

## Curriculum Vitae Jennifer Earles Szydlik

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### Education:

- Ph.D., Mathematics with a specialty in Mathematics Education, University of Wisconsin-Madison, 1995.
- M.A., Mathematics, University of Wisconsin-Madison, 1991.
- B.A., Mathematics (Physics Minor) *summa cum laude*, St. Cloud State University, 1988.

### Experience:

- *Mathematics Faculty Member*, University of Wisconsin Oshkosh (1995-present. I was promoted to the rank of Distinguished Professor in 2015.). I teach a variety of courses for prospective teachers including Number Systems, Fundamentals of Geometry and Measurement, Data Exploration and Analysis, Probability and Statistics, Infinite Processes, Modern Algebra (abstract algebra), Modern Geometry (Euclidean and non-Euclidean) and the Senior Seminar for Elementary and Middle School Programs. I do research in the field of undergraduate mathematics education, and I serve the university community and the community of practicing teachers and educators.
- *Chair of the Wisconsin Section of the Mathematical Association of America*, 2016 -2017. (I served as Chair-Elect during the 2015-2016 academic year, and will serve as Past-Chair during the 2017-2018 academic year.)
- *Author of Big Ideas in Mathematics for Future Elementary Teachers*. This is a series of three books for prospective elementary teachers. Published by McGraw-Hill Create. Summer 2008 – present.
- *Author of Big Ideas in Mathematics for Future Middle Grades Teachers and Elementary Math Specialists*. This is a series of four books for prospective middle grades teachers. Published by McGraw-Hill Create. Summer 2008 – present.
- *Mathematics Department Tutor Lab Director*. Each term, I hired and supervised approximately fifteen undergraduate tutors and the graduate student coordinator of the lab. We serve students in mathematics courses through Calculus III, and the lab logs over 5000 tutoring visits each academic year. Fall 2007 – Fall 2011.
- *Graduate Program Coordinator*. My work included planning graduate offerings, advertising and promoting the program, and advising the graduate students for the Master of Science in Mathematics Education. Fall 2008 – Spring 2014.

- *Project NExT (New Experiences in Teaching) Director for Wisconsin*, 1999 to 2001. This program is designed to support new mathematics faculty members in their roles as teachers and scholars. Each year I recruited participants and I organized two events: a three-day fall workshop and a spring luncheon and panel discussion.

#### **Honors and Awards:**

- University of Wisconsin Oshkosh *Rosebush Professorship*, 2012. This award is given for contributions in teaching, research, and service.
- University of Wisconsin System *Regents Award for Teaching Excellence*, 2010.
- The Wisconsin Section of the Mathematical Association of America's *Distinguished Teaching Award*, 2009.
- *Wisconsin Teaching Scholar* from the University of Wisconsin System, 2008 – 2009.
- *The Distinguished Teaching Award* from the University of Wisconsin Oshkosh, Spring 2004.
- *Sabbatical* to write a series of mathematics textbooks for the preparation of upper elementary and middle grades teachers, 2004 – 2005.
- *The Certificate for Meritorious Service* for establishing Project NExT Wisconsin, Wisconsin Section of the Mathematical Association of America, 2002.
- *Wisconsin Teaching Fellow* for the University of Wisconsin System: Undergraduate Teaching Improvement Council, 1998-1999.

#### **Professional Membership:**

- Mathematical Association of America, 1988 – present.
- SIGMAA on Research in Undergraduate Mathematics Education, 2001 – present.
- National Council of Teachers of Mathematics, 1995 – present.
- Wisconsin Mathematics Council, 1998 – present.

#### **Grants:**

- Mathematics and Science Partnerships program of the US Department of Education grant (with E. Kuennen (PI) and J. Beam). Awarded \$458,902 to provide inservice to practicing upper elementary and middle grades mathematics teachers, 2014-2017.
- Mathematics and Science Partnerships program of the US Department of Education grant (with E. Kuennen (PI) and J. Beam). Awarded \$446,419 to provide inservice to practicing upper elementary and middle grades mathematics teachers, 2009-2012.

- FIPSE (Fund for the Improvement of Postsecondary Education) grant. Part of a UW System-wide team to design observation protocols and other instruments to assess content knowledge for mathematics teaching, 2008-2010.
- University of Wisconsin Oshkosh Faculty Development grant to design an instrument to measure mathematical sophistication of prospective teachers, Summer 2007.
- Scholarship of Teaching and Learning (SoTL) Mentor. Fall, 2005.
- University of Wisconsin Oshkosh Faculty Development Grant to research the culture of a nontraditional mathematics classroom for prospective elementary teachers with Dr. Carol Seaman, Summer 2003.
- Undergraduate Student and Faculty Collaboration Research Project Grant, Summer 2003.
- Undergraduate Teaching Improvement Council (UW System) Grant for a collaborative writing and mathematics project with Dr. Charlie Hill (English). 1997.
- University of Wisconsin Oshkosh Faculty Development grant to study undergraduate students' sources of conviction in mathematics, Summer 1997.
- University of Wisconsin Oshkosh Faculty Development grant to study the middle school mathematics curriculum in probability and statistics and to design a new course for prospective teachers of middle school mathematics, Summer 1996.

#### **Recent Presentations:**

- October 2016. *Strange New Worlds: Non-Euclidean Geometries*. Invited talk for the STEM student organization at UW Washington County.
- May 2016. *Algorithms Smalgorithms*. Talk for the Wisconsin Mathematics Council, Green Lake, WI.
- April 2015. *Mathematics Learning in China: Observations from Study Abroad*. Annual meeting of the Wisconsin Section of the MAA, Ripon, WI.
- October 2014. *What Will Euclid Let Us Build?* Invited talk for Madison College (formerly MATC), with Dr. Steve Szydlik.
- March 2013. *Recalling the Recall: Statistical Sampling and the 2012 Petition Drive*. Invited talk for Madison College (Formerly MATC), with Dr. Steve Szydlik.
- January 2013. *Conceptualizing and Measuring Mathematical Sophistication*. National Meetings of the American Mathematical Society and the Mathematical Association of America, San Diego, CA.
- November 2012. *Teaching to Inspire Mathematical Thinking in Grade 9 -12*. Invited address for the regional NCTM meetings in Chicago, IL.

- November 2012. *Inspiring Mathematical Practices in Elementary Education Courses*. National meeting of AMATYC, Jacksonville, FL.
- April 2012. *Using the Recall Petitions to Teach Sampling*. MAA-Wisconsin Section Meeting, Milwaukee, WI.
- February 2012. *Student Meanings for Generalizing, Doing Mathematics and Justifying*. National meeting of the MAA Special Interest Group for Research in Undergraduate Mathematics Education. Portland, OR.
- November 2011. *Teaching to Inspire Mathematical Thinking*. AMATYC. Austin. TX
- February 2011. *Changing Mathematical Sophistication in Introductory College Mathematics Courses*. National meeting of the MAA Special Interest Group for Research in Undergraduate Mathematics Education. Portland, OR.
- May 2010. *Teaching to Inspire Children's Mathematical Thinking*. Invited Address for the student chapter of the Wisconsin Education Association, Oshkosh, WI.
- April 2010. *Teaching to Inspire Mathematical Thinking*, Invited Keynote Address for the Wisconsin Section of the Mathematical Association of America, Oshkosh, WI.
- January 2010. *Big Ideas in Algebra: Materials to Foster Mathematical Thinking*. Joint National Meetings of the American Mathematical Society and the Mathematical Association of America, San Francisco, CA.

#### **Selected Workshops and Activities for Practicing Teachers:**

- Workshop leader and coach for *Making Mathematical Connections*, a program to enhance the mathematical content knowledge of practicing elementary and middle grades teachers, 2011 – 2013 and 2015- present.
- Member of the *National Selection Committee for the Presidential Awards for Excellence in Mathematics and Science Teaching*, Washington, DC, 2004 and 2005.
- Workshop leader for practicing elementary and middle grades teachers for the Wisconsin Mathematics Council Meetings at Green Lake, 1996, 1997, 1999, 2000 and 2016.

#### **Publications:**

- Szydlik, J. E., Beam, J. E., & Kuennen, E. (in preparation). *Big Ideas in Mathematics for Future Middle Grade Teachers and Elementary Math Specialists: Big Ideas in Probability and Statistics*. Create, The McGraw-Hill Companies.
- Szydlik, J., A. Parrott, & J. Belnap (2016) Conversations to Transform Geometry Class. *Mathematics Teacher*, 109(7), p. 507 -513.

- Szydlik, J. (2015). Mathematical Conversations to Transform Algebra Class. *Mathematics Teacher*, 108 (9), p. 656 – 661.
- Szydlik, J. E., Seaman, C. E. (2014) *Big Ideas in Mathematics for Future Elementary Teachers*. Create, The McGraw-Hill Companies.
- Szydlik, J. E., Beam, J., Kuennen, E. and C. E. Seaman. (2014). The Middle School Program at the University of Wisconsin Oshkosh. *Resources for Preparing Middle School Mathematics Teachers (MAA Notes #80)*. Beaver, C. et al., (Eds). The Mathematical Association of America. Washington, DC.
- Szydlik, J. E., Beam, J., Kuennen, E. and C. E. Seaman. (2014). Probability and Statistics for Prospective Middle Grades Teachers. *Resources for Preparing Middle School Mathematics Teachers. (MAA Notes #80)*. Beaver, C. et al., (Eds). The Mathematical Association of America. Washington, DC.
- Szydlik, J. & Seaman, C. (2012). Prospective Elementary Teachers' Evolving Meanings for Generalizing, Doing Mathematics and Justifying. *Proceedings for the Thirteenth Conference of the MAA's Special Interest Group on Research in Undergraduate Mathematics Education (SIGMAA on RUME)*. (These proceedings are refereed, and this paper won an Honorable Mention Award (one of two that are given) for "significant contributions to the field.") [http://sigmaa.maa.org/rume/RUME\\_XV\\_Proceedings\\_Volume\\_1.pdf](http://sigmaa.maa.org/rume/RUME_XV_Proceedings_Volume_1.pdf)
- Szydlik, J. E., Seaman, C. E. & Kuennen, E. (2011). *Big Ideas in Mathematics for Future Middle Grade Teachers and Elementary Math Specialists: Big Ideas in Infinite Processes*. Create, The McGraw-Hill Companies.
- Szydlik, J., E. Kuennen, & C. E. Seaman (2009). Development of an Instrument to Measure Mathematical Sophistication. *Proceedings for the Twelfth Conference of the MAA's Special Interest Group on Research in Undergraduate Mathematics Education (SIGMAA on RUME)*. [http://www.rume.org/crume2009/Szydlik\\_LONG.pdf](http://www.rume.org/crume2009/Szydlik_LONG.pdf).
- Koker, J. & Szydlik, J. E. (2008). *Big Ideas in Mathematics for Future Middle Grade Teachers and Elementary Math Specialists: Big Ideas in Algebra*. Boston: Create, The McGraw-Hill Companies.
- Seaman, C. E. & Szydlik, J. E. (2008). *Big Ideas in Mathematics for Future Middle Grade Teachers and Elementary Math Specialists: Big Ideas in Geometry*. Boston: Create, McGraw-Hill Companies.
- Seaman, C. E., Szydlik, J. E. (2007). Mathematical sophistication among preservice elementary teachers. *Journal of Mathematics Teacher Education*, 10, p. 167-182.
- Szydlik, J. E., Seaman, C. E., Szydlik, S. D., & Beam, J. (2005). A quantitative comparison of preservice elementary teachers' beliefs about mathematics and teaching mathematics: 1968 and 1998. *School Science and Mathematics* 105(4).

- Szydlik, J. E., S. D. Szydlik, & S. Benson (2003). Exploring changes in pre-service elementary teachers' mathematical beliefs, *Journal of Mathematics Teacher Education*, (6), 253-279.
- Szydlik, J. E. (2001). Risk-Taking in the Classroom. In *The MIDDLE MATH Monograph*. S. Rachlin and M. Eron, (Eds.) East Carolina University.
- Szydlik, J. E. (2001). Examining my assumptions. In *The MIDDLE MATH Monograph*. S. Rachlin and M. Eron, (Eds.) East Carolina University.
- Szydlik, J. E. and A. Oktac. (2001). A program for prospective middle school teachers at the University of Wisconsin-Oshkosh: A case study. In *The MIDDLE MATH Monograph*. S. Rachlin and M. Eron, (Eds.) East Carolina University.
- Szydlik, J. E. (2000). Mathematical beliefs and conceptual understanding of the limit of a function, *Journal for Research in Mathematics Education*, 31(3), p. 258-276.
- Szydlik, J. E. (2000) Photographs and Committees: Activities that help students discover permutations and combinations. *Mathematics Teacher*, 95 (2), p. 93-99.

The following papers were published under the name Jennifer L. Earles:

- Pratt, L. J., J. Earles, P. Cornillon, and J.F. Cayula. (1991). The nonlinear behavior of varicose disturbances in a simple model of the Gulf Stream. *Deep-Sea Research*, Vol. 38, Suppl. 1, p. S591-S622.
- Earles, J., L. Pratt, P. Cornillon, and J. F. Cayula. (1988). *A compilation of digitized satellite imagery of the Gulf Stream (1982, 1983, and 1985)*. Woods Hole Oceanographic Institution Technical report, WHOI-88-57.