

Dordt Math/Stats Department
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MIKE JANSSEN, PH.D.

appointments

Professor of Mathematics, Dordt University, 2023–Present.
Associate Professor of Mathematics, Dordt University, 2018–2023.
Assistant Professor of Mathematics, Dordt University, 2014–2018.
Adjunct Professor, University of Nebraska-Lincoln, Fall 2013.
Graduate Teaching Assistant, University of Nebraska-Lincoln, 2007–2013.

education

Ph.D, Mathematics, University of Nebraska-Lincoln, 2013.
Dissertation: *Symbolic Powers of Ideals in $k[\mathbb{P}^N]$*
Advisor: Brian Harbourne
M.S., Mathematics, University of Nebraska-Lincoln, 2009.
B.S., Mathematics, Physics, University of South Dakota, 2007.
Summa cum laude, University Scholar.
Honors Thesis: *Divisibility in $A + xB[x]$ GCD Domains.*

courses

taught

Math 149: Explorations in Modern Mathematics
Math 152: Calculus I
Math 153: Calculus II
Math 203: Elementary Linear Algebra
Math 207: Number Theory
Math 212: Discrete Structures
Math 291: Problem Solving Seminar
Math 304: Abstract Algebra I
Math 305: Abstract Algebra II
Math 311: Real Analysis
Math 343: Special Topics–Computational Algebra
Math 390: History of Mathematics
Stat 131: Introductory Statistics
Stat 201/202: Applied Statistical Models/Econometrics
Stat 203: Generalized Linear Models
Core 399: Calling, Task, and Culture

Last updated: September 8, 2023 2:08pm

research

mentoring

Eliza Kautz and Jocelyn Zonnefeld, 2022

Project: *Exploring the Game of Cycles*

Anika Homan and Jocelyn Zonnefeld, 2021

Project: *Further Explorations of the Finite Tropical Semiring*

Elizabeth Wilterdink, 2021

Project: *Opportunities in Elliptic Curves*

Caden Zonnefeld, 2020

Project: *Exploring the Finite Tropical Semiring*

Paige Beyer and Hannah Fields, 2019

Project: *Interactions Between Algebra and Graph Theory*

Thomas Kamp and Jason Vander Woude, 2017

Project: *Edge Ideals of Odd Cycles*

Yonatan Ashenafi, 2015

Project: *Algebraic interactions with graph theory*

publications

Peer-Reviewed

J. Zonnefeld, M. Janssen, E. Kautz, "A computational approach to the Game of Cycles", *Accepted*.

J.B. Collins, A. Harsy, J. Hart, K. Haymaker, A. Hoofnagle, J. Stewart Kelly, M. Janssen, J. Stewart Kelly, A. Mohr, J. OShaughnessy, "Mastery-Based Testing in Undergraduate Mathematics". *PRIMUS*, Vol. 25, No. 5, 441-460. 2019.

M. Janssen, T. Kamp, J. Vander Woude, "Comparing Powers of Edge Ideals." *Journal of Algebra and its Applications*, Vol. 18, No. 10. 2019.

T. Clark, A. Harsy, M. Janssen, D. Klanderma, M. Maxwell, S. Robbert, "Start a Math Teacher Circle: Connect K-12 Teachers with Engaging, Approachable, and Meaningful Mathematical Problems." *Proceedings of the 2017 Association of Christians in the Mathematical Sciences Biennial Conference*, 22-29. 2018.

C. Bocci, S. Cooper, E. Guardo, B. Harbourne, M. Janssen, U. Nagel, A. Secleanu, A. Van Tuyl, T. Vu, "The Waldschmidt constant for squarefree monomial ideals." *Journal of Algebraic Combinatorics*, Vol. 44, 875-904. 2016.

M. Janssen, "On the Fattening of Lines in \mathbb{P}^3 ." *Journal of Pure and Applied Algebra*, Vol. 219, No. 4, 1055-1061. 2015.

A. Denkert and M. Janssen, "Containment problem for points on a reducible conic in \mathbb{P}^2 ." *Journal of Algebra*, Vol. 394, 120-138. 2013.

General Audience

A. Homan, M. Janssen, and J. Zonnefeld, "For the love of mathematical research: a conversation with undergraduate research students." inAllThings.org, 2021.

"Burnt-Out Lightbulbs: A review of *Can't Even: How Millennials Became the Burnout Generation*." inAllThings.org, 2021.

"Review: *Calling Bullshit*." inAllThings.org, 2020.

"Open Educational Resources for the Kingdom." inAllThings.org, 2020.

"A Guide to Digital Decluttering: a Review of *Digital Minimalism*." inAllThings.org, 2019.

"Mathematical Beauty." inAllThings.org, 2017.

grants and awards

"Explorations in Modern Mathematics, an OER for a liberal arts math course," \$8805 (Iowa Private Academic Libraries), 2021 (*funded*).

"The effects of pre-class web-based activities to motivate active learning in first- and second-year mathematics courses," \$7500 (IDEA), 2017 (*funded*).

"NSF Junior Oberwolfach Fellow," (NSF), 2015

"Project NExT Gold '14 Dot," (MAA), 2014-2015

workshops

IBL PRODUCT Workshop. DePaul University. June 20-23, 2017.

Project NExT Workshop. MAA MathFest, Washington, DC. August 3-5, 2015.

Pre-Conference Workshop for Early Career Faculty. 20th Biennial Meeting of the Association of Christians in the Mathematical Sciences, Hamilton, Ontario, Canada. May 25-27, 2015.

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. MAA MathFest, Portland, OR. August 4-6, 2014.

Preparing Future Faculty. University of Nebraska-Lincoln. Summer 2012.

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

conference
talks

- “On Symbolic Powers of Ideals.” (invited, 50 minutes) Conference on Unexpected and Asymptotic Properties of Varieties (aka BrianFest), Lincoln, NE, August 2023.
- “Liberal Arts Mathematics for Human Flourishing.” MAA MathFest 2022, Philadelphia, PA. August 2022.
- “Liberal Arts Mathematics for Human Flourishing.” 23rd Biennial Conference of the Association of Christians in the Mathematical Sciences, Azusa Pacific University. June 2022.
- “Pseudo-Ungraded Calculus Exams.” MAA MathFest, Virtual. August 2021.
- “Rings With Inquiry.” MAA Themed Contributed Paper Session on Teaching Abstract Algebra, Joint Math Meetings (Denver, CO). January 2020.
- “Delivering Pre-Class Activities Online to Impact Student Learning (Poster).” MAA Poster Session, MathFest (Cincinnati, OH). August 2019.
- “Promoting Inquiry via Recreational Problems in a Liberal Arts Math Course.” MAA Themed Contributed Paper Session on Inquiry-Based Learning, MathFest (Denver, CO). August 2018.
- “A first experience in a flipped Calculus II course.” MAA Themed Contributed Paper Session on Flipped Classes, Implementation and Evaluation, Joint Mathematics Meetings (San Diego, CA). January 2018.
- “Cut Your Cake (And Eat It, Too!).” MAA Themed Contributed Paper Session on “My Favorite Math Circle Problem” , MathFest (Chicago, IL). July 2017.
- “An Overview of Specifications Grading.” 21st ACMS Biennial Conference, Charleston Southern University (Charleston, SC). May 2017.
- “My Favorite Math Circle Problem: Cut Your Cake (And Eat It, Too!).” 21st Biennial Conference of the Association of Christians in the Mathematical Sciences, Charleston Southern University (Charleston, SC). May 2017.
- “Specifications Grading in a First Course in Abstract Algebra.” MAA Themed Contributed Paper Session on “Teaching Abstract Algebra, Topics and Techniques”, Joint Mathematics Meetings (Atlanta, GA). January 2017.
- “Improving proof-writing with reading guides.” MAA Themed Contributed Paper Session on Encouraging Early Career Teaching Innovation, MathFest (Columbus, OH). August 2016.

- “Implementing Specifications Grading in a Linear Algebra course.” MAA Session on Assessing Student Learning, Alternative Approaches, Joint Mathematics Meetings (Seattle, WA). January 2016.
- “The importance of α .” MAA Invited Paper Session on Concrete Computations in Algebra and Algebraic Geometry, MathFest (Washington, D.C.). August 2015.
- “Symbolic Powers of Ideals–Problems and Progress (15 minutes).” 20th Biennial Conference of the Association of Christians in the Mathematical Sciences, Redeemer University College (Ancaster, Ontario, Canada). May 2015.
- “Symbolic Powers of Ideals–Problems and Progress (50 minutes).” Mathematics Department Seminar, University of South Dakota (Vermillion, SD). March 2015.
- “On the Fattening of Lines in \mathbb{P}^3 .” Oberwolfach Mini-Workshop 1508a, Ideals of Linear Subspaces, Their Symbolic Powers and Waring Problems, Mathematisches Forschungsinstitut Oberwolfach (Oberwolfach, Germany). February 2015.
- “On an Application of Bezout’s Theorem.” Math Department Colloquium, Calvin College. February 2014.

service

Service to the Institution

- Compensation Advisory Committee, Dordt University, 2022–2023.
- New Faculty Mentor, Dordt University, 2021–2022.
- Elected Senator, Dordt University Academic Senate. 2021–Present.
- Organizer, Dordt Math/Stats Department Pizza and a Presentation Colloquium Series. 2021–Present.
- Presenter, Summer Pedagogy Workshops and Faculty Fora (various topics). 2019–Present.
- Coordinator, Calculus Placement Exam. 2020–Present.
- Committee Member, Assessment and Program Review Committee, Dordt University. 2018–2021.
- Reviewer, internal undergraduate research grants (occasional).
- Facilitator, Northwest Iowa Math Teachers Circle. February 2016.
- Student advisor, Dordt University Math/Stats Department. 2015–Present.
- Committee Member, various search committees. 2015–Present.

Service to the Profession

MAA Textbook Series, Editorial Board Member. January 1, 2024–December 31, 2026.

Executive Secretary, Association of Christians in the Mathematical Sciences. July 1, 2020–June 30, 2024.

Reader, Advanced Placement Calculus Exam. June 2020.

Table Host, Mastery Grading Conference. June 5-6, 2020.

Co-Organizer/Presenter, Minicourse: *Beyond Traditional Grading Schemes: Mastery Based Grading*, MathFest 2019, Cincinnati, OH. August 2019.

Co-Organizer, Themed Contributed Paper Session: *Mastery Grading*, MathFest 2018, Denver, CO. August 2018.

Co-Organizer/Presenter, Minicourse: *Beyond Traditional Grading Schemes: Mastery Based Grading*, MathFest 2017, Chicago, IL. August 2017.

Co-Organizer, Themed Contributed Paper Session: *Formative Assessment Techniques for Undergraduate Math Courses*, MathFest 2016, Columbus, OH. August 2016.

Co-Organizer, Project NExT Panel Session on the recruitment and retention of mathematics majors, MathFest 2015, Washington, D.C.. August 2015.

Co-Organizer, Workshop for graduate students, 20th Biennial Meeting of the Association of Christians in the Mathematical Sciences, at Redeemer University College in Ancaster, Ontario, Canada. May 2015.

Organizer, Math on the Northern Plains, MAA Regional Undergraduate Mathematics Conference. April 2015.

Reviewer, MathSciNet Mathematical Reviews. 2014–Present.

Referee, various journals in undergraduate education and commutative algebra. 2014–Present.

memberships

Mathematical Association of America

American Mathematical Society

Association of Christians in the Mathematical Sciences

Phi Beta Kappa

Pi Mu Epsilon