Richard Delaware   Teaching Professor   **CURRICULUM VITAE**   [24 February 2023]

Contact

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Discipline web site: https://sse.umkc.edu/academics/programs/mathematics-and-statistics.html

Education

- Ph.D.   2000   Mathematics   University of Missouri - Kansas City   **Major Professor:** James Foran
- M.A.   1977   Mathematics   University of Kansas
- B.S.   1974   Mathematics   Santa Clara University (cum laude)

Awards or Honors

- 2020   President's Award for Innovative Teaching   UM SYSTEM
- 2016-2018   Nominated for President's Award for University Citizenship: Excellence in Service Award   UM SYSTEM
- 2017   Award for Excellence in Mentoring Undergraduate Researchers, Scholars, and Artists   UMKC
- 2013   Sosland Celebration Certificate of Achievement (for teaching writing)   English Dept.   UMKC
- 2011   MAA Missouri Section Award for Distinguished College or University Teaching of Mathematics   MAA Missouri
- 2011   Provost's Award for Excellence in Teaching   UMKC
- 2005 & 2006   Faculty & Staff Appreciation Certificate (Activity & Program Council)   UMKC
- 2004   Who's Who Among America's Teachers (top 2%; nominated by student)   National
- 2003   Founding Faculty Member Award, 19 years at the Mathematics and Physics Institute (MPI)   MPI
- 1995   Dean's Award for Outstanding Teaching   UMKC
- 1990   Certificate of Appreciation (Inroads minority program)   INROADS
- 1989   Educational Partners Award (Inroads minority program)   INROADS
- 1989   Nominated for a Helen Kemper Doctoral Fellowship   UMKC
- 1987   Award from the Staff and Students of the Mathematics and Physics Institute (MPI) 1986-87   MPI
- 1987   Certificate of Appreciation (Science Teachers of Missouri)   STOM
- 1984   Superior Teaching Award (of 5 awarded out of ~200 Graduate Teaching Assistants, SGS)   UMKC
- 1983-1984   Graduate Teaching Assistantship   Department of Physics   UMKC
- 1975-1977   U. G. Mitchell Scholarship (Fees)   Department of Mathematics University of Kansas
- 1974-1977   Graduate Teaching Assistantship/Assist. Instructor   Department of Mathematics University of Kansas
- 1972-1974   Wm. B. Turner Scholarship (Full)   Santa Clara University
- 1972-present   Pi Mu Epsilon   National Honorary Mathematics Fraternity
- 1972-present   Alpha Sigma Nu   Jesuit National Honor Society

Certifications

- 2020   Certification in Online Teaching and Learning   UMKC
- 2002-2005   State of Missouri Teacher Certification in Mathematics (Ph.D. option)   Grades 9-12   Missouri
- 2003-2005   State of Missouri Gifted and Talented Education Endorsement   Grades K-12   Missouri

Professional Employment

- 2016-present   **Teaching Professor**   UMKC Department of Mathematics and Statistics
- 2010-2016   Associate Teaching Professor   UMKC Department of Mathematics and Statistics
- 2004-2010   Associate Clinical Professor   UMKC Department of Mathematics and Statistics
- 1984-2004   Instructor   UMKC Department of Mathematics and Statistics
- 1998-2003   Associate Director   UMKC Mathematics and Physics Institute
- 1984-2003   Mathematics Coordinator   UMKC Mathematics and Physics Institute
- 1986-1990   Instructor   Mathematics   INROADS (minority program) - Kansas City, MO
- 1987 Summer   Instructor   Mathematics   Johnson County Community College
- 1986 Summer   Instructor   Computer Science   UMKC Computer Science Division
- 1981-1984   Part-Time Lecturer   Mathematics   UMKC Department of Mathematics and Statistics

Teaching Activity (last 5 years)   Spring 2018 – Spring 2023
All Taught Online Synchronous Fall 2020 - Present

Semester	Year	Volker Campus Courses
Spring	**2018**	Math 125 (2), Math 301 (3) Math 402 (3), Math 464WI (3)
Summer	**2018**	-----
Fall	**2018**	Math 220 (4), Math 300 (3) Math 301 (3), Math 402 (3)
Spring	**2019**	Math 125 (2), Math 402 (3) Math 464WI (3), Math 5510 (3)
Summer	**2019**	-----
Fall	**2019**	Math 220 (4), Math 300 (3) Math 301 (3), Math 402 (3)
Spring	**2020**	Math 125 (2), Math 301 (3), Math 402 (3), Math 464WI (3)
Summer	**2020**	-----
Fall	**2020**	Math 220 (4), Math 300 (3) Math 301 (3), Math 402 (3)
Spring	**2021**	Math 125 (2), Math 301 (3), Math 402 (3), Math 464WI (3)
Summer	**2021**	-----
Fall	**2021**	Math 300 (3), Math 301 (3) Math 402 (3), Math 420 (3)
Spring	**2022**	Math 125 (2), Math 301 (3), Math 402 (3), Math 464WI (3)
Summer	**2022**	-----
Fall	**2022**	Math 300 (3), Math 301 (3) Math 402 (3), Math 420 (3)
Spring	**2023**	Math 125 (2), Math 300 (3), Math 301 (3), Math 464WI (3)

Undergraduate UMKC Courses Taught

- Math 100 Intermediate Algebra
- Math 105 The Language of Mathematics
- Math 110 College Algebra
- Math 116 Mathematics for Liberal Arts
- Math 125 Trigonometry
- Math 150 Finite Mathematics
- Math 204 Math for Teachers: Math Immersion
- Math 206 Brief Calculus & Matrix Algebra
- Math 210 Calculus I
- Math 214 Math for Teachers: Algebra
- Math 220 Calculus II
- Math 244 Math for Teachers: Calculus
- Math 250 Calculus III
- Math 300 Linear Algebra I

- Math 301 On Solid Ground: Sets & Proof
- Math 345 Ordinary Differential Equations
- Math 402 Advanced Analysis I
- Math 407 Introduction to Complex Variables
- Math 412 Advanced Analysis II
- Math 414/5514   Math for Secondary Teachers: Algebra & Analysis
- Math 420 Linear Algebra II
- Math 424/5524   Math for Secondary Teachers: Geometry
- Stat 436 Introduction to Mathematical Statistics I
- Math 444 Modern Geometries
- Math 464WI   History of Mathematics, Writing Intensive

- CS   301 Discrete Structures (now CS 191)
- Math 211 Fortran 77 Programming (no longer taught)

Graduate UMKC Courses Taught

- Math 5510   Complex Variables I
- Math 5513   Real Variables I

Productivity

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Research Areas: Hausdorff Measure, Real Analysis, Geometry of Fractal Sets

Other Interests: History of Mathematics, Undergraduate Mathematics Education, Writing Across the Curriculum

Publications - Research

1. "Sets Whose Hausdorff Measure Equals Method I Outer Measure,"
    University of Missouri - Kansas City, Ph.D. Dissertation (2000).
2. "Graphs of Functions, Regular Sets & s-straight Sets," (w/ Larry Eifler), Real Analysis Exchange, 26(2), (2001), 885-892.
3. "Sets Whose Hausdorff Measure Equals Method I Outer Measure," Real Analysis Exchange, 27(2), (2002), 535-562.
4. "Graphs of Convex Functions are σ1-straight," Rocky Mountain Journal of Mathematics, 33(3) (2003), 787-796.
5. "Every Set of Finite Hausdorff Measure is a Countable Union of Sets Whose Hausdorff Measure and Content
    Coincide," Proceedings of the American Mathematical Society, 131(8) (2003), August, 2537-2542.

Publications – Other

1. "Mathematics and Physics Institute (MPI) **Newsletter**," Editor/Writer, 1986-2003, **83 issues**, 680 pages total.
    http://d.web.umkc.edu/delawarer/MpiNewsletters19862003.htm
2. Problem solutions published in The College Mathematics Journal & American Mathematical Monthly, 1986-88.
3. "MPI - Calculus I: PC Notes and Labs," Derive **Laboratory Manual**, 1994-2003, 100 pages.
4. "MPI - Calculus II: PC Notes and Labs," Derive **Laboratory Manual**, 1994-2003, 70 pages.
5. "MPI - Calculator Manual," Sharp graphics **Calculator Manual**, 1995-2003, 25 pages.
6. "Math Mania" article, Focus (MAA **Newsletter**), December 1996, p.16.
    https://www.maa.org/sites/default/files/pdf/pubs/focus/past_issues/FOCUS_16_6.pdf
7. "Every s-set is a Countable Union of s-straight sets," Summer Symposium in Real Analysis XXV **Conference Reports**,
    May 2001, Real Analysis Exchange, (2002), 21-24.
8. Three USucceed **blog posts** on Study Tips at http://info.umkc.edu/usucceed/ Fall 2010.
9. WE ARE SOUTHWEST electronic **Newsletter** by year (# articles): 2011 (5), 2012 (4).
10. MAA Missouri Section **Newsletter**, 2011-2012, 32-33; 2014, 34; 2015, 35; 2017, 36(2); 2018, 38; 2019-2022; Dept. news
11. Department History **web pages** posted, 2012 http://d.web.umkc.edu/delawarer/MathDeptHistory.htm
12. **RooMath News** department **Newsletter**, co-editor/writer, 2013; 2015-2022 https://sites.google.com/view/mathroos/home
13. **RooWriter Reading Packet** 2013: "Why Study Algebra in High School?"
14. **Booklet**, Oct. 2014, 6 pages, "A Historical Dozen: Notable Mathematics Faculty and Students, Colorful Characters 1933-1993"
    http://d.web.umkc.edu/delawarer/DeptHistoryBooklet10-05-14blue.pdf
15. "**Out of the Vacuum: A Hidden Assumption**", Journal of Humanistic Mathematics, Volume 9 Issue 1 (January 2019), pp. 200-204. https://scholarship.claremont.edu/jhm/vol9/iss1/10/
16. "**More than just a Grade: The HOM-SIGMAA Student Contest Fosters Writing Excellence at UMKC**", Convergence (February 2019) https://www.maa.org/press/periodicals/convergence/more-than-just-a-grade-the-hom-sigmaa-student-contest-fosters-writing-excellence-at-umkc
17. "**My Last Fermat's Last Theorem Talk**", Journal of Humanistic Mathematics, Volume 10 Issue 1 (January 2020), pp. 402-410. https://scholarship.claremont.edu/jhm/vol10/iss1/22/
18. "**Peter Hilton *en passant***", Journal of Humanistic Mathematics, Volume 11 Issue 1 (January 2021), pp. 415-424. https://scholarship.claremont.edu/jhm/vol11/iss1/22/
19. "**My Year of Memory and Mathematics**", Journal of Humanistic Mathematics, Volume 11 Issue 2 (July 2021), pp. 271-279. https://scholarship.claremont.edu/jhm/vol11/iss2/12/
20. "**Accidental World Teacher**", Journal of Humanistic Mathematics, Volume 12 Issue 1 (January 2022), pp. 295-316. https://scholarship.claremont.edu/jhm/vol12/iss1/24/
21. **Short Geometry Labs: Visual and Tactile Understanding First**, Francis Gardella and Richard Delaware, 2022, Information Age Publishing, Inc. https://www.infoagepub.com/products/Short-Geometry-Labs
22. **"Teaching Sounds: Mathematics Exam Proctor",** Unbroken journal 34, July 2022 https://www.theunjournals.com/unbroken34
23. "**Figure-Ground Perception: A Poem Proof**", Journal of Humanistic Mathematics, Volume 13 Issue 1 (January 2023), pp. 214-216. https://scholarship.claremont.edu/jhm/vol13/iss1/17/

Video Series Created

- 1998 VSI **College Algebra** 39 videos (~43 hours)   posted on UMKC YouTube channel May 2009
- 2005 VSI **Calculus I**   31 videos (~28 hours)   posted on UMKC YouTube channel May 2009
- 2008-2010   Other short videos   See "**Southwest Early College Campus**" section.

Courses Created/Introduced

- **MPI Calculus I and II**, Math 210 and 220, designed 1984 - 2003 for gifted and talented high school seniors, the best of calculus reform, graphing calculators, a computer algebra system (Derive), writing, active problem solving, and special projects.
- **History of Mathematics, Writing Intensive**, Math 464 WI, first taught 1998, first time as WI 2000
- **VSI College Algebra**, Math 110, video course, offered through UMKC **since Fall 1998** to students at rural high schools.
- **Mathematics for Teachers** sequence of courses created 2004: Mathematical Immersion (**Math 204**; Taught as **inquiry-based**), Algebra (**Math 214**), Geometry (**Math 224**), Calculus (**Math 244**); and Mathematics for Secondary Teachers: Algebra and Analysis (**Math 414/5514),** Geometry (**Math 424/5524**)
- **VSI Calculus I**, Math 210, video course, offered through UMKC **since Fall 2005** to students at rural high schools.

Southwest Early College Campus   Kansas City, MO 2008-2012

The Mathematics Team of Teachers
- Developed the **Mathematics Team** at Southwest Early College Campus, engaging in ground-level mathematics lesson and activity creation for grades 6-12. Dozens of meetings with mathematics teachers, partners, principal, classroom visits, etc.
- **April 2-3, 2009**, organized a **workshop** for Southwest middle school mathematics teachers with Dr. Frank Gardella of Hunter College, NY, through the Woodrow Wilson Fellowship Foundation.
- On **January 28, 2010**, gave a short talk about Southwest Mathematics at a UMKC Faculty Senate Luncheon held for the UM System Curators, all four Chancellors, the UM President, and others.
- In **July 2010**, interviewed separately by both Betty Coli and Roberta Matthews working for the Woodrow Wilson Fellowship Foundation on white papers about the Early College network.
- **23 Professional Development workshops Apr. 2009 – Apr. 2012.** In Apr. 2009, began an ongoing nearly monthly 3-day workshop on Southwest mathematics, collaborating with Dr. Frank Gardella, Hunter College. From April 2009 through May 2010, the Team accumulated a total of **42 full days of work** on mathematics curriculum and teaching, including visits to Southwest and mentoring work in classrooms. A 10 day workshop was held in July 2010; monthly 3 day workshops with Gardella continued through October 2010. Workshops began again without Gardella in Aug. 2011, monthly through Apr. 2012.
- During **2009-2010**, the team wrote many 45 min. lessons with hands-on activities:

Southwest Course	# Lessons	# Labs
PreAlgebra - Grade 7	127	<u>All</u> hands-on
Algebra I	124	<u>All</u> hands-on
Geometry	116	109

Map & Web site
In **2009**, created a map of all student addresses located as dots on (1) a map of Kansas City, (2) with council districts overlaid, and (3) with KCMSD sub-districts overlaid, to clarify that Southwest students represented the entire district. With a former UMKC student, created a temporary website for the school. From **2009-2012**, maintain several Southwest Mathematics web pages on the department web site.

Mathematics Peer Tutoring Program
In **2009**, applied for and won, with the Mathematics Team, an **$18,000 grant** from PREP-KC to create a Mathematics Peer Tutoring program at Southwest, and to create a collection of video Math Shorts (see below). The number of Southwest student peer tutors varied from 29 to 23, and they tutored 442 hours over **Spring 2010** semester. The original 29 consisted of 17 9th graders and 12 10th graders, of which 22 were female. The program operated again in **Spring 2011** with 11 tutors.

Documentation 44 min. video, & Math Video Shorts
In **May 2009**, recorded a video of nearly all Southwest 6th graders talking about the school and their aspirations, and giving advice to incoming students. 36 Math videos were recorded between **April 15 and June 3, 2010**, five with 10th graders, three with 7th graders, and 28 with 6th graders. Seven were teacher-created, and 28 student-created, but recorded by teachers. Two were Advice videos, three were recordings of class work, one recorded the making of a video, one a documentary snapshot of the Mathematics Peer Tutoring program, and 29 were mathematical content videos, most of them students teaching the audience. These videos and others are posted on YouTube**.**

SEARCH
In **Fall 2010**, this work lead to a student **SEARCH** project, only the second such project in our department, to examine human traffic flow within the Southwest building, which was begun, but not completed.

Math Club & Mathematics Awards Ceremony
March 2011, initiated a Southwest Mathematics club meeting Fridays after school, bringing in guest speakers as available. **Dec. 21, 2010 and Dec. 20, 2011**, held Awards Ceremony at Southwest for best mathematics students, with t-shirts and certificates.

Mathematical Modeling Workshops
Dec. 3, 10, 17, 2011 & Mar. 3, 24, 31, 2012, two-hour Saturday workshops for dual-credit Southwest mathematics students held at Southwest.

Expository Mathematics Talks   **(54 different talks; 71 presentations of these talks)**

1. **e and π are Irrational.**
   Jan. 20, 1988, UMKC Expository Talks Series.
2. **Two World Class Series: Σ 1/n and Σ 1/n².**
   Feb. 17, 1988, UMKC Expository Talks Series.
   Apr. 3, 1990, Kappa Mu Epsilon (Mathematics Honor Society) Banquet Speaker, Wm. Jewell College.
3. **Polya's Orchard Problem.**
   Apr. 6, 1988, UMKC Expository Talks Series.
4. **e is Transcendental.**
   Sept. 7, 1988, UMKC Expository Talks Series.
5. **Measuring Voting Power in a Presidential Election.**
   Sept. 21, 1988, UMKC Expository Talks Series.
6. **Question: Can an Arbitrary Angle be Trisected? Answer: Yes, No, Almost, and Who Cares?**
   Jan. 25, 1989, UMKC Expository Talks Series.
7. **The Leslie Matrix Model of Population Projection: A UMAP Module.**
   Sept. 7, 1989, UMKC Expository Talks Series.
8. **The Jordan Curve Theorem: A Proof of the Piecewise Smooth Case.**
   Oct. 19, 1989, UMKC Expository Talks Series.
9. **En Route to Chaos: Sarkovskii's Theorem.**
   Jan. 24, 1990, UMKC Expository Talks Series.
   Apr. 28, 1993, Avila College, Mathematics Dept., National Mathematics Awareness Week.
   Feb. 16, 1994, Univ. of Missouri - Columbia, Mathematics Dept., Arts & Sciences Week.
   Sept. 30, 2005, UMKC Expository Talks Series.
10. **1-1+1-1+1-...And All That: Coming to Terms with Divergent Series.**
    Sept. 27, 1990, UMKC History of Mathematics Course Guest Speaker.
11. **The Cayley-Hamilton Theorem: History and Proofs.**
    Nov. 30, 1990, UMKC Expository Talks Series.
12. **Fermat's 'Last Theorem' c.1637-1993 (pre-Wiles): The Most Famous Marginal Note in Mathematical History.**
    Mar. 22, 1991, UMKC Expository Talks Series.
    Feb. 26, 1993, University of Iowa, Iowa City, IA, Mathematics Dept.
13. **There is NO Finite Projective Plane of Order 10: A Computer-Aided 'Proof'.**
    Dec. 6, 1991, UMKC Expository Talks Series.
14. **Pascal's Triangle *Before* Pascal: An Historical Picturebook.**
    Feb. 21, 1992, UMKC Expository Talks Series.
    Sept. 27, 1994, Park University, Mathematics Dept.
15. **Will All N Become One? The Collatz Problem c.1930 - 1992.**
    Apr. 24, 1992, UMKC Expository Talks Series.
    Apr. 26, 1995, Avila College, Mathematics Dept., National Mathematics Awareness Week.
16. **I Tell You 5 Times: Primes On Their Heads In A Sum Won't Converge!**
    Dec. 4, 1992, UMKC Expository Talks Series.
17. **Mathematical Cranks and Their Obsessions.**
    Mar. 6, 1993, Kansas City Skeptical Society.
18. **There are Infinitely Many Carmichael Numbers: An 82 Year Old Problem Solved.**
    Apr. 23, 1993, UMKC Expository Talks Series.
19. **As the Worm Turns c.1966 - 1993: What is the Area of the Smallest Convex Blanket That Will Cover Every Worm of Length 1?**
    Sept. 10, 1993, UMKC Expository Talks Series.
    Apr. 26, 1994, Avila College, Mathematics Dept., National Mathematics Awareness Week.
20. **Borsuk's Question 1933 - 1993: Can You Partition Each Set in R^N of Diameter 1 Into N + 1 Sets of Diameter Less?**
    Feb. 4, 1994, UMKC Expository Talks Series.
21. **The Dinitz Conjecture 1978 - 1994: Partial Latin Squares Always Exist!**
    Nov. 18, 1994, UMKC Expository Talks Series.
22. **Kepler's Sphere-Packing Conjecture 1611-1995: What's The Best Way to Stack Oranges?**
    Apr. 14, 1995, UMKC Expository Talks Series.

23. **What's the Densest Way to Pack Equal Circles in a Square? c.1964-1995.**
    Dec. 1, 1995, UMKC Expository Talks Series.
    Apr. 25, 1996, Avila College, Mathematics Dept., National Mathematics Awareness Week.
24. **Can a Light in a Reflecting Room Always be Seen from Every Spot? <u>Any</u> Spot?**
    Feb. 9, 1996, UMKC Expository Talks Series.
    Mar. 27, 1996, Benedictine College, Discovery Day mathematics speaker, Kappa Mu Epsilon.
25. **Blind Statistics and the Challenger Accident**.
    May 19, 1996, Dedication Event of the Center for Inquiry - Midwest, Defending Science.
26. **Morley's Trisector Theorem c.1899: History and Proofs.**
    Nov. 21, 1996, Central Missouri State University, Kappa Mu Epsilon.
27. **Cascades, Fountains, and Showers: The Mathematical Patterns of Juggling.**
    Dec. 6, 1996, UMKC Expository Talks Series.
28. **Inner Reflections Upon Ellipses.**
    Mar. 21, 1997, UMKC Expository Talks Series.
29. **A Lesson in Dissection: Dehn Settles Hilbert's Third Problem.**
    Sept. 12, 1997, UMKC Expository Talks Series.
30. **√2: History and Proofs of Irrationality.**
    Jan. 30, 1998, UMKC Expository Talks Series.
31. **Fermat's Little Theorem is a One-Way Street Infinitely Often: The Prime Evasion of 561.**
    Apr. 4, 1998, Kappa Mu Epsilon Convention Keynote Speaker at Wm. Jewell College.
32. **Hippocrates of Chios Squares a Lune, ... But Can't Square a Circle!**
    Apr. 29, 1998, KCATM (Kansas City Area Teachers of Mathematics) Awards Banquet Speaker.
33. **It's All Corners!…The Failure of Intuition: Functions Continuous Everywhere But Differentiable Nowhere.**
    Sept. 11, 1998, UMKC Expository Talks Series.
    Nov. 17, 1998, Invited Speaker, Colloquium Series, Johnson County Community College.
34. **The Year 1000: What Mathematics Was Being Done at the Last Turn of the Millennium?**
    Apr. 9, 1999, Invited Address, Spring Meeting, MAA Missouri Section, Rockhurst University.
35. **From the 'Method' of Archimedes: The Area of a Parabolic Segment, By Levers and By Series.**
    Apr. 16, 1999, UMKC Expository Talks Series.
36. **Kissing Numbers: How Many Congruent Regular Polygons Can Kiss Another of Their Kind?**
    Nov. 30, 1999, Kappa Mu Epsilon, Benedictine College.
    Dec. 3, 1999, UMKC Expository Talks Series.
    Mar. 20, 2007, Kappa Mu Epsilon, University of Central Missouri
37. **Some Islamic Mathematics of The Year 1000**
    Mar. 27, 2000, Invited speaker, Emporia State University.
    Nov. 7, 2005, Invited speaker, William Jewell College
38. **The Area of an Enigmatic Ellipse: Holditch's Theorem.**
    Sept. 8, 2000, UMKC Expository Talks Series.
    Feb. 13, 2001, Invited Speaker, Colloquium Series, Johnson County Community College.
39. **Arrow's Impossibility Theorem: Is the Only Fair Voting System a Dictatorship?**
    Apr. 20, 2001, UMKC Expository Talks Series.
40. **The Tangential Triangle and Rectangle Problem: Erdos, Grunwald, and Polya.**
    Sept. 7, 2001, UMKC Expository Talks Series.
41. **Helge von Koch's 1904 paper on his famous "snowflake" curve: On a Continuous Curve without Tangents Constructible from Elementary Geometry.**
    Feb. 22, 2002, UMKC Expository Talks Series.
42. **The Longest Curve with Increasing Chords (Whose Endpoints are a Unit Apart) Has Length $2\pi/3$.**
    Sept. 27, 2002, UMKC Expository Talks Series.
43. **From Bishop Berkeley's 1734 Complaint to Colin MacLaurin's 1742 Response: The Calculus Finds Its Footing.**
    Nov. 8, 2002, UMKC Expository Talks Series.
44. **Quintessence of Dust: Georg Cantor Teases Apart the Real Number Line.**
    Mar. 7, 2003, UMKC Expository Talks Series.
45. **The Birth of Geometric Probability: The Needle Problem of Georges Louis le Clerc, Comte de Buffon.**
    Sept. 12, 2003, UMKC Expository Talks Series.
    Apr. 4, 2004, Midwest Junto for the History of Science, 47th Annual Meeting, Kansas City, MO.
46. **Some Proofs from Abraham de Moivre's *The Doctrine of Chances: A Method of Calculating the Probabilities of Events in Play* (1738, 2nd Ed.).**
    Mar. 19, 2004, UMKC Expository Talks Series.

47. **Are There 12 or 13 Kissing Spheres? The 1694 Isaac Newton – David Gregory Disagreement.**
    Sept. 3, 2004, UMKC Expository Talks Series.
    Apr. 14, 2005, Invited Colloquium Speaker, Northwest Missouri State University
48. **The 1673 'Transmutation Theorem' of Leibniz: How he found area with Calculus,**
    and proved π /4 = 1 – 1/3 + 1/5 – 1/7 +…
    Feb. 25, 2005, UMKC Expository Talks Series
49. **Digging Test Pits into the History of Mathematics: How "Proof Explication" can build student confidence.**
    Mar. 31, 2006, Keynote Address, MOMATYC/KAMATYC Annual Spring Conference
50. **How Explicating Historical Arguments Can Engage Students: Digging Archaeological Test Pits into the**
    History of *Algebra*
    Mar. 3, 2007, Whatcom and Skagit Mathematics Partnership Mini-Conference, Bellingham, WA.
51. **How Explicating Historical Arguments Can Engage Students: Digging Archaeological Test Pits into the**
    History of *Probability*
    Mar. 3, 2007, Whatcom and Skagit Mathematics Partnership Mini-Conference, Bellingham, WA
52. **Your Chance to See Original, Historical, Classic, and Rare Mathematics Books**
    Oct. 25, 2007, Highlight Session, Minicourse, NCTM Regional Conference and Exposition, Kansas City, MO
53. **Training Your Students to Present Stylish, Commanding, and Complete Board Expositions of Proof, Thereby**
    Offering an Audience the Chance to Comprehend a Mathematical Argument in Real Time!
    Apr. 18, 2008, Missouri Section of the MAA Spring Meeting, Missouri NExT, Springfield, MO
54. **Pi, A Universal Constant!**
    Mar. 14, 2015, UMKC Pi Day Program, Department of Mathematics and Statistics

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Talks by Type (some of the list above is repeated in different contexts below)

Graduate/Research Mathematics Talks (not listed elsewhere)

1. **Automorphisms of Matrix Algebras.**
   Jan. 14, 1994, UMKC Graduate Mathematics Talks Series.
2. **Sets Whose Hausdorff Measure Equals Method I Outer Measure.**
   July 12, 2000, UMKC Doctoral Dissertation Defense.
3. **The Graph of a Convex Function in the Plane is the Countable Union of '1-straight' Sets.**
   Oct. 27, 2000, UMKC Graduate Mathematics Talks Series.
4. **An Introduction to s-straight Sets.**
   Mar. 9, 2001, UMKC Graduate Mathematics Talks Series.

Conference Talks (not including Mathematics Technology EXPO talks, listed separately below)
■ = Invited Talk

1. **Math/Physics Institute: A University/Public High School Cooperative Effort.**
   Oct. 24, 1985, NCTM (National Council of Teachers of Mathematics) Regional Meeting, co-presenter.
2. **The Mathematics and Physics Institute: An Exemplary University-School Districts Partnership.**
   Mar. 17, 1986, NASULGC (National Association of State Universities and Land Grant Colleges) Urban School Collaborative
   Conference, co-presenter.
   Nov. 7, 1986, STOM (Science Teachers of Missouri) Fall Conference.
3. **Teaching Calculus I and II: The Mathematics and Physics Institute.**
   Apr. 3, 1987, MAA (Mathematical Association of America) Missouri Section Meeting.
   Oct. 31, 1987, AMATYC (American Mathematical Association of Two-Year Colleges) National Conference.
4. **A View from the Border Between High School and College.**
   Jan. 23, 1988, KCATM (Kansas City Area Teachers of Mathematics) Winter Meeting.
5. **Mathematical Induction.**
   Feb. 6, 1989, Conference of Independent School Educators.
6. **Discerning the Landscape of Mathematics: The Crooked Curriculum of History.**
   Oct. 24, 1989, KCATM/KATM (Kansas City Area Teachers of Mathematics/Kansas Association of Teachers of Mathematics) Fall
   Conference.

7. ■**Two World Class Series: Σ 1/n and Σ 1/n².**
Apr. 3, 1990, Kappa Mu Epsilon (Mathematics Honor Society) Banquet Speaker, Wm. Jewell College.
8. ■**Blind Statistics and the Challenger Accident**.
May 19, 1996, Dedication Event of the Center for Inquiry - Midwest, Defending Science.
9. **Derive Visualizations: What You Might Not Know You Can Do!**
Oct. 10, 1996, Central Regional NCTM Conference (National Council of Teachers of Mathematics).
10. ■**Mathematics for the 21st Century: How Must Mathematics Curricula Change To Accommodate Affordable Hand-Held Symbolic Manipulatives, World-Wide Web Access, Computer Multi-Media Capabilities, etc.?**
Nov. 7, 1996, 9th Annual ICTCM (International Conf. on Tech. in Collegiate Math.), Discussion Group Co-Moderator.
11. ■**Fermat's Little Theorem is a One-Way Street Infinitely Often: The Prime Evasion of 561.**
Apr. 4, 1998, Kappa Mu Epsilon Convention Keynote Speaker at Wm. Jewell College.
12. ■**Hippocrates of Chios Squares a Lune, ... But Can't Square a Circle!**
Apr. 29, 1998, KCATM (Kansas City Area Teachers of Mathematics) Awards Banquet Speaker.
13. ■**The Year 1000: What Mathematics Was Being Done at the Last Turn of the Millennium?**
Apr. 9, 1999, Invited Address, Spring Meeting, MAA Missouri Section, Rockhurst University.
14. ■**Writing Assignments in Modern Geometries Math 444.**
Dec. 10, 1999, UMKC Writing Across the Curriculum Conference Workshop, 'Issues in Assessing Writing: Teaching with Writing Across the University.'
15. **Sets Whose Hausdorff Measure Equals Method I Outer Measure.**
Mar. 30, 2001, 14th Mini-Conference in Real Analysis, Univ. of Louisville, Louisville, KY.
16. **Every s-set is a Countable Union of Sets Whose Hausdorff Measure Equals Method I Outer Measure.**
May 23, 2001, Summer Symposium in Real Analysis XXV, Weber State Univ., Ogden, UT.
17. ■**Resources for Teaching with the History of Mathematics.**
Jan. 11, 2003, KCATM (Kansas City Area Teachers of Mathematics) Winter Conference.
18. **The Birth of Geometric Probability: The Needle Problem of Georges Louis le Clerc, Comte de Buffon.**
Apr. 4, 2004, Midwest Junto for the History of Science, 47th Annual Meeting, Kansas City, MO.
19. ■**VSI in Mathematics and History: Behaviors for Success.**
June 4, 2004, 3rd International Conference on Supplemental Instruction, Boston, MA.
20. ■**Digging Test Pits into the History of Mathematics: How "Proof Explication" can build student confidence.**
Mar. 31, 2006, Keynote Speaker, MOMATYC (Missouri Math. Asso. of Two-Year Colleges) Ann. Spring Conf., KC, MO
21. ■ **How Explicating Historical Arguments Can Engage Students: Digging Archaeological Test Pits into the History of *Algebra***
Mar. 3, 2007, Whatcom and Skagit Mathematics Partnership Mini-Conference, Bellingham, WA.
22. ■ **How Explicating Historical Arguments Can Engage Students: Digging Archaeological Test Pits into the History of *Probability***
Mar. 3, 2007, Whatcom and Skagit Mathematics Partnership Mini-Conference, Bellingham, WA.
23. ■ **Your Chance to See Original, Historical, Classic, and Rare Mathematics Books**
Oct. 25, 2007, Highlight Session, Minicourse, NCTM Regional Conference and Exposition, Kansas City, MO.
24. ■ **Training Your Students to Present Stylish, Commanding, and Complete Board Expositions of Proof, Thereby Offering an Audience the Chance to Comprehend a Mathematical Argument in Real Time!**
Apr. 18, 2008, Missouri Section of the MAA Spring Meeting, Missouri NExT , Springfield, MO
25. ■ **Mathematical Literacy is not an Oxymoron: Writing, Reading, & Speaking Mathematics, High School to College.**
June 10, 2008, Kansas City Missouri School District Summer Literacy Institute, Kansas City, MO.
26. ■ **My Occasionally Intentional, But Repeatedly Distracted Path to a *Modest* Mathematical Life**
Apr. 13, 2012, Missouri Section of the MAA Spring Meeting, St. Louis, MO (Dinner Talk)

Colloquium Talks Given Away from UMKC   (All included in the Expository Talks list above)

1. **Fermat's 'Last Theorem' c.1637-1993 (pre-Wiles): The Most Famous Marginal Note in Mathematical History.**
Feb. 26, 1993, University of Iowa, Iowa City, IA, Mathematics Dept.
2. **Mathematical Cranks and Their Obsessions.**
Mar. 6, 1993, Kansas City Skeptical Society.
3. **En Route to Chaos: Sarkovskii's Theorem.**
Apr. 28, 1993, Avila College, Mathematics Dept., National Mathematics Awareness Week.
Feb. 16, 1994, Univ. of Missouri - Columbia, Mathematics Dept., Arts & Sciences Week.
4. **As the Worm Turns c.1966 - 1993: What is the Area of the Smallest Convex Blanket That Will Cover Every Worm of Length 1?**
Apr. 26, 1994, Avila College, Mathematics Dept., National Mathematics Awareness Week.

5. **Pascal's Triangle *Before* Pascal: An Historical Picturebook.**
   Sept. 27, 1994, Park University, Mathematics Dept.
6. **Will All N become One? The Collatz Problem c.1930 - 1992.**
   Apr. 26, 1995, Avila College, Mathematics Dept., National Mathematics Awareness Week.
7. **Can a Light in a Reflecting Room Always be Seen from Every Spot? <u>Any</u> Spot?**
   Mar. 27, 1996, Benedictine College, Discovery Day mathematics speaker, Kappa Mu Epsilon.
8. **What's the Densest Way to Pack Equal Circles in a Square? c.1964-1995.**
   Apr. 25, 1996, Avila College, Mathematics Dept., National Mathematics Awareness Week.
9. **Morley's Trisector Theorem c.1899: History and Proofs.**
   Nov. 21, 1996, Central Missouri State University, Kappa Mu Epsilon.
10. **It's All Corners!…The Failure of Intuition: Functions Continuous Everywhere But Differentiable Nowhere.**
    Nov. 17, 1998, Invited Speaker, Colloquium Series, Johnson County Community College.
11. **Kissing Numbers: How Many Congruent Regular Polygons Can Kiss Another of Their Kind?**
    Nov. 30, 1999, Kappa Mu Epsilon, Benedictine College.
    Mar. 20, 2007, Kappa Mu Epsilon, University of Central Missouri
12. **Some Islamic Mathematics of The Year 1000**
    Mar. 27, 2000, Invited Speaker, Emporia State University.
13. **The Area of an Enigmatic Ellipse: Holditch's Theorem.**
    Feb. 13, 2001, Invited Speaker, Colloquium Series, Johnson County Community College.
14. **Are There 12 or 13 Kissing Spheres? The 1694 Isaac Newton – David Gregory Disagreement.**
    Apr. 14, 2005, Invited Colloquium Speaker, Northwest Missouri State University

Other Mathematics Talks/Panels (not listed elsewhere)

1. **Distinguished Teaching Panel (immediately after winning Superior Teaching Award).**
   Aug. 21, 1984, UMKC School of Graduate Studies GTA Orientation.
2. **High School Mathematics: Keeping Your Options Open.**
   May 20, 1987, Englewood Christian High School.
3. **A Mathematics Potpourri.**
   May 10, 1988, Palmer Junior High School.
4. **Speakers' Bureau Panel.**
   Feb. 6, 1989, Conference of Independent School Educators.
5. **Mathfest Talk.**
   Apr. 25, 1990, UMKC Dept. of Mathematics and Statistics.
6. **Innumeracy and the Use of Mathematics in Reasoning about Pseudoscience.**
   Oct. 9, 1990, "The Voice of Reason" local radio talk show, KKFI, 90.1 FM.
7. **Seeing How to Turn a Sphere Inside-Out (without tearing it).**
   Jan. 20, 1995, UMKC Expository Talks Series, a presentation of two video tapes.
8. **Mathematics Dinner Talk.**
   Aug. 2, 1997, Center for Inquiry - Midwest.
9. **'The Institute for Pi', a Video Spoof.**
   Oct. 25, 1997, Center for Inquiry - Midwest Conference, session entitled 'Mathematics, Medicine and the Culture Wars'.
10. **Student Expository Papers in History of Mathematics.**
    Oct. 21, 1998, UMKC Writing Across the Curriculum Committee Lunch Meeting.
11. **Writing Assignments in Calculus I.**
    Apr. 28, 2000, UMKC High School/College Program Conference.
12. **Writing in History of Mathematics Math 464 WI.**
    Apr. 13, 2001, UMKC Writing Across the Curriculum Writing Intensive Faculty Forum.
13. **One Small Peer Review Assignment in History of Mathematics Math 464 WI.**
    Oct. 26, 2001, UMKC Writing Across the Curriculum Writing Intensive Faculty Forum.
14. **AMATYC, MAA, & NCTM Standards Panel.**
    Mar. 31, 2006, MOMATYC/KAMATYC Annual Spring Conference.
15. **History of Mathematics - Writing Intensive - - Design & Implementation of Writing Intensive Courses**
    Dec. 11, 2006, FaCET (Faculty Center for Excellence in Teaching)
16. **Assessment in the Department of Mathematics & Statistics**
    Feb. 19, 2008, UMKC Student Learning Group Meeting (at FaCET)
17. **Southwest Early College Campus Introductory Panel**
    Aug. 9, 2011, UMKC

18. **New Faculty Orientation Teaching Panel**
    Aug. 10, 2011, UMKC
19. **NeXT Panel on Inquiry-based Learning.**
    Apr. 13, 2012, Missouri Section of the MAA Spring Meeting, St. Louis, MO.
20. **New Faculty Orientation Excellence in Teaching Panel**
    Aug. 10, 2012, UMKC
21. **Writing Intensive Workshop**
    Jan. 17, 2014, FaCET symposium, UMKC
22. **The New Online Writing and Reading Archive at UMKC**
    Aug. 22, 2014, FaCET Symposium, Kansas City, MO.
23. **Active Inquiry Learning in the Classroom – New Perspectives and Ideas**
    Feb. 6, 2015, UMKC, Bloch School
24. **Using the RooWriter Detailed Instructor Report to Guide Writing Intensive Course Content**
    Aug. 20, 2015, FaCET Symposium, Kansas City, MO
25. **Panel: Strategies for Addressing Persistent Issues in Student Writing: How to Stay Sane and Keep Cool**
    Aug. 20, 2015, FaCET Symposium, Kansas City, MO
26. **Incorporating Writing into Quantitative Courses**
    Jan. 29, 2016, UMKC, Bloch School
27. **MAA Missouri Section NeXT Online Teaching Panel Discussion**
    Oct. 15, 2020, online
28. **West Point Remote Teaching Office Hours – Guest Speaker**
    Oct. 21, 2020, online

Mathematics Technology Talks/Workshops 1991-1996 (not listed elsewhere)

1. **Annual Workshop on Derive, Microcalc, and graphics calculators.**
   1991-1996, MPI (Mathematics and Physics Institute) high school mathematics/physics faculty.
2. **Invited Workshop on Mathematics Computer Software (Derive, Microcalc, etc.)**
   Apr. 5, 1991, Metropolitan Community Colleges mathematics in-service training, Penn Valley Community College.
3. **Workshop on Derive and Microcalc**.
   Sept. 27, 1991, UMKC Mathematics Dept. faculty and staff, held in Miller Nichols Library.
4. **Invited Workshop on Derive.**
   Apr. 14, 1992, UMKC Education class 489DF Special Topics: Algebra for Teachers (Vena Long).
5. **Using Mathematics Software and Technology in Secondary School Mathematics Courses.**
   Sept. 3, 1992, Invited Lecture, Truman High School, Independence, MO.
6. **Invited Workshops on Derive.**
   Sept. 14, 23, 1992, Independence School District secondary school mathematics teachers.
7. **Derive and Algebra.**
   May 18, 1993, Invited Workshop Nowlin Middle School.
8. **Invited Lecture/Workshops on the SHARP EL-9300C Graphics Calculator.**
   July 1, 1994, UMKC HSSMTI (High School Science, Mathematics, and Technology Institute).
9. **Introduction to Derive**.
   Sept. 9, 1994, UMKC Physics Dept. faculty preparing for student PC lab installation.
10. **Workshop on Derive.**
    Mar. 1, 1995, 8th grade Algebra students from Nowlin Middle School.
11. **Workshop on Derive & Graphics Calculators.**
    Mar. 1, 1995, 3 hours, UMKC Education class 568R (Vena Long).
12. **Workshop in Derive and Univ. of AZ programs.**
    Mar. 15, 1995, students from Southwest High School.
13. **Hosted a working visit from Linda Crabtree of Longview Community College.**
    May 5, 1995, How the MPI uses computers in teaching calculus.
14. **An Introduction to the TI-92.**
    Jan. 9, 1996, 2 hour workshop, Johnson County Community College.
15. **Hosted a working visit from Richard Stein of Casper College, WY.**
    Winter 1996, How the MPI uses computers and graphics calculators in teaching calculus.

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Kansas City Mathematics Technology EXPO - Annual Participation (29 years)

(1)   1991 (First EXPO)
Talk: **How to Use and Not Use Derive.**
Workshop: **Practice & Exploration: MicroCalc, TrueBasic Calculus, & Derive.**

(2)   1992   Steering Committee: **Member,** & Author: **Sources for Software, Graphics Calculators, Books.**
Workshop: **Advanced Derive Workshop: Calculus I & Calculus II.**
Discussion: **What High Schools Will Prepare For and What Colleges Will Expect.**

(3)   1993   Steering Committee: **CHAIR,** & Author: **Sources for Software, Graphics Calculators, Books.**

(4)   1994   Steering Committee: **CHAIR,** & Author: **Sources for Software, Graphics Calculators, Books.**
Workshop: **The Eclectic Lab: Six Unusual PC/Calculator Labs for Calculus I & II.**

(5)   1995   Steering Committee: **Member.**
Talk: **Derive Visualizations: What You Might Not Know You Can Do!**
Showcase: **A Comparison of the TI-82, SHARP EL-9300c, & HP 38G Graphics Calculators.**
Showcase: **A Comparison of the HP 48GX and the New TI-92 Graphics Calculators.**

(6)   1996   Steering Committee: **Member.**
Talk: **A Newly-Discovered Property of Ellipses: Is Star Trek's PHASER Imminent?**
Workshop: **Interactive Notebooks on a Graphics Calculator: The New HP 38G & Aplets.**
Showcase: **A Comparison of Derive for Windows with 'Classic' Derive.**
Discussion: **What Will We Do with the TI-92? A Discussion of the Future.**

(7)   1997   Steering Committee: **Member.**
Showcase: **Useful Mathematics Freeware/Shareware.**
Showcase: **Comparison between the New SHARP EL-9600c & the TI-83 Graphics Calculators.**
Discussion: **Algebra Topics: What Do We Throw? What Do We Keep?**

(8)   1998   Steering Committee: **Member.**
Talk: **Stop, Go, & Actively Engage: College Algebra on Videotape in 1998.**
Talk: **Alternate Office Hours: Blackboard & Chalk to Internet Whiteboard & Digital Pen.**

(9)   1999   Steering Committee: **Member.**
Talk: **Virtual Office Hours and More: Year One of the University of Missouri Project.**
Discussion: **Differentiating Student Skills With Respect to Online Courses.**

(10)   2000   Steering Committee: **Member.**

(11)   2001   Steering Committee: **Member.**
Discussion: **What Do We Need to Know About Online Teaching?**

(12)   2002   Steering Committee: **Member.**

(13)   2003   Steering Committee: **Member.**
Discussion: **Where Do We Go From Here? Guiding the EXPO through its "Teens"**

(14)   2004   Steering Committee: **Member.**
Talk: **"Voices of the Partner Disciplines": What mathematics and associated technology do our clients say their students need?**

(15)   2005   Steering Committee: **Member.**
Discussion: **Placement Testing – Searching for the Grail, but Working in the Real World**

(16)   2006   Steering Committee: **Member.**

(17) 2007 Steering Committee: **Member.**
(18) 2008 Steering Committee: **Member.**

(19) 2009 UMKC Site Coordinator, Financial Secretary, & Steering Committee: **Member.**
Talk: **Creating Math Video Shorts Using the Flip Mino Camcorder**
Discussion: **Technology on the Horizon: Wolfram|Alpha, the Kindle, and YouTube EDU. Can We Talk?**

(20) 2010 UMKC Site Coordinator, Financial Secretary, & Steering Committee: **Member.**
Talk: **FLIP Video Math Shorts: A Fresh Archive of Students Teaching Students**
Discussion: **Moving Students from "Gaming the System" to Motivation to Understand**

(21) 2011 UMKC Site Coordinator, Financial Secretary, & Steering Committee: **Member.**

(22) 2012 UMKC Site Coordinator, Financial Secretary, & Steering Committee: **Member.**
Talk: **Democratization of Access: An Introduction to "Core Math Tools", a free NCTM Suite of Software for Teaching the Common Core State Standards**
Talk: **What's a MOOC?**

(23) 2013 UMKC Site Coordinator, Financial Secretary, & Steering Committee: **Member.**
(24) 2014 UMKC Site Coordinator, Financial Secretary, Exhibitor Coordinator, & Steering Committee: **Member.**
(25) 2015 UMKC Site Coordinator, Financial Secretary, & Steering Committee: **Member.**
(26) 2016 UMKC Site Coordinator, Financial Secretary, & Steering Committee: **Member.**
(27) 2017 UMKC Site Coordinator, Financial Secretary, & Steering Committee: **Member.**
(28) 2018 UMKC Site Coordinator, Financial Secretary, & Steering Committee: **Member.**
(29) 2019 UMKC Site Coordinator, Financial Secretary, & Steering Committee: **Member. (Final Math EXPO)**

Virtual Office Hours Project
1997-2000 Participated in a University of Missouri system-wide effort to create a way for students in mathematics to find tutorial help on line, using both audio and whiteboard software, as well as a digital pad and pen.

Funding
- **1987** UMKC **Teaching Enhancement Funds** for summer conference travel **($200)**
- **1996** Organized, with a colleague (Kay Weiss) from Kansas City Kansas Community College (KCKCC), and presided over an all day **Math Mania mathematics event** held Oct. 3 at KCKCC for over 300 high school/college students and their teachers from all over Kansas and Missouri. **$10,000** was provided by the MAA (Mathematical Association of America) and the Mary P. Dolciani Halloran Foundation. The speakers were **Frank Morgan**, and **Colin Adams** of Williams College, and **Bill Thayer** of St. Louis Community College at Meramec. (Report in the Dec. 1996 MAA Focus newsletter, p.16.)
- **2009-2011 $18,000 from PREP-KC** See "**Southwest Early College Campus**" section.

Referee For:
- Journal of Mathematical Analysis and Applications
- Journal of Online Mathematics and its Applications
- Journal of Physics A: Mathematical & General
- Missouri Journal of Mathematical Sciences
- Nonlinearity
- Pi Mu Epsilon Journal (1996)
- Real Analysis Exchange
- Tbilisi Mathematical Journal

Professional Memberships
- 1974-present American Mathematical Society
- 1974-present Mathematical Association of America
- 1985-present National Council of Teachers of Mathematics
- 1985-present Missouri Council of Teachers of Mathematics
- 1985-present Kansas City Area Teachers of Mathematics
- 2002-present Gifted Association of Missouri

Acknowledgements or Quotations (in Books, Magazines, Newspapers, Reports, DVDs, Web pages, etc.)

Dec. 1, 1990   **Quoted** in the Independence (MO) Examiner article **"Area Students Challenge Prediction"**, p. 3: "It was a lesson on how one judges conjecture in science. How one tells a good one from a bad one."

1991   **Acknowledged** in the preface to **"Fundamentals of Real Analysis"** by James Foran, Marcel Dekker, Pub. p. vi: "Richard Delaware...read the entire book and (his) suggestions and corrections...are greatly appreciated."

Summer 1994   **Quoted extensively** in Perspectives, The Newsmagazine of the University of Missouri - Kansas City, Vol. 4, No. 2, pp. 20-21, **"Breakfast of Champions"** MPI article (Mathematics and Physics Institute).

1995   **Acknowledgement,** preface, **"Introduction to Fractals and Chaos"**, Richard Crownover,UM Columbia, Jones & Bartlett, p. ix: "I thank Richard Delaware for sharing his lecture notes on the topic of Sarkovskii's Theorem."

June 1, 1996   **Quoted** in **Scientific American**, p. 103, Mathematical Recreations, Feedback section, the "Worm Problem".

1996   **Acknowledged** in the new MPI **Physics Lab Manual**: "The author expresses his gratitude to Richard Delaware for his help with Derive, and in proofreading several drafts of the laboratory manual."

Nov. 7, 1996   **Quoted** in a Kansas City Star Eastern Jackson County/Independence edition article entitled **"Labyrinth"**: "There's no psychological or spiritual import connected with these numbers [Golden Ratio, etc.] except in the minds of people who wish to think that way."

Summer 2002   **Featured** in the Linda Hall Library of Science, Engineering, and Technology newsletter Hedgehog, No. 19, Summer 2002, pp. 3-4, an article titled: **"The Mathematics and Physics Institute Annual Visit."**

Fall 2004   **Acknowledged** in the 2003-2004 **UMKC Sosland Journal** preface: "A special thanks to Richard Delaware for his assistance with the essays that focus on mathematics."

Fall 2004   **Quoted** in **"How to Read and Do Proofs"**, 4th Edition by Daniel Solow, Wiley, Pub., on the back cover, "His already fine book becomes more usable by having the four subject-targeted appendices.", and on p. xviii, **Acknowledgements** for the Fourth Edition: "I am especially grateful for the thorough and thoughtful comments of Richard Delaware at the University of Missouri, Kansas City, many of which have been incorporated in this edition".

Apr. 3, 2006   **UMKC Press Release** #063, "Revisions, additions in UMKC curriculum aimed at making higher math education accessible to all", about the introduction of 7 Mathematics for Teachers courses; several quotations

May 21, 2006   **Featured** in Kansas City Sunday **STAR Magazine** cover & pp. 12-16, Math 464 WI History of Mathematics class visiting the newly remodeled Rare Book Room of the Linda Hall Library of Science and Technology.

Oct. 22, 2007   **Featured** in Kansas City **STAR newspaper** article (p. B-2) "Rare old books will be on display" as NCTM Regional Conference speaker.

Jan. 2008   **Acknowledgement, Preface**, Elementary Real Analysis, 2nd Ed, Thomson, Bruckner & Bruckner: "We would like to make special mention of Richard Delaware...[who]...went through the entire first edition, made many helpful suggestions, and found numerous errors."

Sept. 2008   **Appeared** in **DVD** for Southwest Early College Campus, produced by PREP-KC.

Oct. 2010   **Quoted in** "**College Readiness: The View from Early College High Schools**", Woodrow Wilson National Fellowship Foundation, pp. ii, and 14: "… that university partners are not employees of the school district, and therefore need not report to district administration about what they observe in classrooms, allows them to create a bond of trust with mathematics teachers. Teachers know that comments, advice, and mentoring from university partners are honest and concerned only with the teaching and content of mathematics, and so those teachers respond themselves with honesty and real questions of concern that in the presence of district administration (however benign) they might be wary of raising, to protect their jobs or status, or just not appear ill-informed or silly. There is, in effect, a natural professional confidentiality bond with university partners opening a safe mental space in which real professional mathematics development can grow."

April 27, 2011   **Thanked** for inspiration at UMKC Alumni Awards Luncheon by Steven Obenhaus, 2011 winner of the School of Education Alumni Achievement Award, on a short video: "He (Obenhaus) says his undergraduate professor, Richard Delaware, challenged him intellectually and academically, teaching the importance of breaking down and explaining complex topics in a variety of ways."

Oct. 8, 2012   **Quoted** in University News article (Vol. 80, Issue 8, p. 5) "Weep no more, Controversial test may soon meet its demise" on the RooWriter.

Sept. 16, 2013   **Quoted** in University News article (Vol. 81, Issue 5, p. 2) "The keyboard is mightier than the pen, RooWriter replaces the WEPT"

Dec. 13, 2013   **Mentioned** in The Assessable Roo newsletter (Vol. 2, Issue 4, p. 4) "With the support of the University Writing and Reading Board and staff from Information Access, Henrietta Rix Wood and Richard Delaware have spearheaded the successful implementation of the RooWriter this semester."

May 28, 2014   UMKC home page, **article & picture** with 3 student 2014 HOMSIGMAA contest winners: "To the power of three".

June 2015   **Acknowledgement, Preface**, Essentials of Measure Theory, Kubrusly: "Special thanks are due to… Richard Delaware who (together with his students) has scanned Part I as well and contributed with many suggestions."

2017	**Acknowledgement**, Women in Mathematics, Celebrating the Centennial of the Mathematical Association of America, p. 133, "Richard Delaware of the University of Missouri Kansas City maintains an informative department-history web page with a section devoted to [Maria] Castellani [faculty member 1946-1961]." http://d.web.umkc.edu/delawarer/MathDeptHistory/Castellani.htm
Jan. 2018	**Acknowledgement**, Kansas City Repertory Theatre, "The Curious Incident of the Dog in the Night-Time", Jan. 26 to Feb. 18, "Special Thanks to Dr. Richard Delaware", for creating copy for mathematics posters used in the play.
Oct. 2022	**My Convergence article referenced**, Notices of the American Mathematical Society, Vol. 69 No. 9. p.1522, in "Learn from the Masters: A Case for the History of Mathematics," by Amy Shell-Gellasch.

Conferences Attended

AMS = American Mathematical Society; ICTCM = International Conference on Technology in Collegiate Mathematics;
KATM = Kansas Association of Teachers of Mathematics; KCATM = Kansas City Area Teachers of Mathematics;
MAA = Mathematical Association of America; NASULGC = Nat. Assoc. of State Universities & Land Grant Colleges;
NCTM = National Council of Teachers of Mathematics; SIAM = Society for Industrial and Applied Mathematics

1. Jan. 15-19, 1974 AMS/MAA Joint National Meeting, San Francisco, CA.
2. Jan. 7-13, 1985 AMS/MAA Joint National Meeting, Anaheim, CA.
3. Feb. 28-Mar. 1, 1985 Reasoning and Higher Education Meeting, Boise, ID.
4. Apr. 12-13, 1985 MAA Missouri Section Meeting, Warrensburg, MO.
5. July 22-25, 1985 LOGO 85 Meeting, Massachusetts Institute of Technology, Boston, MA.
6. Oct. 24, 1985 NCTM Regional Meeting, Kansas City, MO.
7. Mar. 17, 1986 NASULGC Urban School Collaborative Conference, Kansas City, MO.
8. Aug. 3-11, 1986 International Congress of Mathematicians, Berkeley, CA.
9. Aug. 5-6, 1986 Pi Mu Epsilon National Meeting, Berkeley, CA
10. Oct. 24-25, 1986 ADAPT (Accent on Developing Abstract Processes of Thought), Independence, MO.
11. Nov. 7, 1986 STOM (Science Teachers of Missouri) Fall Conference, Kansas City, MO.
12. Apr. 3, 1987 MAA Missouri Section Meeting, Kirksville, MO.
13. Apr. 8-11, 1987 NCTM National Meeting, Anaheim, CA.
14. July 31-Aug. 3, 1987 1st Boston Workshop for Mathematics Faculty, Wellesley College, Boston, MA.
15. Oct. 31, 1987 AMATYC (American Association of Two Year Colleges) National Meeting, Kansas City, MO.
16. Jan. 5-9, 1988 AMS/MAA Joint National Meeting, Atlanta, GA.
17. Jan. 23, 1988 KCATM Winter Meeting, Kansas City, MO.
18. Feb. 6, 1989 Conference of Independent School Educators, Kansas City, MO.
19. Apr. 12-15, 1989 NCTM National Meeting, Orlando, FL.
20. Oct. 24, 1989 KCATM/KATM Fall Conference, Kansas City, MO.
21. Jan. 8, 1990 Conference on Calculus Revision, William Jewell College, Liberty, MO.
22. Oct. 4, 1991 Kansas City Regional Mathematics Technology EXPO, Overland Park, KS.
23. Oct. 16-17, 1992 Kansas City Regional Mathematics Technology EXPO, Kansas City, KS.
24. Nov. 12-15, 1992 ICTCM, Rosemont (nr. Chicago), IL.
25. Feb. 12-13, 1993 Harvard Calculus Conf. & Math. & Tech. Workshop, Oklahoma State Univ., Stillwater, OK.
26. Mar. 31-Apr. 3, 1993 NCTM National Meeting, Seattle, WA.
27. Oct. 1-2, 1993 Kansas City Regional Mathematics Technology EXPO, Kansas City, KS.
28. Apr. 26, 1994 KCATM Annual Dinner Meeting, Overland Park, MO.
29. Oct. 7-8, 1994 Kansas City Regional Mathematics Technology EXPO, Kansas City, KS.
30. Aug. 7-8, 1995 Hewlett Packard workshop on the new HP 38G graphics calculator, Kansas City, MO.
31. Oct. 6-7, 1995 Kansas City Regional Mathematics Technology EXPO, Kansas City, KS.
32. Jan. 6, 1996 KCATM/KATM Winter Meeting, Kansas City, MO.
33. May 19, 1996 Dedication Event, Center for Inquiry - Midwest, Defending Science, Kansas City, MO.
34. July 23, 1996 SIAM Annual Meeting, "Toy Story: Character-Driven Mathematics", Kansas City, MO.
35. Oct. 3, 1996 Organizer, MAA/Dolciani-Halloran Foundation "Math Mania" event, Kansas City, KS.
36. Oct. 4-6, 1996 Kansas City Regional Mathematics Technology EXPO, Kansas City, KS.
37. Oct. 10, 1996 NCTM Central Regional Conference, Kansas City, MO.
38. Nov. 7-10, 1996 ICTCM, Reno, NV.
39. Oct. 3-4, 1997 Kansas City Regional Mathematics Technology EXPO, Kansas City, MO.
40. Oct. 25, 1997 Center for Inquiry - Midwest conference, Kansas City, MO.
41. Nov. 5-9, 1997 ICTCM, Chicago, IL.
42. Mar. 27-28, 1998 AMS section meeting, Manhattan, KS.
43. Oct. 2-3, 1998 Kansas City Regional Mathematics Technology EXPO, Kansas City, MO.

44.	Apr. 9,	1999	Joint Spring Meeting, Missouri section MAA, KCATM, et. al., Kansas City, MO.
45.	July 19,	1999	"Presenting Data and Information", Edward Tufte, Kansas City, MO.
46.	Oct. 1-2,	1999	Kansas City Regional Mathematics Technology EXPO, Kansas City, MO.
47.	Dec. 10,	1999	UMKC Writing Across the Curriculum conference, Kansas City, MO.
48.	Apr. 28,	2000	UMKC High School/College conference, Kansas City, MO.
49.	Oct. 6-7,	2000	Kansas City Regional Mathematics Technology EXPO, Kansas City, MO.
50.	Jan. 9-14,	2001	AMS/MAA Joint National Meeting, New Orleans, LA.
51.	Mar. 30-31,	2001	Real Analysis Mini-Conference, University of Louisville, Louisville, KY.
52.	May 22-26,	2001	Summer Symposium in Real Analysis XXV, Weber State University, Ogden, UT.
53.	Oct. 5-6,	2001	Kansas City Regional Mathematics Technology EXPO, Kansas City, MO.
54.	Oct. 4-5,	2002	Kansas City Regional Mathematics Technology EXPO, Kansas City, MO.
55.	Jan. 11,	2003	KCATM Annual Conference, Kansas City, MO.
56.	Oct. 3-4,	2003	Kansas City Regional Mathematics Technology EXPO, Kansas City, MO.
57.	Apr. 2-4,	2004	Midwest Junto for the History of Science, 47th Annual Meeting, Kansas City, MO.
58.	June 2-4,	2004	3rd International Conference on Supplemental Instruction, Boston, MA.
59.	Oct. 1-2,	2004	Kansas City Regional Mathematics Technology EXPO, Kansas City, MO.
60.	Jan. 8,	2005	KCATM Annual Conference, Kansas City, MO.
61.	Oct. 7-8,	2005	Kansas City Regional Mathematics Technology EXPO, Kansas City, MO.
62.	Mar. 31,	2006	MOMATYC/KAMATYC Annual Spring Conference, Kansas City, MO.
63.	Sept. 29-30,	2006	Kansas City Regional Mathematics Technology EXPO, Kansas City, MO.
64.	Mar. 3,	2007	Whatcom & Skagit Mathematics Partnership Mini-Conference, Bellingham, WA.
65.	Oct. 5-6,	2007	Kansas City Regional Mathematics Technology EXPO, Kansas City, MO.
66.	Oct. 25,	2007	NCTM Regional Conference, Kansas City, MO.
67.	Feb. 16,	2008	KCATM Winter Conference, Kansas City, MO.
68.	Apr. 18-19,	2008	MAA Missouri Section Spring Meeting, Springfield, MO.
69.	May 2,	2008	FaCET Symposium: Academic Freedom & Inclusion, Kansas City, MO.
70.	May 28-29,	2008	Woodrow Wilson Fellowship Foundation Convening, Princeton, NJ.
71.	Oct. 3-4,	2008	Kansas City Regional Mathematics Technology EXPO, Kansas City, MO.
72.	Oct. 23-24,	2008	Woodrow Wilson Fellowship Foundation Convening, Princeton, NJ.
73.	Jan. 17,	2009	KCATM Winter Conference, Kansas City, MO.
74.	Feb. 25,	2009	Woodrow Wilson Fellowship Foundation Faculty Engagement Seminar, San Francisco, CA.
75.	Mar. 19,	2009	Inquiry Based Learning in Mathematics, Rockhurst University, Kansas City, MO.
76.	May 13,	2009	Instructional Technology Conference, UMKC, Kansas City, MO.
77.	Oct. 2-3,	2009	Kansas City Regional Mathematics Technology EXPO, Kansas City, MO.
78.	Oct. 22-23	2009	Woodrow Wilson Fellowship Foundation Convening, Princeton, NJ.
79.	Feb. 13,	2010	KCATM Winter Conference, Kansas City, MO.
80.	Feb. 25-26,	2010	Woodrow Wilson Fellowship Foundation Convening, Philadelphia, PA.
81.	Oct. 1-2,	2010	Kansas City Regional Mathematics Technology EXPO, Kansas City, MO.
82.	Feb. 5,	2011	Southwest Early College Campus Retreat, UMKC
83.	Feb. 19,	2011	KCATM Winter Conference, Kansas City, MO.
84.	Apr. 1-2,	2011	MAA Missouri Section Spring Meeting, Columbia, MO.
85.	Apr. 28,	2011	FaCET Symposium: Making Student Learning Visible, Kansas City, MO.
86.	Oct. 7-8,	2011	Kansas City Regional Mathematics Technology EXPO, Kansas City, MO.
87.	Feb. 18,	2012	KCATM Winter Conference, Kansas City, MO.
88.	Apr. 13-14,	2012	MAA Missouri Section Spring Meeting, St. Louis, MO.
89.	Oct. 5-6,	2012	Kansas City Regional Mathematics Technology EXPO, Kansas City, MO.
90.	Nov. 3,	2012	KCATM Winter Conference, Kansas City, MO.
91.	Apr. 19-20,	2013	MAA Missouri/Kansas/Iowa/NE-SD Section Spring Joint Meeting, Maryville, MO.
92.	Oct. 4-5,	2013	Kansas City Regional Mathematics Technology EXPO, Kansas City, MO.
93.	Jan. 7,	2014	Mandy Savitz-Romer Lecture, Kauffman Foundation, Kansas City, MO.
94.	Jan. 17,	2014	FaCET Conference, Kansas City, MO.
95.	June 25-28,	2014	MAA PREP, POGIL Workshop, Rockhurst University, Kansas City, MO.
96.	Aug. 14,	2014	Rockhurst-UMKC POGIL Workshop, Rockhurst University, Kansas City, MO.
97.	Aug. 22,	2014	FaCET Conference, Kansas City, MO.
98.	Oct. 3-4,	2014	Kansas City Regional Mathematics Technology EXPO, Kansas City, MO.
99.	Aug. 20,	2015	FaCET Conference, Kansas City, MO.
100.	Oct. 2-3,	2015	Kansas City Regional Mathematics Technology EXPO, Kansas City, MO.
101.	Jan. 11,	2016	UMKC ITS Conference, Kansas City, MO.

102.	Oct. 7-8,	2016	Kansas City Mathematics Technology EXPO, Kansas City, MO.
103.	Oct. 6-7,	2017	Kansas City Mathematics Technology EXPO, Kansas City, MO.
104.	Jan. 12,	2018	Convening for Teachers of Writing, UWRB, UMKC, Kansas City, MO.
105.	Apr. 13,	2018	Convening for Teachers of Writing, UWRB, UMKC, Kansas City, MO.
106.	Oct. 5-6,	2018	Kansas City Mathematics Technology EXPO, Kansas City, MO.
107.	Oct. 4-5,	2019	Kansas City Mathematics Teaching Technology EXPO, Kansas City, MO.
108.	Apr. 7-9,	2022	MAA Missouri Section Spring Meeting, Kansas City, MO, at UMKC.

Service

Organizer, Expository Talks Series   **279** talks   **(42 by me)**
(Winter 1988 - Fall 2010   23 years)

Brief Description of the Series
- In January 1988, I created the UMKC Dept. of Mathematics and Statistics Expository Talks Series to present a series of lively 50 minute expository mathematics talks. Speakers are generally from regional states.
- There were about 10 talks per academic year, pitched at the undergraduate level.
- The rule was: **Every talk must contain a mathematical proof.**
- On average, each talk was attended by about 15 faculty, graduate, or undergraduate students from UMKC and surrounding Colleges and Universities contributing to a vibrant sense of mathematical community.

Administrative Responsibilities
- Find, schedule, and make all arrangements for about 10 expository speakers each academic year.
- Post announcements on web page, print some flyers, and maintain the mailing list.
- Organize & buy refreshments.

Created Department Web Site – January 2004 (with E. Hall); Webmaster 2004-2014

- Over 100 web pages; information rich, easy to use, for students, faculty, advisors, and community users.

Student Board Talks Coached & Prepared (27 total, 2003-2009), Department Expository Talks Series (20-25 min. ea.)

- **April 11, 2003,** Sarah Vaughn, **Falling Down: The Proof of Galileo's Nearly Correct Path of Quickest Descent**, while in **Math 464 WI** (History of Mathematics, Writing Intensive).
- **April 11, 2003,** Christina Miller, **Albert Girard 1629: The First Statement of the Fundamental Theorem of Algebra**, while in **Math 464 WI** (History of Mathematics, Writing Intensive).
- **April 16, 2004,** Karla Childs, **A Lesson from Fibonacci: Leonardo Pisano's Liber Abaci (Book of Calculation) 1202**, while in **Math 464 WI** (History of Mathematics, Writing Intensive).
- **April 16, 2004,** Louis Schenck, **Erdos' Simple 1932 Proof of Bertrand's Postulate: For any integer n > 2 there is a prime p such that n < p < 2n**.
- **November 19, 2004**, Carol Hanson, **A Proof of Darboux's Theorem: Every Derivative has the Intermediate Value Property**, while in **Math 402** (Advanced Analysis I).
- **November 19, 2004**, John Nangle, **The Compactness Theorem: You Too can Color an Infinite Map with Only 4 Crayons**, while in **Math 490** (Set Theory and Models) an individual study course taught by Eric Hall.
- **April 22, 2005**, Melanie Meyer, **A 1779 Theorem of 72 year old Leonhard Euler: "The solution of a Curious Question: Given any series of *n* letters…, to find how many ways they can be rearranged so that none returns to the position it initially occupied"**, while in **Math 464 WI** (History of Mathematics, Writing Intensive).
- **April 22, 2005**, Joel Hess, **An 1881 Theorem of 21 year old Vito Volterra: "No continuous function on the real numbers takes rationals to irrationals and irrationals to rationals"**, while in **Math 412** (Advanced Analysis II).

- **November 11, 2005**, Pinar Tulay, **Leonhard Euler's 1770 "Proof" that: "It is impossible to find any two cubes, whose sum or difference is a cube"**, while in **Math 402** (Advanced Analysis I).
- **November 11, 2005**, David Jackson, **Joseph Liouville's 1851 Exhibition of the First Transcendental Number**, while in **Math 402** (Advanced Analysis I).
- **November 17, 2006**, Lindsey Ramsey, **Weierstrass' Proof that his 1872 "Pathological" Function is Everywhere Continuous but Nowhere Differentiable**, while in **Math 402** (Advanced Analysis I).
- **November 17, 2006**, Bill Gessley, **A Proof of Euler's Formula for Polyhedra V - E + F = 2 and its Application to Pick's Theorem**, while in **Math 402** (Advanced Analysis I).
- **December 1, 2006**, Sam Butler-Hunziker, **A Proof of the Fundamental Theorem of Algebra using D'Alembert's Lemma of 174**6, while in **Math 407** (Introduction to Complex Variables).
- **December 1, 2006**, Tony Botello, **A 1995 Proof and Algorithm for a 4 Person Envy-Free Cake-Cutting Protocol**, while in **Math 402** (Advanced Analysis I).
- **April 13, 2007**, Tera Smith, **A Proof of the 'Law of Quadratic Reciprocity'**, for **Math 410** (Modern Algebra).
- **April 13, 2007**, Dan Brigham, **At Most 4 Colors are Needed to Color any Plane Map: Kempe's Incorrect 1879 'Proof' and the Error Found by Heawood 10 Years Later!**, while in **Math 464 WI** (History of Mathematics, Writing Intensive).
- **November 16, 2007**, Whitney Berard, **Benko's new 2007 proof that: A given axb rectangle R can be decomposed into finitely-many rectangles which can be translated to compose another given parallel cxd rectangle R' if and only if area(R) = area(R') and a/c is rational**, while in **Math 402** (Advanced Analysis I).
- **November 16, 2007**, Brian Johnson, **Saari's 1981 proof that: In any election with n > 2 candidates, given j < n voting vectors W(1), ..., W(j), there exist voter profiles so that when the voters vote for j of the candidates using the voting vector W(j), then the jth candidate wins**, while in **Math 402** (Advanced Analysis I).
- **November 30, 2007**, Jamie Spenard, **Courant's 1941 Pancake Theorem proof: Two bounded, open, connected plane sets can be cut by a single line that divides each set in half by area**, while in **Math 402** (Adv. Analysis I).
- **November 30, 2007**, Tom Scott, **A Proof of Lebesgue's 1903 Criterion: A function f from [a,b] to R is Riemann-integrable if and only if f is bounded and the set of points of [a,b] at which f is not continuous has measure zero**, while in **Math 402** (Advanced Analysis I).
- **November 30, 2007**, Yawo Ekpoh, **Koksma's 1949 proof that: e^r is irrational for all non-zero rational exponents r (with Sondow's new 2006 geometric proof that e is irrational)**, while in **Math 402** (Advanced Analysis I).
- **April 25, 2008**, Vivian Bozikis, **Leonhard Euler's 1734 and 1743 Proofs that [The $1/k^2$ series] = $\pi^2/6$**, while in **Math 464 WI** (History of Mathematics, Writing Intensive).
- **April 25, 2008**, Tracey Davidson, **Abraham DeMoivre's 1718 Proof of a Gambler's Ruin Problem**, while in **Math 464 WI** (History of Mathematics, Writing Intensive).
- **November 21, 2008**, Dan Krulewich, **A Continuous function with zero derivative "almost everywhere" on [0, 1] which is nevertheless strictly increasing there!**, while in **Math 402** (Advanced Analysis I).
- **November 21, 2008**, James Slaughter, **Using Combinatorial Games (like dominoes) to prove ½ + ½ = 1**, while in **Math 490** (Numbers and Games), an independent study course with Dr. Hall.
- **April 17, 2009**, Cameron Buie, **The 1966 Erdös-Renyi-Sós Proof of the Friendship Theorem: "Suppose in a group of people we have the situation that any pair of persons have precisely one common friend. Then there is always a person (the 'politician') who is everybody's friend"**, while in **Math 412** (Adv. Analysis II).
- **April 17, 2009**, Richard Harris, **Cayley's 1899 Formula Counting Trees: "There are n^{n-2} different labeled trees on n vertices"**, while in **Math 464 WI** (History of Mathematics, Writing Intensive).

Student Expository Paper (or other) Publications

All expository papers written for **Math 464 WI** (History of Mathematics, Writing Intensive).

UMKC Sosland Journal (Department of English) (14)
- **Fall 2002**, Kristin DeBolt, book review essay, **Fermat's Enigma: The Book that Proves Mathematics is Anything but Boring**.
- **Fall 2003**, Melissa Menning, expository paper, **A Revolution in Astronomy,** about Kepler.
- **Fall 2004**, Carrie Andersen, expository paper, about the famous Konigsberg Bridge problem, **The Origination of Euler's Path**.
- **Fall 2004**, Heath Yates, expository paper, **An Emanji Temple Geometry Tablet**.
- **Fall 2005**, Samantha Reynolds, expository paper, **Maria Gaetana Agnesi: Female Mathematician and Brilliant Expositor of the 18th Century**.
- **Fall 2005**, Newlyn Walkup, expository paper, **The Perspective of Girard Desargues**.
- **Fall 2008**, Jace Ferguson, expository paper, **Early Binary: History and Application**.
- **Fall 2009**, Bradley Fulk, expository paper, **Adolphe Quetelet: An Analysis of His Research on the Propensity for Crime at Different Ages**.

- **Fall 2010**, Jennifer Nielsen, expository paper, *The Heart is a Dust Board:* **Abu'l Wafa Al-Buzjani, Dissection, Construction, and the Dialog Between Art and Mathematics in Medieval Islamic Culture**.
- **Fall 2012**, Jon Ross, expository paper, **Berkeley Contra the 'Infidel Mathematicians'**.
- **Fall 2013**, Jenna Miller, expository paper, **Casting Light on the Statistical Life of Florence Nightingale**.
- **Fall 2015**, Amanda Kelly, expository paper, **John Venn: Examining the Logic Behind the 'Logic of Chance'**.
- **Fall 2018**, Hope Mertz, expository paper, **King of the Mountain**.
- **Fall 2021**, Laura Behm, expository paper, **The Rule of Signs Through the Times**

UMKC Lucerna (Undergraduate Honors Journal) (15 + 1 honorable mention)
- **Fall 2007**, Samuel Butler-Hunziker, expository paper, **George Berkeley's Mathematical Philosophy and the Calculus**.
- **Fall 2007**, Lisa Erickson, expository paper, **Polygonal Numbers**.
- **Fall 2009,** Cameron Buie, expository paper, **The Bernoulli Brothers and the Brachistochrone**.
- **Fall 2010,** Nicholas Ball, expository paper, **Getting to the Root of the Problem: An Introduction to Fibonacci's Method for Finding Square Roots of Integers**.
- **Fall 2012,** Alex Karanevich, expository paper, **Trigonometry Development in Ancient and Medieval India**.
- **Fall 2012,** Jesse Hamer, expository paper, **Indivisibles and the Cycloid in the Early 17th Century**.
- **Jan. 2014**, Anna Riffe, expository paper, **The Impossible Proof: An Analysis of Adrien-Marie Legendre's Attempts to Prove Euclid's Fifth Postulate**.
- **Jan. 2016**, Chase Crosby, expository paper, **On Midpoints in the Middle Ages**.
- **Feb. 2018**, Eilene Ording, expository paper, *So Abstruse a Doctrine*: **A Treatise of Fluxions by Colin Maclaurin.**
- **Feb. 2019**, Whitney White, expository paper, **Ostrogradsky's Divergence Theorem.**
- **Feb. 2019**, Mastin Tapp, expository paper, **On a Few Less Well-Known Problems from the Latter Part of Leonardo of Pisa's** *Liber Abaci.*
- **Feb. 2019**, Hope Mertz, expository paper, unpublished Honorable Mention, **What's the Difference?**
- **Feb. 2020**, Amanda Nethington, expository paper, **Achieving Philosophical Perfection: Omar Khayyam's Successful Replacement of Euclid's Parallel Postulate.**
- **Feb. 2021**, Kylie Brous, expository paper, **The Mystery of Negative and Imaginary Logarithms**
- **Mar. 2022**, Dominic Guillen, expository paper, **A Simpler Annuity**
- **Mar. 2023,** Allyson Jenkins, expository paper, **The Development of the Normal Distribution**

Rose-Hulman Institute of Technology Undergraduate Mathematics Journal (3)
- **July 2016,** Laila Awadalla, **Cantor's Proof of the Nondenumerability of Perfect Sets.**
- **July 2016,** Chase Crosby, **An Examination of Richard Dedekind's 'Continuity and Irrational Numbers'.**
- **July 2021,** Richard Schneider, *Irrational* **Philosophy? Kronecker's Constructiveness Philosophy and Finding the Real Roots of a Polynomial**

MAA Convergence online journal (1)
- **Dec. 2019,** Julia Parker**, An Explication of the Antilogism in Christine Ladd-Franklin's "Algebra of Logic".** An Explication of the Antilogism in Christine Ladd-Franklin's "Algebra of Logic" | Mathematical Association of America (maa.org)

MAA Math Values blog (1)
- **June 29, 2022,** Zack Bright, **Students Speak: The best thing my professor did for me to make me feel welcome in class** https://www.mathvalues.org/masterblog/students-speak-the-best-thing-my-professor-did-for-me-to-make-me-feel-welcome-in-class

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Student Awards/Honors

All expository papers written for **Math 464 WI** (History of Mathematics, Writing Intensive).

UMKC Ilus W. Davis Writing Competition (Department of English) (8)

- **Fall 2002**, Kristin DeBolt, **2nd Place prize**, book review essay, **Fermat's Enigma: The Book that Proves Mathematics is Anything but Boring**.
- **Fall 2003**, Melissa Menning, **3rd Place prize**, expository paper, **A Revolution in Astronomy,** about Kepler.
- **Fall 2005**, Samantha Reynolds, **Advanced Category winner**, expository paper, **Maria Gaetana Agnesi: Female Mathematician and Brilliant Expositor of the 18th Century**.
- **Fall 2008,** Jace Ferguson, **Advanced Category winner**, expository paper, **Early Binary: History and Application**.
- **Fall 2009**, Bradley Fulk, **Advanced Category Winner**, expository paper, **Adolphe Quetelet: An Analysis of His Research on the Propensity for Crime at Different Ages**.
- **Fall 2010**, Jennifer Nielsen, **Advanced Category Winner**, expository paper, *The Heart is a Dust Board:* **Abu'l Wafa Al-Buzjani, Dissection, Construction, and the Dialog Between Art and Mathematics in Medieval Islamic Culture**.
- **Fall 2013**, Jenna Miller, **Advanced Category Winner**, expository paper, **Casting Light on the Statistical Life of Florence Nightingale**.
- **Fall 2015**, Amanda Kelly, **Advanced Category Winner**, expository paper, **John Venn: Examining the Logic Behind the 'Logic of Chance'**.

HOM-SIGMAA national contest for History of Mathematics papers (16) (Pub. on Convergence or HOM-SIGMAA website)
[History of Mathematics Special Interest Group of the Mathematical Association of America]

- **May, 2004**, Heath Yates, **1st Place co-winner**: **An Emanji Temple Geometry**.
- **May, 2005,** Newlyn Walkup, **1st Place winner**: **Eratosthenes and the Mystery of the Stades**.
- **May, 2006,** Samantha Reynolds, **1st Place co-winner**: **Maria Gaetana Agnesi: Female Mathematician and Brilliant Expositor of the 18th Century**.
- **May 2010**, Jennifer Nielsen, **1st Place co-winner:** *The Heart is a Dust Board:* **Abu'l Wafa Al-Buzjani, Dissection, Construction, and the Dialog Between Art and Mathematics in Medieval Islamic Culture**.
- **May 2011**, Paul Stahl, **Winner: Kepler's Development of Mathematical Astronomy**.
- **May 2011**, Rick Hill, **Runner Up: Thomas Harriot's** *Artis Analyticae Praxis* **and the Roots of Modern Algebra**.
- **May 2012,** Jesse Hamer, **Winner: Indivisibles and the Cycloid in the Early 17th Century**.
- **May 2014**, Anna Riffe, **1st Place co-winner: The Impossible Proof: An Analysis of Adrien-Marie Legendre's Attempts to Prove Euclid's Fifth Postulate**.
- **May 2014**, Jenna Miller, **1st Place co-winner: Casting Light on the Statistical Life of Florence Nightingale**.
- **May 2014**, Paul Ayers, **2nd Place co-winner: Gabriel Cramer: Over 260 years of crushing the unknowns**.
- **May 2015**, Samuel Patterson, **1st Place co-winner: Bernard Bolzano, a Genius Unnoticed in his Time**.
- **May 2017**, Nathan Otten, **1st Place co-winner: Huygens and** *The Value of all Chances in Games of Fortune*.
- **May 2018**, Callie Lane, **1st Place winner: Race to Refraction: The Repeated Discovery of Snell's Law**.
- **May 2018**, Rachel Talmadge, **2nd Place co-winner: François Viète Uses Geometry to Solve Three Problems**.
- **May 2019**, Amanda Nethington, **1st Place Winner, Achieving Philosophical Perfection: Omar Khayyam's Successful Replacement of Euclid's Parallel Postulate**.
- **May 2022**, Rye Ledford, **1st Place Winner, The Assumptive Attitudes of Western Scholars Regarding the Contributions of Mathematics from India: Assessing** *yukti-s* **from the** *Yuktibhasa* **of Jyesthadeva**

MAA Kansas Section Meeting, Graduate Student Paper Competition   [Mathematical Association of America]

- **March 20, 2004,** Karla Childs, **Outstanding Paper Award**, at Benedictine College, Atchison, KS, **The Rise of Algebra**, written as an expository paper Winter 2004.

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Student Mathematics Competitions Participation

- 1986-2002, 2005   **MATHCOUNTS** annual national mathematics **Contest** for middle school students; Review and write out solutions each year for all 100+ contest problems for local region.
- 1989-1992   **TEAMS Contest** (Tests of Engineering Aptitude, Mathematics and Science); Coach for a team of 6-8 MPI (Mathematics and Physics Institute) students annually, who in the Large/Selective Schools Division won **4th Place** each of 1989, 1990, and 1991, and **3rd Place** on Feb. 14, 1992.
- March 2004   Judge, national **HOM-SIGMAA contest**, papers written in History of Mathematics courses.
- 2001-2002, 2005-2008   **UMKC High School/College Partnership (HSCP) Mathematics Competition**; Write problems and solutions; Advisory committee; Competition Moderator, and Judge.
- May 1, 2010   **PREP KC Regional Math Relays**, worked with Southwest Early College Campus team
- Nov. 12, 2011   **PREP KC Regional Math Relays**, worked with Southwest Early College Campus team
- Feb. 25, 2012   **KCATM Math Contests**, worked with Southwest Early College Campus team

Kappa Mu Epsilon National Mathematics Honorary (Student) Society Talks/Events

- April 3, 1990   William Jewell College, Banquet Speaker, **Two World Class Series: $\Sigma\, 1/n$ and $\Sigma\, 1/n^2$.**
- Spring 1995   Central Missouri State University, and William Jewell College, lent personal copies of two different mathematics video tapes on **Everting a Sphere** to their separate chapters.
- March 27, 1996   Benedictine College, Discovery Day Mathematics Speaker, **Can a Light in Reflecting Room Always be Seen from Every Spot? <u>Any</u> Spot?**
- Nov. 21, 1996   Central Missouri State University, Invited Speaker, **Morley's Trisector Theorem c.1899: History and Proofs.**
- April 4, 1998   William Jewell College, Convention Keynote Speaker, **Fermat's Little Theorem is a One-Way Street Infinitely Often: The Prime Evasion of 561.**
- Nov. 30, 1999   Benedictine College, Invited Speaker, **Kissing Numbers: How Many Congruent Regular Polygons Can Kiss Another of Their Kind?**
- Mar. 20, 2007   University of Central Missouri (updated version of talk) **Kissing Numbers: How Many Congruent Regular Polygons Can Kiss Another of Their Kind?**

Other Student-Related Activities

- May 1989   Judge for an Education Ph.D. student project
- Oct.-Nov., 1990   **Coach** for the MPI "**Earthquake Team**" of 6 MPI students, investigating the Iben Browning New Madrid Earthquake prediction, and **featured on television, radio, and in several print articles**.
- 1991-1992   Annually prepared and **coached** 11/14 presentations by 20/21 MPI students to local 8th graders at 5 local junior high and middle schools for **National Mathematics Awareness Week**.
- 2004-2005   **Outside portfolio reviewer**, secondary mathematics education students, UMKC School of Education.
- 1999-present   Organize **annual** Math 464 WI (History of Mathematics, Writing Intensive) student **Field Trip to the Rare Book Room** of Linda Hall Library of Science, Engineering, and Technology.
- Apr. 19, 2007   **Poster Judge**, University of Saint Mary Science and Math Undergraduate Research Forum
- 2009-2013   Organize **annual** Math 204 (Math for Teachers: Mathematical Immersion) student **Field Trip to the Rare Book Room** of Linda Hall Library of Science, Engineering, and Technology.
- 2013-2018   **IPhD Graduate Committee**, Andrew Johnson (Economics, Mathematics), "Business Cycle Theory in Light of Stock-Flow-Consistent Modeling: A Non-Linear Approach"; Dissertation defended, Aug. 25, 2018.
- 2015   Paid for 15 student MAA memberships
- Feb. 13, 2015   Responded to high school student on Benford's and Zipf's Laws.
- June 12-16, 2015   Proofread twice, dissertation, Qian Li
- 2016-present   **IPhD Graduate Committee**, Kim (McBride) Miller, School of Education
- Jan. 2017   TRIUMPHS Math 402 NSF History project participation
- April 2022   Reviewed and revised PPT presentations for three students for MAA MO section meeting at UMKC

Associate Director (1998-2003) and Mathematics Coordinator (1984-2003, 19 years)
Mathematics and Physics Institute (MPI)   [Program terminated in 2003 by UMKC]

Brief Description of the MPI program

The MPI for high school seniors gifted or talented in science and mathematics was a special collaborative program between the University of Missouri - Kansas City (UMKC) School of Arts and Sciences and several Missouri public school districts such as in **Year 2001-2002:** Fort Osage, Independence, and Kansas City, Missouri, and in **Year 2002-2003:** Fort Osage, Independence, Hickman Mills, and North Kansas City.

After being recommended by their high schools and passing an entrance test (MAA Calculus Readiness Test) about 40-50 students from 5-11 high schools came to the UMKC Truman campus in Independence daily from 7 - 8:45 am, **before** their regular high school classes, for two periods of college Calculus (UMKC Math 210 or 220) and college Physics (UMKC Phys 210 or 240). These were full university courses spread out over the period of the academic year, for which students received both high school and free UMKC college credit, and included extensive regular problem-solving, lecture, and laboratory sessions. For calculus, graphics calculators and a computer algebra system (Derive) were appropriately included. In addition, every two weeks science, mathematics, or engineering professionals appeared as enrichment speakers, and one field trip was taken each year.

MPI students were an elite group in competition with talented peers not used to the rigors of college classes and from whom a high quality of work was expected. Any students surviving our courses were to be commended, and those excelling were exceptional. MPI Calculus students were divided into four sections. Three sections took Calculus I (Math 210) distributed over two semesters. The fourth section took Calculus I (Math 210) first semester and Calculus II (Math 220) second semester. Two high school mathematics teachers assisted Richard Delaware in teaching three of these four sections.

Some MPI Benefits to Students and Districts

- **Free UMKC College Credit** (8-13 hours) for students (in 2003 saving $1800-$2400+)
- A stimulating mix of **40-50 talented students** from 5-11 high schools
- Work with **UMKC instructors** and several **talented High School instructors** from different schools, including three Ph.D.s and a Presidential Teaching Award winner
- A challenging introduction to **college demands, study habits, and independence**
  away from the high school setting and atmosphere
- **Cost to School Districts substantially reimbursed** through State of Missouri Gifted & Talented Funds
- Five UMKC Chancellor's Scholar Awards available only to students who finished the MPI program

Some MPI Facts from the Annual Reports

- **Number of Students Finishing the MPI, 1984-2003 (Years 1-19)**   **846** Total, 518 Male (61%), 328 Female (39%)
- **Percentage (on average) of MPI Students Who Finished**   75% (846/1129)
- **634 Students Years 1-13**   583 (93%) Enrolled in College   466 Total College Degrees (minimum)
  229 Degrees in Science, Mathematics, Engineering, 247 total Bachelors of Science, 9 Medical Doctors, 3 Ph.D.s
- **Where Most MPI Alumni Went (53%)**   26% University of Missouri - Kansas City
  16% University of Missouri – Columbia   11% University of Missouri - Rolla

Administrative Responsibilities as MPI Associate Director - A selection

- Prepare **weekly schedule** for the academic year for all four sections of Calculus, in order that all sections move at the same pace, share examination days, homework assignments, computer lab days, cover absent teachers, etc.
- **Write** all lecture notes, handouts, quizzes, examinations, answer sheets, computer laboratories, graphics calculator notes, calculus writing assignments, and special projects for the courses.
- Maintain **grades** for all students with grading software. Produce high school grades for each school as needed at quarters, tristers (6 week periods), and semesters.
- **Supervise the two high school mathematics teachers** who assist in the teaching of Calculus, and train them as needed.
- **Maintain the MPI computers and all software**, including the PC Lab of 14 computers, and the computers used by the Director, Associate Director, and Secretary. Research, recommend purchase, or upgrade mathematics and physics software as necessary. Maintain, arrange purchase of, and write programs for the MPI graphics calculators.
- Maintain MPI e-mail correspondence with **MPI Alumni** and write letters of recommendation for students.
- Write, review, or proofread all **paperwork** generated by the MPI, such as announcements, lists, questionnaires, evaluation forms, letters, **Annual Report**, etc. Deliver and pick up all copies from UMKC printing, and mailroom.

- From 1986-2003, gather all the information for, edit and write the **MPI Newsletter** "M⬚ "; 4-5 issues/year, about 10 pages/issue; 83 issues, 680 pages; 78 mathematics challenge problems; final circulation: 900+.
- Locate, call, and make all technical arrangements for about half (approximately 7) **Enrichment Speakers** over the academic year, as well as organize the Linda Hall Library Rare Book Room field trip in the Spring.
- Appear at or organize **MPI events**: Annual Open House on a Sunday in November; Annual Panel Discussion in January; Two Recruitment Presentations to prospective MPI students in February; Annual MPI Breakfast and Awards Presentation in May; Annual report meeting with public school superintendents and UMKC administrators. On occasion, report to a School District Board of Education Meeting or accompany the Director in direct visits.
- Travel and give the MAA **Calculus Readiness Test** to about 100 students at 7-10 high schools in April/May.
- Other sporadic duties: Collaborate on and oversee the design and printing with UMKC Creative Services of the MPI brochure; Coach teams of MPI students for presentations or contests.

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Previous Committee/Board/Council/Coordinator Work or Other Service

- 1986   **Advisory Council**, MPI Grant from the Missouri Coordinating Board for Higher Education.
- 1986   **Calculus Textbook Committee**, Department of Mathematics & Statistics.
- 1989-1990   **Task Force** & **Curriculum Committee,** Van Horn HS, KCMO District Magnet, Engin. & Technology.
- 1992   **Software Review Committee**, Department of Mathematics & Statistics.
- 1993-1994   **Chair**, annual Kansas City Regional Mathematics Technology EXPO.
- 1996-1997   **Executive Steering Committee, ICTCM** 9 & 10, International Conf. on Tech. in Collegiate Math.
- 1997   **Program Chair** for the "Beyond Calculus" strand, **ICTCM** 10, held Nov. 5-9, 1997
- 1997-2000   **CIDMath Virtual Office Hours Group**, University of Missouri system-wide internet service for students, and supervised the project at UMKC **($125,000 UM project)**.
- 1998-2000   **Experimental Algebra Committee**, Department of Mathematics & Statistics.
- 2004-2005   **Search Committee**, Department of Mathematics and Statistics. (2 hires)
- 2004   **UM-System wide Mathematics Group**
- 2004-2008   Dept. of Mathematics & Statistics: **Scheduling** Committee, **Adjunct Lecturer Hiring & Supervisor**
- 2007   **Associate Chair** (informal title) – Winter semester
- 2011   Advisory Board for NSF Engineering grant proposal, Univ. of Maryland
- 2011   **Search Committee- NTT**, Department of Mathematics and Statistics. (3 hires)
- 2011   **A&S 100 Revision Committee** (College of A&S)
- 2005-2012   **Teacher Education Coordinating Council (TECC)**, School of Education, UMKC, & Technology Committee
- 2008-2012   **FaCET Teaching Enhancement Grants** (TEG) Committee (two appointments)
- 2008-2012   Dept. of Mathematics & Statistics: **GTA Supervisory** Committee
- 2003-2012   **Curriculum Design Team & Interviewer, Institute for Urban Education** (IUE)
- 2008-2012   **Mathematics Advisor/Liaison** Southwest Early College Campus (SWECC) & **Interviewer**
- 2005-2012   **Mathematics for Teachers** Coordinator (Math 130, 140, 204, 214, 224, 244, 414/5514, 424/5524, Stat 234)
- 2004-2010   Academic Advisor Contact
- 2004-2009   Editor, Undergraduate & Graduate Catalog
- 2006-2010   Editor, Entrance Tests Column & Common Finals page, Registration & Enrollment Guide each semester
- 1988-2010   Expository Talks Series Coordinator
- 1999-2010   Video Series Coordinator
- 2011 Sum-Fall   Interim Undergraduate Advisor (with L. Sega)
- Sept. 2011   Created **Alumni News web pages**
- 2011-2013   UM System **Advisory Committee for the Presidential Award for Excellence** (Early/Sustained Career)
- 2012   Ad Hoc Committee for NTT Faculty (Dean)
- 2012-2013   Lucerna Editor for student mathematics papers
- 2013   **Search Committee** for Coordinator of Writing Assessment
- August 2013   Entrance Tests: Re-typed all 3000+ problems and answers in Blackboard
- 2013   RooWriter Evaluator Training Sessions (4)
- 2005-2014   **Entrance Tests** Coordinator (Math 110, 120, 206, 210 (216), Stat 235)
- 2004-2014   **Webmaster**, Department Web Site (with E. Hall)
- 2004-2014   **Summer GTA/Adjunct Workshop**
- 2012-2014   MAA Missouri Section **Teaching Award Committee**
- Sept.-Dec. 2012   **Nine** Presentations on the **RooWriter** across campus

- Jan.–Apr. 2013   **Three** Presentations on the **RooWriter** across campus
- Feb.–Mar. 2014 Roowriter Evaluator Training Sessions
- Feb.–Nov. 2014 **Eleven** Presentations on the **RooWriter** across campus
- July 2014   Assessment, one Master's Candidate Talk
- Jan. 30, 2015   Department Math Success Lab tutor training
- Feb. 6, 2015   Reviewed 17 Preparing Future Faculty Scholar Award applications
- Feb. 10, 2015   Reviewed 12 UMKC UM System award nominations
- Apr-May 2015   Assessment, 10 Master's Candidate Talks
- May-Sept. 2015 Advisor, moving VSI courses to HSCP Digital Program
- April 2015   Assessment, 4 Master's Candidate Talks
- Oct.-Nov. 2015 Master's Assessment revision and writing 11 rubrics
- Nov. 2015   Assessment Excellence Award Preparation Committee
- 2015-2016   **Search Committee** for Graduate Writing Specialist
- Nov.-Dec. 2016 Assessment, 3 Master's Candidate Talks
- Dec. 2016   **Search Committee** Honors College
- 2016-2017   **Search Committee NTT**, Department of Mathematics and Statistics
- Apr. 2017   Assessment, 1 Master's Candidate Talk
- May 2017   Assessment, 2 Master's Candidate Talks
- May 10, 2017   SCE Summer Bridge Precalculus meeting
- June 2017   Norman Royall Teaching Award Selection Committee
- Dec. 2017   Assessment, 1 Master's Candidate Talk
- 2009-2018   **University Writing & Reading Board** (initial appointment at invitation of the Dean; RooWriter liaison)
- 2013-2018   **University Hiring Exception Committee** (Chancellor)
- 2014-2018   **Writing Intensive Initiative (UWRB)**
- 2014-2018   **Webmaster**, UWRB web site (created Apr. 23, 2014)
- 2017-2018   **Resource Investment Model (RIM) committee** (Provost)
- Mar. 2018   **Search Committee NTT**, Department of Mathematics and Statistics
- May 2018   **Search Committee NTT**, Department of Mathematics and Statistics
- May 2018   Assessment, 1 Master's Candidate Talk
- Fall 2018   Finished Andy Johnson **IPh.D. Dissertation Committee**
- 2019-2021   Jedel Scholarship Committee, Chair
- Apr-May 2019   Assessment, 12 Master's Candidate Talks
- Dec. 2019   **Search Committee TT**, Mathematics, Department of Mathematics and Statistics
- Dec. 2019   Assessment, 2 Master's Candidate Talks
- June 2020   **UMKC Forward** – Team A – ORS Committee
- Apr. 2020   Assessment, 3 Master's Candidate Talks
- Dec. 2020   **Search Committee TT**, Mathematics, Department of Mathematics and Statistics
- June 2021   **Search Committee NTT**, Department of Mathematics and Statistics
- 1992-2019   **Steering Committee**, annual Kansas City Regional Mathematics Technology EXPO
- 2022   **Student Complaint Committee**, Chair
- 2015-2022   **Department Undergraduate Assessment Coordinator**
- 2016-2023   Kim Miller **IPh.D. Dissertation Committee**
- 2004-2022   **Department contact** for Math 402, 407, 412, 444, 464 WI
- 2008-2022   **Department Alumni** Committee, Chair
- 2021-2022   Assistant coordinating the **MAA MO Section meeting** at UMKC in April 2022
- 2022-2023   **Search Committee NTT**, Mathematics and Statistics

Continuing Committee/Board/Council/Coordinator Work

- 2005-present   **Department Undergraduate Program** Committee and **Mathematics Curriculum** Committee
- 2005-present   **Department MAA Liaison**, Mathematical Association of America
- 2014-present   **Math 125 coordinator**
- 2020-present   **NTT Service** Committee
- 2020-present   **Mentor** to NTT unranked colleague
- 2023-present   **Mentor** to NTT ranked colleague

Reports Written/Co-written, Award Nomination Packages, Slide Shows, etc. (since 2004)

- 2004-2008   Academic Advisors Reference Document (41 pages)
- 2004-2008   Department flyers: "Welcome to the Semester", "Math Minors", "Math Videos", etc.
- May 2004   **Nomination package** for Becky Roberts, Dean's Award for Outstanding Teaching (she won)
- Aug. 24, 2006 Budget Committee Report
- Fall 2004   Student Data Survey
- Dec. 11, 2005 State-of-the-Department Powerpoint Slide Show
- Mar. 14, 2006 Co-writer: Additional GTA Positions Proposal
- Mar. 22, 2006 Co-writer: Department Progress Report
- Mar. 2006   **Nomination package** for Breanne Volkerding, SGS Superior Teaching Award (she won)
- June 22, 2006 Summary of Fall 2005 Department Faculty Communication Survey
- Sept. 24, 2006 Student Support Poster for "Celebrate UMKC" event
- Oct. 16, 2006 Additional Full-time Lecturers Proposal
- Oct. 20, 2006 M.S. Class Planner
- Feb. 20, 2007 Survey of Department Offices
- June 2, 2007   Entrance Tests – First Year Report (17 pages)
- July-Dec. 2007 Drafted Information for new A&S Department Flyers
- Aug. 27, 2007 Co-designer: Updated State-of-the-Department Powerpoint Slide Show
- Sept. 19, 2007 **Nomination package** for Carol Hanson, Graduate Student Award for "Perseverance" (she won)
- Jan. 14, 2008 Professional Development – Secondary Mathematics Teachers web page
- Feb. 2008   **Nomination package** for Samantha Reynolds, SGS Superior Teaching Award (she won)
- Apr. 30, 2008 Contributor: GTA Cost Analysis Report
- July 28, 2008 Contributor: Department Report AY07-08
- Aug. 25, 2008 Entrance Tests Report of the First Two Years (34 pages)
- Sept. 2008   Rough Guide to Surviving Mathematics Courses
- Dec. 2010   Mathematics Courses required by other disciplines at UMKC
- May-Dec. 2011 Undergraduate and Graduate online exit surveys (with E. Hall)
- June 17, 2011 Update to Entrance Tests Report of 2008
- Sept. 27, 2011 Curricular Engagement and Outreach & Partnership Report
- Oct. 19, 2011 Entrance Test Cheating Survey Report
- Oct. 26, 2011 DFW Rates and Strategies Report (8 pages)
- Nov. 11, 2011 Math "Fall Open" Report
- Nov. 29, 2011 Responses to 25 Undergraduate Admissions/Admit Notices Report
- Dec. 13, 2011 Report of Undergraduate Students advised May-Dec. 2011
- Apr. 2012   Writing Intensive Learning Outcomes (with Nathan Lindsay and Steve Dilks)
- July 18, 2012 Co-writer, UWRB Proposal to Provost on RooWriter
- Dec. 3, 2012   Report on Mathematics Entrance Test Improvements Fall 2012
- 2013-2014   Miscellaneous RooWriter reports
- Oct. 22, 2014 Contributor to Bruce Bradley (LHL) support letter
- Nov. 2014   Contributor to writing Department undergraduate Student Learning Outcomes
- Mar. 2015   Contributor to writing Department graduate Student Learning Outcomes
- Dec. 2015   Co-writer, Department Strategic Funding Proposal to Provost, Active Learning
- Mar. 2016   Writer, NTT Promotion Plan
- Mar. 2017   Writer, Peer Review of Teaching for Liana Sega Full Professor promotion packet

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UMKC Recruitment/Outreach/Retention Activities (since 2003)

- Aug. 2003   Meet incoming A&S Freshmen
- Aug. 2004   Meet incoming A&S Freshmen
- Sept. 21, 2004 A&S Recruiters Meeting, Department representative
- Sept. 1, 2006 A&S Recruiters Meeting, Department representative
- Sept. 4, 2007 A&S Recruiters Meeting, Department representative
- Oct. 28, 2005 Host, Emporia State University Faculty and Students
- Feb. 15, 2006 Host, Pembroke Hill School Faculty and Students

- Nov. 17, 2006   Host, Emporia State University Faculty and Students
- Feb. 6, 2007   Host, Northwest Middle School 8th graders with UMKC Welcome Center
- Sept. 14, 2007   Speaker, Visited Pembroke Hill Upper School, Careers in Mathematics
- Nov. 2, 2007   Host, Emporia State University Faculty and Students
- Nov. 7, 2008   Host, William Jewell College Faculty and Students
- Nov. 21, 2008   Host, Emporia State University Faculty and Students
- Mar. 12, 2009   Hickman Mills 9th Grade Math Achievers UMKC visit, Department speaker
- Mar. 20, 2009   UMKC Retention Workshop, Department representative
- Dec. 4, 2009   Host, Emporia State University Faculty and Students
- Nov. 3, 2010   Met VSI students from Hollister, MO, on campus visit
- Aug. 26, 2011   Dept. table at UMKC Physics Phest
- Sept. 19, 2011   Met VSI students from Marionville and Meadville, MO, on campus visit
- Oct. 26, 2011   Met VSI students from Hollister, MO, on campus visit
- Oct. 28, 2011   Co-organizer for first Math Fall Open retention event for current UMKC students
- Feb. 10, 2012   Co-organizer for first RooMath recruitment event for high school students
- Aug. 30, 2012   Attendee, Department Welcome Picnic
- Nov. 30, 2012   Host, Emporia State University Faculty and Students at Linda Hall Library
- Nov. 12, 2014   Host, Emporia State University Faculty and Students at Linda Hall Library
- Mar. 18, 2016   UMKC Recruitment Day (with Eric Hall and Shelby Bell)
- Mar. 24, 2016   Host, Nebraska Wesleyan University Faculty and Students at Linda Hall Library
- Nov. 18, 2016   Host, Emporia State University Faculty and Students at Linda Hall Library
- Mar. 10, 2017   UMKC Recruitment Day (with Eric Hall), Experience UMKC
- Apr. 7, 2017   UMKC Recruitment Day (with Eric Hall), Experience UMKC

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Miscellaneous Professional Activities

- October 1985   Arranged for UMKC Dept. of Mathematics & Statistics **Colloquium Speakers** Peter Hilton and Jean Pedersen, and a meeting with local high school teachers afterwards.
- May 1986   **Consultant** on Mathematics Testing, Nowlin Junior High School and Van Horn High School.
- 1986   **Listed as a speaker** in "Science and Mathematics Professionals: Speakers' Bureau for Secondary School Classes", an MPI (Mathematics and Physics Institute) publication.
- Oct. 29, 1987   Arranged for Dept. of Mathematics & Statistics **Colloquium Speaker** Peter Hilton.
- 1987-1994   Presented twice-annual **EIT (Engineers in Training) Mathematics Review** lectures for **SCE** at UMKC, 8 yrs.
- March 1989   Arranged for Dept. of Mathematics & Statistics **Colloquium Speaker** Richard Friedlander.
- April 30, 1992 **Arranged** for the visit to the MPI of the Crowder College solar car STAR II.
- Oct. 30, 1995   **Respondent** to a history of mathematics paper at William Jewell College, Liberty, MO.
- August 1996   **Beta tester** for Soft Warehouse's software "Derive for Windows" released in October 1996.
- Dec. 4, 1998   Arranged for Dept. of Mathematics & Statistics **Colloquium Speaker** Doug Bullock, Boise State Univ.
- 1999-2000   **Consultant** to Doug Bullock on starting an MPI-like program at Boise State University.
- May 2004   **First round reader** for the UMKC Sosland Journal.
- May 2005   **Final reader** for the UMKC Sosland Journal.
- May 2008-Dec. 2009   Member Kauffman Foundation LIN "Job Alike" groups for High School, & Advanced Math
- Sept. 10, 2008 UMKC School of Dentistry, DAT online Prep course, Department representative
- June 2010   **Final reader** for the UMKC Sosland Journal.
- Mar&Nov. 2011   Organized **2 graduate seminar speaker** visits.
- June 26, 2014   POGIL workshop participants visit to Linda Hall Library Rare Book Room
- 2015   MO Project NeXT mentor
- 2020   *Lucerna* Honors Journal reviewer
- 2022   MO Project NeXT mentor, Harris-Stowe State University new faculty member
- July 2023   UMKC Mathematics Academy, four lectures