Jennifer A. Firkins Nordstrom

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EDUCATION

- **University of Oregon**, Eugene, OR.
  Ph.D. in Mathematics, 2000.
  Dissertation: *Generalized Quivers and Representations of Rings with Local Units.*
  Advisor: Professor Frank Anderson
- **University of Maryland, Baltimore County**, Catonsville, MD.
  M.S. in Mathematics, 1995.
  Thesis: *Z_4-Linearity of Nonlinear Binary Codes.*
  Advisor: Professor John Dillon
- **University of Redlands**, Redlands, CA.
  B.S in Mathematics, 1993.

RESEARCH INTERESTS

Algebra, noncommutative ring theory, representation theory, graph theory, combinatorics, game theory.

TEACHING EXPERIENCE

- **Professor, Linfield College,** (2012-present)
  Abstract Algebra, Elementary Analysis, Numerical Analysis, Operations Research, Game Theory, Number Theory, Senior Seminar, Discrete Mathematics, Linear Algebra, Vector Calculus, Introduction to Proofs, Mathematical Modeling Experience, Calculus I, Calculus II, Precalculus, Finite Math with Calculus, Introduction to Statistics, Great Ideas in Mathematics, Game Theory in Popular Culture (INQS), Introduction to Game Theory, Intermediate Algebra. Independent studies in Advanced Abstract Algebra, Galois Theory, Cryptography, Game Theory.
- **Associate Professor, Linfield College** (2006-2012)
- **Assistant Professor, Linfield College,** (2000-2006)
- **Instructor, Portland State University,** (July 2002, July 2005)
  Topics in Analysis for High School Teachers.
- **Graduate Teaching Fellow,** (1995-2000)
  Discrete Mathematics I, II, III, Calculus I, II, III, Elementary Functions (Trigonometry), University Mathematics I, College Algebra, Intermediate Algebra.
- **Instructor, Johns Hopkins University's Center for Talented Youth,** (Summer 1994-1999)
  Mathematical Reasoning. Was instrumental in planning this course which is now being used nation-wide.

PUBLICATION

C. Dunn, V. Larsen, J. F. Nordstrom, "Introduction to competitive graph coloring," *A Primer for Undergraduate Research: From Groups and Tiles to Frames and Vaccines*, Springer, 2017, pp. 99-126.

J. Firkins Nordstrom, D. T. Sumner, "It is All About Inquiry: A Cross-Disciplinary Conversation About the Shared Foundations for Teaching," *PRIMUS*, 2017, Vol. 27, No. 1, 8-19.

C. Dunn, D. Morawski, J. Nordstrom, "The Relaxed Edge-Coloring Game and k-Degenerate Graphs" *Order*, 2015, Vol. 32, No. 3, 347-361.

C. Dunn, C. Naymie, J. Nordstrom, E. Pitney, W. Sehorn, C. Suer, "Clique-Relaxed Graph Coloring," *Involve,* 2011, Vol. 4, No. 2, 127-138.

J. Nordstrom, "Battles of Wits and Matters of Trust: Game Theory in Popular Culture." *Mathematics and Popular Culture: Essays on Appearances in Film, Fiction, Games, Television and Other Media*, eds, E. Sklar and J. Sklar, McFarland, 2012, pp. 86-98.

J. Nordstrom, "Generalized Quivers for Locally Unipotent Rings," *Communications in Algebra*, 2006, Vol. 34, No. 2, pp. 567-583.

J. Nordstrom, "Locally Artinian Serial Rings," *Communications in Algebra*, 2004, Vol. 32, No. 4, pp. 1255-1264.

Undergraduate Research

◇ **Student-Faculty Collaborative Research**, 2014, *Competitive Graph Coloring*
Collaborators: C. Dunn; undergraduate students: Hang Do, Timothy Singer

- Paper resulting from this work: H. Do, B. Moran, T. Singer, "1-Relaxed Modular Edge-Sum Game Number," in preparation;
- Presentations resulting from this work: 1 student presentation at regional Pacific Northwest Mathematical Association of America Meeting, 1 student presentation at the national American Mathematical Society–Mathematical Association of America Joint Mathematics Meeting, 2015; 1 student presentation at the national MAA MathFest meeting, 2014.

◇ **Willamette Valley Mathematics Consortium Research Experience for Undergraduates–Research Experience for Teachers (WiVaM REU-RET)**, 2014, *Competitive Graph Coloring*
Collaborators: C. Dunn; undergraduate students: M. Alexis, B. Moran, E. Samelson, D Shurbert; middle school teacher: J. Vega.

- Publications resulting from this work: M. Alexis, C. Dunn, J. Nordstrom, D. Shurbert, "Clique-relaxed coloring games on chordal graphs," in preparation; C. Dunn, T. Hays, L. Naftz, J. Nordstrom, E. Samelson, J. Vega, "Total Coloring Games," in preparation.
- Presentations resulting from this work: 2 student presentations at the national MAA MathFest meeting, 2014.

◇ **Student-Faculty Collaborative Research**, 2012, *Competitive Graph Coloring*
Collaborators: C. Dunn; undergraduate student: John Portin.

- Publication resulting from this work: L. Barrett, C. Dunn, J. F. Nordstrom, J. Portin, S. Rufai, A. Sistko, "The Relaxed Game Chromatic Number of Complete Multipartite Graphs," in preparation;
- Presentations resulting from this work: 1 student presentation at the national American Mathematical Society–Mathematical Association of America Joint Mathematics Meeting, 2013, 1 student presentation at regional meeting, student talk at Linfield's Science Colloquium.

◇ **Willamette Valley Mathematics Consortium Research Experience for Undergraduates–Research Experience for Teachers (WiVaM REU-RET)**, 2012, *Competitive Graph Coloring*
Collaborators: C. Dunn; undergraduate students: L. Barrett, T. Hays, L. Naftz, A. Sistko; high school teacher: S. Rufai.

- Publications resulting from this work: L. Barrett, C. Dunn, J. F. Nordstrom, J. Portin, S. Rufai, A. Sistko, "The Relaxed Game Chromatic Number of Complete Multipartite Graphs," in preparation; C. Dunn, T. Hays, L. Naftz, J. F. Nordstrom, "Total Coloring Games," in preparation.

- Presentations resulting from this work: 4 student presentations at regional meetings.

◇ **Willamette Valley Mathematics Consortium Research Experience for Undergraduates–Research Experience for Teachers (WiVaM REU-RET)**, 2009, *Competitive Graph Coloring*
Collaborators: C. Dunn; undergraduate students: D. Morawski, C. Naymie, T. Retter, C Suer; middle school teacher: E. Pitney.

- Publications resulting from this work: C. Dunn, C. Naymie, J. Nordstrom, E. Pitney, W. Sehorn, C. Suer, "Clique-relaxed graph coloring," *Involve,* 2011, Vol. 4, No. 2, 127-138.. C. Dunn, D. Morawski, J. Nordstrom, "The relaxed game chromatic index of k-degenerate graphs II," submitted. C. Dunn, V. Larsen, K. Lindke, T. Retter, D. Toci, "Game coloring with trees and forests," submitted.
- Presentations resulting from this work: 3 student poster presentations at the national American Mathematical Society–Mathematical Association of America Joint Mathematics Meeting, 2010; talk by E. Pitney at the national American Mathematical Society–Mathematical Association of America Joint Mathematics Meeting; 3 student presentations and 3 student poster presentations at regional meetings.

◇ **Willamette Valley Mathematics Consortium Research Experience for Undergraduates–Research Experience for Teachers (WiVaM REU-RET)**, 2008, *Competitive Graph Coloring*
Collaborators: C. Dunn; undergraduate students: V. Larsen, M. Schaffert, W. Sehorn, L. Snyder.

- Publications resulting from this work: See above.
- Presentations resulting from this work: 2 student talks at the national American Mathematical Society–Mathematical Association of America Joint Mathematics Meeting, 2009; one student talk at the national MAA MathFest Meeting, 2009; one student talk at UVM's Applied Combinatorics Seminar; 4 student presentations and 5 student poster presentations at regional meetings.

◇ **Student-Faculty Collaborative Research**, 2004, *A Generalization of DeBono's L-Game*
Collaborator: undergraduate student: Bayley Coblentz.

- Presentations resulting from this work: one student talk at the regional Pacific Northwest Mathematical Association of America meeting; student and faculty talk at Linfield's College Family Day, 2004; student poster presentation at Linfield's Murdock Poster Session.

◇ **Student-Faculty Collaborative Research**, 2002, *Path Algebras and Quivers*
Collaborators: undergraduate students: E. Bodine, B. Borroff, K. Preugschat.

- Presentations resulting from this work: student talk at Linfield's Science Colloquium; student poster presentation at Linfield's Murdock Poster Session.

Invited Talks

Pacific University, October 2013
"Battles of Wits and Matters of Trust: Game Theory in Popular Culture"

American Mathematical Society (AMS) Special Session on Graph Algebras in Analysis and Algebra,
Joint Mathematics Meeting, San Francisco, January 2010
"Leavitt Path Algebras with Coefficients in a Noncommutative Ring"

Willamette University, March 2009
"Matrix Rings and the Path [Ring] to Understanding Quivers"

Pacific Lutheran University, February 2009
"Matrix Rings and the Path [Ring] to Understanding Quivers"

Linfield College Family Weekend, October 2004
"A Generalization of DeBonos L-Game"

University of Portland, September 2004
"Quivers and Gargantuan Matrix Rings"

Willamette University, March 2004
"Quivers and Gargantuan Matrix Rings"

Central Section American Mathematical Society Meeting, October 2003
"Quivers of Locally Artinian Rings"

Linfield Science Colloquium, April 2002
"Quivers and Gargantuan Matrix Rings"

Pacific University, September 2001
"Quivers and Gargantuan Matrix Rings"

Talks and Presentations

Joint Mathematics Meeting, January 2018
"Open Source Introduction to Game Theory"

Joint Mathematics Meeting, January 2017
"Mentoring Mathematical Science Fair Projects"

Pacific Northwest Mathematical Association of America meeting, April 2015
"Using Game Theory to Foster Inquiry and Writing"

MAA Special Session on Teaching Inquiry, Joint Mathematics Meeting, January 2015
"Using Game Theory to Foster Inquiry and Writing"

Linfield Faculty Lecture, November 2012 "Battles of Wits and Matters of Trust: Game Theory in Popular Culture"

Pacific Northwest Mathematical Association of America meeting, June 2011
"An Inquiry-based Introduction to Game Theory Course"

Pacific Northwest Mathematical Association of America meeting, June 2011
"Leavitt Path Algebras with Coefficients in an Arbitrary Unital Ring"

Pacific Northwest Mathematical Association of America Project NExT meeting, June 2011
Panelist "Inquiry Based Learning"

Legacy of R. L. Moore Conference, July 2009
"A Discovery-Based Introduction to Game Theory Course"

Pacific Northwest Mathematical Association of America meeting, April 2009
"The Use of a Proof Notebook in Intro to Proofs"

Pacific Northwest Mathematical Association of America Project NExT meeting, June 2008
"A Friendly Introduction to Assessment"

Pacific Northwest Mathematical Association of America Project NExT meeting, April 2007
Panelist "Discovery Based Learning"

Pacific Northwest Mathematical Association of America Project NExT meeting, July 2004
"Workshop Statistics: an Alternative Approach to a Standard Introductory Statistics Course"

Oregon Academy of Sciences, February 2004
"Workshop Statistics: an Alternative Approach to a Standard Introductory Statistics Course"

Pacific Northwest Mathematical Association of America Project NExT meeting, June 2002
Panelist "Introduction to Proofs Course"

Joint Mathematics Meetings, January 2001
"Locally Artinian Serial Rings"

Joint Mathematics Meetings, January 2000
"Generalized Quivers and Representations of Rings with Local Units"

Ring Theory Seminar, 1998-1999
"Morita Equivalence for Big Rings," "Serial Rings," "Gargantuan Quivers," "Finite Quivers and an Infinite Generalization"

Grants

- **National Science Foundation S-STEM Grant**, 2016-2019
- **Mathematical Association of America Dolciani Mathematics Enrichment Grant** 2015-2018.
- **National Science Foundation Research Experience for Undergraduates–Research Experience for Teachers (REU-RET) Grant**, 2012-2014
- **Student-Faculty Collaborative Research Grant**, 2012
- **National Science Foundation Research Experience for Undergraduates–Research Experience for Teachers (REU-RET) Grant**, 2007-2009
- **Faculty Development Grant**, 2004
- **Student-Faculty Collaborative Research Grant**, 2004
- **Student-Faculty Collaborative Research Grant**, 2002

Conferences Organized

- **Local Arrangements Chair/ Co-chair**, Pacific Northwest Mathematical Association of America Meeting, April 13-14, 2007
  Linfield College.

Conferences Attended

- MathFest, August 1-3, 2018, Denver, CO
- Pacific Northwest Mathematical Association of America Meeting, April 20-21, 2018, Seattle, WA
- Joint Mathematics Meeting, January 10-13, 2018, San Diego, CA
- MathFest, July 26-29, 2017, Chicago, IL
- Pacific Northwest Mathematical Association of America Meeting, June 16-18, 2017, Spokane, WA
- Joint Mathematics Meeting, January 4-7, 2017, Atlanta, GA
- MathFest, August 3-6, 2016, Columbus, OH
- Pacific Northwest Mathematical Association of America Meeting, April 1-2, 2016, Corvallis, OR
- Joint Mathematics Meeting, January 6-9, 2016, Seattle, WA
- Pacific Northwest Mathematical Association of America Meeting, April 10-11, 2015, Tacoma, WA
- Joint Mathematics Meeting, January 10-13, 2015, San Antonio, TX
- MathFest, August 7-9, 2014, Portland, OR
- Joint Mathematics Meeting, January 15-18, 2014, Baltimore, MD
- Pacific Northwest Mathematical Association of America Meeting, April 12-13, 2013, Salem, OR
- Pacific Northwest Mathematical Association of America Meeting, April 19-20, 2012, Portland, OR
- Northwest Undergraduate Mathematics Conference, March 10, 2012, Portland, OR
- Pacific Northwest Mathematical Association of America Meeting, June 23-25, 2011, Juneau, AK

- ◇ Pacific Northwest Mathematical Association of America Meeting, April 9-10, 2010, Seattle, WA
- ◇ Joint Mathematics Meeting, January 13-16, 2010, San Francisco, CA
- ◇ MathFest, August 6-8, 2009, Portland, OR
- ◇ Legacy of R.L. Moore Conference, July 15-19, 2009, Austin, TX
- ◇ Pacific Northwest Mathematical Association of America Meeting, April 3-4, 2009, Ellensburg, WA
- ◇ Joint Mathematics Meeting, January 5-9, 2009, Washington, D.C.
- ◇ Pacific Northwest Mathematical Association of America Meeting, June 19-21, 2008, Helena, MT
- ◇ Pacific Northwest Mathematical Association of America Meeting, April 13-14, 2007, McMinnville, OR
- ◇ Pacific Northwest Mathematical Association of America Meeting, June 22-24, 2006, Ashland, OR
- ◇ Legacy of R.L. Moore Conference, April 29-May 1, 2005, Austin, TX
- ◇ Pacific Northwest Mathematical Association of America Meeting, April 1-3, 2005, Tacoma, WA
- ◇ Portland Area Undergraduate Mathematics Conference, March 19, 2005, Portland, OR
- ◇ Pacific Northwest Mathematical Association of America Meeting, June 24-26, 2004, Anchorage, AK
- ◇ Oregon Academy of Sciences, February 28, Portland, OR
- ◇ Central Section American Mathematical Society Meeting, October 2-4, 2003, Boulder, CO
- ◇ Pacific Northwest Mathematical Association of America Meeting, June 19-21, 2003, Walla Walla, WA
- ◇ Legacy of R.L. Moore Conference, March 13-15, 2003, Austin, TX
- ◇ MathFest, June 30-August 3, 2002, Burlington, VT
- ◇ Pacific Northwest Mathematical Association of America–American Mathematical Society Meeting, June 20-22, 2002, Portland, OR
- ◇ Joint Mathematics Meeting, January 6-9, 2002, San Diego, CA
- ◇ MathFest, August 2-4, 2001, Madison, WI
- ◇ Pacific Northwest Mathematical Association of America Meeting, April 6-7, 2001, Seattle, WA
- ◇ Joint Mathematics Meetings, January 10-14, 2001, New Orleans, LA
- ◇ Pacific Northwest Mathematical Association of America Meeting, June 15-18, 2000, Vancouver, B. C.
- ◇ AMS Sectional Meeting, March 10-12, 2000, Santa Barbara, CA
- ◇ Joint Mathematics Meetings, January 19-22, 2000, Washington, D.C.
- ◇ Joint Mathematics Meetings, January 13-16, 1999, San Antonio, TX

Workshops Attended

- ◇ **The Integration of Online Materials and Online Textbooks**, Tacoma, WA, May 2017
- ◇ **Open textbooks in MathBook XML**, San Jose, CA, April 2016
- ◇ **A Game Theory Path to Quantitative Literacy,** Portland, OR, August 2009
- ◇ **Workshop on Assessment,** Bend, OR, October 2005
- ◇ **Developing Your Departments Assessment Plan,** Atlanta, GA, January 2005

- ◇ **Teaching Workshop Statistics,** Walla Walla, WA, June 2003
- ◇ **Grant Writing in Mathematics,** San Diego, CA, January 2002
- ◇ **Research Opportunities for Undergraduates,** New Orleans, LA, January 2001

PROFESSIONAL SERVICE

- ◇ **Chair of MAA Curriculum Renewal Across the First Two Years (CRAFTY) committee**, January 2018-present
- ◇ **Member of Conference Board of Mathematical Sciences Forum Planning Committee**, October 2017-present
- ◇ **Mathematical Association of America Governor, PNW Section**, July 2015-July 2018 (elected in February 2015)
- ◇ **Association of Women Mathematicians, Alice T. Schafer Prize Committee**, July 2014-July 2017.
- ◇ **Mathematical Association of America Curriculum Renewal Across the First Two Years (CRAFTY) committee member**, January 2014-January 2018
- ◇ **Project NExT Mentor,** 2010-present
- ◇ **Referee** 2007-present
  Reviewed journal articles for *Linear Algebra and its Applications*, *Turkish Journal of Mathematics*, and *Primus*
- ◇ **Pacific Northwest Mathematical Association of America Officer, Past Chair,** June 2011-2012
- ◇ **Pacific Northwest Mathematical Association of America Officer, Section Chair,** April 2009-June 2011
- ◇ **Pacific Northwest Mathematical Association of America Officer, Section Chair Elect,** June 2008-April 2009
- ◇ **Pacific Northwest Mathematical Association of America Officer, Local Arrangements Chair for 2007 Pacific Northwest Mathematical Association of America meeting,** July 2005-April 2007
- ◇ **Pacific Northwest Mathematical Association of America Project NExT meeting planning committee,** 2005, 2006
- ◇ **Advanced Placement Calculus Reader,** July 2004, 2005, 2016, 2017, 2018.
- ◇ **Pacific Northwest Mathematical Association of America Project NExT Special Interest Coordinator,** 2004-2010
- ◇ **Pacific Northwest Mathematical Association of America Officer, Undergraduate Programs Coordinator,** July 2002-July 2004
- ◇ **Intel International Science and Engineering Fair Category Judge,** 2004
- ◇ **Organized Session for Pacific Northwest Mathematical Association of America,** Undergraduate Research, June 2003
- ◇ **Organized Session for National Project NExT,** Introduction to Moore Method, August 2002
- ◇ **Organized Session for Pacific Northwest Mathematical Association of America,** Junior Faculty Research, June 2002
- ◇ **Organized Panel for Pacific Northwest Mathematical Association of America Project NExT,** Advising, June 2002
- ◇ **Northwest Science Expo Category Judge,** 2002, 2003
- ◇ **Textbook Reviewer,** Rosen, *Elementary Number Theory,* 5ed, December 2001
- ◇ **Chaired Session at Joint Mathematics Meeting,** Session on Rings, January 2001

Selected Academic Service

Accreditation Steering Committee Member, 2018-present

Director of the Math PLUS program, 2015-present

FEC Vice Chair, 2014-2015

CTO Search Committee, 2014

Business Search Committee, 2014

Faculty Executive Committee member and Science Division Chair, 2013-2015

Organizer for the Math Department's Taylor Series, 2012-present

Organized teams for the Kryptos Challenge, cryptography contest, 2011, 2012, 2013, 2014, 2015

Math Department Chair, 2010-2014

Math Department Assessment Chair, 2005-2014

Mathematical Association of America Liaison for Linfield, 2002-present

Linfield Math Club advisor (and founder), 2001-2003, 2009-2014.

Organized Linfield teams for Mathematical Contest in Modeling, February 2004, 2005, 2006, 2010, 2015

Planning Council, Fall 2009

Freshman Colloquium Advisor, 2001, 2002, 2004, 2005, 2009

Math Search Committee, 2002, 2006, 2008

VPAA/ Dean of Faculty Search Committee, Fall 2007

Faculty Budget and Benefits Committee, 2003-2006

General Education Review Committee, 2005

Economics Search Committee, 2005

Science Building Steering Committee, Fall 2004-Spring 2005

Campus Benefits Committee, 2004

Linfield Math Department webmaster, 2002-2004

Linfield Science Colloquium co-organizer, 2001-2002, 2002-2003

International Programs Committee, 2001-2003

International Programs Director Search Committee, Fall 2002

Physics Search Committee, 2002

Colloquium Revision Committee, Spring 2002

Putnam Exam, Fall 2000
–Proctored Linfield students in national mathematics exam.

Mentorship Program, Patterson Family School, Spring 1997
–Mentored fourth grade student in Mathematics.

Honors

- **Edith Green Distinguished Professor Award,** 2015
- **National Project NExT Fellow,** 2001-2002
- **Pacific Northwest Section Project NExT Fellow,** 2000-2001
- **Placed in top 5 for Graduate Teaching Fellow Award for Outstanding Teaching,** May 1999
  Campus-wide competition for Graduate Teaching Fellows at University of Oregon.
- **Phi Beta Kappa**

Membership

- **Mathematical Association of America**

- **Association for Women in Mathematics**
- **Project NExT**
- **Pi Mu Epsilon**