

KEITH NABB

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EDUCATION

2013: Ph.D. in Mathematics Education, Illinois Institute of Technology
2000: M.S. in Mathematics, Texas Tech University
1997: B.S. in Secondary Education (Mathematics), Rhode Island College

EMPLOYMENT

Assistant Professor of Mathematics, UW-River Falls, 2016-
Professor of Mathematics, Moraine Valley Community College, 2014-2016
 2010-2014: Associate Professor of Mathematics
 2005-2010: Assistant Professor of Mathematics
 2001-2005: Instructor of Mathematics
2000-2001: Mathematics Teaching/Research Assistant, Rensselaer Polytechnic
 Institute
1998-2000: Mathematics Teaching/Research Assistant, Texas Tech
 University

TEACHING EXPERIENCE

Courses Taught (UW-River Falls)

Math for Elementary School Teachers, Calculus, Linear Algebra

Courses Taught (Moraine Valley Community College)

I have taught a wide range of courses including developmental mathematics, quantitative literacy, college algebra, trigonometry, statistics, calculus I/II/III, linear algebra, and differential equations.

Courses Significantly Developed (Moraine Valley Community College)

MTH-150: Calculus I/Analytic Geometry (Online), 2007
MTH-150/151: Calculus I, II/Analytic Geometry (Honors), 2011-2012
MTH-150: Calculus I/Analytic Geometry (Flipped), 2014
MTH-201: Differential Equations (Inquiry), 2008-2011
MTH-150: Calculus I/Analytic Geometry (Inquiry Based Learning), 2016
MTH-151: Calculus II/Analytic Geometry (Inquiry Based Learning), 2016

RESEARCH

Research Interests

Student thinking, Inquiry-Based Learning (IBL), and Mathematical Knowledge for Teaching (MKT) and their implications on curriculum and professional development.

Publications (refereed)

- Nabb, K.A. (2010). Pitfalls of personally constructed learning devices. *Learning and Teaching Mathematics, 8*, 41-45.
- Nabb, K.A. (2010). The back page: Functions, functions everywhere. *Mathematics Teacher, 104*(3), 240.
- Nabb, K.A. (2010). A close encounter with infinity: Inventing new mathematics. *Mathematics Teacher, 104*(5), 373-378.
- Nabb, K.A. (2011). A new perspective on related rates. *MathAMATYC Educator, 2* (2), 24-26.
- Nabb, K.A. (2011). Trying something new: Unlecturing mathematics. *NISOD Innovation Abstracts, 33*(6), 1-2.
- Nabb, K.A. (2012). The benefits of crossing disciplines: Writing + Calculus = A happy marriage. *NISOD Innovation Abstracts, 34*(12), 1-2.
- Sitomer, A., Ström, A., Mesa, V., Duranczyk, I., Nabb, K., Smith, J., & Yannotta, M. (2012). Moving from anecdote to evidence: A proposed research agenda in community college mathematics education. *MathAMATYC Educator, 4* (1), 35-40.
- Meyer, D.Z., Antink, A.L., Nabb, K.A., Connell, M.G., & Avery, L.A. (2013). A theoretical and empirical exploration of intrinsic problems in designing inquiry activities. *Research in Science Education, 43*(1), 57-76.
doi: 10.1007/s11165-011-9243-4
- Nabb, K.A. (2013). *An empirical grounded theory approach to characterizing advanced mathematical thinking in college calculus* (Doctoral dissertation). Available from ProQuest Dissertations and Theses database.
- Nabb, K.A. (2013). Students' exploratory thinking about a nonroutine calculus task. *Mathematics Teacher, 106*(6), 432-439.
- Nabb, K.A. (2013). A simple alternative to teaching average value. *MathAMATYC Educator, 4*(3), 24-25.
- Nabb, K.A. (2014). "Is algebra necessary?"...Is this the question we should be asking? *MathAMATYC Educator, 5*(3), 48-51.
- Murawska, J., & Nabb, K.A. (2015). Corvettes, curve fitting, and calculus. *Mathematics Teacher, 109*(2), 128-135.
- Nabb, K. (2016). Let me count the ways... "Integrating" Integration for students. *MathAMATYC Educator, 7*(2), 35-38.
- Nabb, K., & Nghiem, D. (2016). Curious calculus questions from students and colleagues—Part I. *MathAMATYC Educator, 8*(1), 47-52.
- Nabb, K. (2016). CAS as a restructuring tool in mathematics education.

Matematik- og Naturfagsdidaktik (MONA-Math and Science Education), 8, 8-22.

Nabb, K., & Murawska, J. (to appear). Coherence and enrichment across the middle and secondary levels: Four mathematically authentic learning experiences. *The Mathematics Enthusiast*.

Nabb, K., & Nghiem, D. (to appear). Curious calculus questions from students and colleagues—Part II. *MathAMATYC Educator*.

Nabb, K., & Nghiem, D. (to appear). Curious calculus questions from students and colleagues—Part III. *MathAMATYC Educator*.

Publications (nonrefereed)

Nabb, K.A. (2010, March). CAS as a restructuring tool in mathematics education. *Proceedings of the 22nd International Conference on Technology in Collegiate Mathematics*.

Presentations (National)

“CAS as a Restructuring Tool in Mathematics Education,” International Conference on Technology in Collegiate Mathematics (ICTCM), Chicago IL, Mar 2010

“Inquiry in Differential Equations: A Teacher’s Reflections,” 36th Annual Conference for the American Mathematical Association of Two-Year Colleges (AMATYC), Boston MA, Nov 2010

“Calculus: Nonroutine Problems and their Nonroutine Solutions,” 37th Annual Conference for the American Mathematical Association of Two-Year Colleges (AMATYC), Austin TX, Nov 2011

“Inquiry in Differential Equations: A Teacher’s Reflections,” part of the Themed Session “Research to Spice Up Your Classroom,” 38th Annual Conference for the American Mathematical Association of Two-Year Colleges (AMATYC), Jacksonville FL, Nov 2012.

“Cocktail Party Calculus: Collaborative Writing in Mathematics,” 40th Annual Conference for the American Mathematical Association of Two-Year Colleges (AMATYC), Nashville TN, Nov 2014.

“Ever wondered if one problem could motivate all of calculus? Wonder no more!”, 41st Annual Conference for the American Mathematical Association of Two-Year Colleges (AMATYC), New Orleans LA, Nov 2015

“Reflections on good calculus questions from students and colleagues”, 41st Annual Conference for the American Mathematical Association of Two-Year Colleges (AMATYC), with Daniel Nghiem, New Orleans LA, Nov 2015

“Reflections from Teaching Inquiry-Oriented Differential Equations,” MAA Session on the Teaching and Learning of Undergraduate Ordinary Differential Equations, Joint Mathematics Meetings, Seattle WA, Jan 2016

“Make Your Content a Cocktail Party: Writing = Student Understanding,” 2016 Innovations Conference, Chicago IL, Mar 2016

Presentations (State/Regional)

- “Shared Experiences in Online Learning Contexts,” with Shaalean Lopez and Steven Rogg, Midwestern Symposium on Excellence in Teaching Mathematics and Science, Chicago IL, Oct 2007
- “Advanced Mathematical Thinking (AMT) in the College Classroom,” 11th Annual Chicago Symposium Series: Excellence in Teaching Mathematics and Science, Chicago IL, Mar 2009
- “Reflections on Teaching Inquiry-Oriented Differential Equations,” Annual Conference of the Wisconsin Mathematics Council, Green Lake WI, May 2011
- “Computer Algebra Systems in Mathematics Education,” Annual Conference of the Wisconsin Mathematics Council, Green Lake WI, May 2011
- “Raising the bar: Effecting change in students' beliefs about mathematics,” Metropolitan Mathematics Club of Chicago, Chicago IL, Feb 2012
- “Cocktail party calculus: Mathematics meets creative writing,” with Bill Vassios, Katarzyna Kolacz, and Albert Stockton, Honors Council of the Illinois Region, University of St. Francis, Joliet IL, Feb 2012
- “Inquiry in Differential Equations,” Workshop for Preparatory Mathematics for General Education (Mathematical Literacy for College Students), College of DuPage, Glen Ellyn IL, Mar 2013
- “Cocktail Party Calculus: Collaborative Writing in Mathematics,” 38th Annual Conference for the Illinois Mathematics Association of Community Colleges (IMACC), Monticello IL, Apr 2013
- “Fermat’s Last Theorem: A Brief History,” Moraine Valley Community College Mathematics Club, Palos Hills IL, Apr 2015
- “The Calculus of Corvettes,” 65th Annual Conference for the Illinois Council of Teachers of Mathematics (ICTM), with Jackie Murawska, Tinley Park IL, Oct 2015
- “From Classroom to Career: Collaborating for Student Success Symposium,” Higher Education Panel, College of DuPage, Glen Ellyn IL, Oct 2015
- “The Calculus of Corvettes,” National Council of Teachers of Mathematics Regional Conference and Exposition (NCTM), with Jackie Murawska, Minneapolis MN, Nov 2015
- “The Calculus of Corvettes,” 18th Annual Chicago Symposium Series on Excellence in Teaching Mathematics and Science: Research and Practice, with Jackie Murawska, Chicago IL, Feb 2016
- “Cocktail Party Calculus: Collaborative Writing in Mathematics,” 5th Quinennial Joint Washington-Oregon Conference (ORMATYC/WAMATYC), Gleneden Beach OR, Apr 2016

Presentations (Invited)

- “Advanced Mathematical Thinking,” Maseeh Mathematics & Statistics Colloquium Series, Portland State University, Portland OR, Jun 2011
- “Linking Research and Practice: Capitalizing on Student Thinking in

Undergraduate Calculus," University of Wisconsin-River Falls, River Falls WI, Feb 2016.

"Fermat's Last Theorem: A Brief History," Clackamas Community College STEM Talk, Oregon City OR, Apr 2016

GRANTS

Recipient of Moraine Valley Community College Innovation Grant for Math ELITEs (Engaged Learning Interactive Technology Environments), Classroom Redesign for two mathematics classrooms, with Amy Madden, Laurene Kirby, and Lisa Vladika, 2013-2014.

Recipient of Learning Challenge Grant through the Center for Teaching & Learning, "Visualizing Complex Mathematical Concepts through Animation," Moraine Valley Community College, 2004

AWARDS

John & Suanne Roueche Excellence Award Recipient, League for Innovation in the Community College, 2012

Professor of the Year, Moraine Valley Community College, 2012

Recipient of VIGRE fellowship for research in applied mathematics, Rensselaer Polytechnic Institute, 2001

Recipient of the Topper Award for academic achievement, Rensselaer Polytechnic Institute, 2000

Initiated as a member of Gamma Beta Phi for outstanding academic achievement, Texas Tech University, 2000

Recognized as a Gordon Fuller Scholar for high academic achievement in Mathematics, Texas Tech University, 1998-1999

Recipient of the Christopher R. Mitchell Award for excellence in Mathematics and Mathematics Education, Rhode Island College, 1997

Initiated as a member of Pi Mu Epsilon, a National Honors Society in Mathematics, Rhode Island College, 1995

Initiated as a member of Kappa Delta Pi, a National Honors Society in Education, Rhode Island College, 1995

PROFESSIONAL HONORS

Nominated for Club Advisor of the Year, Mathematics Club, Moraine Valley Community College, 2016

Nominated for David Sarther Teamwork Award (Mathematics Department Integration Bee), Moraine Valley Community College, 2014

Nominated for Ponaganset High School Distinguished Alumni Award, 2014

Nominated for the Illinois Community College Trustees Association's Outstanding Full Time Faculty Member Award, 2012

Nominated for the Master Teacher Award, Moraine Valley Community College
2011: Honors Calculus Course Development
2008: Piloting Rasmussen's Inquiry-Oriented Differential Equations
2004: Incorporating 3D Animation in Calculus
"People Who Made a Difference," Moraine Valley Community College, 2009-
2012
Nominated for Professor of the Year, Moraine Valley Community College, 2009,
2010, 2012, 2014, 2016

COLLEGE SERVICE (MORAIN VALLEY COMMUNITY COLLEGE)

Committee Work

Member of Nontenured Evaluation Team, Physics, 2015
Skyway STEM Poster Competition Evaluation Rubric, 2014
Academic Assessment, Mathematics Department, 2011-2012, 2015
Academic Integrity Implementation Team, 2009-2010
Task Group for Cheating and Plagiarism/Academic Integrity, 2008
Academic Quality Improvement Program (AQIP) Systems Portfolio Team, 2006-
2007
Academic Quality Improvement Program (AQIP) Action Project Team (Diversity),
2006
Member of Nontenured Evaluation Team, Mathematics, 2004-2010

Search Teams

Director of Academic Assessment, 2008
Mathematics Instructor, 2007, 2012, 2013, 2015
Vice President of Academic Affairs, 2004-2005, 2012

Professional Activities

Faculty Voices Focus Group, League for Innovation in the Community College,
2015
Facilitator to Dual Credit Articulation, 2014
Mathletics (Math Club) co-advisor, 2014, 2015
Coordinated "STEM Talks" Lecture Series to promote Math, Science, Technology,
and Engineering awareness, 2013-2015
Asian Diversity Club co-advisor, 2013
Safe Zone Ally training, 2014
Grand Marshal, Presidential Inauguration, 2012
Grand Marshal, Commencement, 2012
Science Club co-advisor, 2011
Presenter at Learning College/Staff Development Day
"Tools for Teaching Mathematics Online," with Erin Kelly and Laurene
Kirby, 2016
"Been Caught Cheating: Now What?" with Nick Shizas, 2012

"Origami is Fun," 2012, 2013
 "Instructional Strategies to Enhance Student Engagement and Retention in Traditional Face-to-Face Courses," with LaWanda Burrell and Sandra Beauchamp, 2011
 "Putting Students at the Center of Learning," with Nick Shizas, 2011
 "Integrating Competition into Learning," with Amy Madden, 2010
 "Origami for Everyone," 2006, 2009
 "HorrorGami," 2005
 Presenter for Center for Teaching & Learning workshop
 "Putting Students at the Center of Learning," with Nick Shizas, 2011
 "Bringing Mathematics to Life: Programming Animations in Maple and Exporting them to Blackboard," 2007
 Presenter for Moraine Valley Learning Academy mini-course, "Critical Thinking: Communication, Taking Risks & Fighting Resistance," 2007
 Co-developer for Moraine Valley Professional Development Course, "Helping Students Learn Academic Integrity," with Nick Shizas, Layla Khatib, and Cara Williams, 2012
 Co-facilitator for Student Life Origami Presentation, 2007
 Developed Computer Animations for implementation in Calculus I and II with Richard Lapidus (Department of 3D Animation), 2004-2009
 Co-coordinator for the Annual Mathematics Integration Bee, 2003-2015
 Presenter at One Book, One College Spring Event, "Intriguing Math Problems Unveiled: Discussing the Solutions to Unique and Brain Teasing Math Problems," 2006
 Presenter for Art Appreciation
 Edward Hopper's *Nighthawks*, Palos East Elementary School, 2016
 Origami, Cancer Support Center, 2016
 Origami, Palos East Elementary School, 2015
 Albrecht Dürer's *Young Hare*, Palos East Elementary School, 2014
 Origami, Palos Park Public Library, 2014, 2016
 Pierre Bonnard's *The Open Window*, Palos East Elementary School, 2014
 Origami, Palos East Elementary School, 2013
 Origami, Nature and Discovery Preschool at the Children's Farm, 2013, 2016
 Origami, High Point Elementary School, 2013
 Mentor to newly hired faculty member in the New Faculty Orientation Program, 2004-2011, 2014, 2015
 DREAM program mentor, 2002-2003

PROFESSIONAL SERVICE

AMATYC's Project ACCESS Consulting Colleague, 2016
 Book Reviewer for Sullivan/Miranda *Calculus*, 2013
 RMETYC Executive Review Board, 2016

Regional Representative for Research in Mathematics Education in Two-Year
Colleges (RMETYC) Committee, AMATYC, 2012-
AMATYC Placement and Assessment Committee, 2010-2011
Class Tested Briggs/Cochran *Calculus: Early Transcendentals*, 2009
Book Reviewer for Larson's *Calculus: Early Transcendentals*, 2007

REFERENCES

Norman G. Lederman, Department of Mathematics & Science Education, Illinois
Institute of Technology (dissertation advisor)
Stephanie Whitney, College of Education, DePaul University
Amy Brett Madden, Department Chair of Mathematics, Moraine Valley
Community College
Daniel Z. Meyer, Department of Education, Illinois College
Clyde F. Martin, Department of Mathematics & Statistics, Texas Tech University
(currently on leave as a Jefferson Science Fellow)
James Fraites, Dean of Science and Business, Moraine Valley Community College
(retired)
Pamela Haney, Vice President of Academic Affairs, Moraine Valley Community
College
Edward Allen, Department of Mathematics & Statistics, Texas Tech University
C. David Brell, Department of Educational Studies, Rhode Island College

PROFESSIONAL AFFILIATIONS

American Mathematical Association for Two-Year Colleges (AMATYC), 2016-
Illinois Mathematics Association of Community Colleges (IMACC), 2013-
Mathematical Association of America (MAA), 2010-2011
The Association for Science Teacher Education (ASTE), 2009
National Council of Teachers of Mathematics (NCTM), 2006-
Society for Industrial and Applied Mathematics (SIAM), 2000