CURRICULUM VITAE *for*
DAVID A. JORGENSEN October 2013

Professional Experience:

Professor and Associate Chair	2013–present	University of Texas at Arlington
Gjesteprofessor	Autumn 2011	Norwegian University of Science and Technology
Associate Professor	2006–2013	University of Texas at Arlington
Assistant Professor	1998–2006	University of Texas at Arlington
Research Member	Spring 2003	MSRI, Berkeley, CA
Visiting Assistant Professor	1999–00	University of Kansas
Research Lecturer	1996–98	University of Texas at Austin
Graduate Teaching Assistant	1989–92, 1993–96	University of Nebraska
GTA (while visiting)	1992–93	Purdue University

Education:

Ph.D. (Mathematics)	1996	University of Nebraska
M.S. (Mathematics)	1991	University of Nebraska
B.S. (Mathematics)	1989	San Diego State University

Research Interests: Commutative algebra, homological algebra, representation theory

External Grants:

- **Co-PI** National Science Foundation Conference Grant DMS-1303428, for the *Southwest Local Algebra Meeting 2014*, 2013–14, **$15,692**
- **Co-PI:** U.S. Department of Education Graduate Assistance in Areas of National Need Grant, 2012–15, **$533,064**
- **Co-PI:** National Security Agency Conference Grant, for the *Southwest Local Algebra Meeting 2012*, 2012-13, **$12,100**
- **Co-PI:** National Science Foundation Conference Grant DMS-1068795, for the *Southwest Local Algebra Meeting 2011*, 2011–12, **$9,070**
- **PI:** National Security Agency Standard Research Grant H98230-07-1-0197, 2010–12, **$81,309**
- **Co-PI:** U.S. Department of Education Graduate Assistance in Areas of National Need Grant, 2009–12, **$522,624**
- **PI:** National Security Agency Young Investigators Research Grant H98230-07-1-0063, 2007–08, **$30,000**
- **Co-PI:** U.S. Department of Education Graduate Assistance in Areas of National Need Grant, 2006–10, **$506,688**
- **Co-PI:** National Science Foundation Conference Grant DMS-0503153, for the *Nebraska Commutative Algebra Conference*, 2005–06, **$12,000**
- **PI:** National Security Agency Young Investigtors Research Grant MDA904-01-1-0062, 2001–03, **$26,000**

Internal Grants and Awards:

- National Science Foundation GK-12 Research Advisor Travel Award, 2011–12, $1,000

- National Science Foundation GK-12 Research Advisor Travel Award, 2010–11, $1,000
- UTA Research Excellence Award, Spring 2010, $1,000
- National Science Foundation GK-12 Research Advisor Travel Award, 2009–10, $3,000
- UTA Research Excellence Award, Spring 2009, $1,000
- UTA Research Excellence Award, Spring 2008, $8,000
- UTA Research Excellence Award, Spring 2007, $6,000
- Professor of the Year in Recognition of Exceptional Teaching of Mathematics, awarded by UTA Mathematical Association of America chapter, 2006–07
- UTA Research Excellence Award, Spring 2006, $5,000
- UTA Travel/Professional Development Award, Spring 2006, $1,000
- UTA Travel/Professional Development Award, Spring 2005, $1,000
- UTA Faculty Development Leave, Spring 2003
- UTA Research Enhancement Program (REP) Grant, 2000, $7,054

Peer-Reviewed Publications – Accepted for Publication/In Press:

30. Petter A. Bergh, David A. Jorgensen and Steffen Oppermann, *The negative side of cohomology for Calabi-Yau categories* Bulletin of the London Mathematical Society.
29. Lars W. Christensen and David A. Jorgensen, *Tate (co)homology via pinched complexes,* Transactions of the American Mathematical Society.
28. Petter A. Bergh and David A. Jorgensen, *Tate-Hochschild homology and cohomology of Frobenius algebras,* Journal of Noncommutative Geometry.
27. Petter A. Bergh and David A. Jorgensen, *On growth in totally acyclic minimal complexes.* Journal of Commutative Algebra.

Peer-Reviewed Publications – Published since promotion to Professor:

26. Petter A. Bergh and David A. Jorgensen, *The depth formula for modules with reducible complexity,* Illinois Journal of Mathematics **55** (2011), no. 2, 465478 (2012).
25. David A. Jorgensen, *Triangle functors over generic hypersurfaces.* in *Algebras, Quivers and Representations*, Abel Symposia 8, A. B. Buan, I. Reiten, Ø. Solberg, Eds., published 2013.

Peer-Reviewed Publications – Published since promotion to Associate Professor until promotion to Professor:

24. Raymond C. Heitmann and David A. Jorgensen, *Are complete intersections complete intersections?*, Journal of Algebra **371** (2012), 276–299.
23. Lars W. Christensen, David A. Jorgensen, Hamid Rahmati, Janet Striuli, and Roger Wiegand, *Brauer-Thrall for totally reflexive modules,* Journal of Algebra **350** (2012), 340–373.
22. David A. Jorgensen, Graham J. Leuschke and Sean Sather-Wagstaff, *Presentations of rings with non-trivial semidualizing modules,* Collectanea Mathematica **63**, Issue 2 (2012), 165–180.

21. Petter A. Bergh and David A. Jorgensen, *On the vanishing of homology for modules of finite complete intersection dimension,* Journal of Pure and Applied Algebra **215** (2011) 242–252.
20. David A. Jorgensen and William F. Moore, *Minimal intersections and vanishing cohomology,* Journal of Commutative Algebra **1**, no. 3 (2009), 507–536.
19. Meri Hughes, David A. Jorgensen and Liana Şega, *Acyclic Complexes of Finitely Generated Free modules over Local Rings,* Mathematica Scandinavica **105**, no. 1 (2009), 85–98.
18. David A. Jorgensen, *On tensor products of rings and extension conjectures*, Journal of Commutative Algebra **1**, no. 4 (2009), 635–646.
17. David A. Jorgensen, *Finite projective dimension and the vanishing of* $\mathrm{Ext}(M,M)$*,* Communications in Algebra **36**, no. 12 (2008), 4461–4471.
16. David A. Jorgensen and Graham J. Leuschke, *On the growth of the Betti sequence of the canonical module*, Mathematische Zeitschrift **256** (2007), 647–659.
15. David A. Jorgensen and Liana Şega, *Independence of the total reflexivity conditions for modules*, Algebras and Representation Theory **9** (2006), 217–226.

Peer-Reviewed Publications – Published at UTA prior to promotion to Associate Professor:

14. David A. Jorgensen and Liana Şega, *Asymmetric complete resolutions and vanishing of Ext over Gorenstein rings*, International Mathematics Research Notices **2005** no. 56, (2005), 3459–3477.
13. Craig Huneke, David A. Jorgensen and Daniel Katz, *Fitting ideals and finite projective dimension*, Mathematical Proceedings of the Cambridge Philosophical Society **138** (2005), 41–54.
12. David A. Jorgensen and Liana Şega, *Nonvanishing cohomology and classes of Gorenstein rings*, Advances in Mathematics **188** (2004), 470–490.
11. David A. Jorgensen, *Some liftable cyclic modules*, Communications in Algebra **31**(1) (2003), 493–504.
10. Craig Huneke and David A. Jorgensen, *Symmetry in the vanishing of Ext over Gorenstein rings*, Mathematica Scandinavica **93**, (2003), 161–184.
9. David A. Jorgensen, *Support sets of pairs of modules*, Pacific Journal of Mathematics **207**, No. 2 (2002), 393–409.
8. Craig Huneke, David A. Jorgensen and Roger Wiegand, *Vanishing theorems for complete intersections*, Journal of Algebra **238** (2001), 684–702.
7. David A. Jorgensen, *Vanishing of (co)homology over commutative rings*, Communications in Algebra **29**(5) (2001), 1883–1898.
6. David A. Jorgensen, *A generalization of the Auslander-Buchsbaum formula*, Journal of Pure and Applied Algebra **144** (1999), no. 2, 145–155.
5. David A. Jorgensen, *Existence of unliftable modules*, Proceedings of the American Mathematical Society **127** (1999), no. 6, 1575–1582.
4. David A. Jorgensen, *Complexity and Tor on a complete intersection*, Journal of Algebra **211** (1999), 578–598.

Peer-Reviewed Publications – Published prior to UTA:

3. David A. Jorgensen, *Tor and torsion on a complete intersection*, Journal of Algebra **195** (1997), 526–537.
2. Joseph M. Mahaffy, David A. Jorgensen and Robert L. Vanderheyden, *Stability results for a model of repression with external control*, Quarterly of Applied Mathematics **50** (1992), no. 3, 415–435.
1. Joseph M. Mahaffy, David A. Jorgensen and Robert L. Vanderheyden, *Oscillations in a model of repression with external control*, Journal of Mathematical Biology **30** (1992), no. 7, 669–691.

Peer-Reviewed Publications – Submitted:

32. Lars W. Christensen and David A. Jorgensen, *Vanishing of Tate homology and depth formulas over local rings.* Journal of Pure and Applied Algebra.
31. Petter A. Bergh, Olgur Celikbas and David A. Jorgensen, *Homological algebra modulo exact zero-divisors.*

Works in Progress:

36. Petter A. Bergh, Karin Erdmann and David A. Jorgensen, *Modules of constant Jordan type over quantum complete interections*.
35. Petter A. Bergh, David A. Jorgensen and Steffen Oppermann, *The Gorenstein defect category*.
34. Luchezar L. Avramov and David A. Jorgensen, *Reverse homological algebra over local rings*.
33. Kristen Beck, Petter A. Bergh, David A. Jorgensen and Frank Moore, *Approximations of totally acyclic complexes*.

Supported Research Memberships/Visits:

- Mathematical Sciences Research Institute, Berkeley, California (Spring 2013, $490)
- Oxford University, England (upcoming: November 7-17, 2012, $2,500)
- Norwegian University of Science and Technology, Trondheim, Norway (June 2011, three weeks, $4,000)
- Norwegian University of Science and Technology, Trondheim, Norway (June-July 2010, three weeks, $4,000)
- Norwegian University of Science and Technology, Trondheim, Norway (August 2009, two weeks, $2,000)
- University of Bielefeld, Germany (May 15-July 15, 2009, $7,100)
- Norwegian University of Science and Technology, Trondheim, Norway (December-January 2008-9, three weeks, $4,000)
- University of Toronto, Ontario, Canada (November-December 2006, one month, $2,000)
- Banff International Research Station for Mathematical Innovation and Discovery, Alberta, Canada (September 2004, one week, all expenses paid)
- Mathematical Sciences Research Institute, Berkeley, California (Spring 2003, $3,713)

Invited Talks at Professional Meetings:

- *Approximations of totally acyclic complexes*, 20-minute talk at the 1094th meeting of the American Mathematical Society, St. Louis, Missouri, October 20, 2013.
- *On support varieties over complete intersections*, 45-minute talk at the Maurice Auslander Distinguished Lectures and International Conference, 2013 Woods Hole, Massachusetts.
- *On support varieties over complete intersections*, 50-minute talk at the 1090th Sectional Meeting of the American Mathematical Society, Iowa State University, Ames, Iowa, April 27, 2013.
- *Triangulated defect categories*, 20-minute talk at the 1085th Sectional Meeting of the American Mathematical Society, University of Arizona, Tucson, Arizona, October 27, 2012.
- *On products in negative cohomology for n-Calabi-Yau categories*, 20-minute talk at the 1083rd Sectional Meeting of the American Mathematical Society, Tulane University, New Orleans, Louisiana, October 13, 2012.
- *Triangulated defect categories*, 20-minute talk at the International Conference on Representation of Algebras, Bielefeld, Germany, August 17, 2012.
- *On products in negative cohomology for n-Calabi-Yau categories*, 45-minute talk at the Maurice Auslander Distinguished Lectures and International Conference, Woods Hole, Massachusetts, April 26, 2012.
- *Pinched homological algebra and Tate (co)homology*, 50-minute talk at the Homological Days meeting, University of Kansas, Lawrence, Kansas, May 5, 2011.
- *Brauer-Thrall theorems for totally reflexive modules*, 20-minute talk at the International Conference on Representation of Algebras, Tokyo, Japan, August 13, 2010.
- *On the existence of exact pairs of zero-divisors*, 20-minute talk at the 1059th Sectional Meeting of the American Mathematical Society, Albuquerque, New Mexico, April 17, 2010.
- *Dissimilar complexities of complete resolutions over selfinjective Algebras*, plenary speaker at Homological and Geometric Methods in Algebra, Trondheim, Norway, August 11, 2009.
- *On the vanishing of Ext(M,M)*, 50-minute talk at the Georgia State University-University of South Carolina Commutative Algebra Meeting, Atlanta, Georgia, February 28, 2009.
- *On homological properties of Gorenstein rings*, 20-minute talk at the 114th Annual Meeting of the American Mathematical Society, San Diego, January 2008.
- *Reverse homological algebra*, 20-minute talk at the 1024th Sectional Meeting of the American Mathematical Society, Davidson College, North Carolina, March 2007.
- *Linear acyclic complexes*, 20-minute talk at the Winter 2006 Meeting of the Canadian Mathematical Society, Toronto, Canada, December 2006.
- *On the triviality of self-extensions*, 20-minute talk at the 1019th Sectional Meeting of the American Mathematical Society, Salt Lake City, Utah, October 2006.

- *Bounds on Betti numbers and criteria for the Gorenstein property*, 20-minute talk at the 1018th Sectional Meeting of the American Mathematical Society, San Francisco, California, April 2006.
- *Vanishing of Ext and Tor over certain local rings*, 45-minute talk at the 1011th Sectional Meeting of the American Mathematical Society, Lincoln, Nebraska, October 2005.
- *On the growth of the Bass series of a Cohen-Macaulay local ring*, 20-minute talk at the 1009th Sectional Meeting of the American Mathematical Society, Annandale-on-Hudson, New York, October 2005.
- *The Grauert-Remmert normalization algorithm*, Minnowbrook Workshop on Commutative Algebra, Upstate New York, August 2005.
- *Derived DG categories and resolutions over complete intersections*, 20-minute talk at the 6th Joint International Meeting of the American Mathematical Society and Sociedad Matemtica Mexicana, Houston, Texas, May 2004.
- *Classes of Gorenstein rings defined via vanishing cohomology*, 20-minute talk at the 994th Sectional Meeting of the American Mathematical Society, Tallahassee, Florida, March 2004.
- *Realizing cohomology over complete intersections*, 20-minute talk at the 987th Sectional Meeting of the American Mathematical Society, San Francisco, California, May 2003.
- *Vanishing of Ext over Gorenstein rings*, 60-minute talk at the Mathematical Sciences Research Institute, Berkeley, California, April 2003.
- *On liftable modules*, 20-minute talk at the South Central Regional Weekend Algebra Conference, Loyola University, New Orleans, Louisiana, April 2002.
- *Vanishing of Ext and Gorenstein rings*, 20-minute talk at the 971st Sectional Meeting of the American Mathematical Society, Williamstown, Massachusetts, October 2001.
- *Symmetry in the Vanishing of Ext over Gorenstein rings*, 20-minute talk at the 964th Sectional Meeting of the American Mathematical Society, Lawrence, Kansas, March 2001.
- *Vanishing of (co)homology over commutative rings*, 20-minute talk at the 946th meeting of the American Mathematical Society, Salt Lake City, Utah, September 1999.
- *Ideals and finite projective dimension*, 20-minute talk at the 105th Annual Meeting of the American Mathematical Society, San Antonio, Texas, January 1999.
- *Intersection multiplicities and homological algebra*, 20-minute talk at the University of Nebraska-Lincoln Centennial Celebration, Lincoln, Nebraska, May 1998.
- *A generalization of the Auslander-Buchsbaum formula*, 20-minute talk at the 104th Annual Meeting of the American Mathematical Society, Baltimore, Maryland, January 1998.
- *Vanishing of Tor over local rings*, 20-minute talk at the 103 National Meeting of the American Mathematical Society, San Diego, California, January 1997.

- *Lifting modules and some consequences*, 20-minute talk at the 914th Sectional Meeting of the American Mathematical Society, Lawrenceville, New Jersey, October 1996.
- *Cohomological varieties, lifting and Tor on a complete intersection*, 20-minute talk at the 909th Sectional Meeting of the American Mathematical Society, Iowa City, Iowa, March 1996.

Selected Colloquia and Seminar Talks:

+ *Totally acyclic approximations*, Algebra seminar, Texas Tech University, September 27, 2013.
+ **Colloquium:** *Beyond matrix factorizations*, Department of Mathematics, Texas Tech University, September 26, 2013.
+ *Totally acyclic approximations over complete intersections*, Geometry-Algebra-Singularities-Combinatorics Seminar, Northeastern University, Boston, Massachusetts, April 16, 2013.
+ *Dimensions of defect categories*, Algebra Seminar, Oxford University, Oxford, England, November 15, 2012.
+ *On products in negative cohomology*, Algebra and Combinatorics Seminar, Department of Mathematics, Texas A & M University, College Station, April 20, 2012.
+ *Products in negative Hochschild cohomology*, Institutt for Matematiske Fag, Norwegian University of Science and Technology, Trondheim, Norway, October 3, 2011.
+ *On products in Tate cohomology*, Department of Mathematics, University of Nebraska, Lincoln, April 6, 2011.
+ *Pinched homological algebra and Tate cohomology*, Algebraic Geometry Seminar, Department of Mathematics, Texas A & M University, College Station, April 5, 2010.
+ *The Depth Formula Revisited*, Department of Mathematics, University of Nebraska, Lincoln, December 3, 2009.
+ *Pinched Homological Algebra and Tate Cohomology*, Department of Mathematics, University of Nebraska, Lincoln, December 2, 2009.
+ *More on constructing resolutions over rings of radical cube zero*, Department of Mathematics, Universitaet Bielefeld, Germany, July 10, 2009.
+ *On constructing resolutions over rings of radical cube zero*, Department of Mathematics, Universitaet Bielefeld, Germany, June 19, 2009.
+ *On tensor products of totally acyclic complexes of finitely generated free modules*, Department of Mathematics, Universitaet Bielefeld, Germany, May 22, 2009.
+ *On the Vanishing of Ext(M,M)*, Norwegian University of Science and Technology, Trondheim, Norway, January 2009.
+ **Colloquium:** *What is a Gorenstein ring? (And why do we care?)*, Department of Mathematics, North Dakota State University, Fargo, December 2008.
+ *Existence of totally reflexive modules*, Department of Mathematics, North Dakota State University, Fargo, December 2008.
+ *Dualizing complexes, old and new*, Department of Mathematics, Texas A & M University, College Station, October 2008.

+ *Asymmetry over selfinjective algebras*, Department of Mathematics, Universitat Bielefeld, Germany, April 2008.
+ **Colloquium:** *From smooth to shellable: a survey of commutative Noetherian rings*, Department of Mathematics, Texas Christian University, Fort Worth, September 2007.
+ *Infinite syzygies* (20-min.), Advances in Algebra and Geometry, Mathematical Sciences Research Institute, Berkeley, California, April 2007.
+ *Reverse homological algebra over some local rings*, Department of Mathematics, University of Texas, Austin, March 2007.
+ *Gorenstein rings: not so nice*, Department of Mathematics, Syracuse University, New York, April 2005.
+ *Non-symmetric complete resolutions and the vanishing of Ext*, Department of Mathematics, University of Texas, Austin, March 2005.
+ *On constructions of unliftable modules*, Department of Mathematics, UTA, February 2005.
+ *Koszul algebras*, Department of Mathematics, University of Nebraska, Lincoln, April 2004.
+ *Free resolutions and Hilbert's Syzygy Theorem*, for $\pi\mu\epsilon$, UTA, November 2003.
+ *Classes of Gorenstein rings*, Department of Mathematics, University of Kansas, Lawrence, April 2003.
+ *On support sets of pairs of modules*, Department of Mathematics, UTA, April 2002.
+ **Colloquium:** *Support sets of modules over a complete intersection*, Department of Mathematics, University of Arkansas, Fayetteville, April 2002.
+ **Colloquium:** *The geometry of modules over a complete intersection*, Department of Mathematics, University of Nebraska, Lincoln, March 2002.
+ *Symmetry in vanishing of* Ext, Department of Mathematics, University of Kansas, Lawrence, July 2001.
+ *Computing support varieties*, Department of Mathematics, University of Nebraska, Lincoln, March 2000.
+ *Lifting modules*, Department of Mathematics, University of Kansas, Lawrence, January 2000.
+ *Support varieties*, Department of Mathematics, University of Kansas, Lawrence, October 1999.
+ *Commutative algebra and homological algebra*, Department of Mathematics, UTA, November 1998.
+ *Intersection multiplicities*, Department of Mathematics, UTA, October 1998.
+ *Ideals of finite projective dimension*, Department of Mathematics, University of Texas, Austin, November 1998.
+ *Lifting modules*, Department of Mathematics, University of Texas, Austin, October 1997.
+ *Vanishing of Tor on a complete intersection*, Department of Mathematics, University of Texas, Austin, October 1996.

Student Supervision:

Current Ph.D. Students:

– Denise Rangel

- Basanti Poudyal
- Yousuf Alkhezi
- Nathan Steele

Graduated Ph.D. Students:

- Jared Painter, May 2012, *Resolutions and Tor algebra structures for trivariate monomial ideals*
- Kristen Beck, May 2011, *On the existence of totally reflexive modules*
- Meri Hughes, August 2009, *Uniqueness of minimal acyclic complexes*
- Paul Stern, December 2007, *On progenitively Koszul commutative rings*

Other Ph.D. Students Mentored for Various Programs (GK-12, National Security Agency)

- Daniel Dawson
- Jason Bacon
- Johnathan Bell

Graduated M.S. Students:

- Kristen Beck, August 2005 (directed Master's Thesis *On the image of the totalling functor*)
- Neil Slagle, August 2005 (directed Master's Project *A connection between Plücker coordinates and polynomial rings*)
- Marcus Hawkins, August 2005 (directed Master's Project *"General" bounded free resolutions for Artinian graded rings*)
- Carson Clanton, May 2005 (directed Master's Project *Fitting's Lemma and free resolutions*)

Graduated Undergraduate Students:

- Christopher Aholt (directed Honor's Thesis *On* Ext *algebras*)
- Frank Moore, May 2002 (directed Honor's Thesis *Building modules having a prescribed cohomological support set*)
- Advised six undergraduate Honors-contract mathematics projects

Graduate Student Committee Member For:

- Justin Ahrens, Ph.D., current student.
- Thomas Ferguson, Ph.D., current student.
- Lin-lin Chen, Ph.D., August 2012.
- Manizheh Nafari, Ph.D., May 2011.
- Veronica Villa, M.S., Fall 2007.
- William Purpura. M.S., Fall 2005.
- Matt Summers, M.S., Spring 2004.
- Michael Jamnongjit, M.S., Spring 2004.
- David Smith, M.S., Spring 1999.

NSF GK-12 MAVS Program Advising:

- Served as research advisor for 5 NSF GK-12 fellows, 2009–11

Editorial, Refereeing, and Reviewing Activities:

Refereed 52 Articles for *Springer-Verlag, Libertas Mathematica, Journal of Algebra, Communications in Algebra, Journal of Pure and Applied Algebra, Rocky Mountain Journal of Mathematics, Proceedings of the American Mathematical Society,The Mathematical Monthly, The American Journal of Mathematics, Journal of Mathematics of Kyoto University, Michigan Mathematical Journal, Journal of the London Mathematical Society,*

Manuscripta Mathematica, Royal Society of Edinburgh Proceedings, Revista Mathematica Iberoamerican, Mathematica Scandinavica, International Electronic Journal of Algebra.
Reviewed eight proposals for the National Science Foundation.
Reviewed 63 papers for Mathematical Reviews.

Organizer of Professional Meetings:

- Co-organizer, Special Session, 1094th Meeting of the American Mathematical Society, St. Louis, Missouri, October 2013 (upcoming).
- Co-organizer, *Southwest Local Algebra Meeting*, Tucson, Arizona, March 2-3 2013 (upcoming).
- Co-organizer, *Southwest Local Algebra Meeting*, Lubbock, Texas, March 3-4 2012.
- Co-organizer, *Southwest Local Algebra Meeting*, Las Cruces, New Mexico, March 5-6 2011.
- Co-organizer, *Southwest Local Algebra Meeting*, Arlington, Texas, March 6-7 2010.
- Co-organizer, Special Session, 1051st Sectional Meeting of the American Mathematical Society, Waco, Texas, October 2009.
- Organizer, UTA Mathematics Department Colloquium Series
- Co-organizer, Nebraska Commutative Algebra Conference, May 7-9, 2005 (125 participants from 13 countries; operating budget: $25,000).
- Organizer, UTA Algebra Seminar.
- Co-organizer, Special Session, 4th Annual International Joint Meeting of the American Mathematical Society and the Sociedad Matemtica Mexicana, Denton, Texas, May 1999.
- Co-organizer, Algebraic Geometry, Algebra, and Number Theory Seminar between UTA, the University of North Texas, and Texas Christian University, 1998-1999.

Other Professional Meetings Attended:

- 1081st meeting of the American Mathematical Society, Lawrence, Kansas, March 30 - April 1, 2012.
- Abel Symposium, Algebras, Quivers and Representations, Balestrand, Norway, June 20-23, 2011.
- Kansas University-Missouri University-Nebraska University Conference, Lincoln, Nebraska, April 2011.
- Commutative Algebra: Connections with Algebraic Topology and Representation Theory, Lincoln, Nebraska, May 2008.
- Homological Conjectures in Commutative Algebra, Snowbird, Utah, May 2006.
- Banff International Research Station Workshop: Commutative Algebra: Homological and Birational Theory, Banff, Canada, September 2004.
- Special Year in Commutative Algebra, at the Mathematical Sciences Research Institute, Berkeley, California, Spring 2003.
- Rowlee Lecture and Centennial Celebration of Commutative Algebra, Lincoln, Nebraska, April 2000.

- Midwest Geometry Conference, Columbia, Missouri, October 1999.
- Kansas University-Missouri University-Nebraska University Conference, Lawrence, Kansas, September 1999.
- Algebra Weekend, Columbia, Missouri, October 1998.
- Summer School in Commutative Algebra, Centre De Recerca Matemàtica, Bellaterra, Spain, July 1996.
- National Science Foundation/Conference Board of the Mathematical Sciences regional conference, Fargo, North Dakota, July 1995.
- Methods in Module Theory, Colorado Springs, Colorado, October 1993.
- Interactions Between Commutative Algebra and Algebraic Geometry, Columbia, Missouri, May 1993.
- Special Session in Commutative Algebra, 879th meeting of the American Mathematical Society, Knoxville, Tennessee, March 1993.
- Algebra Day, Indianapolis, Indiana, February, 1993.
- Midwest/Great Plains Workshop in Commutative Algebra, Lawrence, Kansas, May 1992.
- Special Session in Commutative Algebra, 873rd meeting of the American Mathematical Society, Springfield, Missouri, 1992.

Multi-disciplinary collaborations:

- Member, **IRIS** Institute for Research in Security at UTA.

Collaborative Visits:

Lawrence, Kansas, May 2011 (C. Huneke, H Dao, R. Takahashi, D. Katz, P. Bergh)
Lincoln, Nebraska, April 2011 (L. Avramov, R. Wiegand, P. Bergh, G. Leuschke)
P. A. Bergh to UTA, October 2010.
R. Wiegand to UTA, October 2009: *"Torsion in tensor products of modules"*
Lincoln, Nebraska, December 2009 (L. Avramov, R. Wiegand, G. Leuschke)
Fargo, North Dakota, December 2008 (S. Sather-Wagstaff)
Lincoln, Nebraska, May, August 2008 (L. Avramov, R. Wiegand, G. Leuschke)
L. Sega to UTA, April 2007: *"Cohomology of modules over small rings."*
Toronto, Canada, December 2006 (R.-O. Buchweitz)
Lincoln, Nebraska, August 2006 (L. Avramov, R. Wiegand)
Lincoln, Nebraska, May 2005 (L. Avramov, R. Wiegand)
Syracuse, New York, April 2005 (G. Leuschke)
Keeping Research Alive Workshop, Lincoln, Nebraska, July 2004 (L. Avramov, R. Wiegand)
L. Sega to UTA, June 2004: *"Vanishing of* Ext *and* Tor over artinian local rings."
Lincoln, Nebraska, April 2004 (L. Avramov)
Lincoln, Nebraska, December 2003 (L. Avramov)
Lawrence, Kansas, April 2003 (C. Huneke, D. Katz)
Lincoln, Nebraska, August 2002 (L. Avramov)
Lawrence, Kansas, Summer 2002 (C. Huneke, D. Katz)

Lincoln, Nebraska, April 2002 (L. Avramov, R. Wiegand)
Lawrence, Kansas, Summer 2001 (C. Huneke, D. Katz)
Lawrence, Kansas, Summer 2000 (C. Huneke, D. Katz)
Austin, Texas, June 1999 (R. Heitmann)

Service to Department:

- Associate Chairman of the Mathematics Department (September 1, 2012–present).
- Acting Director of the College Algebra Math Emporium (May, 2012–present).
- Co-PI of the Department of Mathematics' Graduate Assistance in Areas of National Need Grant (2006-present).
- Chair of Graduate Affairs Committee (June 2011–present).
- Chair of Graduate Affairs Committee (Fall 2010).
- Awards and Public Relations Committee member (June 2010–present).
- Advisory Committee member (June 2008–May 2010).
- Graduate Affairs Committee member (June 2007–present).
- Faculty Recruiting Committee member (June 2007–May 2009).
- Awards and Public Relations Committee member (June 2005–2008).
- Chair of the Colloquium Committee (September 2005–present).
- Chair of the Graduate Affairs Committee (June 2004–May 2005).
- Faculty Recruiting Committee member (June 2004–May 2005).
- Graduate Affairs Committee member (June 2002–May 2004).
- Volunteer for the UTA Calculus Bowl high school team competition 2001–present.
- Mathematics Department Colloquium Committee member(June 2000–May 2004).

Service to the College:

- Attendee of College of Science graduation ceremonies (various semesters, 1998-present).
- College of Science Newsletter Committee member (September 1998–May 2001).

Service to the University:

- Faculty Senate member (2005–2009).
- University Nominating Committee member (February 2005–2007).
- Judge for the Exxon-Mobile Texas State Science and Engineering Fair (2002).

Outreach Activities:

- Graduate Mentor for National Alliance for Doctoral Studies in the Mathematical Sciences (2009-present).

Teaching Activities:

- Designed the following graduate topics courses (organized courses, Math 5392):

Topics in Category Theory. (Spring 2009) Topics included: abelian and triangulated categories, equivalences and dualities, Dimension theory, support varieties, the Boij-Soderberg conjectures, totally acyclic complexes.
Algebra and Homology. (Fall 2007) Topics included: minimal free resolutions, Betti numbers, Poincaré series, acyclic complexes of free modules, Gorenstein dimension.
Cohen-Macaulay Rings. (Spring 2005) Regular sequences, depth, dimension theory, Cohen-Macaulay rings and Modules.
Homological Algebra. (Fall 2004) Topics included: projective and injective modules, category theory, Hom and tensor, complexes, derived functors: Ext and Tor.
Cryptography. (Spring 2002) Topics included: elementary number theory, finite fields and quadratic residues, public key cryptography — the RSA, primality and factoring, elliptic curves.
Coding Theory. (Fall 2001) Topics included: linear codes, bounds on codes, cyclic codes, codes over Z_4, algebraic geometry codes.

- Designed the following graduate reading courses (Math 5391):
Topics in Homology. (Fall 2009) Consisted of reading papers on the topic. Students: Jonathan Bell, Alek Malcolm.
Acyclic Complexes. (Spring 2007) Consisted of reading papers on the topic. Students: Meri Hughes.
Gorenstein Dimension. (Spring 2007) Consisted of reading papers on the topic. Student: Meri Hughes
Koszul Algebras. (Spring 2005) Consisted of reading papers on the topic. Student: Paul Stern.
Special Topics. (Fall 2004) Consisted of reading papers in algebra. Student: Paul Stern.
Topics In Algebra. (Spring 2004) Continued through the book *Introduction to Commutative Algebra.* Student: Neil Slagle.
Topics In Algebra. (Fall 2003) Working through the book *Introduction to Commutative Algebra.* Student: Neil Slagle.
Topics In Algebra. (Fall 2002) Working through the book *Topics in Algebra.* Student: Mehran Asadi.

Courses Taught (1996–present, G = graduate course, R = reading course):

Fall	2013	Abstract Algebra II (G)
Spring	2013	College Algebra, Director of Math Emporium Lab, Categories of String Theory (G)
Fall	2012	College Algebra, Director of Math Emporium Lab
Spring	2012	Algebraic Topology (G), Calculus II
Fall	2011	Ringer og Moduler (at the Norwegian University of Science and Technology)
Spring	2011	Homological Algebra (G), Linear Algebra
Fall	2010	Calculus II, Linear Algebra
Spring	2010	Algebraic Topology (G), Calculus II
Fall	2009	Calculus II
Spring	2009	Topics in Category Theory (G), Calculus II
Fall	2008	Calculus I
Spring	2008	Algebraic Topology (G)
Fall	2007	Algebra and Homology (G), Calculus II
Spring	2007	Linear Alg., Calculus II, Acyclic Complexes (R), G-Dimension (R)
Fall	2006	Topology (G), Calculus II, Local Algebra (R), Free Resolutions (R)
Spring	2006	Cohen-Macaulay Rings (G), Calculus II
Fall	2005	Abstract Algebra II (G), Calculus II
Spring	2005	Abstract Algebra I (G), Linear Algebra, Koszul Algebras (R)
Fall	2004	Homological Algebra (G), Calculus II, Special Topics (R)
Spring	2004	Algebraic Topology (G), Linear Algebra, Topics in Algebra (R)
Fall	2003	Linear Algebra (G), Calculus II, Topics in Algebra (R)
Spring	2003	on leave
Fall	2002	College Algebra, Linear Algebra, Topics in Algebra (R)
Spring	2002	Cryptography (G), Calculus II
Fall	2001	Coding Theory (G), Abstract Algebra II
Spring	2001	Functional Analysis II (G), Calculus II
Fall	2000	Functional Analysis I (G), Calculus II
Spring	2000	Business Calculus (at the University of Kansas)
Fall	1999	Calculus II (at the University of Kansas)
Spring	1999	Analysis, College Algebra
Fall	1998	Linear Algebra (G), Calculus II
Spring	1998	Abstract Algebra, Calculus II, Topics in Algebra (R) (at UT-Austin)
Fall	1997	Business Calculus, Linear Algebra (at UT-Austin)
Spring	1997	Abstract Algebra, Calculus II (at UT-Austin)
Fall	1996	Mathematics for Education, Business Calculus (at UT-Austin)

Professional Society Memberships:

- American Mathematical Society
- Mathematical Association of America