

## Nathan Wakefield

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### Education

Th.M., Dallas Theological Seminary May 2022

M.A., Religion, Faith Baptist Theological Seminary. May 2020

Ph.D., Mathematics, University of Colorado Boulder. May 2013

Advisor: Su-Ion Ih

Title: Primitive Divisors in Generalized Iterations of Chebyshev Polynomials

M.S., Applied Mathematics, University of Colorado Boulder. May, 2012

M.A., Mathematics, University of Northern Colorado. May, 2008

Completed 35 graduate credit hours toward Ph.D in Educational Mathematics.

B.S., Mathematics and Aviation Technology, Metropolitan State College of Denver. 2006.

*Magna Cum Laude*

### Professional Appointments

Associate Professor of Practice  
Department of Mathematics

August 2020-  
University of Nebraska-Lincoln

Assistant Professor of Practice  
Department of Mathematics

August 2014-August 2020  
University of Nebraska-Lincoln

Lecturer  
Department of Mathematics

June 2013-May 2014  
University of Colorado at Boulder

### Publications

#### Accepted (Peer-Reviewed)

- [1] Uhing, K., Webb, D., Wakefield, N., Donsig, A., & Rasmussen, C. (accepted for book, book under review). Professional development to support active learning. In W.M. Smith, D. Webb, M. Voigt, A. Ström & W.G. Martin (Eds.), *Student Engagement in Mathematics through an Institutional Network for Active Learning: Cases of Successful Departments*. MAA Press. (Effort: 20%)

#### Appeared (Peer-Reviewed)

- [2] Williams, M., Apkarian, N., Uhing, K., Funk, R., Smith, W.M., Wakefield, N., Martinez, A., & Rasmussen, C. (accepted for presentation). In the driver's seat: Course coordinators as change agents for active learning in university precalculus to calculus 2. Conference on Research in Undergraduate Mathematics Education. (Effort: 15%)

- [3] Williams, M., Apkarian, N., Uhing, K., Funk, R., Smith, W.M., Wakefield, N., Martinez, A., & Rasmussen, C. (accepted for presentation). Course Coordinators as Change Agents for Active Learning in University Precalculus to Calculus 2. 14th International Congress on Mathematical Education (Effort: 40%)
- [4] Wakefield, N., Uhing, K., Hamidi, M., Building Long-Term Support for Faculty through Graduate Student Instructor Professional Development. Smith, W. M., Lawler, B. R., Strayer, J.F., Augustyn, L. (Eds.). (2018). *Proceedings of the seventh annual Mathematics Teacher Education Partnership conference*. Washington, DC: Association of Public Land-grant Universities. (Effort: 50%)
- [5] Miller E., Uhing K., Hass M., Zigterman R., Quigley K., Wakefield N., Lai Y. (2018) Graduate Student Instructors' Growth as Teachers: A Review of the Literature. T. Fukawa-Connelly, N. E. Infante, M. Wawro, S. Brown (Eds.), *Proceedings of the 21th Annual Conference on Research in Undergraduate Mathematics Education*. San Diego, CA. (Effort: 20%)
- [6] Wakefield, N., Champion, J., Bolkema, J., Dailey, D. (2018) Diagnostic Effects of an Early Mastery Activity in College Algebra and Precalculus. *International Journal of Research in Undergraduate Mathematics Education*, 4.3 (2018): 376-392. (Effort: 40%)
- [7] Donsig, A., Wakefield, N., An Early Semester Mastery Activity and Intervention in First-Year Calculus. Smith, W. M., Lawler, B. R., Bowers, J., Augustyn, L. (Eds.). (2017). *Proceedings of the sixth annual Mathematics Teacher Education Partnership conference*. New Orleans, LA: Association of Public Land-grant Universities. (Effort: 50%)
- [8] Miller, E., Wakefield, N., Lai Y. (2017) Opportunities to Learn from Teaching: A Case Study of Two Graduate Teaching Assistants. T. Fukawa-Connelly, N. E. Infante, M. Wawro, S. Brown (Eds.), *Proceedings of the 20th Annual Conference on Research in Undergraduate Mathematics Education*. San Diego, CA. (Effort: 40%)
- [9] Lai, Y., Smith W., Wakefield, N., Miller, E., St. Goar, J., Groothius, C., Wells, K. Characterizing Mathematics Graduate Student Teaching Assistants' Opportunities to Learn from Teaching in Dewey J., Hus S., Pollatsek H. (Ed.), *Mathematics Education, A Spectrum of Work in Mathematical Sciences Departments*, Vol. 7 Springer (Effort: 20%)
- [10] Brilleslyper, M., Wakefield, N., Wallerstein, A., Warner B. *Comparing the Growth of the Prime Numbers to the Natural Numbers* Fibonacci Quart. 54 (2016), no. 1, 65-71. (Effort: 50%)
- [11] Wakefield, N. Generalized Iterations and Primitive Divisors *Journal of Number Theory*, 159 (2016): 273-294. (Effort: 100%)
- [12] Miller N., Wakefield N. (2014). A Mentoring Program For Inquiry-Based Teaching In a College Geometry Class *International Journal of Education in Mathematics Science and Technology*, 2(4), p266-272 (Effort: 50%)

## Books

- Wakefield, N., Kelley, C., Williams, M., Haver, M., Seminario-Romero, L., Huben, R., Marks, A., & Pahl, S. (2019). *Coordinated Calculus* Open Educational Resource. Available from <https://mathbooks.unl.edu/Calculus>. (Effort: 25%)
- Funk, T., Setniker, A., Uhing, K., & Wakefield, N. (2018). *Mathematics: PreCalculus Mathematics at Nebraska*. Open Educational Resource. Available from <https://mathbooks.unl.edu/PreCalculus>. (Effort: 20%)

## Grants

Lindburg J. (PI), Pelton J. (Co-PI), Wakefield N. (Co-PI), Carlson K. (Co-PI), Marquisha F. (Co-PI), Awarded 3/22/2021-9/7/2022, Co-PI *University of Nebraska ITS Inclusive Access and Open Educational Resources (OER) Program*, UNL-Internal, \$84,000 (Effort 10%)

Smith W. (PI), Wakefield N. (Co-PI), Donsig A. (Co-PI), Bennett A. (Co-PI), Brummer J. (Co-PI), Applied 12/01/2020 Co-PI *Communities of Practice for Reshaping Instructor and Student Equity in Undergraduate Mathematics*, NSF, \$1,958,424 (Effort 15%)

Donsig A. (PI), Smith W. (Co-PI), Wakefield N. (Co-PI), Awarded 05/13/2020 Co-PI *Communities of Practice in First Year Math Courses: Investigating the Transition to Remote Learning*, ORED COVID-19 Rapid Response Grant Program, \$31,780 (Effort 40%)

Smith W. (PI), Donsig A. (Co-PI), Wakefield N. (Co-PI), Awarded 05/1/2020-05/31/2022 CO-PI *Student Engagement in Mathematics Through an Instructional Network for Active Learning Supplemental Funding*, NSF, Award Number 1624643, \$66,462 (Effort 20%)

Brummer J. (PI), Wakefield N. (Co-PI), Funk R. (Co-PI), Samal A. (Co-PI), Linde K. (Co-PI), Awarded 5/2020-5/2021 *Developing a Cross-Disciplinary Learning Assistant Support Program*, \$50,000 (Effort 30%)

Wakefield N. (PI), Donsig A. (Co-PI), Awarded 5/2018-9/2018 Math 100A, Math 101, Math 102 *Kelly Grant OER Development, UNL Internal Grant*, \$12,000 (Effort 75%)

Wakefield N. (PI), Harbourne B. (Co-PI), Radu P. (Co-PI), Smith W. (Co-PI), Awarded 12/2017-12/2019 *Online Exams in the First Year Mathematics Program: A first step in exploring the option, UNL Internal Grant*, \$20,000 (Effort 50%)

Smith W. (PI), Donsig A. (Co-PI), Wakefield N. (Co-PI), Awarded 08/1/2016-07/31/2021 CO-PI *Student Engagement in Mathematics Through an Instructional Network for Active Learning*, NSF, Award Number 1624643, \$332,442 for UNL, part of an overall \$3,000,000 grant. (Effort 20%)

Wakefield N. (PI), Smith W. (Co-PI), (Awarded 04/2015-04/2016 PI *Supporting Blended Education in High-Enrollment Mathematics Courses*, UNL Internal Grant, \$24,954 (60% Effort)

Wakefield N. (PI), Donsig A. (Co-PI), Lewis W. (Co-PI), Walker J. (Co-PI), Awarded 08/2014-08/2015 PI *Actively Learning Mathematics*, Mathematical Association of America, \$24,815 (50% Effort)

## Workshops Organized

*IBLINC Workshop on Equity in the Classroom*, 90 minute workshop for Inquiry Based Learning Greater Iowa-Nebraska Community, with Wendy Smith, Online. December, 2020.

*Nebraska Open Access Mathematics*, 3-day workshop on open access materials for post-secondary educators across the state of Nebraska, with Josh Brummer and Karina Uhing, Online. July, 2020.

## Presentations

*Promoting a Community of Practice in the Age of Social Distancing*, UNL Mathematics Department Colloquium, with Rachel Funk, October, 2020.

*Providing Active Learning Support for Graduate Student Instructors*, invited presentation at the University of South Carolina, with Sean Yee and Josh Brummer, October, 2020.

*Welcome & a look at SEMINAL survey data, Plenary Presentation at the SEMINAL Virtual Data Workshop*, with Wendy Smith, and Colin McGrane, Online. June 2020.

*Developing an OER-Based First Year Math Curriculum at the University of Nebraska-Lincoln*, with Marcia Dority Baker, Unizin Summit 2019, Denver, CO. April 2019.

*Collaborating to Build Curriculum*, with Josh Brummer and Allan Donsig, Spring 2019 Meeting of the Nebraska/Southeast South Dakota Section of the MAA, Omaha, NE. April 2019.

*Principles of Learning* College Teaching & Learning workshop series, Lincoln, NE. Aug. 2018.

*Building Long-Term Support for Faculty through Graduate Student Instructor Professional Development*. Mathematics Teacher Education Partnership conference, Denver, CO. June 2018. (peer reviewed)

*An Early Semester Mastery Activity and Intervention in First-Year Calculus*, with Allan Donsig, Mathematics Teacher Education Partnership conference, New Orleans, LA. June 2017. (peer reviewed)

*Precalculus Course Transformation at the University of Nebraska-Lincoln*, with Allan Donsig and Wendy Smith, The John N. Gardner Institute for Excellence in Undergraduate Education Gateway Course Experience Conference, Las Vegas, NV. February 2017. (peer reviewed)

*Opportunities to Learn from Teaching*, with Erica Miller and Yvonne Lai, Research in Undergraduate Mathematics Education Conference, San Diego, CA. February 2017. (peer reviewed)

*The Role of Faculty in Introductory Mathematics Course Re-design at the University of Nebraska-Lincoln*, Karcher Colloquium, University of Oklahoma, Norman, OK. April 2016. (Invited)

*Actively Learning College Algebra*, Kansas City Metropolitan Community College STEM Faculty Summit, Kansas City, MO. March 2016. (Invited)

*Enriching Student's Online Homework Experience in Pre-Calculus Courses: Hints and Cognitive Supports*, University of Nebraska-Lincoln Discipline Based Education Research Group, Lincoln, NE. March, 2016. (Invited)

*Enriching Student's Online Homework Experience in Pre-Calculus Courses: Hints and Cognitive Supports*, Poster submission, Conference on Research in Undergraduate Mathematics Education, Pittsburgh, PA. February, 2016.

*Instructional Supports for Graduate Teaching Assistants at the University of Nebraska-Lincoln*, Presented with Allan Donsig at the Joint Mathematics Meetings, Seattle, WA. January 2016.

*Entry Level Course Redesign*, The Preclaculus-Calculus Innovation Workshop, Evanston, IL. November 2015.

*Working with Your TA Supervisor*, University of Nebraska-Lincoln Campus-wide Workshops for Graduate Students, Lincoln, NE. August 2015. (Invited)

*The Effects of An Early Intervention Mastery Activity in the Mathematics Department*, University of Nebraska-Lincoln Discipline Based Education Research Group, Lincoln, NE. April 2015. (Invited)

*Improving Students Success in First Year Mathematics Courses at the University of Nebraska*, Presented at the Joint Mathematics Meetings, San Antonio, TX. January 2015.

*Using Mathematica, TA's & Undergraduates Working Together*, Presented at the University of Colorado Boulder Fall Intensive, August 2012. (Invited)

*The Calculus Experience at CU using the Hughes-Hallett Calculus Book Integrated with WeBWorK*, Presented at the University of Northern Colorado Mathematics Department Colloquium, February 2010. (Invited)

*Experience in Mentoring*, Presented at the Legacy of R.L. Moore Conference, Austin, TX, July 2008.

### Mathematical Presentations

*Comparing the Growth of the Prime Numbers to the Natural Numbers*, Presented at the University of Colorado Boulder Number Theory Seminar, October 2013. (Invited)

*Primitive Divisors in Generalized Iterations of Chebyshev Polynomials*, Presented at the AMS Spring Western Sectional Meeting, Boulder, CO, April 2013.

*Canonical Heights in Generalized Iterations*, Presented at the United States Air Force Academy, February 2013.

*Primitive Divisors in Generalized Iterations of Chebyshev Polynomials*, Presented at the United States Air Force Academy, November 2012. (Invited)

*Modeling Fluid Mechanics and the Basilar Membrane*, Presented at the University of Colorado Boulder Mathematics Department Graduate Student Colloquium, March 2012.

*Modeling Marital Interaction*, Presented at the Rocky Mountain MAA sectional meeting, Spearfish, SD April 2008.

*Chaos and Music*, Presented at the Rocky Mountain MAA sectional meeting, Grand Junction, CO April 2006.

### Teaching Experience

Assistant Professor of Practice, University of Nebraska-Lincoln, 2014-Present

#### – Mathematics Courses Taught

- \* Math 800T, Mathematics As a Second Language, Summer 2016, Summer 2015
- \* Math 445, Number Theory, Fall 2017, Spring 2021
- \* Math 310, Introduction to Modern Algebra, Fall 2015
- \* Math 106, Calculus I, Fall 2017, Spring 2017, Fall, 2016, Spring 2016
- \* Math 102, College Trigonometry, Spring 2015
- \* Math 101, College Algebra, Spring 2017, Spring 2015, Fall 2014
- \* Math 100A, Intermediate Algebra, Fall 2014

#### – Educational Mathematics Courses Taught

- \* Math 896, Teaching and Learning Mathematics at the Post-Secondary Level, Every semester since Fall 2014.

Lecturer, University of Colorado at Boulder, 2013-2014

#### – Mathematics Courses as Instructor of Record

- \* Math 3510, Introduction to Probability and Statistics, Spring 2014, Summer 2013
- \* Math 3130, Linear Algebra, Spring 2014

- \* Math 2510, Introduction to Statistics, Spring 2014, Fall 2013
- \* Math 1300, Calculus 1, Fall 2013
- \* Math1150, Pre-Calculus, Fall 2013

Graduate Part-Time Instructor, University of Colorado Boulder, August 2008-May 2013

- Educational Mathematics Courses as Instructor of Record
  - \* Math 5905, Mathematics Teacher Training, Spring 2012, Spring 2013
  - \* Math 3850, Seminar in Guided Mathematics Instruction, Spring 2012
- Mathematics Courses as Instructor of Record
  - \* Math 3510, Introduction to Probability and Statistics, Fall 2012, Spring 2013
  - \* Math 1300, Calculus 1, Summer 2009, Summer 2010, Fall 2011
- Courses for which I was a Teaching Assistant
  - \* Math 5905, Mathematics Teacher Training, Fall 2011, Fall 2012
  - \* Math 3850, Seminar in Guided Mathematics Instruction, Fall 2009, Spring 2010, Fall 2010, Spring 2011
  - \* Math 1300, Calculus 1, Recitation Spring 2009, Spring 2012
  - \* Math 1071, Finite Math, Recitation Fall 2008

Teaching Assistant, Mathematics, University of Northern Colorado, August 2006 - August 2008

- Courses as Instructor of Record
  - \* Math 341, Modern Geometry, Spring 2008
  - \* Math 120, Mathematics and the Liberal Arts, Fall 2006, Spring 2007
- Courses for which I was a Teaching Assistant
  - \* Math 341, Modern Geometry, Fall 2007
  - \* Math 342, Modern Geometry II, Fall 2007

Instructor, Aims Community College, Greeley, Colorado, August 2007 - December 2007

- Courses as Instructor of Record
  - \* Math 121, College Algebra. Fall 2007

## Service

Graduate Advisory Committee, Fall 2020-Present

First Year Mathematics Task Force, University of Nebraska-Lincoln, Department of Mathematics, Member 2014-present, Chair 2017-2018

Reviewer, PRIMUS, Spring 2020

Reviewer, PRIMUS, Summer 2019

Reviewer, PRIMUS, Summer 2019

Reviewer, Journal of Inquiry-Based Learning in Mathematics, Winter 2017

Reviewer, Journal of Applied Research in Higher Education, Winter 2017

Reviewer, Proceedings of the 21st Annual Conference on Research in Undergraduate Mathematics Education, Fall 2017

Reviewer, Proceedings of the Mathematics Teacher Education Partnership, Summer 2017

Served on the CIRTL@Nebraska Steering Committee (Center for the Integration of Research, Teaching and Learning), 2016-present

Computer Systems Advisory Committee, University of Nebraska-Lincoln, Department of Mathematics, 2015-present

Assisted with initial assessment of the University of Nebraska-Lincoln ACE assessment software, 2016

Participated in the University of Nebraska-Lincoln Achievement-Centered Education general education review, 2015

MAT (Masters of Arts for Teachers) Committee, University of Nebraska-Lincoln, Department of Mathematics, Summer 2015

Undergraduate Committee Member, University of Colorado Boulder, Department of Mathematics, 2011-2013

Computer Committee Member, University of Colorado Boulder, Department of Mathematics, 2008-2011

Textbook Reviewer, *Mathematical Thinking*, Pearson Addison-Wesley, 2007

Student-Teacher Supervisor, Spring 2007, Fall 2007

### **Professional Development**

Project NExT Fellow, 2014-2015, Participated in Project NExT workshops, August 2014, January 2015, August 2015.

Participated in the University of Colorado Boulder Graduate Teacher Program. Completed 26 hours of workshops over the course of 2008-2012.

Attended the Inquiry-Based Learning Workshop. Los Angeles, CA. June 25-29, 2007

Lead Network Training Seminar in Academic Management, Academic Leadership, College Teaching, Consultation on Teaching and Collegial Teamwork. Graduate Teacher Program, University of Colorado Boulder, May 9-13, 2011.

### **Supervisory Committees**

Ph.D. Committees

- Brittany Johnson
- Karina Uhing (Chair with Yvonne Lai as Co-Chair)
- Erica Miller (2nd Reader)

Masters of Arts for Teachers Committees

- Keith Schroetline, August 2015, (Expository Paper Advisor)
- Melissa Kosch, August 2015, (Expository Paper Advisor)
- Lindseys Harders, August 2015, (Expository Paper Advisor)
- Carol Goans, August 2015, (Expository Paper Advisor)

Undergraduate Honors Thesis Committees

- Elizabeth Tyler (Co-Advisor with Ted Hamann)
- Chris Beeman (Co-Advisor with Wendy Smith)