma, K. Schwede, M. E. Walker), preprint 2020.
- [92] *Rigidity properties of the cotangent complex*, (with B. Briggs), preprint 2020.
- [91] *Stratification and duality for unipotent finite supergroup schemes*, (with D. Benson, H. Krause, J. Pevtsova), preprint 2020.
- [90] *A freeness criterion without patching for modules over local rings*, (with S. Brochard, C. Khare), preprint 2020.
- [89] *The Nakayama functor and its completion for Gorenstein algebras*, (with H. Krause), preprint 2020.
- [88] *Rank varieties and π -points for elementary supergroup schemes*, (with D. Benson, H. Krause, J. Pevtsova), Trans. Amer. Math. Soc., to appear.
- [87] *Locally complete intersection maps and the proxy small property*, (with B. Briggs, J. C. Letz, J. Pollitz), International Math. Res. Notices, to appear.
- [86] *Persistence of homology over commutative noetherian rings* (with L. L. Avramov, S. Nasseh, and S. Sather-Wagstaff), preprint 2020.
- [85] *Dimension of finite free complexes over commutative noetherian rings*, (with L. W. Christensen), in: N. Baeth, T. Freitas, G. Leuschke, and V. H. J. Pérez (eds), Commutative Algebra: 150 years with Roger and Sylvia Wiegand, Contemp. Math., to appear.
- [84] *Local duality for the singularity category of a finite dimensional Gorenstein algebra*, (with D. Benson, H. Krause, J. Pevtsova), Nagoya Math. J., to appear.
- [83] *Detecting nilpotence and projectivity over finite unipotent supergroup schemes*, (with D. Benson, H. Krause, J. Pevtsova), Selecta Math., to appear.
- [82] *Rigid ideals in Gorenstein rings of dimension one*, (with C. Huneke, R. Wiegand), Acta Mathematica Vietnamica, **44** (2019), 31–49.
- [81] *Openness of the regular locus and generators for module categories*, (with R. Takahashi), Acta Mathematica Vietnamica, **44** (2019), 207–212.
- [80] *Regular rings and perfect(oid) algebras*, (with B. Bhatt, L. Ma), Comm. Algebra, **47** (2019), 2367–2383.
- [79] *Big Cohen-Macaulay modules, morphisms of perfect complex, and intersection theorems in local algebra*, (with L. L. Avramov, A. Neeman), Documenta Math., **23** (2018), 1601–1619.
- [78] *Examples of finite free complexes of small rank and homology* (with M. E. Walker), Acta Math., **221** (2018), 143–158.
- [77] *Koszul property for the moment map of some classical representations* (with A. Conca, H.-C. Herbig), Collect. Math., **69** (2018), 337–357.

- [76] *Local duality for representations of finite group schemes*
(with D. Benson, H. Krause, J. Pevtsova), *Compositio Math.*, **155** (2019), 424–453.
- [75] *Noncommutative resolutions using syzygies*
(with H. Dao, O. Iyama, R. Takahashi, M. Weymss, Y. Yoshino), *Bull. LMS*, **51** (2019), 43–48.
- [74] *The Jacobian ideal of a commutative ring and annihilators of cohomology*,
(with R. Takahashi), *J. Algebra*, to appear.
- [73] *Homology over trivial extensions of commutative DG algebras*
(with L. L. Avramov, S. Nasseh, S. Sather-Wagstaff), *Comm. Algebra*, **47** (2019), 2341–2356.
- [72] *Restricting homology to hypersurfaces*
(with L. L. Avramov), in: *Geometric and topological aspects of group representations*, 1–23, *Springer Proc. Math. Stat.* **242**, Springer 2018.
- [71] *Rigidity of Ext and Tor with coefficients in residue fields of a commutative noetherian ring*, (with L. W. Christensen, T. Marley), *Proc. Edinburgh Math. Soc.*, **62** (2019), 305–321.
- [70] *Detecting finite flat dimension of modules via iterates of the Frobenius endomorphism*
(with D. J. Dailey, T. Marley), *J. Comm. Alg.*, to appear.
- [69] *Koszul algebras defined by three relations*
(with A. Booher, H. Hassanzadeh), in: *Homological and computational methods in commutative algebra*, 53–68, *Springer INdAM Ser.*, **20** Cham, 2017.
- [68] *Stratification for module categories of finite group schemes*
(with D. Benson, H. Krause, J. Pevtsova), *J. Amer. Math. Soc.*, **31** (2018) 265–302.
- [67] *Hopf algebra structures and tensor products for group algebras*
(with J. F. Carlson), *New York J. Math.*, **23** (2017), 351–364.
- [66] *Colocalising subcategories of module over finite group schemes*
(with D. Benson, H. Krause, J. Pevtsova), *Ann. K-theory*, **2** (2017), 387–408.
- [65] *Stratification and π -cosupport: Finite groups*
(with D. Benson, H. Krause, J. Pevtsova), *Math. Z.*, **287** (2017), 947–965.
- [64] *Tests for injectivity of modules over commutative rings*
(with L. W. Christensen), *Collect. Math.*, **68** (2017), 243–250.
- [63] *Annihilation of cohomology and strong generation of module categories*
(with R. Takahashi), *International Math. Res. Notices*, **2016** (2016), 499–535.
- [62] *Absolutely Koszul algebras and the Backelin-Roos property*, (with A. Conca, H. Nguyen, T. Römer), *Acta Mathematica Vietnamica*, **40** (2015), 353–374.
- [61] *Torsion in tensor powers of modules*, (with O. Celikbas, G. Piepmeyer, R. Wiegand), *Nagoya Math. J.*, **219** (2015), 113–125.
- [60] *Criteria for vanishing of Tor over complete intersections*, (with O. Celikbas, G. Piepmeyer, R. Wiegand), *Pacific J. Math.*, **276** (2015), 93–116.

- [59] *Relation between two twisted inverse image pseudofunctors in duality theory*
(with J. Lipman, A. Neeman), *Compositio Math.*, **151** (2015), 735–764.
- [58] *A local-global principle for small triangulated categories*
(with D. Benson, H. Krause), *Math. Proc. Camb. Phil. Soc.*, **158** (2015), 451–476.
- [57] *Subadditivity of syzygies of Koszul algebras*
(with L. L. Avramov, A. Conca), *Math. Annalen*, **361** (2015), 511–534.
- [56] *Thick subcategories of the bounded derived category of a finite group*
(with J. F. Carlson), *Trans. Amer. Math. Soc.*, **367** (2015), 2703–2717.
- [55] *Annihilation of cohomology and decomposition of derived categories*
(with R. Takahashi), *Homology, Homotopy, Appl.*, **16** (2014), 231–237.
- [54] *DG algebras with exterior homology*
(with W. Dwyer, J. P. C. Greenlees), *Bull. LMS*, **43** (2013), 1235–1245.
- [53] *Bass numbers over local rings via stable cohomology*
(with L. L. Avramov), *J. Comm. Alg.*, **5** (2013), 5–16.
- [52] *Module categories for group algebras over commutative rings*
(with D. Benson, H. Krause), *J. K-Theory*, **11** (2013), 297–329.
- [51] *The Bousfield lattice of a triangulated category and stratification*
(with H. Krause), *Math. Z.* **273** (2013), 1215–1241.
- [50] *Detecting flatness over smooth bases*
(with L. L. Avramov), *J. Algebraic Geom.* **22** (2013), 35–47.
- [49] *Colocalizing subcategories and cosupport*
(with D. Benson, H. Krause), *J. Reine. Angew. Math.* **673** (2012), 161–207.
- [48] *Homological invariants of modules over contracting endomorphisms*
(with L. L. Avramov, M. Hochster, Y. Yao), *Math. Ann.* **353** (2012) 275–291.
- [47] *Localising subcategories for cochains on the classifying space of a finite group*
(with D. Benson, H. Krause), *Comptes Rendus Acad. Sci.* **349** (2011) 953–956.
- [46] *Module categories for finite group algebras*
(with D. Benson, H. Krause), *Proceedings of ICRA XIV (Tokyo, 2010)*, *Eur. Math. Soc. Series of Congress Reports*, 2011, 55–84.
- [45] *Reflexivity and rigidity for complexes. II. Schemes*
(with L. L. Avramov, J. Lipman), *Algebra Number Theory*, **5** (2011) 379–429.
- [44] *Stratifying triangulated categories*
(with D. Benson, H. Krause), *J. Topology*, **4** (2011) 641–666.
- [43] *Gross-Hopkins duality and the Gorenstein condition*
(with W. Dwyer, J. P. C. Greenlees), *J. K-theory*, **8** (2011) 107–133.
- [42] *Stratifying modular representations of finite groups*
(with D. Benson, H. Krause), *Ann. of Math.* **174** (2011) 1643–1684.

- [41] *Short Koszul modules*
(with L. L. Avramov, L. M. Şega), J. Comm. Alg. **2** (2010) 249–280.
- [40] *Free resolutions over commutative Koszul algebras*
(with L. L. Avramov, A. Conca), Math. Res. Letters, **17** (2010) 197–210.
- [39] *Support and injective resolutions of complexes over commutative rings*
(with X.-W. Chen), Homology, Homotopy, Appl., **12** (2010) 39–44.
- [38] *Reflexivity and rigidity for complexes. I. Commutative rings*
(with L. L. Avramov, J. Lipman), Algebra Number Theory, **4** (2010) 47–86.
- [37] *Reduction of derived Hochschild functors over commutative algebras and schemes*
(with L. L. Avramov, J. Lipman, S. Nayak), Adv. Math. **223** (2010) 735–772.
- [36] *Cohomology over complete intersections via exterior algebras*
(with L. L. Avramov), Triangulated categories (Leeds, 2006), London Math. Soc. Lecture Note Ser. **375**, Cambridge Univ. Press, Cambridge, 2010, 52–75.
- [35] *Dimensions of triangulated categories via Koszul objects*
(with P. Bergh, H. Krause, S. Oppermann), Math. Z. **265** (2010) 849–864.
- [34] *Homology of perfect complexes*
(with L. L. Avramov, R.-O. Buchweitz, C. Miller), Adv. Math. **223** (2010), 1731–1781.
[Corrigendum: Adv. Math. **225** (2010), 3576–3578.]
- [33] *Homological dimensions over regular rings*
(with A. Iacob), J. Algebra **322** (2009) 3451–3458.
- [32] *On the existence of star products on quotient spaces of linear Hamiltonian torus actions*
(with H.-C. Herbig, M. J. Pflaum), Lett. Math. Phys. **89** (2009) 101–113.
- [31] *Linearity defects of modules over commutative rings*
(with T. Römer), J. Algebra **322** (2009) 3212–3237.
- [30] *Free resolutions over short local rings*
(with L. L. Avramov, L. M. Şega), J. London Math. Soc. **78** (2008) 459–476.
- [29] *Gorenstein algebras and Hochschild cohomology*
(with L. L. Avramov), Michigan Math. Jour. **57** (2008), 17–35.
- [28] *Noncoherent subsets of $\text{Spec } A$*
Math. Ann. **340** (2008), 744–747.
Appendix to: H. Krause, *Thick subcategories of modules over commutative rings*,
Math. Ann. **340** (2008), 733–744.
- [27] *Local cohomology and support for triangulated categories*
(with D. Benson, H. Krause), Ann. Sci. École Norm. Sup. (4) **41** (2008), 575–621.
- [26] *Constructing modules with prescribed cohomological support*
(with L. L. Avramov), Ill. Jour. Math. **51** (2007), 1–20.
- [25] *André-Quillen homology of commutative algebras*
Interactions between homotopy theory and algebra (Chicago 2004), Contemp. Math. **436**, American Math. Soc. Providence, RI, 2007, 203–234.

- [24] *Class and rank of differential modules*
(with L. L. Avramov, R-O. Buchweitz), *Invent. Math.* **169** (2007), 1–35.
- [23] *Gorenstein dimension of modules over homomorphisms*
(with L. W. Christensen), *J. Pure Appl. Algebra* **208** (2007), 177–188.
- [22] *Hilbert-Samuel functions of modules over Cohen-Macaulay rings*
(with T. Puthenpurakal), *Proc. Amer. Math. Soc.* **135** (2007), 637–648.
- [21] *A criterion for regularity of local rings*
(with T. Bridgeland), *Comptes Rendus Acad. Sci.* **342** (2006), 723–726.
- [20] *Acyclicity versus total acyclicity for complexes over commutative rings*
(with H. Krause), *Documenta Math.* **11** (2006), 207–240.
- [19] *Finiteness in derived categories of local rings*
(with W. Dwyer, J. P. C. Greenlees), *Comment. Math. Helv.* **81** (2006), 383–432.
- [18] *Homology over local homomorphisms*
(with L. L. Avramov, C. Miller), *Amer. J. Math.* **128** (2006), 23–90.
- [17] *Duality in algebra and topology*
(with W. Dwyer, J. P. C. Greenlees), *Adv. Math.* **200** (2006), 357–402.
- [16] *Gaps in Hochschild cohomology imply smoothness for commutative algebras*
(with L. L. Avramov), *Math. Res. Letters* **12** (2005), 789–804.
- [15] *Koszul modules*
(with J. Herzog), *J. Pure Appl. Algebra* **201** (2005), 154–188.
- [14] *Modules and cohomology over group algebras. One commutative algebraist’s perspective.* in: *Trends in commutative algebra* (Berkeley 2002), *Mathematical Sciences Research Inst. Publ.* **51**, Cambridge Univ. Press, Cambridge, (2004) 51–86.
- [13] *G-dimension over local homomorphisms. Applications to the Frobenius endomorphism.*
(with S. Sather-Wagstaff), *Ill. Jour. Math.* **48** (2004) 241–272.
- [12] *Dualizing DG modules and Gorenstein DG algebras*
(with A. Frankild, P. Jørgensen), *J. London Math. Soc.* **68** (2003) 288–306.
- [11] *Depth and amplitude of unbounded complexes*
(with H.-B. Foxby), in: *Commutative algebra and its interaction with algebraic geometry* (Grenoble-Lyon 2001), *Contemp. Math.* **331**, American Math. Soc. Providence, RI, 2003; pp. 119–137.
- [10] *André-Quillen homology of algebra retracts*
(with L. L. Avramov), *Ann. Sci. École Norm. Sup. (4)* **36** (2003) 431–462.
- [9] *Homological criteria for regular homomorphisms and for locally complete intersection homomorphisms*
(with L. L. Avramov), in: *Algebra, Arithmetic and Geometry* (Mumbai, 2000), *T.I.F.R. Studies in Math.* 16 vol. I, Narosa, New Delhi, 2002; pp. 97–122.
- [8] *Acyclicity of Tate constructions*
J. Pure Appl. Algebra **163** (2001) 289–300.

- [7] *On a depth formula for modules over local rings*
(with S. Choi), *Comm. Algebra* **29** (2001) 3135–3143.
- [6] *Free summands of conormal modules and central elements in homotopy Lie algebras of local rings*
Proc. Amer. Math. Soc. **129** (2001) 1563–1572.
- [5] *Finite generation of Hochschild homology algebras*
(with L. L. Avramov), *Invent. Math.* **140** (2000) 143–170.
- [4] *Maximal minimal resolutions*
(with K. Pardue), *J. Reine. Angew. Math.* **512** (1999) 27–48.
- [3] *Depth for complexes, and intersection theorems*
Math. Z. **230** (1999) 545–567.
- [2] *Free resolutions and change of rings*
J. Algebra **190** (1997) 195–213.
- [1] *Shifts in resolutions of multigraded modules*
Math. Proc. Camb. Phil. Soc. **121** (1997) 437–441.

Plenary lecture

Finite free complexes over polynomial rings

Fall Western Sectional Meeting, Amer. Math. Soc., San Francisco, CA, October 2018.

Commutative algebra and representations of finite groups

INdAM Day 2012, Genoa, Italy, June 2012.

Invited lecture series since 2010

Around duality in local algebra (4 lectures)

Dualities in Topology and Algebra, ICTS TIFR, Bengaluru, on-line, February 2021

Local duality for Gorenstein algebras (3 lectures)

International Congress in the Representation theory of Algebras, on-line, November 2020.

Modular representation theory of elementary abelian groups and commutative algebra (2 lectures)

IIT-B, Mumbai, India, Virtual Commutative Algebra Seminar, June 2020.

Homological aspects of the Frobenius endomorphism (6 lectures)

IIT-B, Mumbai, India, December 2018.

Masterclass: Stratification and duality in modular representation theory (5 lectures)

Copenhagen, Denmark, March 2017.

Invariant theory of finite groups (5 lectures)

Chennai Mathematics Institute, Chennai, India, December 2015.

Multiplicative structures in the study of free resolutions (5 lectures)

Local cohomology and syzygies of affine algebra, PRAGMATIC, Catania, Italy, June 2014.

Commutative algebra for modular representations of finite groups (4 lectures)

Cohomology and support in representation theory and related topics, Seattle, July 2012.

Torsion in tensor powers of modules over commutative rings (4 lectures)

7th joint Japan-Vietnam seminar on Commutative Algebra, Quy Nhon, Vietnam, Dec. 2011.

Classifying thick subcategories of bounded derived categories (3 lectures)

Workshop "Representation theory: cohomology and support", Morningside Center of Mathematics, Chinese Academy of Science, Beijing, China, September 2011.

Invited talks at conferences/workshops (more than 30 minutes) since 2007

Rank varieties for elementary supergroup schemes

New directions in group theory and triangulated categories, Manchester, U.K., January 2021.

The complete intersection property through the lens of derived categories

Southwest Local Algebra Meeting, New Orleans, March 2020.

Characterising complete intersection rings via (proxy-)smallness

Equivariant topology and derived algebra, Conference in honor of John Greenlees' 60th birthday, Trondheim, Norway, August 2019.

Reading "Maximal Cohen-Macaulay modules and Tate-cohomology over Gorenstein rings"

Ragnar's ramifications in algebra and geometry emerging, Toronto, July 2019.

Modules with no higher self-Tors

Commutative algebra and its interactions with algebraic geometry, Notre Dame, June 2019.

Rank varieties for modular representations of finite groups

Multivariable spectral theory and representation theory, BIRS, Canada, April 2019.

Examples of finite free complexes of small rank and small homology

New trends in syzygies, BIRS, Canada, June 2018.

Nilpotence theorem and homological conjectures in local algebra

Triangulated Categories and Geometry - a conference in honor of Amnon Neeman, Bielefeld University, Bielefeld, Germany, May 2017

A local to global principle in modular representation theory

A view towards algebraic geometry. Conference in honor of David Eisenbud's 70th birthday, Martha's Vineyard, May 2017.

Local Serre duality for the stable module category of a finite group scheme

International Congress in the Representation theory of Algebras, Syracuse, August 2016.

A local to global principle in modular representation theory

Triangulated categories and applications, BIRS, Canada, June 2016.

What annihilates Ext?

Commutative Algebra and its interactions with Algebraic Geometry. Conference in honor of Craig Huneke's 65th birthday, Ann Arbor, July 2016.

Bruns' work on homological aspects of commutative algebra

Homological and computational methods in commutative algebra. Conference in honor of Winfried Bruns' 70th birthday, Cortona, Italy, May 2016.

Tensor products of Carlson's L_C -modules

Hochschild Cohomology in Algebra, Geometry, and Topology, Oberwolfach, Germany, Feb. 2016.

Varieties for modules over commutative rings?

Groups, representations, and cohomology, Conference in honor of Dave Benson's 60th birthday, Isle of Skye, Scotland, June 2015.

What annihilates Ext?

Maurice Auslander distinguished lectures and memorial conference, Woods Hole, May 2014.

Stronger generators for module categories and annihilators of cohomology

Representation theory of quivers and finite dimensional algebras, Oberwolfach, Germany, Feb. 2014.

Uniform annihilators of cohomology

KUMUNU, Missouri, Columbia, September 2013.

The derived category of a complete intersection ring

Representation theory, homological algebra, and free resolutions, MSRI, February 2013.

The Betti table of a Koszul algebra

Syzygies and free resolutions, Chennai, India, December 2012.

Bass numbers of modules over local rings, via stable cohomology

Commutative Algebra and related topics, Genoa, Italy, June 2012.

Stratifying triangulated categories

Triangulated categories and applications, BIRS, Canada, June 2011.

Stable cohomology and evaluation maps

Memorial conference for Michel André, Lausanne, Switzerland, May 2011.

The Bousfield lattice of the stable module category of a finite group

Representation theory of quivers and finite dimensional algebras, Oberwolfach, Germany, Feb. 2011.

Detecting flatness over smooth bases

Commutative algebra and its interactions with algebraic geometry, CIRM, Luminy, France, November 2010.

Classifying thick subcategories of derived categories: An approach via local cohomology and support

International Congress in the Representation theory of Algebras, Tokyo, Japan, August 2010.

Hochschild cohomology and commutative Gorenstein algebras

Hochschild cohomology: Structure and applications, CIRM, Luminy, France, June 2010.

Stratifying the derived category of a complete intersection

Commutative algebra, Oberwolfach, Germany, April 2009.

Stratifying modular representations of finite groups

Support varieties, Oberwolfach, Germany, February 2009.

Bounds for dimensions of derived categories

Interactions between representation theory and commutative algebra, Barcelona, Sept. 2008.

Localizing subcategories of the stable module category of a finite group

Nord-West-Deutscher-Darstellungs-Ring workshop, Bonn, Germany, July 2008.

Localizing subcategories of the stable module category of a finite group

Homological methods in group theory, MSRI, April 2008.

Lower bounds on dimensions for triangulated categories

Representation theory of finite dimensional algebras, Oberwolfach, Germany, Feb. 2008.

Local cohomology and support for triangulated categories

Workshop on derived categories, CRM, Barcelona, Spain, November 2007.

Constructing modules with prescribed cohomological support

Hilbert functions and syzygies in commutative algebra and combinatorics, conference in honor of J. Herzog on the occasion of his 65th birthday, Cortona, Italy, September 2007.

Gorenstein homomorphisms and Hochschild cohomology

Hochschild cohomology: structure and applications, BIRS, Alberta, Canada, Sept. 2007.

Invited talks at conferences/workshops (30 minutes or less) since 2007*The stable cohomology of a local ring*

Commutative algebra, AMS Meeting, Texas Tech. Univ., TX, April 2014.

Homological invariants of modules over contracting endomorphisms

Commutative algebra, AMS Meeting, University of Utah, UT, October 2011.

Free resolutions over Koszul algebras

Combinatorial and homological aspects of commutative algebra, AMS Meeting, Penn State, PA, October 2009.

Stratifying derived categories associated to finite groups and to commutative rings

New trends in triangulated categories and their associated cohomology theories, AMS Meeting, Penn State, PA, October 2009.

Cohomology over complete intersections via exterior algebras

Commutative algebra and its interactions with algebraic geometry, CIRM, Luminy, France, September 2008.

Free resolutions over short local rings

Free resolutions, AMS Meeting, Chicago, IL, October 2007.

Lectures at colloquia and seminars since 2007

University of Arkansas, Fayetteville, November 2020. (Colloquium)

Bielefeld University, Bielefeld, June 2020.

University of California, Berkeley, March 2020.

Tulane University, New Orleans, March 2020. (Colloquium)

University of California, Berkeley, November 2016.

University of Barcelona, Barcelona, Spain February 2015. (Colloquium)

University of California, Berkeley, November 2012.

Indian Statistical Institute, Bengaluru, India, August 2011.

University of Hyderabad, Hyderabad, India, July 2011.

Chennai Mathematics Institute, Chennai, India, July 2011.

Johannes Gutenberg-Universität, Mainz, Germany, June 2011. (Oberseminar)

University of Bielefeld, Bielefeld, Germany, May 2011.

Westfälische Wilhelms-Universität, Münster, Germany, May 2011.

Harvard-MIT joint topology seminar, Boston, November 2010.

Osaka Prefecture University, Sakai, Japan, June 2009. (Colloquium)

University of California, Los Angeles, May 2009.

University of California, Berkeley, November 2008.

University of Hannover, Hannover, Germany, July 2008. (Oberseminar)

University of Duisburg-Essen, Essen, Germany, July 2008. (Oberseminar)

Westfälische Wilhelms-Universität, Münster, Germany, June 2008.

University of Jena, Jena, Germany, June 2008.

Ruhr University, Bochum, Germany, June 2008.

University of Paris VI, Paris, France, May 2008.

University of Paderborn, Paderborn, Germany, April 2008. (Colloquium)

University of Paderborn, Paderborn, Germany, February 2008.

Indian Institute of Science, Bangalore, India, January 2008.

University of Nebraska, Lincoln, U.S.A., September 2007. (Colloquium)

University of Paderborn, Paderborn, Germany, June 2007.

University of Sheffield, Sheffield, U.K., June 2007.

University of Aberdeen, Aberdeen, U.K., June 2007.

Other research activity since 2007

Research in pairs (with D. Benson and H. Krause)
(two weeks), Oberwolfach, Germany, June 2006, July 2008, January 2012.

Service - external

AMS-Simons Travel Grants Committee, 1st February 2011 to 31st January 2012

Reviewer on an National Science Foundation panel (2004,2007,2009,2010,2015, 2018, 2020)

Reviewer for the National Security Agency

Reviewer for the Research Council of Norway (twice)

Reviewer for the Research Council Flanders

Conferences and workshops organized since 2010

Rank conjectures in Algebraic Topology and Commutative Algebra

(with N. Castellana, C. Miller, and M. Stephan), 11–16 Sept. 2022, BIRS, Banff, Canada.

Recent developments in Commutative Algebra

(with A. Conca and A. Singh), 1–5 July 2019, Trento, Italy.

Singularities and Homological Aspects of Commutative Algebra

(with A. Conca and S. D. Cutkosky), Mathematisches Forschungsinstitut, 10–16 February 2019, Oberwolfach, Germany.

Homological aspects in commutative algebra and representation theory

(with J. Pevtsova), Special Session: AMS Sec. Meeting, October 2018, San Francisco, CA.

Stable cohomology: Foundations and applications

(with L. W. Christensen, M. Walker, and S. Witherspoon), 28 May – 1 June 2018, Snowbird, Utah.

RTG mini-course: Topics in commutative algebra

(with A. Sing, University of Utah, 7–11 May 2018, Salt Lake City, Utah.

MSRI Hot Topics: The Homological Conjectures

(with B. Bhatt, W. Niziol, and A. Singh), MSRI, 12–16 March 2018, Berkeley, California.

Asymptotic Phenomena in Local Algebra and Singularity Theory

(with A. Conca and S. D. Cutkosky), Mathematisches Forschungsinstitut, 11–17 December 2016, Oberwolfach, Germany.

Geometric and topological aspects of the representation theory of finite groups

(with J. F. Carlson and J. Pevtsova), Summer School and Workshop on the occasion of Dave Benson's 60th birthday, 27th July–5th August 2016, PIMS, Vancouver, Canada.

AMS Mathematics Research Community on Commutative Algebra

(with K. Schwede, L. Şega, G. G. Smith, and W. Zhang), 7–13 June 2015, Snowbird, Utah.

Interactions between Representation Theory, Algebraic Topology and Commutative Algebra

(with W. Dwyer, D. Herbera, H. Krause, B. Leclerc, W. Pitsch, S. Zarzuela), Jan.–June 2015, CIRM, Barcelona, Spain.

Categorical methods in representation theory

(with E. Friedlander and J. Pevtsova), Special Session: AMS Sectional Meeting, October 2014, San Francisco.

Winter School: Singularity categories in algebraic geometry and commutative algebra

(with T. E. V. Balaji, M. Kummini, and S. Nayak), Indian Institute of Technology-Madras, January 2013, Chennai, India.

Commutative Algebra (MSRI program)

(with D. Eisenbud, E. Miller, A. Singh, K. Smith), Aug. 2012–May 2013, Berkeley, California.

Pan-American Advanced Study Institute

(with R.-O. Buchweitz, J.-A. de la Peña, S. Witherspoon), May 2012, Guanajuato, Mexico.

Commutative Algebra and representation theory

(with G. Leuschke, C. Miller, D. Zacharia), Conference on the occasion of Ragnar-Olaf Buchweitz's 60th birthday, March 2012, Syracuse, New York.

Summer school in commutative algebra

(with A. Singh, J. Verma), Indian Institute of Technology, July 2011, Mumbai, India.

Representations of finite groups: local cohomology and support

(with D. Benson, H. Krause), Oberwolfach Seminar, May 2010, Oberwolfach, Germany.