# Cynthia L. McCabe

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### **EDUCATION**

- Ph.D. in Mathematics, University of Iowa, Iowa City, IA, July 1998 Thesis Title: Edge Number Results for Piecewise-Linear Knots and Links Thesis Advisor: Richard Randell Comprehensive Exam Areas: Topology, Algebra, and Analysis
- B.S. in Mathematics, Magna Cum Laude, Bradley University, Peoria, IL, May 1992
- B.S.E.E. (Electrical Engineering) Magna Cum Laude, Bradley Univ., Peoria, IL, May 1992

#### **PROFESSIONAL POSITIONS**

- Associate Professor of Mathematics, University of Wisconsin-Stevens Point, 2004 present
- Assistant Professor of Mathematics, University of Wisconsin-Stevens Point, 1998 2004
- Teaching Assistant, University of Iowa, 1992 1998
- Research Assistant, University of Iowa, Summers 1996 and 1997

#### **TEACHING EXPERIENCE**

• Courses taught at UWSP:

Math 101, Basic Trigonometry and Applications Math 105, Mathematics, Applications, Appreciation, and Skills Math 109, Math for the Social & Management Sciences Math 111, Applied Calculus Math 118 and 119, Precalculus Algebra and Precalculus Trigonometry Math 120, 121, & 222, Analytic Geometry and Calculus I, II, & III Math 300, Introduction to Proof with Real Analysis Math 324, Complex Variables Math 330, Intermediate Linear Algebra Math 355, Elementary Statistical Methods Math 499, Independent Study – Knot Theory Math 327, Advanced Calculus Math 331, Abstract Algebra Math 372, Topology

• Experience at the University of Iowa:

Instructor of three courses, Co-instructor of a Topology Comprehensive Exam Preparation Seminar (A graduate level seminar), and a Discussion Leader of several versions of calculus (with & without the software *Mathematica*)

### **CURRICULAR DEVELOPMENT**

- Have been a leader in the department and a resource for other faculty members in the use of student polling devices (clickers) to further engage students in upper- and lower-level mathematics courses. Survey results indicate that clicker use facilitated students' learning and did help them stay engaged. Fall 2008 – present.
- Introduced writing assignments with rewrite opportunities in Math 300, Introduction to Proof with Real Analysis, to develop students' mathematical writing skills. This practice will naturally support the upcoming departmental goal of writing throughout the major. Fall 2008 and 2009.
- After attending Faculty College, introduced "Red Pen Points," which involved students critiquing each others' work on homework problems at the beginning of class, into all of my 100-level courses for the following purposes: students come to class more prepared, students form healthy working relationships with colleagues, they have more motivation to stay caught up on homework, they get more feedback on homework, and they are more engaged during class. Survey results support the success of these goals with the possible exception of higher engagement during class. Fall 2007 Fall 2008.

## SERVICE ACTIVITIES: BROADENING STUDENT HORIZONS

- Motivated and escorted three to seven students twice each year as they joined the broader mathematical community at the MAA Wisconsin Section Meetings and the Pi Mu Epsilon Regional Undergraduate Math Conferences where students heard undergraduates and professional mathematicians present a wide variety of topics, and participated in mathematical contests themselves, November 2003 – present
- Exposed 6<sup>th</sup> grade Wisconsin students to unusual mathematical topics such as graph theory and topology, through presentations entitled "Mathematics in Navigation and Knots", given for College Days for Kids at UWSP, April 2004, 2005, 2006, 2008, 2009
- Supervised an Undergraduate Research Project in Knot Theory, Fall 2003
- Mathematics is More Than Just Arithmetic, a talk given for UWSP Women and Science Day (for 7<sup>th</sup> and 8<sup>th</sup> grade girls), February 2000

## PUBLICATIONS

- Constructing Algebraic Links for Low Edge Numbers, Cynthia McCabe, *Journal of Knot* Theory & Its Ramifications Vol. 14, No. 6, 2005
- An Upper Bound on Edge Numbers of 2-Bridge Knots and Links, Cynthia McCabe, *Journal* of Knot Theory & Its Ramifications Vol. 7, No. 6, 1998

#### PRESENTATIONS

- Introducing Clickers into Mathematics Classes: A Step Toward More Active Learning, a contributed talk for an audience of mathematics professors from across the country at the MathFest Conference, Portland, OR, August 2009
- Clickers in Mathematics Classes, a joint presentation made by Nathan Wodarz (UWSP) and myself for an audience of Wisconsin professors in the sciences at the Third Annual Best Practices in Science, Math, and Engineering Teaching Conference, Baraboo, WI, May 2009
- Poster presentation on Student Use of Written Feedback, based on data gathered from classes with IRB permission, Annual Meeting of the Wisconsin Section of the Mathematical Association of America (MAA), Eau Claire, WI, April 2007
- Can We Make That Knot Out of n Straight Edges?, Annual Meeting of the Wisconsin Section of the Mathematical Association of America (MAA), Wausau, WI, April 2003
- Constructing Algebraic Links and Tangles for Low Edge Numbers, invited talk, Second Japan-USA Workshop in Knot Theory, Washington DC, January 2003
- Constructing Algebraic Links for Low Edge Numbers, Joint Meetings of the American Mathematical Society (AMS) and the MAA, New Orleans, LA, January 2001
- Constructing Piecewise-Linear Knots and Links, invited talk, UW-Eau Claire Mathematics Seminar, April 1999
- An Upper Bound on Edge Numbers of 2-Bridge Knots and Links, Joint Meetings of the AMS and MAA, Baltimore, MD, January 1998
- Upper Bounds on Edge Numbers of Knots and Links, invited talk, Bradley University Mathematics Colloquium, November 1997

### **GRANTS AND AWARDS**

- Selected as a participant in the program "Energizing UWS SoTL Activities in Mathematics," includes a \$1000 stipend, based at UW-Eau Claire, Summer 2006 - 2007
- Partial funding awarded by The Research Foundation of State University of New York to participate in the workshop Interactions between Representation Theories, Knot Theory, Topology, and Mathematical Physics, Potsdam, NY, July 2002
- Project NExT Wisconsin fellowship, (NExT is New Experiences in Teaching) included attending the workshop on Undergraduate Research given by Joseph Gallian, Menomonie, WI, September 2001
- UPDC New Faculty Grant, to attend a Project NExT professional development workshop, Providence, RI, July/August 1999
- National Project NExT fellowship sponsored by the MAA and the Exxon Corp., professional development workshops, San Antonio, TX, January 1999 and Toronto, Ontario, July 1998
- Association for Women in Mathematics (AWM) Grant, to attend the AWM professional development workshop, Baltimore, MD, January 1998
- Outstanding Teaching Assistant \$1000 Award, University of Iowa, 1996

#### DEPARTMENTAL, UNIVERSITY, AND PROFESSIONAL SERVICE

Departmental Level:

Advisor for undergraduate math majors, Spring 1999 – present Personnel Committee, Fall 2004 – present (chair in 2008/2009) Candidate Evaluation Committees for many department members' retention or promotion decisions, 1 – 3 each year, 2002 – present Coordinating/Steering Committee, 1999 – 2001, 2002 – 2004, 2005 – 2008 (chair in 2003/2004 and 2006 – 2008) Hiring Committees, Mathematics 2000/2001, Mathematics 2005/2006, WDMD 2006/2007 Ad Hoc Handbook Revision Committee, Summer 2007 Math Major Curriculum Committee, 1998 – 2001, 2002 – present Service Course Curriculum Committee, 2001/2002 Merit Allocation Committee, 2000, 2002, 2003, 2007, 2008 Seminar Committee, 1999 – 2008 Textbook Committees, approximately every other year 1999 – present • University Level:

University Curriculum Committee member, Fall 2009
Participated as a member of the panel for a UWSP discussion on clickers, organized by UWSP's Teaching & Learning Resource Network, May 2009
Member of a hiring committee for a Scientist position in CNR, Fall 2007
Member of a hiring committee for a Child Care Teacher at the HRG-UCLCC, 2006
Faculty Senate member, Fall 2001 – Spring 2003 and Fall 2004 – Spring 2006
Graduate Council, Fall 2001 – Spring 2003
Math Club UWSP Advisor, Fall 2000 – present
Pi Mu Epsilon Mathematics Honor Society, Advisor for the Wisconsin Zeta Chapter since the chapter's installation, Spring 2005 – present

 Refereed a paper on an approach to teaching Real Analysis for the journal PRiMUS (Problems, Resources, and issues in Mathematics Undergraduate Studies), Spring 1999

## ADDITIONAL CONFERENCES AND WORKSHOPS ATTENDED

- Critical Thinking: Performance Tasks, UWSP, October 2009
- Assessing Critical Thinking: from Course to Campus, UWSP, September 2008
- One-day workshop on in-class polling technology ("clickers") led by Ken Menningen, UWSP, August 2008
- MAA Mathfest (national meeting) including attending a minicourse about bridge courses, mathematics classes similar to UWSP's Math 300, Madison, WI, July/August 2008
- Faculty College (professional development workshops), Richland Center, WI, May/June 2007
- National Joint Mathematics Meetings of the AMS and MAA, January 2005 and 2007
- UWSP Scholarship of Teaching and Learning (SoTL) Activities: Book Discussions and Teaching Circle participation, Fall semester 2003
- MAA Wisconsin Section Meetings, April 1999, 2001, 2002
- MAA Mathfest (national meeting), Madison, WI, August 2001
- UWSP Summer Technology Workshop on Web Design, August 2000
- UWSP Teaching Summits in January of several years

## **PROFESSIONAL ORGANIZATIONS**

- American Mathematical Society (AMS)
- Association for Women in Mathematics (AWM)
- Mathematical Association of America (MAA)
- Pi Mu Epsilon (PME) national mathematics honor society

## **OTHER INTERESTS**

- Member of the UWSP Flute Choir, 1999 2002, 2004, 2006, and 2008
- Member of the Point in Time Early Music Consort, 1998 present