Zach Teitler

Department of Mathematics	Phone: 208-426-1086
Boise State University	Fax: 208-426-1356
1910 University Drive	zteitler@boisestate.edu
Boise, ID 83725–1555	http://math.boisestate.edu/~zteitler/

Degrees

Ph.D. (Mathematics), University of Michigan, 2005
Dissertation: Multiplier ideals of line arrangements
Advisor: Robert Lazarsfeld

B.S. (Creative Studies–Mathematics), University of California–Santa Barbara, 2000

Employment History

Associate Professor of Mathematics, Boise State University, 2014–Present

Assistant Professor of Mathematics, Boise State University, 2010–2014

Visiting Assistant Professor of Mathematics, Texas A&M University, 2007–2010

Assistant Professor of Mathematics, Southeastern Louisiana University, 2005–2008

Citizenship United States

Publications

1. Jarosław Buczyński, Kangjin Han, Massimiliano Mella, Zach Teitler *The geometry of high rank loci*, in preparation

2. Theodosios Douvropoulos, Joachim Jelisiejew, Bernt Ivar Utstøl Nødland, Zach Teitler, *The Hilbert scheme of* 11 *points in* $\mathbb{A}^3$ *is irreducible*, to appear in *Combinatorial Algebraic Geometry* (arXiv:1701.03089 [math.AG])

3. Zach Teitler, *Sufficient conditions for Strassen's additivity conjecture*, to appear in Ill. J. Math. (arXiv:1604.07691 [math.AG])

4. Jarosław Buczyński and Zach Teitler, *Some examples of forms of high rank*, Collect. Math. 64(3):431–441, 2016

5. Nathan Ilten and Zach Teitler, *Product ranks of the* 3×3 *permanent and determinant*, Canad. Math. Bull. 59(2):311–319, 2016

6. Harm Derksen and Zach Teitler, *Lower bound for ranks of invariant forms*, JPAA 219(12):5429–5441, 2015

7. Kent M. Neuerburg and Zach Teitler, *Decompositions of ideals of minors meeting a submatrix*, Comm. Alg. 44(4):1809–1820, 2016

8. Zach Teitler, *Geometric lower bounds for generalized ranks* (arXiv:1406.5145 [math.AG])

9. Nickolas Hein, Christopher J. Hillar, Abraham Martín del Campo, Frank Sottile, Zach Teitler, *The monotone secant conjecture in the real Schubert calculus* Exp. Math. 24(1):261–269, 2015. (Extended version of abstract presented at MEGA 2011.)

10. Grigoriy Blekherman, Zach Teitler, *On Maximum, Typical, and Generic Ranks*, Math. Ann. 362(3–4):1021–1031, 2015

11. Erik Holmes*, Paul Plummer*, Jeremy Siegert*, Zach Teitler, *Maximum Waring ranks of monomials and sums of coprime monomials*, Comm. Alg. 44(10):4212–4219, 2016
    * undergraduate co-author

12. Weronika Buczyńska, Jarosław Buczyński, Johannes Kleppe, and Zach Teitler, *Apolarity and direct sum decomposability of polynomials*, Michigan Math. J. 64(4):675–719, 2015

13. Zach Teitler, *Software for multiplier ideals*, JSAG 7(1):1–8, 2015

14. Zach Teitler and Alex Woo, *Power sum decompositions of defining equations of reflection arrangements*, J. Alg. Comb. 41(2):365–383, 2015

15. Zach Teitler and Douglas A. Torrance, *Castelnuovo–Mumford regularity and arithmetic Cohen–Macaulayness of complete bipartite subspace arrangements*, JPAA 219(6):2134–2138, 2015

16. Weronika Buczyńska, Jarosław Buczyński, and Zach Teitler, *Waring decompositions of monomials*, J. Algebra 378:45–57, 2013

17. Zach Teitler, *Topological criteria for schlichtness*, Proc. Edinb. Math. Soc. (2) 56(2):637–640, 2013

18. Javier Elizondo, Paulo Lima-Filho, Frank Sottile, and Zach Teitler, *Arithmetic toric varieties*, Math. Nach. 287(2–3):216-241, 2014

19. Luis García-Puente, Nickolas Hein, Christopher J. Hillar, Abraham Martín del Campo, James Ruffo, Frank Sottile, and Zach Teitler, *The Secant Conjecture in the real Schubert calculus*, Experimental Math. 21(3):252–265, 2012

20. Thomas Bauer, Cristiano Bocci, Susan Cooper, Sandra Di Rocco, Marcin Dumnicki, Brian Harbourne, Kelly Jabbusch, Andreas Leopold Knutsen, Alex Küronya, Rick Miranda, Joaquim Roé, Hal Schenck, Tomasz Szemberg, Zach Teitler, *Recent developments and open problems in linear series*, in *Contributions to Algebraic Geometry*, IMPANGA Lecture Notes, August 2012

21. Susan Cooper, Brian Harbourne, and Zach Teitler, *Combinatorial bounds on Hilbert functions of fat points in projective space*, J. Pure Appl. Algebra 215(9):2165–2179, 2011

22. Nero Budur, Mircea Mustaţă, and Zach Teitler, *The Monodromy Conjecture for hyperplane arrangements*, Geom. Dedicata 153:131–137, 2011

23. Christopher Hillar, Luis García-Puente, Abraham Martín del Campo, James Ruffo, Zach Teitler, Stephen L. Johnson, and Frank Sottile, *Experimentation at the Frontiers of Reality in Schubert Calculus*, Contemp. Math. 517:365–380, 2010

24. J.M. Landsberg and Zach Teitler, *On the ranks of tensors and symmetric tensors*, Found. Comput. Math. 10(3):339–366, 2010

25. Zach Teitler, *Bounding symbolic powers via asymptotic multiplier ideals*, Ann. Univ. Pedagog. Crac. Stud. Math. 8:67–77, 2009

26. Ulrich Derenthal, Michael Joyce, and Zach Teitler, *A nef cone volume for generalized Del Pezzo surfaces*, Algebra & Number Theory 2(2):157–182, 2008

27. Zach Teitler, *A note on Mustaţă's computation of multiplier ideals of hyperplane arrangements*, Proc. Amer. Math. Soc. 136(5):1575–1579, 2008

28. Zachariah C. Teitler, *On the intersection of the curves through a set of points in* $\mathbb{P}^2$, J. Pure Appl. Algebra 209(2):571–581, 2007

29. Zachariah C. Teitler, *Multiplier ideals of general line arrangements in* $\mathbb{C}^3$, Comm. Alg. 35(6):1902–1913, 2007

Grants and Awards

Simons Foundation Collaboration Grants for Mathematicians (award #354574, 2015–2020, $35,000)

COAS Travel Grant, for travel to CMS Winter Meeting, Hamilton, Ontario, December 2014

COAS Travel Grant, for travel to Institute of Mathematics of the Polish Academy of Sciences, Warsaw, January 2013

COAS Travel Grant, for travel to AMS Sectional Meeting at University of Iowa, March 2011

(with W. Bangerth, R. Carroll, and F. Sottile) NSF SCREMS Grant "Cluster Computing for the Mathematical Sciences at Texas A&M University" (DMS-0922866, 2009–2010, $59,480)

(with Kent Neuerburg) Louisiana University Board of Regents Research Competitiveness Subprogram (RCS) grant, "Geometry and Algebra of Ideals Generated by Determinants", awarded (LEQSF(2007-10)-RD-A-28, 2007–2010, Louisiana Board of Regents, Research Competitiveness Subprogram, $59,892)

Southeastern Louisiana University Center for Faculty Excellence, Travel Grant for travel to University of Nebraska–Lincoln, October, 2006

Southeastern Louisiana University Center for Faculty Excellence, Center's Innovative Teaching Initiative (CITI) grant for travel to Project NExT, 2006–7

Travel Grant for Emerging Faculty, Louisiana Board of Regents/NSF, March–April 2005

Regents-VIGRE Graduate Fellow, University of Michigan, September 2000–April 2005

Raymond L. Wilder Award, University of California–Santa Barbara, Department of Mathematics, June 2000

Invited Conference Presentations

Lower bound for ranks of invariant forms, CMS Winter Meeting, Hamilton, Ontario, December 5–8, 2014

On maximum, typical, and generic ranks, Spring 2014 AMS Central Sectional, Lubbock, TX, April 11–13, 2014

Direct sum decomposability of polynomials, Interactions between Commutative Algebra and Algebraic Geometry II, Tulane, September 28–29, 2013

Software for computing multiplier ideals, SIAM Conference on Applied Algebraic Geometry, Colorado State University, August 1–4, 2013

Direct sum decomposability of polynomials, SIAM Conference on Applied Algebraic Geometry, Colorado State University, August 1–4, 2013

Experimentation at the Frontiers of Reality in Schubert Calculus, AAAS Pacific Division 2012 Meeting, Boise, ID, June 27, 2012

Software for computing multiplier ideals, Michigan Computational Algebraic Geometry 2012, Oakland University, May 13, 2012

Ranks and Generalized Ranks, 2011 SIAM Conference on Applied Algebraic Geometry, NCSU, October 7, 2011

Software for the computation of multiplier ideals, MEGA (Effective Methods in Algebraic Geometry), Stockholm, Sweden, June 1, 2011

Ranks and generalized ranks, Toric geometry and applications, Leuven, Belgium, June 6, 2011

Ranks of polynomials, AMS Sectional, Iowa City, March 19, 2011

Combinatorial bounds for Hilbert functions and graded Betti numbers of fat point schemes, Oberwolfach workshop on Linear Series on Algebraic Varieties, October 5, 2010

Experimentation at the Frontiers of Reality in Schubert Calculus, Joint Mathematics Meetings, January 16, 2010

Experimentation at the Frontiers of Reality in Schubert Calculus, AMS Central Section Meeting, October 18, 2009

(Poster) *Hilbert functions of fat point schemes*, Pan-American Advanced Study Institute (PASI) in Commutative Algebra and its Connections to Geometry, Olinda, Brazil, August 2009

Experimentation at the Frontiers of Reality in Schubert Calculus, AMS Southeastern Section Meeting, April 5, 2009

Bounding Hilbert functions of fat point schemes, AMS Fall Western Section Meeting, October 4, 2008

Multiplier ideals of hyperplane arrangements, AMS Southeastern Sectional Meeting, March 28, 2008

Multiplier ideals of hyperplane arrangements, AMS Southeastern Sectional Meeting, March 3, 2007

On the intersection of the curves through a set of points in $\mathbb{P}^2$, Joint Mathematics Meetings, January 8, 2007

Invited Seminar and Colloquium Presentations

Waring ranks of homogeneous forms, York University, November 7, 2016

Waring ranks of homogeneous forms, Fields Institute, University of Toronto, October 18, 2016

Bounds for Waring rank, McMaster University, September 19, 2016

Bounds for Waring rank, Central Michigan University, November 16, 2015

Bounds for Waring rank, University of Utah, October 6, 2015

Geometric lower and upper bounds for Waring rank, University of Arkansas, January 6, 2015

Ranks of polynomials, University of Idaho, March 27, 2014

Apolarity, Waring ranks, and direct sum decomposability of polynomials, Queen's University, January 13, 2014

A geometric lower bound for rank, IMPANGA, Warsaw, Poland, January 11, 2013

Direct sum decomposability and apolarity, MIMUW Algebraic Geometry Seminar, Warsaw, Poland, January 10, 2013

Ranks of polynomials, Cleveland State and Kent State, April 20–23, 2011

Ranks of polynomials and *Experimentation at the Frontiers of Reality in Schubert Calculus*, Idaho State University, March 31–April 1, 2011

Ranks of polynomials, U. Utah, May 30, 2011

Experimentation at the Frontiers of Reality in Schubert Calculus, University of Idaho, Feb. 3, 2011

Ranks of polynomials, University of Kentucky, February 8, 2010

Ranks of polynomials, Rice, February 2, 2010

Counting curves through points with multiplicities, Texas State University San Marcos, December 4, 2009

Ranks of polynomials, Pomona College, November 24, 2009

Ranks of polynomials, UC Santa Barbara, November 23, 2009

Ranks of polynomials, Sam Houston State University, November 18, 2009

Introduction to multiplier ideals and an application to commutative algebra, Notre Dame, November 13, 2009

Ranks of polynomials, UT Austin, October 13, 2009

Arithmetic toric varieties, UT Austin, October 13, 2009

Introduction to multiplier ideals and an application to commutative algebra, UT Arlington, October 9, 2009

Ranks of polynomials, Kansas U., September 22, 2009

Ranks of polynomials, UIUC, September 4, 2009

Ranks of polynomials, TCU, April 22, 2009

Ranks of polynomials, Texas Tech, April 17, 2009

Ranks of polynomials, Baylor, March 4, 2009

Ranks of polynomials, Purdue, February 25, 2009

Experimentation at the Frontiers of Reality in Schubert Calculus, Purdue, February 25, 2009

Ranks of polynomials, UT Arlington, February 13, 2009

Bounding Hilbert functions of fat point schemes, UIUC, October 14, 2008

Multiplier ideals of hyperplane arrangements, UT Austin, April 15, 2008

Multiplier ideals of hyperplane arrangements, Tulane, March 26, 2008

On the intersection of the curves through a set of points in $\mathbb{P}^2$, University of Nebraska, October 27, 2006

On the intersection of the curves through a set of points in $\mathbb{P}^2$, Tulane, September 25, 2006

Multiplier ideals of line arrangements, University of Utah, September 12, 2006

Singularities in Algebraic Geometry, Tulane, April 26, 2006

Selected Local Seminar Presentations

Waring rank bounds, AGC Seminar, Boise State University, September 25, 2015

The slope problem, AGC Seminar, Boise State University, April 17, 2015

Using cotangent to find the sum of $1/n^{2k}$, AGC Seminar, Boise State University, February 27, 2015

Monsky's theorem, AGC Seminar, Boise State University, November 21, 2014

Recent advances in Waring rank and apolarity, Graduate Student Seminar, Boise State University, September 19, 2014

The addition of residue classes modulo n, AGC Seminar, Boise State University, September 12, 26, 2014

Lower bound for ranks of invariant forms, AGC Seminar, Boise State University, September 5, 2014

Determinants and permanents as sums of products of linear forms, AGC Seminar, Boise State University, April 15, 2014

The sequence $1, 3, 16, 125, 1296, \ldots,$ *two ways*, AGC Seminar, Boise State University, January 28, 2014

"The Simple Tarski-Seidenberg Tutorial Series", AGC Seminar, Boise State University, Feb. 11, 18, 25, Mar. 4, 11, 18, May 6, 2014

On Maximum, Generic, and Typical Ranks, AGC Seminar, Boise State University, December 3, 2013

Multiplier Ideals: From Integrals to Algebra, AGC Seminar, Boise State University, November 5, 2013

Singularities and Multiplier Ideals, AGC Seminar, Boise State University, October 29, 2013

Maximum ranks of monomials, AGC Seminar, Boise State University, October 1, 8, 2013

Recent advances in Waring rank and apolarity, Mathematics Department Colloquium, Boise State University, September 5, 2013

Apolarity and reflection groups, AGC Seminar, Boise State University, April 30, 2013

Powers of elements and monomial ideals, AGC Seminar, Boise State University, February 26, 2013

Symbolic vs ordinary powers, AGC Seminar, Boise State University, January 29, 2013

Some questions about power sum decompositions, Undergraduate Math Seminar, Boise State University, April 24, 2012

Decompositions of determinantal ideals, AGC Seminar, Boise State University, March 19, 2012

Toric varieties, AGC Seminar, Boise State University, December 7, 2011

Two independently discovered solutions to Waring's problem for monomials within the last week, AGC Seminar, Boise State University, October 12, 2011

Introduction to topos theory I, II, AGC Seminar, Boise State University, April 13, May 4, 2011

Experimentation at the Frontiers of Reality in Schubert Calculus, AGC Seminar, Boise State University, September 17, 2010

Experimentation at the Frontiers of Reality in Schubert Calculus, Student Seminar, Boise State University, September 15, 2010

Conference, Session, and Seminar Organization

Special Session on Combinatorial and Computational Commutative Algebra and Algebraic Geometry at the Spring 2015 Western Sectional AMS Meeting, April 9-10, 2016, Salt Lake City (co-organizer)
`https://math.boisestate.edu/~zteitler/2016A-saltlakecity-specialsession.html`

AMS Special Session on Tensor Decompositions and Secant Varieties at the Joint Mathematics Meetings, Seattle, January, 2016 (organizer)
`https://math.boisestate.edu/~zteitler/2016A-seattle-specialsession.html`
6 speakers

Macaulay2 Workshop, Boise State University, May 27-30, 2015 (local co-organizer)
`https://github.com/Macaulay2/Workshop-2015-Boise/wiki`
37 participants. Supported by NSF DMS 10-02171 / NSF DMS 10-02210.

Western Algebraic Geometry Symposium, University of Idaho, October 11–12, 2014 (local co-organizer)
http://fall14.wagsymposium.org
6 speakers, 58 registered participants. Partially supported by NSF.

Special Session on Combinatorial and Computational Commutative Algebra and Algebraic Geometry at the Spring 2013 Western Sectional AMS Meeting, April 13-14, 2013, Boulder, Colorado (co-organizer)
https://math.boisestate.edu/~zteitler/the_past/spring2013-boulder-specialsession.html
19 speakers

Special Session on Computational and Algorithmic Algebraic Geometry at the AMS 2011 Fall Western Section Meeting, Salt Lake City, October 22-23, 2011 (co-organizer)
https://math.boisestate.edu/~zteitler/the_past/saltlakecity2011-special-session.html
20 speakers

Algebra, Geometry, Cryptology (AGC) Seminar at Boise State, 2010–Present (co-organizer)
http://math.boisestate.edu/seminars/alg_geom_crypto/

Algebraic Geometry Seminar at Texas A&M, 2007–2010 (co-organizer)

AMS Special Session on Computational Algebra and Convexity at the Joint Mathematics Meetings, Washington, DC, January, 2009 (co-organizer)
https://math.boisestate.edu/~zteitler/the_past/mrc-special-session.html
16 speakers

Special Session on Algebraic Geometry of Matrices and Determinants at the AMS 2008 Spring Southeastern Meeting, Baton Rouge, March 28-30, 2008 (co-organizer)
https://math.boisestate.edu/~zteitler/the_past/batonrougesession.html
14 speakers

Regional conference AGIL: Algebraic Geometry In Louisiana (co-organizer)
October 7, 2006: https://math.boisestate.edu/~zteitler/the_past/agile06fall.html
April 14, 2007: https://math.boisestate.edu/~zteitler/the_past/agile06fall.html
3 speakers at each event

Conferences and Workshops Attended

Tensors in Computer Science and Geometry, Simons Institute for the Theory of Computing, Berkeley, CA, November 10–14, 2014

Recent Advances in Algebraic Geometry: a conference in honor of Robert Lazarsfeld's 60th birthday, University of Michigan, May 16–19, 2013

Western Algebraic Geometry Symposium, University of Utah, October 20–21, 2012

Macaulay2 workshop, Wake Forest, NC, Aug. 4–10, 2012

Western Algebraic Geometry Symposium, University of Washington, Seattle, April 14–15, 2012

IMA (Institute for Mathematics and its Applications) Special Workshop on Macaulay2, Minneapolis, July 2011

NCSI/EPSCoR Introduction to Parallel Programming and Cluster Computing, June 2011

ARCC (American Institute of Mathematics Research Conference Center) workshop on "Algebraic systems with only real solutions", October, 2010

MSRI workshop on *Combinatorial, Enumerative and Toric Geometry*, March, 2009

Park City Math Institute summer research program on "Analytic and Algebraic Geometry", July 2008

AMS Math Research Communities program on "Computational Algebra & Convexity", June 2008

ARCC (American Institute of Mathematics Research Conference Center) workshop on "Integral Closure, Multiplier Ideals, and Cores", December, 2006

Research Recovery and Restoration (workshop on grant writing), UL Monroe, June 5, 2006

TAGS (Texas Algebraic Geometry Seminar) conference and workshop on error-correcting codes, Texas A&M University, May 17–21 2006

LA/MS Section NExT, February 17, 2006

Academic Advising — Graduate Advising

Stuart Nygard
M.S. Mathematics, Boise State University, 2016.
Thesis: *The density topology on the reals and other spaces*
`http://scholarworks.boisestate.edu/td/1143/`

Monica Josue Agana (Co-advisor: Andrés Eduardo Caicedo)
M.S. Mathematics, Boise State University, 2015.
Thesis: *Classical theory of rearrangements*
`http://scholarworks.boisestate.edu/td/1039/`

Anna Marie Megale
M.S. Mathematics, Boise State University, 2015.
Thesis: *The Frobenius problem*
`http://scholarworks.boisestate.edu/td/1048/`

Academic Advising — Graduate Committee Member

Phillip W. Hart
M.S. Mathematics, Boise State University, 2015
Advisor: Uwe Kaiser
Thesis: *Monodromy representation of the braid group*
`http://scholarworks.boisestate.edu/td/989/`

Tyler Allyn
M.S. Mathematics, Boise State University, 2014
Advisor: Jens Harlander
Thesis: *Diagrammatically reducible 2-complexes*
http://scholarworks.boisestate.edu/td/815/

Uri Rogers
Ph.D. Electrical and Computer Engineering, Boise State University, 2014
Advisor: Hao Chen
Dissertation: *On uniformly most powerful decentralized detection*
http://scholarworks.boisestate.edu/td/805/

Summer Lynne Kisner
M.S. Mathematics, Boise State University, 2013
Advisor: Andrés Eduardo Caicedo
Thesis: *Schur's theorem and related topics in Ramsey theory*
http://scholarworks.boisestate.edu/td/376/

Katherine Kylee Zebedeo
M.S. Mathematics, Boise State University, 2012
Advisor: Uwe Kaiser
Thesis: *Regular homotopy of closed curves on surfaces*
http://scholarworks.boisestate.edu/td/326/

Academic Advising — Undergraduate Senior Theses

Kyle Auble
B.S. Mathematics, Boise State University, expected 2017

Brandon Sams
B.S. Mathematics, Boise State University, expected 2017

Stacia Orr
B.S. Mathematics, Boise State University, 2016
Senior thesis: *Cubik Mathemagic*

Brent El-Bakri
B.S. Mathematics, Boise State University, 2014
Senior thesis: *A brief encounter with linear codes*
http://scholarworks.boisestate.edu/math_undergraduate_theses/3/

Academic Advising — Other

Mentor for STEP Undergraduate researcher Nick Walker, 2012–2013

Appointed to Graduate Faculty, 2011

Service — Professional

Reviewer for granting agencies:

NSERC, 2016

NSA, 2016

Referee for journal articles:

Year	# Journals	# Papers
2006	1	1
2009	1	1
2010	3	4
2011	3	3
2012	3	4
2013	3	3
2014	3	3
2015	4	4
2016	7	7
To date	18[1]	30

MathSciNet reviewer, 2007–Present.
To date: 30 articles reviewed

University of Nebraska MCTP-IMMERSE summer program, June-July 2007

Service — Department

Salary committee, 2015, 2016

Developed ScholarWorks web collection of undergraduate senior theses in mathematics (`http://scholarworks.boisestate.edu/math_undergraduate_theses/`)

Contributed improvements and revisions to department Workload Policy under discussion, April 2013

Scholarship Committee, 2013–2014, Chair, 2014–Present

Hosted colloquium visitors (`https://math.boisestate.edu/department-colloquia-schedule/`):

Bruce Reznick (UIUC), April 2016

Ellen Veomett (St. Mary's College of California), April 2016

Hirotachi Abo (U. Idaho), February 2016

Jarosław Buczyński (IMPAN), November 2014

Gregory G. Smith (Queen's University), October 2014

Jennifer Kacmarcik (University of Montana), September 2014, October 2014

Alexander Woo (University of Idaho), November 2012

Colleen Robles (Texas A&M University), October 2012

Hirotachi Abo (University of Idaho), March 2012

[1] Counting journals without repetition

Jim Wolper (Idaho State University), January 2011

Faculty advisor for Math Club, 2012–2016

Organized travel for Boise State graduate students to attend AMS 2011 Fall Western Section Meeting in Salt Lake City

Social Committee, 2011–2016, co-organized autumn and spring picnics, winter holiday party, department tea & coffee time

Service — College

Bronco Day, Apr. 11, 2015

Major Madness, Mar. 3, 2015

Orientation advising, Summer 2014, Summer 2015

Advising Matters Day, Oct. 1, 2014

Service — University

Senate Faculty University Curriculum Committee, September 2014–2016

Senate Faculty Diversity Committee, March 2013–2015, Chair, 2015–2016

Co-chair, Foundation Scholar Awards Committee, Research/Creativity Sub-Committee, November 2011–April 2012

CID-Mathematics Committee, April–October 2011

Community Outreach

Developed and co-led Boise Math Teachers' Circle, 2015–present
`http://boisemathcircles.org/teachers/`
Supported by American Institute of Mathematics and Boise State University Concurrent Enrollment

Judged student oral and poster presentations at the AAAS (American Association for the Advancement of Science) regional meeting, mathematics symposium, June 25–26, 2012.

Correspondence with prison inmate studying from Aschbacher's *Finite Group Theory*, answering questions and providing feedback on proofs and problem solutions (exchanged 9 letters through prison staff intermediary during June–November 2011; following inmate release on parole in December 2011, direct correspondence continued through email for about a year)

Professional Development

Gender and Sex-Based Misconduct Prevention & Response Online Training Class, September 2015

Clery Act Online Training Class, April 2015

Clery Act Online Training Class and Title IX Online Training Class, April 2014

Clery Act Online Training Class and Title IX Online Training Class, April 2013

Faculty Advising Institute, April 2012

Great Ideas for Teaching and Learning Symposium, Jan. 2012

Boise State Best Practices in STEM Teaching Symposium, Jan. 2011

Boise State/NSF STEM Teaching Scholars: Teaching for STEM Student Success, 2010–2011

Project NExT, 2006–7 (sepia dot)

Professional Associations

Member of the American Mathematical Society, 2004–Present

Member of the Mathematical Association of America, 2004–Present

Member of the Society for Industrial and Applied Mathematics, 2010–Present
SIAM Activity Group in Algebraic Geometry

Courses Taught

Term	Course	Credit hours	Students
	University of Michigan		
Fall 2001	Precalculus	4	27
Fall 2002	Calculus I	4	26
Fall 2003	Calculus I	4	25
Fall 2004	Calculus II	4	27
	Southeastern Louisiana University		
Fall 2005	Calculus I	5	10
	College Algebra	3	23
	College Algebra	3	22
Spring 2006	Calculus I	5	13
	College Algebra	3	14
	2005–06 totals:	**19**	**82**
Fall 2006	Calculus II	5	17
	Trigonometry	3	22
Spring 2007	Calculus I	5	15
	Complex Variables	3	5
	2006–07 totals:	**16**	**59**
	Texas A&M University		
Fall 2007	Business Mathematics I (Finite Math)	3	82
	Business Mathematics I (Finite Math)	3	88

Spring 2008	Calculus II	4	90
	2007–08 totals:	**10**	**260**
Fall 2008	Topics in Applied Mathematics I (Linear Algebra)	3	19
	Topics in Applied Mathematics I (Linear Algebra)	3	35
Spring 2009	Calculus II	4	88
	2008–09 totals:	**10**	**142**
Fall 2009	Calculus II	4	43
	Calculus II	4	48
Spring 2010	Calculus II	4	36
	2009–10 totals:	**12**	**127**
	Boise State University		
Fall 2010	Discrete and Foundational Mathematics I	4	25
Spring 2011	Calculus I	4	36
	Foundations of Geometry	3	27
	2010–11 totals:	**11**	**88**
Fall 2011	Discrete and Foundational Mathematics I	4	25
	Abstract Algebra	3	10
Spring 2012	Discrete and Foundational Mathematics I	4	25
	Advanced Algebra	3	9
Summer 2012	Multivariable and Vector Calculus	4	23
	2011–12 totals:	**18**	**92**
Fall 2012	Discrete and Foundational Mathematics I	4	25
	Multivariable and Vector Calculus	4	46
	Advanced Calculus	4	12
Spring 2013	Advanced Analysis	3	5
	Independent study: complex analysis	3	1
	Independent study: graph theory	3	1
	2012–13 totals:	**21**	**85**
Fall 2013	Multivariable and Vector Calculus	4	120
	Independent study: chip firing	3	1
Spring 2014	Topics in Graph Theory	3	7
	Foundations of Geometry	3	20
Summer 2014	Multivariable and Vector Calculus	4	30
	2013–14 totals:	**17**	**178**
Fall 2014	Discrete and Foundational Mathematics I	3	27
	Advanced Number Theory	3	3
	Independent study: algebraic geometry	3	1

	Senior thesis: linear codes	3	1
Spring 2015	Introduction to Linear Algebra	3	26
	Advanced Topology	3	5
	2014–15 totals:	**18**	**63**
Fall 2015	Foundations of Analysis	3	22
	Advanced Calculus	4	6
	Independent study: Elliptic curves	1	1
Spring 2016	Discrete and Foundational Mathematics I	3	14
	Foundations of Geometry	3	10
	Senior thesis: Group theory of Rubik's cubes	1	1
	2015–16 totals:	**15**	**25**
Fall 2016	Sabbatical		
Spring 2017	Discrete and Foundational Mathematics II	4	5
	Introduction to Abstract Algebra and Number Theory	3	17
	Senior thesis: Syzygy matroids	1	1
	Senior thesis: Abelian forcing sets	1	1
	2016–17 totals:	**9**	**24**