

William O. Martin

School of Education

North Dakota State University
210F FLC, PO Box 5057
Fargo, ND 58105-5057
Email: william.martin@ndsu.edu

Department of Mathematics

North Dakota State University
300 Minard, PO Box 5075
Fargo, ND 58105-5075

Office Phone:

701 231-7104 SOE

Fax:

701 231-7416 SOE

Education

Ph. D., Mathematics Education	University of Wisconsin-Madison	1993
MA, Mathematics	University of Wisconsin-Madison	1989
BS, Mathematics	Iowa State University	1986 (with distinction)
BA, Geography, HS Teaching	University of Northern Iowa	1975

Professional Experience

Head and Professor	NDSU School of Education	2006-present
Adjunct Professor	Mathematics	2006-present
Chair	NDSU School of Education	2005-06
Interim Chair	NDSU School of Education	2004-5
Associate Professor	NDSU Mathematics, Teacher Education	2001-2006
Assistant Professor	NDSU Mathematics, Teacher Education	1995-2001
Assistant Researcher	UW-Madison Mathematics	1993-95
Instructional Specialist	UW-Madison College for Kids	1989-94
Instructor	Madison Area Technical College Mathematics	1989-94
Project Assistant	UW-Madison Mathematics	1990-93
Teaching Assistant	UW-Madison Mathematics	1987-90
Teaching Assistant	Iowa State University Mathematics	1986-87
Secondary Teacher	Victorian Education Department, Australia	1975-85

Professional Objectives

- Conduct research in undergraduate mathematics education
- Promote reflective mathematics instruction in school and college that encourages student confidence, self-reliance, and responsibility for learning
- Provide leadership in local, state, and national K-12 mathematics education
- Strengthen ties between school and college mathematics and between mathematics and its client disciplines
- Obtain funding to support these professional activities

Current Research and Professional Activity

Assessment:

Current work, including work supported by grants, is in assessment in mathematics departments and in the development and implementation of assessment systems for units with programs in education.

K-12 Professional Development:

Work includes grant-funded projects that involve K-16 science and mathematics education, including extensively collaborative outreach activities working with science, mathematics and engineering faculty, including tribal colleges and schools in ND.

Learning Theory Research in Undergraduate Mathematics Education:

Current work, supported by an NSF CCLI grant, investigates how coordinated study of learning theories in the specific context of study of upper level undergraduate mathematics (linear algebra) affects preservice and inservice teacher understanding of both the mathematics content and the associated learning theory.

Publications

- Podoll, A., Olson, B., Montplaisir, L., Schwert, D. McVicar, K., Comez, D., and Martin, W. (2008). Networking Antarctic Research Discoveries to a Science Classroom, *Science Scope*.
- Cooley, L., Martin, W., Vidakovic, D., and Loch, S. (2007, May 29). Coordinating learning theories with linear algebra. *International Journal for Mathematics Teaching and Learning* [on-line journal], University of Plymouth: U.K. <http://www.cimt.plymouth.ac.uk/journal/default.htm>. Accessed May 29, 2007.
- Martin, W. O. (2006). Assessing Introductory Mathematics: Partnering with Faculty from Other Disciplines. In Bernard L. Madison (Ed.), *Assessment of Student Learning in College Mathematics: Towards Improved Programs and Courses* (Assessment in the Disciplines, volume 2, pp. 14-29). Tallahassee, FL: Association for Institutional Research.
- Çömez, Dogan and Martin, W. O. (2006). Quantitative Literacy as an Integral Component of Mathematics Curriculum, Case at North Dakota State University. In R. Gillman (Ed.) *Current Practices in Quantitative Literacy* (MAA Notes number 70, pp. 155-163). Washington DC: Mathematical Association of America.
- Martin, William O. and Comez, D. (2006). Developing a Departmental Assessment Program. B. Gold, L. Hopkins, D. Jardine, W. Marion (Eds.) *Supporting Assessment in Undergraduate Mathematics* (pp. 93-101). Washington DC: Mathematical Association of America.
- Vidakovic, D. and Martin, W. O. (2004). *Small-group searches for mathematical proofs and individual reconstructions of mathematical concepts. The Journal of Mathematical Behavior* 23(4), 465-492.
- Martin, W. O. and Çömez, Dogan. (2003). *Developing a Departmental Assessment Program: North Dakota State University Mathematics*. Mathematics Association of America Project SAUM, http://www.maa.org/SAUM/new_cases/new_case_11_03/assessNDSUr3.html. (To appear in an MAA Notes volume). MAA: Washington DC.
- Martin, W. O. (2000). Lasting Effects of the Integrated Use of Graphing Technologies in Precalculus Mathematics. E. Dubinsky, A. Schoenfeld, & J. Kaput (Eds.) *Research in Collegiate Mathematics Education IV* (Conference Board of the Mathematical Sciences: Issues in Mathematics Education, pp. 154-187). Providence RI: American Mathematical Society.
- Martin, W. O., and Bauman, S. F. (1999). Have our students with other majors learned the skills they need? In B. Gold, S. Keith, and W. Marion (Eds.), *Assessment Practices in Undergraduate Mathematics (MAA Notes Number 49)*. Washington, DC: Mathematical Association of America.
- Martin, W. O. (1996). Assessment of students' quantitative needs and proficiencies. In T. W. Banta, J. P. Lund, K. E. Black, & F. W. Oblander (Eds.), *Assessment in Practice: Putting Principles to Work on College Campuses*. San Francisco: Jossey-Bass.
- Bauman, S. F., & Martin, W. O. (May 1995). *Assessing the Quantitative Skills of College Juniors. The College Mathematics Journal*, 26(3), 214-220.
- Martin, W. O. (1994). Lasting effects of the integrated use of graphing technologies in precalculus mathematics (Doctoral Dissertation, University of Wisconsin-Madison, 1993). *Dissertation Abstracts International*, 54, 3694A.
- Philipp, R., Martin, W., & Richgels, G. (1993). Curricular implications of graphical representations of functions. In T. Romberg, E. Fennema, & T. Carpenter (Eds.), *Integrating research on the graphical representation of function*. Hillsdale, N. J.: Lawrence Erlbaum Associates.

Grant Activities

National Science Foundation (Submitted DGE GK-12 July 3, 2008; \$3,032,890)	Senior Personnel, <i>E-CoSMEC</i> (PI Kevin McCaul)	Pending
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National Science Foundation (Submitted DUE CCLI May 20, 2008; \$38,393)	Principal Investigator on collaborative proposal, <i>Collaborative Research—Linear Algebra in New Environments (LINE)</i> , (primary PI Scott Dexter, Brooklyn College—CUNY)	Pending
National Science Foundation (Submitted DUE April 10, 2008; \$743,516)	Co-Principal Investigator, <i>Noyce Scholars: North Dakota Science and Mathematics Teacher Scholarship Program</i> (PI Lisa Montplaisir)	Pending
National Science Foundation (Submitted DRL Jan 28, 2008, \$199,253)	Co-PI, <i>E: Cultivating STEM literacy through a collaborative professional development model</i> (PI Lisa Montplaisir)	Declined
National Science Foundation (DUE CCLI 0442574, \$74,999)	Co-Principal Investigator, <i>The Linear Algebra Project</i> . (PI Laurel Cooley, Brooklyn College—CUNY)	2005-06
National Science Foundation (DGE 0338128, \$1,999,559)	Co-Principal Investigator, <i>NDSU GraSUS II</i> . (PI Dogan Comez, NDSU)	2004-09
National Science Foundation (DUE 0127694, \$499,928)	Member steering group and workshop leader, <i>Supporting Assessment in Undergraduate Mathematics</i> . (PI Bernie Madison, University of Arkansas)	2002-06
NASA (\$118,884)	Member NDSU leadership group, <i>Pre-college Achievement of Excellence in Mathematics, Science, Engineering and Technology (PACE/SMET)</i> . (PI Carol Davis, Turtle Mountain Community College with NDSU subaward)	2002-05
National Science Foundation (DGE 0086445, \$971,556)	Co-Principal Investigator, <i>NDSU GraSUS</i> . (PI Dogan Comez, NDSU)	2001-04
Office of Naval Research (\$1,274,242)	Member NDSU leadership group, <i>An Adaptive Systemic Initiative of Tribal Colleges-university Collaboration for Increasing Native American Participation in Mathematics, Science and Engineering Programs</i> . (PI Carol Davis, Turtle Mountain Community College with NDSU subaward)	1999-2004
Bush Foundation, St Paul MN (\$450,000)	Grant Proposal Steering Committee; Co-director Assessment Project; Member, NGIC Project Committee; <i>To Improve Undergraduate Learning Through Faculty Development and Improvement of Teaching</i> (PI, Richard Chenoweth, NDSU).	1999-2002
National Science Foundation (DUE 987668, \$605,000)	Principal Investigator, <i>NDSU Institutional Collaborative for Mathematics and Science Teacher Preparation</i> .	1999-2003
Bush Foundation, St Paul MN (\$450,000)	Grant Proposal Steering Committee; Co-director Assessment Project; Member, NGIC Project Committee; <i>To Improve Undergraduate Learning Through Faculty Development and Improvement of Teaching</i> (Principal Investigator, Richard Chenoweth).	1999-2002

U.S. Department of Education/ ND Department of Public Instruction (ND DPI) (\$1.5 million to DPI; \$43,000 NDSU subcontracts, 1998-2000; \$398,822 NDSU subgrant 2000-2001)	Project Coordinator, <i>North Dakota Mathematics Assessment Project</i> (Principal Investigator: Greg Gallagher, ND DPI).	1998-2002
ND DPI/NDUS (\$17,000, \$19,000, \$19,000)	Principal Investigator, <i>Aligning Instruction with ND Mathematics Frameworks A Curriculum Development Workshop for Teachers.</i>	Annual awards 1998-2001
ND DPI/NDUS (\$16,000, \$17,000)	Principal Investigator, <i>New Assessment Perspectives: A Framework for Aligning Instruction with Mathematics Standards.</i>	Annual awards 1996-98
NSF DUE (\$99,380)	Director of University Faculty/High School Teacher Exchange (MIPP) project of <i>ND CoMSTeP Planning Grant</i> activities (Principal Investigator: Debra Tomanek, NDSU Botany)	1997-98
ND EPSCOR (\$40,000)	Principal Investigator, <i>Connecting Instructional Goals and the Development of Students' Mathematical Knowledge: A Global, Longitudinal Perspective.</i>	1996-98

Conferences, Workshops and Presentations

2008

- June 16-20. Invited and refereed presentation at International Linear Algebra Society meeting, *Integrating learning theories and application-based modules in teaching linear algebra* with Sergio Loch, Draga Vidakovic, Laurel Cooley, Scott Dexter. Cancun, Mexico.
- June 13. Co-organizer *GraSUS Summer Academy Part I*. NDSU, Fargo.
- April 19-23. Chair State Team for UND NCATE/ESPB Accreditation and Approval site visit. Grand Forks.
- April 18. Attend NDCTM Board Meeting and Spring Conference. Grand Forks.
- April 3, 4. Attend NDACTE Spring Leadership Conference. University of Mary, Bismarck.
- January 18-21. Linear Algebra Project grant leadership meeting and workshop. CUNY Graduate Center, New York.
- January 5-9. Organizer of MAA Contributed Paper Session on *Assessment* at Joint Mathematics Meetings. San Diego.
- January 3. Co-presenter with Lisa Montplaisir for Peer Review of Teaching project workshop on *Assessment and Engaging Students*. NDSU, Fargo.

2007

- November 7-10. Participant *ACE Chair's Conference*, Austin Texas.
- September 13. Co-organizer *NDSU Sonia Kovalevsky High School Girls Mathematics Day*. Fargo
- August 17-19. MAA Placement Testing Program workshop, Washington DC.
- August 15. NDSU Teaching Workshop *Assessment and Grading as Instructional Tools*. NDSU, Fargo.
- June 6 and 12. *NATURE Research Proposal Seminar*. NATURE Summer Academy at NDSU, Fargo.
- May 31, August 6-7. GraSUS Summer Academy organizer at NDSU, Fargo.
- April 18. *AP-Engineering Proposal Workshop*. Planning group participant at University of Maryland for SEEK-16 project headed by Lee Abts. College Park MD.
- April 12-13. NDACTE Spring Conference at University of Mary, Bismarck.
- April 10. Dogan Çömez, Canan Bilen-Green, William O. Martin, Kim McVicar, *Lisa M. Montplaisir, and Debra Tomanek. *GraSUS: Professional Development in Mathematics and Science through School-University Collaboration*. Contributed paper at AERA in Chicago.
- April 2-4. Great Plains IDEA conference. Omaha, Nebraska.
- March 30-31. NDCTM Spring Conference. Conference co Chair with Lonnie Hass at NDSU, Fargo.
- March 22-23. Mathematics Department Program Review. Northern State University, Aberdeen SD.
- March 19. *AP-Engineering Proposal Workshop*. Planning group participant at National Academy of Engineering for SEEK-16 project headed by Lee Abts. Washington DC.
- March 9-11. Attend and present poster at GK-12 Project Meeting as co-PI of GraSUS II. Washington DC.
- February 9-12. Linear Algebra Project (funded by NSF CCLI) meeting at CUNY Graduate Center. New York, New York.
- January 19. Panelist at NDACTE Conference on Accreditation/Program Approval. VCSU, Valley City.
- January 7. Organized Assessment contributed paper session at annual Joint Mathematics Meetings. New Orleans, LA.
- January 5. Invited panelist for Quantitative Literacy session at annual Joint Mathematics Meetings. New Orleans, LA.

2006

- November 10, 2006. *The Learning of Linear Algebra from an APOS Perspective*. With Michael Meagher, Laurel Cooley, Draga Viidakovic, and Sergio Loch. Poster session at PME-NA annual meeting in Merida, Mexico.
- October 28, 2006. *Action Research*, NATURE project meeting at NDSU.
- October 27, 2006. Organizer, *AP² Engineering Focus Group*. NDSU Group Decision Center.
- October 20-23, 2006. Linear Algebra Project workshop, CUNY Graduate Center, NY.
- October 7, 2006. Co-organizer, *Sonia Kovalevsky High School Mathematics Day*. NDSU Alumni Center.
- September 22, 2006. NDACTE Meeting at Sitting Bull Community College, ND.
- September 11, 2006. *Effects of the Concurrent Study of Learning Theory and Linear Algebra*. NDSU School of Education Colloquium.
- July 28-31, 2006. Linear Algebra Project workshop, CUNY Graduate Center, NY.
- April 27-29, 2006. Assessment workshop for Eastern Kentucky University Department of Mathematics.
- April 8, 2006. *Learning Theory and Linear Algebra*. Poster session at AERA annual meeting, San Francisco.
- March 29-30, 2006. External Evaluator, program review for Bemidji State University Department of Mathematics, Minnesota.
- March 3-6, 2006. Linear Algebra Project workshop, CUNY Graduate Center, NY.
- January 13-14, 2006. MAA/AMS Annual Joint Meetings Contributed Paper Session Organizer, *Research into Practice*, on Research in Undergraduate Mathematics Education (RUME) as Program Chair for the MAA SIG on RUME. San Antonio, Texas
- January 10-12, 2006. Workshop and panel leader for MAA Project SAUM Assessment Workshop #4, San Antonio Texas.

2005

- November 4-6, 2005. Linear Algebra Project workshop, CUNY Graduate Center, NY.
- October 22-23, 2005. Item writing workshop for ETS PRAXIS II mathematics content examinations.
- October 13-15, 2005. Plenary speaker and workshop organizer for Georgia NSF-sponsored Math Science Partnership PRISM Institute, Atlanta Georgia.
- July 15-18. Linear Algebra Project leadership group workshop. New York City.
- June 6-10. Team member, NSF Critical Site Visit for Puerto Rico MSP. San Juan, Puerto Rico.
- May 31-June 3. Organizer and participant, ONR Summer Academy for collaborative project with ND Tribal Colleges. Fargo.
- May 1-3. Program review site visit, Saint Cloud State University Mathematics Department. St. Cloud, MN.
- April 9-13. Coordinator for NCATE/ESPB continuing accreditation site visit to NDSU. Fargo ND.
- April 7, 9. NDACTE State conference. Bismarck, ND.
- April 3-5. Site Coordinator for CARE conference from Monroe Louisiana (University of LA–Monroe). Fargo ND via video conference.
- April 1-2. NDCTM Board meeting and spring conference. Jamestown, ND.
- March 20. NDSU Faculty representative and workshop facilitator for ONR project Sunday Academy at Sitting Bull CC. Fort Yates ND.
- February 24-27. Steering committee co organizer for MAA SIGMAA on RUME annual conference. Phoenix AZ.
- February 20, 21. Invited participant, SEEK-16 conference at National Academy of Engineering. Washington, DC.
- January 8-10. Leadership group and presenter at MAA Project SAUM Workshop #4 *Assessing the Mathematics Major*. Clayton College, Atlanta GA.
- January 4-8. Organizer for MAA SIGMAA RUME Contributed Paper Session and Business meeting at annual joint MAA/AMS meetings. Atlanta, GA.

2004

- December 12. NDSU Faculty representative and workshop facilitator for ONR project Sunday Academy at Sitting Bull CC. Fort Yates, ND.
- November 21. NDSU Faculty representative and workshop facilitator at ONR project Sunday Academy at Sitting Bull CC. Fort Yates, ND.
- November 12-15. Invited panelist, National Assessment of Educational Progress *Standards Setting Workshop, High School Mathematics*. Westin Hotel, St. Louis.
- November 3-6. Participant, American Council on Education *Chair/Dean Workshop*. Plaza Hotel, San Antonio, Texas.
- October 29-30. Local Organizer, North Central Section Mathematics Association of America *Fall Meeting*. North Dakota State University, Fargo.
- October 9. Co-organizer, *Sonia Kovalevsky Mathematics Day*. NDSU Alumni Center, Fargo.
- October 1-3. *RUMEC Research Group Fall Working Meeting*. Georgia State University, Atlanta.
- August 15-19. Co-organizer, *GraSUS Summer Academy*. NDSU, Fargo.
- August 4-6. Leadership group, *ONR Summer Camp, part II*. NDSU, Fargo.
- August 21. NDUS *Competency Based Admission Working Group Meeting*. Fargo, ND (IVN).
- June 10-13. Co-PI *RUMEC Linear Algebra Project Grant Leadership Planning*. Newark, NJ.
- June 1-4. Leadership group, *ONR Summer Camp, part I*. NDSU, Fargo.
- April 27-28. North Dakota Department of Public Instruction nominee, *Technology Education Workshop*. National Academy of Engineering, Washington DC.
- April 24. Session organizer, ND Science Olympiad *Practical Data Gathering*. NDSU, Fargo.
- March 26-27. NDCTM Spring Conference, Board meeting and session presenter: *Teaching and Learning Mathematics: Some Video Perspectives*. Grand Forks, ND.
- March 11-14. NSF GK-12 PI Meeting, Co-PI *GraSUS*. Washington DC.
- March 5-7. Workshop Co-Leader, MAA PREP Project SAUM, *Assessing the Mathematics Major: What do our Students Know?* High Point, North Carolina.
- March 4-6. Invited participant (NDSU team with Bob Pieri and Jim Wigtil), *TEEM-up Conference*. Clearwater Beach, Florida.
- February 13-15. *RUMEC Research Group Spring Working Meeting*. Jersey City, NJ.
- February 8-10. Invited panelist, NSF review of MSP program proposals. Arlington, Virginia.
- January 7-12. Poster session for MAA PREP Project SAUM, *Assessment in Mathematics at NDSU*. Joint AMS/MAA meetings, Phoenix, Arizona.
- January 5-7. Workshop Co-organizer and presenter. MAA PREP Project SAUM Workshop #3, *Assessment in Mathematics*. Phoenix, Arizona.

2003

- December 14. NDSU Faculty representative and workshop facilitator at ONR project Sunday Academy at United Tribes Technical College. Bismarck, ND.
- November 23. NDSU Faculty representative and workshop facilitator at ONR project Sunday Academy at Sitting Bull CC. Fort Yates, ND.
- November 16-17. Participant ESPB *Highly Qualified Standards Setting* conference. Bismarck, ND.
- October 26. NDSU Faculty representative and workshop facilitator at ONR project Sunday Academy at Sitting Bull CC. Fort Yates, ND.
- October 24, 25. Presentation at MAA North Central Section Fall conference, *Assessment and Project SAUM*. Sioux Falls, SD.
- October 10. Invited participant, MCREL North Dakota Planning Meeting. Bismarck, ND.
- October 9. Participant, ESPB *Portfolio Design Workshop for Highly Qualified*. Devil's Lake ND.
- October 3, 4. NDMATYC Fall Conference. Carrington, ND.
- September 27. Co Organizer and Presenter at NDSU Sonia Kovalevsky High School Day. Fargo, ND.
- September 19-21. *RUMEC Research Group Fall Working Meeting*. Georgia State University, Atlanta, GA.
- September 10. Participant, ESPB *Portfolio Design Workshop for Highly Qualified*. Bismarck ND.
- July 23. Participant, ESPB *Portfolio Design Workshop for Highly Qualified*. Devil's Lake ND.
- May 18-21. Organized and presented at annual *ND Reform of Science and Mathematics Education* conference. Bismarck, ND.
- April 30 - May 3. NSF CETP PI meeting representing NDSU CoMSTeP Arlington VA.
- April 26. Session organizer, ND Science Olympiad *Practical Data Gathering*. NDSU, Fargo.
- April 20-22. Program review site visit, Winona State University Mathematics Department. Winona, MN.
- April 10-1. Participant, ESPB Program Review Training Workshop. Grand Forks, ND.
- March 28-29. NDCTM Board meeting and spring conference. Minot, ND.
- March 13-16. Workshop co-organizer and presenter, MAA Project SAUM Workshop #3 *Assessment of General Education*. Paradise Valley Community College, Phoenix, AZ.
- February 29 - March 2. *RUMEC Research Group Spring Working Meeting*. Georgia State University, Atlanta, GA.
- January 19-21. Presenter, MAA Project SAUM Workshop #2, *Mathematics Department Assessment*. Baltimore, MD.
- January 14-19. Annual Joint meetings of the MAA/AMS. Baltimore, MD.

2002

- December 6, 7. Organizer and presenter of workshop for K-12 science teachers at tribal schools, *Inquiry*. Spirit Lake Resort, Fort Totten, ND.
- November 18-20. NSF MSP Proposal Writing Workshop. Minneapolis, MN.
- October 24, 25. NDCTM Board Meeting and Fall Conference session on *Geometry and Models in Mathematics*. Bismarck, ND.
- October 11-13. RUMEC Research Group Fall Working Meeting. Illinois State University, Normal, IL.
- October 6. ND State of the Faculty conference. University of North Dakota, Grand Forks, ND.
- September 15-16. ND Mathematics/Science Alliance executive and board meeting. Bismarck, ND.
- August 12-16. Organizer and presenter at GraSUS Summer Academy. NDSU, Fargo, ND.
- July 29-31. Co-organizer and presenter, MAA Project SAUM Workshop #2. Burlington, VT.
- June 3-14. Workshop presenter (*Inquiry*) and organizer of *Math EXCEL* for ONR Summer Academy. NDSU, Fargo, ND.
- May 22-26. MAA Project SAUM Workshop #1, *Assessment in Mathematics Departments*. Virginia Commonwealth University, Richmond, VA.
- May 12-15. Organizer and presenter at ND Reform of Science and Mathematics Education conference. Bismarck, ND.
- April 17-21. NSF CETP PI meeting representing NDSU CoMSTeP *Pathways to Change*. Arlington VA.
- March 24. NDSU Faculty representative and workshop facilitator, ONR Sunday Academy. Little Hoop Community College, Fort Totten, ND.
- March 21-22. Local organizer and presenter, NDCTM Board Meeting and Spring Conference, *Connections*. Fargo, ND.
- March 3-5. NSF MSP Workshop. Arlington, VA.
- March 1, 2. ONR Project planning meeting. Bismarck, ND.
- February 22-24. RUMEC Research Group Spring Working Meeting. ExxonMobil Corporate Campus, Dallas, TX.
- January 26. Program reviewer for Dakota Learning Systems teacher workshop. Fargo, ND.
- January 9-11. Participant in MAA Project SAUM Assessment Workshop #1. San Diego, CA.
- January 5-9. Joint Meetings of the MAA/AMS. San Diego, CA.

2001

- December 16. NDSU Faculty representative and workshop facilitator, ONR Sunday Academy. Little Hoop Community College, Fort Totten, ND.
- November 9-11. RUMEC Research Group Fall Working Meeting. Des Moines, IA.
- October 28. NDSU Faculty representative and workshop facilitator, ONR Sunday Academy. Turtle Mountain Community College, Belcourt ND.
- October 18, 19. NSF GK-12 Proposal Review Panel. Arlington VA.
- October 5, 6. NDMATYC Conference. Carrington, ND.
- October 1, 2. EPSCOR Conference. SD State University, Brookings, SD.
- September 22. State of the Faculty Conference. University of North Dakota, Grand Forks, ND.
- September 21. Organized workshop for Fargo Public Schools math teachers at Agassiz Junior High. Fargo, ND.
- September 16, 17. ND Math/Science Alliance executive committee and state meeting. Bismarck, ND.
- September 6. ND DPI meeting about higher education portion of Title II funding. Bismarck, ND.
- August 20-24. Co-Organized NDSU Mathematics Department TA workshop. Fargo, ND.
- June 18-21. Present at ONR Summer camp at Turtle Mountain Community College. Belcourt, ND.
- June 14, 15. Coordinate final ND Mathematics Assessment Project Item Bank Writing Workshop. Bismarck, ND.
- June 13, 14. ND Math/Science Alliance executive meeting. Bismarck, ND.
- June 7-13. Teaching/learning workshop presenter and organizer of *Math EXCEL* for ONR Summer Academy. NDSU, Fargo, ND.

2000

- September 24, 2000. Invited panelist, *North Dakota's Standards-Based Assessments*, Educational Improvement Conference, Fargo ND.
- May 15-17, 2000. Co-organizer with Alan White (NDSU Botany/Biology) of the *Third Annual Conference for the Reform of Undergraduate Science and Mathematics Education* (Bismarck). (Sponsored by NSF DUE and NDSU College of Science and Mathematics).
- June 25, 2000. ND DPI nominated representative at the US Department of Education NCEO/OSEP/OERI Projects meeting (Salt Lake City).
- April 1-4, 2000. NDSU Assessment Team Member at *North Central Association of colleges* annual conference (Chicago).
- March 23-25, 2000. Participated in NSF *Collaboratives for Excellence in Teacher Preparation* Project conference (Washington, DC).

1999

- June 13, 1999. ND DPI nominated representative at the US Department of Education NCEO/OSEP/OERI Projects meeting (Salt Lake City).
- April 9, 1999. Organized Honors Day for ND Mathematics Talent Search Participants (NDSU, Fargo).
- February 11-13, 1999. Invited presentation *M³: Motivating Mathematics with Models*, NCTM Regional Conference (Des Moines).
- January, 1999 (With Vidakovic, D., & Vakil, R.). Contributed paper *Proving it in Small Groups: Collaborative Searches for Mathematical Proofs*. Annual Joint Meetings of the MAA and AMS (San Antonio).

1998

- November 1-3, 1998. Working group participant, *Research in Undergraduate Mathematics Education*. Psychology of Mathematics Education-North America Annual Conference (Raleigh).
- October 15, 1998. Invited presentation, *Implementing Mathematics Standards*, Minnesota KOTA Fall conference (Fargo).
- October 8-9, 1998. Presentations on the *ND Mathematics Assessment Project* and *Standards 2000* (Minot).
- October 2-3, 1998. NDMATYC Annual Conference (Carrington).
- September 17-20, 1998 (With Vidakovic, D.). Contributed paper *The Role of Collaborative Work on Individual Reconstructions of Mathematical Concepts*, Research in Undergraduate Mathematics Education conference (South Bend).
- June 14, 1998. ND DPI nominated representative at the US Department of Education NCEO/OSEP/OERI Projects meeting (Colorado Springs).
- May 17-19, 1998. ND DPI nominated state mathematics/science representative at the National Research Council *State Leadership Conference* (Washington, DC).
- May 11-13, 1998. Invited Panelist on *Mathematics Education Reform: Implications for Undergraduate Education*, Panel organizer for *High School Teacher/University Faculty Exchange Projects*, both at Conference on *Reforming Undergraduate Science and Mathematics Education* (Bismarck).
- April 30, 1998. Organized Honors Day for *NDSU Mathematics Talent Search* participants (NDSU, Fargo).
- March 6-7 1998. Invited workshop on *Engaging Students with Applications and Technologies*, NDCTM Spring Conference (Minot).
- February 1998. NDSU Mathematics Club. *The Geometers Sketchpad* (Fargo).
- January 1998. Annual Joint Meetings of AMS/MAA. Invited panelist for Project NExT panel discussion *The Pros and Cons of Different Classroom Strategies* (Baltimore).

1997

- November 1997. Sonya Kovalevsky Day at NDSU. Workshop for teachers: *How Can We Increase Student Engagement in our Classes?*
- October 1997 NDCTM Fall Conference. *Modeling in School Mathematics* (Fargo).
- September 1997. EPSCOR Conference. *Connecting Instructional Goals and the Development of Students' Mathematical Knowledge: A Global, Longitudinal Perspective* (Brookings SD).
- September 1997. RUME Conference. Invited panelist with D. Ball and R. Davis *Connecting K-12 and Collegiate Mathematics Education* (Central Michigan University, Mt. Pleasant).
- April 1997. NDSU Mathematics Club. *Careers in Mathematics Education* (Fargo).
- March 1997 Invited workshop, NDCTM Spring Conference. *Using Group Activities to Build Mathematical Knowledge* (Devil's Lake).
- January 1997. Annual Joint Meetings of AMS/MAA. Contributed paper for session on Needed Connections: Preparation of Teachers K-12, *A Model for Working with Secondary Teachers to Reform Mathematics Instruction* (San Diego).

1996

- Fall, 1996, Wahpeton School District: Invited Standards workshop at preliminary meeting to revise district mathematics curriculum guide (Wahpeton).
- October 1996, NDCTM Fall Conference: Organizer and Panelist of session reporting on *MCREL Making Connections Conference*. (Bismarck)
- October 1996, NDCTM Fall Conference: Workshop session on the *TI-92 handheld calculator/computer* (Bismarck).
- September 1996. RUME Conference: Contributed Paper: "*Connecting Instructional Goals and the Development of Students' Mathematical Knowledge: A Global, Longitudinal Perspective*" (Central Michigan University, Mt Pleasant).
- August 1996. MAA Mathfest: Organized session on Teacher Enhancement: Making connections with K-12 mathematics education. (University of Washington, Seattle)
- April 1996. MAA NCS Spring Meeting: Panelist, Project NExT Panel Discussion (Hamline University, St. Paul).
- April, 1996. Invited Concordia College Mathematics Department Colloquium on the *Reform of Undergraduate Mathematics Education--recent Trends and Developments*. (Moorhead)

1995

- November 6, 1995, Assessment Conference in Indianapolis. Invited session, with Steve Bauman (presented twice during conference), *Are students prepared for the quantitative demands of upper-division courses?*
- October 21, 1995, North Central Section MAA meeting. *Assessing the lasting impact of introductory mathematics courses* (NDSU, Fargo).
- October 19, 1995, NDCTM meeting. *Problems of the week: A practical way to implement NCTM curriculum, teaching, and evaluation standards* (Fargo).
- October 12, 1995, NDSU Mathematics Department Colloquium. *Readiness for upper-division technical courses: Some findings from a five-year assessment project* (Fargo).
- October 5, 1995, NDSU, Pi Mu Epsilon. *American mathematics education: Changes for the better? Juniors for Upper-Division Courses*
- April 7-8, 1995. Annual meeting of the MAA Wisconsin Section. *Mathematics Across the Campus: Relating Faculty Expectations and Student Capabilities* (Green Bay).
- February-March 1995. Invited colloquia talks on *Assessing the Impact of Mathematics Instruction*. Universities of Delaware, Georgia, West Virginia, and Central Michigan; Boise and North Dakota State Universities.
- January 4, 1995: Annual joint meeting of the AMS and MAA. *Contributed paper: Linking Faculty Expectations and Student Goals to the Assessment of Quantitative Capabilities* (San Francisco).

Pre 1995

- April 1994: Annual meeting of the MAA Wisconsin Section. *Curricular Impact of Quantitative Assessment* (Eau Claire).
- March 1994: Mathematics Department Colloquium, University of Oklahoma. *Graphing Technologies and Lasting Effects of Mathematics Instruction* (Norman).
- January 1994: Annual joint meeting of the AMS and MAA. *Contributed paper: Lasting Effects of the Integrated Use of Graphing Technologies in Precalculus Mathematics* (Cincinnati).
- April 17, 1993 (With Steve Bauman) Annual Meeting of the Wisconsin Section of the MAA. *Madison's Assessment Project* (Menasha).
- March 1, 1993: Mathematics Education Colloquium, Department of Mathematics, Syracuse University (*Quantitative Assessment Project at the University of Wisconsin-Madison*)
- November 25, 1992, (With Steve Bauman) UW Math Department Education Seminar. *Readiness of College Juniors for Upper-Division Work* (Madison).
- October 16, 1992, Purdue University-Calumet Mathematics colloquium. Invited address: *Are College Juniors ready for the Quantitative Demands of Upper-Division Courses?* (Calumet).
- September 22, 1992, UW-Madison Department of Mathematics committee reviewing college algebra courses. *What Precalculus Mathematics do Other Departments Want?* (Madison).
- April 1992, (with Tom Kurtz, Steve Bauman and Bob Wardrop) Wisconsin section meeting of the MAA. . *Panel discussion: quantitative assessment of college juniors and the assessment programs of various UW system campuses* (Whitewater).
- April 1987: Iowa sectional joint meeting of SIAM and the MAA. Student contributed paper: *Compactness* (University of Northern Iowa, Cedar Falls).

Service

National	• Program Chair, MAA SIG on RUME	2004-2006
	• Chair, National Council of Teachers of Mathematics (NCTM) RUMEC Association Review Group (ARG) for Standards Review Project.	1998-2000
	• Reviewed papers for the <i>Journal for Research in Mathematics Education</i> , the <i>MAA Monthly and College Mathematics Journal</i> and for the <i>Journal for Research in Collegiate Mathematics Education</i> .	1995-2004
State	• NDCTM Newsletter Editor	1998-present
	• ND Mathematics/Science Alliance	1995-present
	• ND ESPB <i>Highly Qualified</i> portfolio and major equivalency development teams	2003-present
	• McREL High Plains Consortium Advisory Board member for ND	1997-2001
	• Writing team for ND ESPB Math Ed Teacher Preparation Standards	1998-99
	• Writing team for ND State Mathematics Frameworks	1996-97
	• Project Coordinator, ND Mathematics Assessment	1996-99
	• Organized the <i>NDSU Mathematics Talent Search</i>	1998-2002
	• Organized <i>Practical Data Gathering</i> event for North Dakota Science Olympiad	1997-2005
	• Organized Mathematics Competition for regional AISES Science Fair	1996, 1998-2000
	• NDSU representative to BRIDGES middle school project	1996
• Organized the Fargo/Moorhead Mathematics Education Seminar	1996-2002	

University	• Chair, Faculty Development Committee	2004-present
	• CSME Advisory Board	2002-present
	• Peer Review of Teaching Board	2002-2004
	• University Senate Executive Committee	2002-2003
	• University Senate	2000-2003
	• NDSU Quantitative Assessment Project	1995-2003
	• Information Technology Round Table	1996-2001
	• University Assessment Committee	1997-2003
	• Summer School Committee	1996-97
Department	• School of Education Chair	2005-2007
	• School of Education Interim Chair	2004-2005
	• SOE Chair Review and Restructuring Committee	2003-2004
	• Mathematics Department Undergraduate Program Director	1997-2004
	• Rao Exam committee	1995-2004
	• TA orientation workshop committee	1995-2004
	• Departmental computer equipment committee	1997-2004
	• Calculus review working group	1997-2004
	• Teacher Education Council	1995-96, 1997-98
	• School of Education Curriculum Committee	1997-2000
	• School of Education Academic Affairs Committee	1997-99

Teaching

Mathematics	• Linear Algebra	2006
	• Axiomatic Geometry (undergrad/grad)	1997-2003
	• History of Mathematics (undergrad/grad)	1998-2004
	• University Calculus II (coordinator)	1998-2008
	• University Calculus I (coordinator)	1997-2004
	• Finite Mathematics (coordinator)	1995-97
Education	• Special Methods for Teaching Mathematics	1995-2008
	• University Supervisor for Student Teachers	1995-2008
	• Science and Mathematics Teaching and Curriculum (graduate)	2002-2005
	• Practicum/Field Experience (graduate)	2003-2005
	• Learning Theory Seminar (undergraduate/graduate)	2005
Continuing Education/Outreach	• ONR Seminar	2001-2005
	• GraSUS Seminar	2001-2008
	• Aligning Instruction with Standards	1996-2000
	• Mathematics Assessment Project	(summers)
	• Governor's School: Understanding Variation: The Exploration and Analysis of Data	1999 1996, 1997

Awards

NDSU College of Science and Mathematics *Award for Excellence in Teaching*, 1998

Professional Associations

- American Educational Research Association (AERA)
- AERA Special Interest Group for Research in Mathematics Education (SIGRME)
- American Mathematical Society (AMS)
- Association for Supervision and Curriculum Development (ASCD)
- Association of Mathematics Teacher Educators (AMTE)
- Mathematical Association of America (MAA)
- MAA Special Interest Group on Research in Undergraduate Mathematics Education (MAA SIG RUME Program Chair, 2004-06)
- Research in Undergraduate Mathematics Education Community (RUMEC)
- National Council of Teachers of Mathematics (NCTM)
- North Dakota Association of Colleges of Teacher Education (NDACTE)
- North Dakota Association for Supervision and Curriculum Development (NDASCD)
- North Dakota Council of Teachers of Mathematics (NDCTM Newsletter Editor 1997-present)
- North Dakota Mathematics/Science Alliance (NDMSA)
- North Dakota Mathematics Association of Two Year Colleges (NDMATYC)