

EDUCATION

- Ph.D. **University of Nebraska–Lincoln**; Lincoln, Nebraska; May 2013
Mathematics
Advisor: Brian Harbourne
Dissertation: Symbolic Powers of Ideals in $k[\mathbf{P}^N]$
- M.S. **University of Nebraska–Lincoln**; Lincoln, Nebraska; August 2009
Mathematics
- B.S. **University of South Dakota**; Vermillion, South Dakota; May 2007
Mathematics and Physics, with Honors, *Summa cum laude*

EMPLOYMENT

- Assistant Professor of Mathematics**; Dordt College; 2014–Present
Associate Technical Analyst; Hyland Software, Inc.; 2013–2014
Lecturer; University of Nebraska–Lincoln; Fall 2013
Graduate Teaching Assistant; University of Nebraska–Lincoln; 2007–2013

TEACHING

Dordt College:

- Math 152 – Calculus I
- Math 212 – Discrete Structures
- Math 304 – Abstract Algebra I
- Math 343 – Computational Algebra
- Math 344 – Colloquium

University of Nebraska–Lincoln:

- ◇ *Courses Taught as Instructor of Record*
 - Math 100A – Intermediate Algebra (Associate Convener, Fall 2012)
 - Math 101 – College Algebra
 - Math 104 – Business Calculus
 - Math 203J – Contemporary Mathematics for Journalism Students
 - Math 208 – Analytic Geometry and Calculus III
 - Math 310 – Introduction to Modern Algebra
- ◇ *Courses Taught as Teaching Assistant*
 - Math 804T: Experimentation, Conjecture and Reasoning
 - Math 810T: Algebra for Algebra Teachers
- ◇ *Other Teaching Experience*
 - Algebra Qualifying Exam Workshop
 - Tutored students in the UNL Mathematics Resource Center, one semester/academic year
 - Mentored pre-graduate students in the six-week summer Nebraska IMMERSE program

RESEARCH INTERESTS

I have an ongoing research interest in properties of ideals of subschemes of \mathbf{P}_k^N . More generally, I am interested in properties of homogeneous ideals in the polynomial ring $k[X_0, X_1, X_2, \dots, X_N]$, where k is an algebraically closed field.

PUBLICATIONS

1. Containment problem for points on a reducible conic in \mathbf{P}^2 , *Journal of Algebra*, 394(0):120–138, 2013, <http://dx.doi.org/10.1016/j.jalgebra.2013.06.032> (with Annika Denkert)
2. On the Fattening of Lines in \mathbf{P}^3 , *Journal of Pure and Applied Algebra*, 219(4):1055–1061, 2015, <http://dx.doi.org/10.1016/j.jpaa.2014.05.033>

TALKS AND PRESENTATIONS

“The importance of α ”

MAA Invited Paper Session on Concrete Computations in Algebra and Algebraic Geometry; MathFest 2015; Washington, D.C.

“Symbolic Powers of Ideals: Problems and Progress” (50 minutes)

Mathematics Seminar; University of South Dakota (3/5/2015)

“On the Fattening of Lines in \mathbf{P}^3 ”

Oberwolfach Mini-Workshop 1508a, Ideals of Linear Subspaces, Their Symbolic Powers and Waring Problems; Mathematisches Forschungsinstitut Oberwolfach; Oberwolfach, Germany (2/17/2015)

“On an Application of Bézout’s Theorem”

Colloquium; Calvin College (2/27/2014)

“Ideals of almost collinear points in \mathbf{P}^2 ”

Special session on Interactions Between Algebraic Geometry and Commutative Algebra; Summer 2012 Meetings of the Canadian Mathematical Society; Regina, Saskatchewan (6/2/2012)

“Containment problem for ideals of points on a reducible conic”

Special session in Algebraic Geometry and Graded Commutative Algebra; Fall 2011 AMS Central sectional meeting; Lincoln, NE (10/16/2011)

“Results on the containment problem of ideals of fat points”

Algebraic Geometry Seminar; University of Nebraska–Lincoln (4/21/2010)

“What is Algebraic Geometry?” (50 minutes)

Geometry and Physics on Graphs REU; Canisius College; Buffalo, NY (7/10/2009)

“A Fifteen-Minute Survey of Nonunique Factorization”

IMMERSE at the University of Nebraska–Lincoln (7/31/2008)

SERVICE

Committee Member; Dordt College mathematics curriculum committee, Dordt College mathematics recruiting committee

Organizer; “Math on the Northern Plains 2015” MAA Regional Undergraduate Mathematics Conference

Proctor; William Lowell Putnam Mathematics Competition

Student Volunteer; Nebraska Conference for Undergraduate Women in Mathematics; University of Nebraska–Lincoln; 2010, 2012, 2013

Committee Member; Campus-Wide TA Workshop Planning Committee, University of Nebraska–Lincoln

Volunteer; Math Day; University of Nebraska–Lincoln; 2007–2013

PROFESSIONAL DEVELOPMENT

Oberwolfach Mini-Workshop 1508a, Ideals of Linear Subspaces, Their Symbolic Powers and Waring Problems; Mathematisches Forschungsinstitut Oberwolfach; Oberwolfach, Germany, February 15–21, 2015

Project NExT Workshop, Joint Mathematics Meetings, San Antonio, TX, January 9–13, 2015

Project NExT Workshop, MathFest, Portland, OR, August 4–6, 2014

Preparing Future Faculty Fellow, University of Nebraska–Lincoln, 2012

Summer School on Algebra and Geometry, University of Regina, Saskatchewan, May 29–June 1, 2012

AWARDS

NSF Junior Oberwolfach Fellow, Mini-Workshop: Ideals of Linear Subspaces, Their Symbolic Powers and Waring Problems, Mathematisches Forschungsinstitut Oberwolfach, Oberwolfach, Germany, February 15–21, 2015

Project NExT Gold '14 Dot; 2014–2015

GAANN Trainee; University of Nebraska–Lincoln; 2009–2010

First-Year MCTP Graduate Traineeship; University of Nebraska–Lincoln; 2007–2008
Fellowship funded by the UNL Mathematics Department's *Mentoring Through Critical Transition Points* grant from the National Science Foundation.

Thesis with High Distinction; University of South Dakota; 2007

Thomas Emery McKinney Award; University of South Dakota; 2006–2007
Outstanding Senior Mathematics Major

MEMBERSHIPS

Mathematical Association of America

Association of Christians in the Mathematical Sciences

American Mathematical Society

Phi Beta Kappa

Pi Mu Epsilon

Sigma Pi Sigma

COMPUTER SKILLS

L^AT_EX

Macaulay2