Janet Cowden Vassilev

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Education

Ph.D. Mathematics, University of California, Los Angeles, 1997.
Advisors: Professors Richard Elman and Craig Huneke.

M.A., Mathematics, University of California, Los Angeles, 1993.

B.A., Mathematics, University of Chicago, Chicago, IL, 1991.

Employment

Associate Professor, University of New Mexico, 2015–present

Assistant Professor, University of New Mexico, 2012–2015.

Lecturer III, University of New Mexico, 2008–2012.

Visiting Assistant Professor, University of California, Riverside, 2005–2008.

Assistant Professor, University of Arkansas, 2005 (resigned).

Visiting Assistant Professor, University of Arkansas, 2000–2005.

Assistant Professor, Virginia Commonwealth University, 1998–2000.

Visiting Assistant Professor, Purdue University, 1997.

Fellow, Teaching Assistant and Research Assistant, UCLA, 1991–1997.

Mathematics Junior Tutor, University of Chicago, 1988–1991.

Interests

Commutative Algebra: Closure/Interior Operations, Tight Closure, Rings of Differential Operators and Local Cohomology.

Publications

(22) cl-*prereductions,* i-*postexpansions and related structures*; with Sarah Poiani; submitted March, 2023

(21) *Differentially-fixed ideals in toric varieties*; with Lance Miller and William Taylor; accepted June, 2023; Electronic Journal of Algebra and Computation.

(20) *How to extend closure and interior operations to more modules*; with Neil Epstein and Rebecca R.G.; submitted February, 2023

(19) *Differential operators, retracts, and toric face rings*, with Christine Berkesch, C.Y. Jean Chan, Patricia Klein, Laura Felicia Matusevich and Janet Page; accepted February 2023; Algebra and Number Theory.

(18) *Integral closure, basically full closure, and duals of nonresidual closure operations* with N. Epstein and R. R.G., J. Pure Appl. Algebra 227 (2023), no. 4, Paper No. 107256, 33 pp.

(17) *Nakayama closures, interior operations, and core-hull duality–with applications to tight closure theory*, with N. Epstein and R. R.G., J. Algebra 613 (2023), 46–86.

(16) *An illustrated view of differential operators of a reduced quotient of an affine semigroup ring*, with C. Berkesch, C.-Y. J. Chan, P. Klein, L. Matusevich and J. Page, in Women in Commutative Algebra - Proceedings of the 2019 WICA Workshop, p. 49–94, Springer (2022).

Publications Continued

(15) *Closure operations and the descending chain condition*, J. Korean Math. Soc. 54 (2017), no. 6, 1699–1731.

(14) *Star, semistar and standard operations: a case study*, with G. Morre, J. Algebra 455 (2016), 209–234.

(13) *When is a Nakayama closure semiprime?*, J. Commut. Algebra 6 (2014), no. 3, 439–454.

(12) *Progress in Commutative Algebra 2: Closures, Finiteness and Factorization*, edited with Sean Sather-Wagstaff, Christopher Francisco, Lee Klingler, DeGruyter, Berlin, (2012).

(11) *Progress in Commutative Algebra 1: Combinatorics and Homology*, edited with Sean Sather-Wagstaff, Christopher Francisco, Lee Klingler, DeGruyter, Berlin, (2012).

(10) $\mathfrak{m}$*-full and basically full ideals in rings of characteristic p*, Rocky Mountain J. Math. 44 (2014), no. 2, 691–704.

(9) *A formula for the* $*$*-core of an ideal*, with Louiza Fouli and Adela Vraciu, Proc. A.M.S. 139 (2011), 4235-4245.

(8) *A look at the prime and semiprime operations of one-dimensional domains*, Houston J. Math, 38, (2012), 1-15.

(7) *The cl-core of an ideal* with Louiza Fouli, Math Proc. Camb. Phil. Soc., 149 (2010), 247-262.

(6) *When is tight closure determined by the test ideal?* with Adela Vraciu, J. of Comm. Alg., 1 (2009), 591-602.

(5) *Structure on the set of closure operations of a commutative ring*, J. of Alg., 321 (2009), 2737–2753.

(4) *Local Cohomology Modules with Infinite Dimensional Socles*, with T. Marley, Proc. Amer. Math. Soc. 132 (2004), 3485–3490.

(3) *Cofiniteness and associated primes of local cohomology modules*, with T. Marley, J. of Alg. 256 (2002), no. 1, 180–193.

(2) *Test Ideals in Quotients of F-finite regular local rings*, Trans. A.M.S. 350 (1998), 4041–4051.

(1) *Test Ideals in Gorenstein isolated singularities and F-finite reduced rings*, Thesis, University of California, Los Angeles, 1997.

Funding

AIM SQUARE Collaboration grant wtih C. Berkesch, C-Y. J. Chan, P. Klein, L. Matusevich and J. Page, Spring 2021, Fall 2022 and Fall 2023.

NSF Conference Grant, "Southwest Local Algebra Meeting March 2017," $15,130.

Senior Personnel for NSF funded: Attracting, Motivating and Preparing Mathematics students in the Southwest by building an energetic community of students and educators (2012-2015).

AWM Travel Grant, to participate in Ring Theory Days in Rome and Local Rings and Varieties in Trieste, May-June 2010.

NSA Conference Grant, "Recent Developments in Tight Closure", April 14-16, 2005.

Honors

Women in STEM Award, University of New Mexico, 2022-2023.

Nominated for Outstanding Teacher of the Year, University of New Mexico, Spring 2022.
Pure Math Instructor of the Year, 2019–2020, Department of Mathematics and Statistics

Selected as participant of WICA 2019 Workshop, Banff, October 2019.

Nominated for Oustanding Teacher of the Year, University of New Mexico, Spring 2019.

Pure Math Instructor of the Year, 2017–2018, Department of Mathematics and Statistics

William P. and Heather W. Weber award for excellence in teaching, July 2011.

Arkansas Department of Education Grant, Summer 2004-Spring 2005.

UCLA Dissertation Year Fellowship, Fall 1996–Spring 1997.

Visiting Scholar, Purdue University, Fall 1995–Spring 1997.

Visiting Scholar, University of Michigan, Spring 1995.

UCLA Office of the President Affirmative Action Fellowship, 1991–95.

Invited Talks

Differential operators on toric face rings and differentially fixed ideals; Algebra Seminar, University of Bari Aldo Moro, May 17, 2023.

Constructing new closures and interiors; Algebra Seminar, New Mexico State University, February 27, 2023.
Differentially fixed ideals in affine semigroup rings; Special Session on Interactions between Combinatorics and Commutative Algebra; Fall Western Sectional Meeting of the AMS, El Paso, September 17, 2022.

Duality of operations defined via colons, Algebra Seminar, New Mexico State University, March 28, 2022.

Constructing residual and hereditary pair operations; Special Session Commutative Algebra; Spring Eastern Sectional Meeting of the AMS, March 2022, cancelled due to Omicron surge.

Duality of closures and interiors defined via colons Women in Commutative Algebra - One hundred years of Idealtheorie in Ringbereichen at the Spring Western Sectional Meeting of the AMS, online, May 2, 2021.

How to visualize the differential operators on an affine semigroup ring Commutative Algebra at the Joint Math Meetings, January 6, 2021.

The ring of differential operators on graded quoteints of affine semigroup rings, Recent Developments in Commutative Algebra at the Fall Central Sectional Meeting of the AMS, online, September 13, 2020.

Tight Interiors and related ideals in Stanley Reisner rings Commutative Algebra at the AWM Research Symposium, Rice University, April 6, 2019.

How lattice structure determines algebraic structure on the set of closure operations, Developments in Commutative Algebra at the Spring Southeastern Section Meeting of the AMS, Auburn, AL, March 17, 2019.

Tight Interiors of Parameter Ideals, Colloquium New Mexico State University, Las Cruces NM, October 29, 2018.

Invited Talks Continued

Tight Closure, Tight Interior and other closely related ideals, Commutative Algebra at the Spring Southeastern Section Meeting of the AMS, Nashville, TN, April 15, 2018.

Winning the Hat Game, Colloquium, Adelphi University, New York, April 6, 2018.

Closures and Interiors and related structures, Multiplicative Ideal Theory and Factorization (in honor of Tom Lucas retirement) at the Spring Central Section Meeting of the AMS, Columbus OH, March 18, 2018.

Interior operations on the set of ideals of a ring, AMS-AWM Special Session on Commutative Algebra, Joint Math Meetings, Meeting Seattle, WA, January 9, 2016.

Radical-like closures; Closure operations in Commutative Algebra, Closure operations at the Spring Eastern Section Meeting of the AMS, Washington DC, March 8, 2015.

Test Ideals, Frobenius Algebras and Hypergraphs Commutative Algebra at the 2014 Spring Western Section meeting of the AMS, Albuquerque NM, April 5, 2014.

Star and Semistar operations on rings with zero divisors, Commutative Algebra and its Interaction with Algebraic Geometry and Combinatorics at the 2013 Fall Western Section Meeting of the AMS, Riverside, CA, November 2, 2013.

Chains of squarefree monomial ideals and their Frobenius Algebras, Special Session on Commutative Algebra, AWM Research Symposium 2013; March 16-17, 2013.

P-bounded closure operations and semiprime operations on the nodal curve, Singularities in Commutative Algebra and Algebraic Geometry at the 2012 Spring Central Section Meeting of the AMS, Lawrence KS.

What are your odds at winning the Hat Game?, Sonia Kovalevsky Day, New Mexico State University, October 28, 2011.

Closure operations, cl-reductions and the cl-core, Colloquium, University of New Mexico, October 18, 2011.

When is a closure operation both a Nakayama Closure and a semiprime operation?, Southwest Local Algebra Meeting, New Mexico State University, March 6, 2011.

Deep m-full ideals, Colloquium, New Mexico State University, February 17, 2011.

When is a closure operation both a Nakayama Closure and a semiprime operation?, New Mexico State University, February 16, 2011.

Prime and Semiprime operations over one-dimensional domains, Commutative Ring Theory Days 2010, Roma, May 20, 2010.

Some surprising facts about rings with test ideal $\mathfrak{m}$, NMSU Algebra Seminar, February 24, 2010.

Operations on m-primary ideals in rings of characteristic p, Commutative Algebra: Module and Ideal Theory at the 2009 Fall Central Section Meeting of AMS, Waco, TX.

The $*$-core of an ideal, Combinatorial and Homological Aspects of Commutative Algebra at the 2009 Fall Eastern Section Meeting of AMS, University Park, PA.

Prime and Semiprime Operations in One-dimensional rings, GSU-USC Commutative Algebra Seminar, April 4-5, 2009.

Algebraic Structures and the Hat Game, California Lutheran University, Colloquium, May 15, 2008.

Invited Talks Continued

When is the tight closure determined by the test ideal?, University of Texas, Austin, Algebra Seminar, March 27, 2008.

Structure on the set of closure operations of a commutative ring, AMS-MAA Joint Meetings, Special Session "Recent Developments in Commutative Algebra", San Diego, January, 2008.

Can you win the Hat Game?, Colloquium, Cal State Dominguez Hills, March 20, 2006.

Test Ideals in 1-dimensional domains, Colloquium, Cal State San Bernardino, February 22, 2006.

Associated Primes of Local Cohomology Modules, Colloquium, University of Northern Iowa, February 16, 2006.

The Hat Game, Colloquium, Oxford College of Emory, February 25, 2005.

A Glimpse into Cofiniteness and Local Cohomology, Colloquium, University of Arkansas, Fayetteville, February 22, 2005.

Finiteness properties or lack thereof in Local Cohomology modules, Colloquium, Southern Illinois University, Edwardsville, January 13, 2005.

Submodules and Quotients of I-cofinite modules, AMS Sectional Meeting, Special Session in Local and Homological Algebra, Nashville, Tennessee, October 17, 2004.

Purely p, Colloquium, University of Nebraska, Lincoln, September 20, 2001.

Test Ideals in One Dimensional Domains, Colloquium, University of Arkansas, October 5, 2000.

Test Ideals, F-Purity and Singularities, Colloquium, US Naval Academy, Annapolis, MD, November 19, 1999.

Test Ideals, F-Purity and Singularities, Conference on Local Cohomology, Guanajuato, Mexico, December 3, 1999.

Classification of two-dimensional Singularities using tight closure methods, AMS-MAA Joint Meeting, Special Session in Commutative Algebra, Baltimore, Maryland, January 1998.

Test Ideals in Noetherian Domains, Colloquium, Virginia Commonwealth University, May 1, 1997.

Minimally elliptic singularities and tight closure, AMS Conference, Special Session in Commutative Algebra, Lawrenceville, New Jersey, October 1996.

Test Ideals in Quotients of F-finite regular local rings, AMS Conference, Special Session for Graduates in Commutative Algebra, Seattle, Washington, August 1996.

Conferences Organized

Commutative Algebra, Joint Mathematics Meetings, virtual, April 7-8, 2022.

Commutative Ring Theory, Virtual AMS Sectional Meeting, October 23-24, 2021.

Commutative Algebra in All Characteristics, Joint Mathematics Meetings, San Diego, CA, January 11, 2018.

Southwest Local Algebra Meeting, University of New Mexico, Albuquerque NM, March 4-5, 2017.

Conferences Organized Continued

Interactions in Commutative Algebra, AMS Sectional Meeting at University of New Mexico, April 5 - 6, 2014.

Trends in Commutative Algebra, AMS Sectional Meeting at University of New Mexico, April 17 - 18, 2010.

Homological Aspects of Module Theory, AMS Sectional Meeting at Florida Atlantic University, October 30 - November 1, 2009.

Homological aspects in Commutative Algebra, AMS Sectional Meeting at Bard College, October 8-9, 2005.

Spring Lecture Series, Recent Developments in Tight Closure, University of Arkansas, April 14-16, 2005.

Postdoctoral Mentoring

Shuai Wei. Ph.D. Clemson Univeristy 2022, Working on Differential Operators in combinatorially defined commutative rings, August 2022-May 2024.

Doctoral Dissertations

Sarah Poiani. *On Some Properties of Pair Operations*, University of New Mexico, Spring 2022–present.

Gregory Morre. *Closure operations on rings with zero divisors*, University of New Mexico, defended April 28, 2016.

Bryan White. University of New Mexico, Fall 2010 – Spring 2014. *Star Operations and Numerical Semigroup Rings*, defended December 6, 2013.

Masters Theses

Jiekai Peng. University of New Mexico, Fall 2023-present.

Perla Maldonado. *Determining the idealizers of principal monomial ideals over a rational normal curve*, University of New Mexico, defended October 18, 2022.

Ryan Bridges. *Lattice of Maximal Primary Ideals in Quadratic Orders*, University of New Mexico, defended May 8, 2020.

Paige Mankey. *Closure and interior operations on the subgroups of a group*, M.S. December 2015.

Laurie Price. *Closure operations on the submonoids of the natural numbers.* University of New Mexico, M.S. December 2011.

Undergraduate Honors

Hannah Butler. *Standard closure operations on ideals of hypersurface rings*, University of New Mexico, December 2016.

Andrew Baxter. *Bascially full closures on numerical semigroups*, University of New Mexico, May 2014.

Science Fair Advising

John Keeney, Rio Rancho High School, Fall 2015–Spring 2016, *Mathematics and sudoku*, (1st place, Central NM Regional Science Fair, 2nd place, New Mexico Science Fair.)

Ruby Aidun, Albuquerque High School, Fall 2014–Spring 2015, *Hat Games and the various mathematics used in playing optimally*, (1st place, Central NM Regional Science Fair, 1st place New Mexico Science Fair, attended ISEF 2015.)

Evan Liu, Albuquerque Academy, Fall 2012–Spring 2013, *A Mathematical Analysis of SET Variants*, (2nd place, Central NM Regional Science Fair, 2nd place New Mexico Science Fair, 4th Place in Mathematics at ISEF 2013.)

Science Fair Advising Continued

Katherine Cordwell, Manzano High School, Fall 2011–Spring 2012, *Completing Graphs*, (1st place, Central NM Regional Science Fair, 1st place New Mexico Science Fair, 2nd Place AMS Award and 2nd Place in Mathematics at ISEF 2012.)

Teaching Experience

University of New Mexico

Fall 2023	Math from a Historical Perspective (305), Modern Algebra (322)
Spring 2023	Abstract Algebra II (521)
Fall 2022	Abstract Algebra (520), Commutative Algebra (530)
Spring 2022	Abstract Algebra II (521)
Fall 2021	Abstract Algebra (520), Homological Algebra (532)
Spring 2020	College Geometry (306), Abstract Algebra II (521)
Fall 2019	Abstract Algebra (520), Commutative Algebra (530)
Spring 2019	Modern Algebra II (421)
Fall 2018	Modern Algebra (322), Algebraic Topology (532)
Spring 2018	Modern Algebra II (421)
Fall 2017	Modern Algebra (322), Abstract Algebra I (520)
Spring 2017	Abstract Algebra II (521)
Fall 2016	Discrete Structures (327), Abstract Algebra II (520)
Spring 2016	Linear Algebra (314)
Fall 2015	Modern Algebra (322), Groebner Bases (519)
Spring 2015	Abstract Algebra II (521), Elements of Calculus (180)
Fall 2014	Abstract Algebra I (520)
Spring 2014	Modern Algebra II (421)
Fall 2013	Discrete Structures (327), Homological Algebra (519)
Spring 2013	Abstract Algebra II (521)
Fall 2012	Modern Algebra (322), Abstract Algebra (520)
Spring 2012	Linear Algebra (321), Modern Algebra II (421)
Fall 2011	Linear Algebra (321), Discrete Structures (327)
Spring 2011	Theory of Numbers (319), Modern Algebra II (421)
Fall 2010	Combinatorics (317), Modern Algebra I (322/422)
Spring 2010	Elements of Calculus (180), Advanced Calculus (402/502)
Fall 2009	Discrete Structures (327), Advanced Calculus (401/501)
Spring 2009	Abstract Algebra (521), Complex Analysis (562)
Fall 2008	First Year Calculus (162), Abstract Algebra (520)

University of California, Riverside

Spring 2008	First Year Calculus (9B), Set Theory (144)
Winter 2008	First Year Calculus (9C), Linear Algebra II
Fall 2007	First Year Calculus (9B), Optimization (120)
Spring 2007	Geometry (133)
Winter 2007	First Year Calculus (9C), Multivariable Calculus (10A)
Winter 2007	Linear Algebra II (132)
Fall 2006	First Year Calculus (9A) and Linear Algebra I (131)
Spring 2006	First Year Calculus (9B and 9C)
Winter 2006	Differential Equations (46)
Fall 2005	First Year Calculus (9A)

Teaching Experience Continued

University of Arkansas Continued

Spring 2005	Linear Algebra and Math Structures II
Fall 2004	Calculus I and Intro to Abstract Algebra
Summer 2004	Institute for Middle Level Math Teachers
Spring 2004	Calculus II (Geared toward retention)
Fall 2003	Calculus I (Geared toward retention)
Spring 2003	Combinatorics, Algebra I
Fall 2002	Discrete Mathematics, Intro to Abstract Algebra II
Summer 2002	Survey of Calculus
Spring 2002	Calculus II, Combinatorics
Fall 2001	Calculus II, Intro to Abstract Algebra I
Summer 2001	Survey of Calculus, Finite Dimensional Vector Spaces
Spring 2001	Calculus II, Algebra I
Fall 2000	Intro to Abstract Algebra II, Algebra II

Virginia Commonwealth University

Spring 2000	Calculus with Analytic Geometry I, Mathematical Structures
Fall 1999	Calculus with Analytic Geometry I, Intro to Abstract Algebra
Spring 1999	Abstract Algebra II
Fall 1998	Abstract Algebra I, Linear Algebra
Spring 1998	Intro to Contemporary Math, Linear Algebra

Purdue University

Fall 1997	Introductory Analysis II

Additional Teaching

Thesis Committee Member for Abdullah Alshayie (George Mason) 2023-2024;
Marshall Brandenberg, *Arithmetic differential operators on* $\mathbb{Z}_p^r$, UNM, M.S. May 2020;
Patrick Lank, *Instrinsic curvature of schemes*, UNM, M.S. May 2020;
Erik Medina, *Lifts of Frobenius on Arithmetic Jet Spaces of Schemes*, UNM, Ph.D. May 2016;
Alfonso Heras-Llanos, *Arithmetic Differential Equations*, UNM, Ph.D. May 2014;
Taylor Dupuy, *Arithmetic Deformation Theory*, UNM, Ph.D. May 2013;
Michael Reed, *Symbolic blow-ups and generation in degree four* , University of Arkansas, Ph.D. May 2004;
Jennifer Mann, *On a Certain Family of Determinental-Like Ideals*, University of Arkansas, Ph.D. August 2002.

Summer course instructor for Algebraic Structures and closure operations (July 2012 and Summer 2014) on NSF-funded MCTP Grant: Attracting, Motivating and Preparing Mathematics students in the Southwest by building an energetic community of students and educators.

Reading Courses Given: Tim Dukes, Spring 2013, Galois Theory; Jacob Tegard, Spring 2010, Closure operations on semigroups

Co-PI on a Department of Education (MSP) Grant, *Middle School Math Mentorship*, Summer 2004-Spring 2005. (Included Summer Institute for Increasing the Mathematical Content Knowledge of Middle School Math Teachers in Northwest Arkansas and weekly visits of the PI's to local Middle Schools to work with Math Teachers on Lesson Study.

Outreach

UNM-PNM Mathematics Competition Co-organizer, Fall 2008–Spring 2018.
Central New Mexico Middle School Math Science Fair Judge, March 2012.
Sonia Kovalevksy Day, Job Panel, New Mexico State University, October 28, 2011.
Middle School Math Mentorship Program, Summer 2004-Spring 2005.
Ready Razorback Final, University of Arkansas Recruiting Activity, October 2, 2004.
Honors Convocation, University of Arkansas, September 13, 2004.
College Highlights for High School Students, Department Representative, Fall 2002.
Proctor and Grader, ACTM Mathematics Competition, March 2002.
Judge, NW Arkansas Science Fair, Math. Div., March 2001/2002/2005.

Departmental and University Service

Chair, Faculty Senate Curriculum Committee, UNM Fall 2022-present.
Leaves Committee Chair, Department of Mathematics, UNM Fall 2022-present.
Graduate Committee, Department of Mathematics, UNM Fall 2021-Spring 2022.
Colloquium Committee Chair, Department of Mathematics, UNM Fall 2020.
Graduate Chair, Department of Mathematics, UNM Fall 2018–Spring 2020.
College of Arts and Sciences Junior Promotion Committee, UNM Spring 2019.
College of Arts and Sciences Midprobationary Committee, UNM Spring 2018.
Faculty Senate Curriculum Committee, UNM Fall 2017–present.
Executive Committee, Department of Mathematics, UNM Fall 2016–Spring 2017.
Undergraduate Committee, Department of Mathematics, UNM Fall 2015–Spring 2017.
Hiring Committee for Pure Math Candidate, UNM Fall 2013-Spring 2014.
Colloquium Committee, UNM, Fall 2012-Spring2015.
Hiring Committee for MCTP Postdoctoral Assistant, UNM, Spring 2012, Spring 2013.
Undergraduate Committee, U of A, Fall 2003-Spring 2005.
Advisor, Pi Mu Epsilon, U of A, Fall 2002-Spring 2005.
Founding Member/Advisor, AWSM, U of A, Spring 2002-Spring 2005.
Credentials Committee, Co-Chair, VCU, Fall 1999–Spring 2000.
Credentials Committee, VCU, Spring 1998–Spring 2000.
President, Friends of Women in Mathematics, UCLA, Fall 1994–Winter 1995.
Graduate Student Affairs Committee, UCLA, Fall 1993–Spring 1994.
Math and Physical Sciences Council, UCLA, Fall 1992–Fall 1993.

Service to Profession

Associate Editor, January 2022 - present.

Referee for American Mathematics Monthly, Bulletin of the Iranian Math Society, Communications in Algebra, Houston Journal of Mathematics, International Electronic Journal of Algebra, Journal of Algebra, Journal of Pure and Applied Algebra, Journal of Commutative Algebra, Journal of Korean Mathematical Society, Journal of symbolic computation, Miskolc Mathematical Notes, Novisad Journal of Mathematics, Proceedings of the Indian Academy of Sciences and Rocky Mountain Journal of Mathematics.

Reviewer for Zentralblatt Math (84 reviews).

Rocky Mountain Math Consortium, UNM Representative, Spring 2017–present.

Seminar Talks

Jumping numbers for monomial ideals in normal affine semigroup rings; Algebra/Geometry Seminar, November 2, 2022.

Basically full closure and basically empty interior; Algebra/Geometry Seminar, October 5, 2022.

Forming new closures/interiors; Algebra/Geometry Seminar, September 28, 2022.

Monomial ideals in affine semgroup rings fixed by a differential operator; Algebra/Geometry Seminar, September 7, 2022.

Compatible and fixed ideals; Algebra/Geometry Seminar, August 31, 2022.

Dualizing pair operations, Algebra/Geometry Seminary, September 29, 2021.

Properties of pair operations, Algebra/Geometry Seminar, September 22, 2021.

Differential operators in numerical semigroup rings, Algebra/Geometry Seminar, December 2, 2020.

Frobenius powers of some monomial ideals, Algebra/Geometry Seminar, November 11, 2020.

Some closure operations which are closely related to integral closure, Algebra/Geometry Seminar, November 4, 2020.

Test ideals in reduced rings, Algebra/Geometry Seminar, September 16, 2020.

More on k-differential operators of modules, Algebra/Geometry Seminar, September 2, 2020.

Rings of differential operators in quotients of normal affine semigroup rings, Algebra/Geometry Seminar, August 26, 2020.

Rings of differential operators in quotient rings, Algebra/Geometry Seminar, August 19, 2020.

Nakayama interiors and the core/hull duality, Algebra/Geometry Seminar, April 22, 2020.

The ring of differential operators in quotients of normal affine semigroup rings, Algebra/Geometry Seminar, November 13, 2019.

Some Combinatorial commutative algebra, Algebra/Geometry Seminar, September 25, 2019.

F-pure and F-injective singularities, Algebra/Geometry Seminar, April 11, 2018.

Parameter test ideals, Algebra/Geometry Seminar, March 28, 2018.

Local Cohomology and its relationship to test ideals, Algebra/Geometry Seminar, March 7, 2018.

Multiplier ideals and test ideals, Algebra/Geometry Seminar, February 28, 2018.

More on test ideals, Algebra/Geometry Seminar, February 21, 2018.

Test ideals, Algebra/Geometry Seminar, February 14, 2018.

Tight closure continued, Algebra/Geometry Seminar, January 31, 2018.

Tight closure, Algebra/Geometry Seminar, January 24, 2018.

Singularities in Chracacteristic 0: Reduction to characteristici p, Algebra/Geometry Seminar, September 20, 2017.

Introduction to tight closure, Algebra/Geometry Seminar, September 13, 2017.

Seminar Talks Continued

Complexity in Graded Rings Part II, Algebra/Geometry Seminar, November 30, 2016.

Complexity in Graded Rings, Algebra/Geometry Seminar, November 16, 2016.

Closure and Interior operations, Part II, Algebra/Geometry Seminar, April 20, 2016.

Closure and Interior operations, Algebra/Geometry Seminar, April 13, 2016.

Tight Interiors of an ideal, Geometry Seminar, November 4, 2015.

Viewing graphs and hypergraphs through a characteristic p filter Part II, Geometry Seminar, September 10, 2014.

Viewing graphs and hypergraphs through a characteristic p filter, Geometry Seminar, September 3, 2014.

Star and Semistar operations on rings with zero divisors Part II, Geometry Seminar, University of New Mexico, October 2, 2013.

Star and Semistar operations on rings with zero divisors, Geometry Seminar, University of New Mexico, September 25, 2013.

The $*$-core of an ideal, Geometry Seminar, University of New Mexico, September 12, 2012.

m-full ideals, Geometry Seminar, University of New Mexico, May 2, 2012.

Finiteness properties of local cohomology continued, Geometry Seminar, University of New Mexico, November 7, 2011.

Finiteness properties of local cohomology, Geometry Seminar, University of New Mexico, October 31, 2011.

Using Characteristic p methods to determine singularities, Geometry Seminar, University of New Mexico, December 10, 2008.

Openness of Amplitude, Algebraic Geometry Working Seminar, UC Riverside, March 8, 2007.

Annihilators of Local Cohomology in Characteristic 0, Continued, Algebraic Geometry Seminar, UC Riverside, February 20, 2007.

Annihilators of Local Cohomology in Characteristic 0, Algebraic Geometry Seminar, UC Riverside, February 13, 2007.

$*$-full ideals and Rational Singularities, Commutative Algebra Seminar, UC Riverside, November 17, 2006.

Annihilators of Local Cohomology Modules, Algebraic Geometry Seminar, UC Riverside, November 14, 2006.

$*$-full ideals, Commutative Algebra Seminar, UC Riverside, November 3, 2006.

Connectedness of the punctured spectrum and cofiniteness, Algebraic Geometry Seminar, UC Riverside, June 1, 2006.

Connections between Local Cohomology and Geometry, Algebraic Geometry Seminar, UC Riverside, May 25, 2006.

Classifying Singularities via Tight Closure, Part II, Algebraic Geometry Seminar, UC Riverside, March 7, 2006.

Classifying Singularities via Tight Closure, Algebraic Geometry Seminar, UC Riverside, February 2, 2006.

Seminar Talks Continued

Graded Local Cohomology Modules with infinitely many Associated Primes, Commutative Algebra Seminar, UC Riverside, January 13, 2006.

Computing Top Local Cohomology Modules using Graded Techniques, Commutative Algebra Seminar, UC Riverside, December 9, 2005.

Non cofinite Local Cohomology Modules, Commutative Algebra Seminar, UC Riverside, December 2, 2005.

When do the set of I cofinite R-modules form an abelian subcategory?, Commutative Algebra Seminar, UC Riverside, November 18, 2005.

The Calculus Quiz Show, Graduate Seminar, University of Arkansas, October 24, 2003.