

Curriculum Vitae

J.D. Phillips

Experience

1. **Northern Michigan University**, head, professor, department of mathematics and computer science, July 2009–present (hired with tenure).
2. **Wabash College**, July 2001–June 2009.
 - (a) Chair, department of mathematics and computer science, July 2001–June 2009 (hired with tenure).
 - (b) Professor, May 2004–June 2009.
 - (c) Associate professor, July 2001–May 2004.
3. **Charles University**, Prague, Czech Republic, visiting researcher, September–December 1995 and September 2007–June 2008.
4. **Deep Springs College**, adjunct professor, 2005–2006.
5. **Saint Mary’s College of California**, August 1992–June 2001.
 - (a) Associate professor, June 1997–June 2001; awarded tenure, July 1998.
 - (b) Assistant professor, August 1992–May 1997.
6. **Iowa State University**, August 1986–May 1992.
 - (a) Doctor of Philosophy, Mathematics, May 1992.
 - (b) Teaching assistant, August 1986–May 1992.
 - (c) Graduate student teaching coordinator, September 1990–May 1991.
7. **Banach Center**, Warsaw, Poland, long-term visitor, Sept.–Dec. 1991.
8. **Briar Cliff College**, August 1982–May 1986, Bachelor of Arts, mathematics (May 1986); graduated *summa cum laude*; named outstanding graduating mathematics major.
9. **Bishop Heelan Catholic High School**, matriculated August 1978, graduated May 1982.
10. **Youthful Jobs**, 1976–1986, pneumatic tube operator at a weekly livestock auction, dish washer, meat carver, carpet cleaner, Tae Kwondo instructor, hospital messenger, lead guitarist in a rock band, cattle-trailer cleaner, and ranch hand.

Refereed/Zentralblatt/Math Reviews Publications

1. R. Britten, M.K. Kinyon, K. Kunen, J.D. Phillips, [Loops with universal and semi-universal flexibility](#), *Loops'23: Nonassociative Algebra, Banach Center Publications*, to appear.
2. H. Lee, J.D. Phillips, A. Rajah, [The harmonious song a Moufang quartet](#), *Bulletin of the Malaysian Mathematical Sciences Society*, to appear.
3. D. Hemmila, J.D. Phillips, D. Rowe, R. White, [Commutative and 2-divisible subvarieties of rings of Bol-Moufang type](#), *Quasigroups and Related Systems*, **31**, (2023), no. 2, 241–259.
4. D. Hemmila, J.D. Phillips, D. Rowe, R. White, [The varieties of rings of Bol-Moufang type](#), *Journal of Algebra and its Applications*, **22** (2023), no. 6.
5. T. Kepka, J.D. Phillips [A shifty approach to little theorems](#), *Alabama Journal of Mathematics*, **46** (1), (2023), 6–11.
6. A. Drápal, J.D. Phillips [The final Moufang variety: FRUTE Loops](#), *Publicationes Mathematicae Debrecen*, **95** (2019), no. 3-4, 477–486. MR4033870, Zbl 1449.20065.
7. J.D. Phillips, [Moufang and Commutant Elements in Magmas](#), *Nonassociative Mathematics and its Applications*, 213–226, Contemporary Mathematics, 721, American Mathematical Society, Providence, RI, 2019. MR3898511, Zbl 06674897.
8. J.D. Phillips, [The commingling of commutativity and associativity in Bol loops](#), *Commentationes Mathematicae Universitatis Carolinae*, **57** (2016), no. 4, 555–565. MR3583307, Zbl 06674897.
9. M.K. Kinyon, K. Kunen, J.D. Phillips, P. Vojtěchovský, [The structure of automorphic loops](#), *Transactions of the American Mathematical Society*, **368** (2016), no. 12, 8901–8927. MR3551593, Zbl 1359.20038.
10. J.D. Phillips, [Triality and universal multiplication groups of Moufang loops](#), *Buletinul Academiei de Stiinta a Republicii Moldova : Matematica*, no. 1 (80), 2016, 83–90. MR3528010, Zbl 1349.20073.
11. J.D. Phillips, D.I. Pushkashu, A.V. Shcherbacov, V.A. Shcherbacov [On Birkhoff's quasigroup axioms](#), *Journal of Algebra*, **457** (2016), 7–17. MR3490074, Zbl 06575136.
12. J.D. Phillips, [Moufang magmas with inverses](#), *Journal of Algebra and its Applications*, **13** (2014), no. 3, 1350104. MR2948838, Zbl 1296.20064.

13. J.D. Phillips, D. Stanovský, [Bruck loops with abelian inner mapping groups](#), *Communications in Algebra*, **40** (2012), no. 7, 2449–2454. MR2948838, Zbl 1256.20063.
14. A. Krapež, M.K. Kinyon, J.D. Phillips [Right product quasigroups and loops](#), *Quasigroups and Related Systems*, **19** (2011), no. 2, 239–264. MR2932944, Zbl 1253.20061.
15. J.D. Phillips, V. Shcherbacov, [Cheban loops](#), *Journal of Generalized Lie Theory and Applications*, **4** (2010), Art. ID G100501, 5 pp. MR2647941, Zbl 1197.20059.
16. T. Kepka, M.K. Kinyon, J.D. Phillips [F-quasigroups isotopic to groups](#), *Commentationes Mathematicae Universitatis Carolinae*, **51** (2010), no. 2, 267–277. MR2682480, Zbl 1211.20062 .
17. J.D. Phillips, D. Stanovský, [Automated theorem proving in quasigroup and loop theory](#), *AI Communications*, **23** (2010), no. 2–3, 267–283. MR2647941, Zbl 1204.68181.
18. V. Kala, T. Kepka, M. Korbelař, J.D. Phillips [Various subsemirings of the field \$\mathbb{Q}\$ of rational numbers](#), *Acta Univ. Carolin. Math. Phys.*, **50** (2009), no. 1, 29–59. MR2569468, Zbl 1192.16044.
19. J.D. Phillips, [The Moufang laws, global and local](#), *Journal of Algebra and its Applications*, **8** (2009), no. 4, 477–492. MR2555515, Zbl 1190.20052.
20. J.D. Phillips, P. Vojtěchovský, [A scoop from groups: new equational foundations for loops](#), *Commentationes Mathematicae Universitatis Carolinae*, **49**, (2008), no. 2, 279–290. MR2426892, Zbl 1192.20058.
21. T. Kepka, M.K. Kinyon, J.D. Phillips [F-Quasigroups and generalized modules](#), *Commentationes Mathematicae Universitatis Carolinae*, **49**, (2008), no. 2, 249–257. MR2426889, Zbl 1192.20055.
22. M.K. Kinyon, J.D. Phillips, P. Vojtěchovský, [When is the commutant of a Bol loop a subloop?](#) *Transactions of the American Mathematical Society*, **360** (2008), no.5, 2393–2408. MR2373318, Zbl 1134.20069.
23. J.D. Phillips, D. Stanovský, [Automated theorem proving in loop theory](#), proceedings of the ESARM workshop, Birmingham, England, 2008.
24. T. Kepka, M.K. Kinyon, J.D. Phillips [The structure of F-quasigroups](#), *Journal of Algebra*, **317** (2007), no. 2, 435–461. MR2362925, Zbl 1133.20051.
25. M.K. Kinyon, J.D. Phillips, P. Vojtěchovský, [C-loops: extensions and constructions](#), *Journal of Algebra and its Applications*, **6**, (2007), no. 1, 1–20. MR2302693, Zbl 1129.20043.

26. J.D. Phillips, [Short equational bases for two varieties of groupoids associated with involuted restrictive bisemigroups of binary relations](#), *Semigroup Forum*, **73**, (2006), no. 2, 308–312. MR2280827, Zbl 1115.20047.
27. J.D. Phillips, [A short basis for the variety of WIP PACC-loops](#), *Quasigroups and Related Systems*, **14** (2006), no. 1, 73–80. MR2268827, Zbl 1123.20063.
28. K. Johnson (ed.), E. Moorhouse (ed.), J.D. Phillips (ed.), P. Vojtěchovský (ed.), Preface, Proceedings of the Mile High Conference on Quasigroups, Loops, and Nonassociative Systems, held at the University of Denver, July 2–9, 2005. *Quasigroups and Related Systems* **14** (2006), no. 1. MR226882, Zbl 1107.20300.
29. M. Aschbacher, M.K. Kinyon, J.D. Phillips, [Finite Bruck loops](#), *Transactions of the American Mathematical Society*, **358** (2006), no. 7, 3061–3075. MR 2216258, Zbl 1102.20046.
30. T. Foguel, M.K. Kinyon, J.D. Phillips, [On twisted subgroups and Bol loops of odd order](#), *Rocky Mountain Journal of Mathematics*, **36** (2006), no. 1, 183–212. MR 2228190, Zbl 1136.20053.
31. J.D. Phillips, P. Vojtěchovský, [C-loops: an introduction](#), *Publicationes Mathematicae Debrecen*, **68** (2006), no. 1–2 115–137. MR 2213546, Zbl 1105.20052.
32. M.K. Kinyon, J.D. Phillips, P. Vojtěchovský, [Loops of Bol-Moufang type with a subgroup of index two](#), *Buletinul Academiei de Stiinte a Republicii Moldova, Matematica*, (2005), no. 3, 71–87. MR 2225096, Zbl 1106.20052.
33. J.D. Phillips, P. Vojtěchovský, [The varieties of loops of Bol-Moufang type](#), *Algebra Universalis*, **54** (2005), no. 3, 259–271. MR 2219409. Zbl 1102.20054.
34. J.D. Phillips, P. Vojtěchovský, [The varieties of quasigroups of Bol-Moufang type: an equational reasoning approach](#), *Journal of Algebra*, **293** (2005), no. 1, 17–33, MR 2173964, Zbl 1101.20046.
35. J.D. Phillips, P. Vojtěchovský, [Linear groupoids and the associated wreath products](#), *Journal of Symbolic Computation*, **40**, (2005), no. 3, 1106–1125. MR 2167702 Zbl 1125.20052.
36. M.K. Kinyon, J.D. Phillips, [Rectangular quasigroups and rectangular loops](#), *Computers and Mathematics with Applications* **49** (2005), no. 11–12, 1679–1685. MR 2154677, Zbl 1082.20043.
37. J.D. Phillips, [A short basis for the variety of digroups](#), *Semigroup Forum*, **70** (2005), no. 3, 466–470. MR 2148156, Zbl 1095.20052.

38. M.K. Kinyon, K. Kunen, J.D. Phillips, [Diassociativity in conjugacy closed loops](#), *Communications in Algebra*, **32** (2004), no. 2, 767–786. MR 2101839, Zbl 1077.20076.
39. M.K. Kinyon, J.D. Phillips, [Axioms for trimedial quasigroups](#), *Commentationes Mathematicae Universitatis Carolinae*, **45** (2004), no. 2, 287–294. MR 2075277, Zbl 1101.20040.
40. M.K. Kinyon, J.D. Phillips, [Commutants of Bol loops of odd order](#), *Proceedings of the American Mathematical Society*, **132** (2004), no. 3, 617–619. MR 2019935, Zbl 1044.20041.
41. J.D. Phillips, [See Otter digging for algebraic pearls](#), *Quasigroups and Related Systems*, **10** (2003), 95–114. MR 1998693, Zbl 1064.20067.
42. M.K. Kinyon, J.D. Phillips, [A note on trimedial quasigroups](#), *Quasigroups and Related Systems*, **9** (2002), 65–66. MR 1943753, Zbl 1023.20034.
43. M.K. Kinyon, K. Kunen, J.D. Phillips, [A generalization of Moufang and Steiner loops](#), *Algebra Universalis*, **48** (2002), no. 1, 81–101. MR 1930034, Zbl 1058.20057.
44. M.K. Kinyon, K. Kunen, J.D. Phillips, [Every diassociative \$A\$ -loop is Moufang](#), *Proceedings of the American Mathematical Society*, **130** (2002), no. 3, 619–624. MR 1866009, Zbl 0990.20044.
45. T.S.R. Fuad, J.D. Phillips, X.R. Shen, Construction of right universal multiplication group of right quasigroups, *Southeast Asian Journal of Mathematics*, **24** (2000), no. 2, 217–224. MR 1810058, Zbl 0956.20054.
46. J.D. Phillips, [On Moufang \$A\$ -loops](#), *Commentationes Mathematicae Universitatis Carolinae*, **41** (2000), no. 2, 371–375. MR 1780878, Zbl 1038.20050.
47. T.S.R. Fuad, J.D. Phillips, X.R. Shen, and J.D.H. Smith, Simple multilinear algebras and hermitian operators, *Commentationes Mathematicae Universitatis Carolinae*, **41** (2000), no. 2, 251–259. MR 1780869, Zbl 1037.17005.
48. J.D. Phillips, A Note on Simple Groups and Simple Loops, in Y.G. Baik, D. Johnson, A.C. Kim (eds.), *Groups-Pusan Ô98 Conference Proceedings*, de Gruyter, 2000, 309–320. MR 1751102, Zbl 0954.20039.
49. J.D. Phillips, Inverse property flexible loops, *Boll. Unione Mat. Ital. Sez. B Artic. Ric. Mat.*, **8** 3 (2000), no. 1, 263–266. MR 1755712, Zbl 0948.20046.
50. C. Libis, J.D. Phillips, M. Spall, How many magic squares are there? *Mathematics Magazine*, **73** 1 February 2000, 57–58. Zbl 0986.05021.

51. J.D. Phillips, [Moufang loop multiplication groups with triality](#), *Rocky Mountain Journal of Mathematics*, **29** (1999), no. 4, 1483–1490. MR 1743381, Zbl 0956.20056.
52. J.D. Phillips, J.D.H. Smith, Quasiprimitivity and quasigroups, *Bulletin of the Australian Mathematical Society*, **59** (1999), no. 3, 473–475. MR 1697989, Zbl 0944.20058.
53. J.D. Phillips, Quotients of groups, *Tamkang Journal of Mathematics*, **28** (1997), no. 4, 271–275. MR 1610501, Zbl 917.20061.
54. T. Kepka, J.D. Phillips Connected transversals to subnormal subgroups, *Commentationes Mathematicae Universitatis Carolinae*, **38** (1997), no. 2, 223–230. MR 1455488, Zbl 889.20020.
55. J.D. Phillips, Right quotients of groups, *Communications in Algebra*, **25** (1997), no. 4, 1341–1345. MR 1437675, Zbl 0889.20045.
56. J.D. Phillips, Moufang loops and groups with biality, *Bollettino UMI*, B **7** 8 (1994), no. 3, 755–768. MR 1294457, Zbl 831.20096.
57. A. Abian, J.D. Phillips An everywhere differentiable absolutely continuous function whose derivative is not Riemann integrable, *Journal of Nigerian Mathematical Society*, **10** (1991), 1–7. MR 1166734.
58. J.D.H. Smith, J.D. Phillips The endocenter and its applications to quasi-group representation theory, *Commentationes Mathematicae Universitatis Carolinae*, **32** (1991), no.3, 417–422. MR 1159788, Zbl 748.20016.
59. M.K. Kinyon, K. Kunen, J.D. Phillips Strongly right alternative rings and Bol loops, *Publicationes Mathematicae Debrecen*, submitted.

Other papers

1. J.D. Phillips, [On using tapes to call in birds](#), *Birding*, November 2012, p. 2–3. This essay launched a raucous and lengthy exchange on the ABA’s blog, which you may find [here](#).
2. J.D. Phillips, with M. Axtell and P. Thompson, [The Wabash College mathematics program](#), *Mathematics and Computer Education*, Fall 2008, p. 214–219.
3. J.D. Phillips, The 2007 spring warbler migration in Montgomery County, *Indiana Audubon Quarterly*, **86** (2008), no. 3, 156–159.
4. J.D. Phillips, with M. Axtell, and W.J. Turner, [Wabash Summer Institute in Algebra \(WSIA\)](#) in Joe Gallian (ed.), *Proceedings of the Conference on Promoting Undergraduate Research in Mathematics*, AMS, 2007, 183–188

5. J.D. Phillips, with Gary Gordon, [Uniform Acceptance Date](#) in Joe Gallian (ed.), *Proceedings of the Conference on Promoting Undergraduate Research in Mathematics*, AMS, 2007, 375–376.
6. J.D. Phillips, [A cascade of light](#), *Wabash Magazine*, Winter 2005, reprinted in *Birding*, November–December 2007.
7. J.D. Phillips, [An Amazon dialogue](#), *Wabash Magazine*, Fall 2006.
8. J.D. Phillips, [On wounds and healing](#), *Wabash Magazine*, 2003, reprinted in *Liberal Arts Online*, 2003, both at invitation of editor.
9. J.D. Phillips, [Eros and thymos](#), failure and success, Plenary address, published in English and in Greek, Conference proceedings of the 3rd Colloquium on the Didactics of Mathematics, Crete, 2003.
10. J.D. Phillips, Mathematics, the liberal arts, and slavish devotions, *Humanistic Mathematics Network Journal*, 2003.
11. J.D. Phillips, [The Little Giants Math Book](#), self-published study aid for students, 2002.
12. J.D. Phillips, Nonassociative group theory, in M. Niemenmaa, R.M. Thomas (eds.), *Groups, Combinatorics and Computer Science*, University of Oulu, August 1999, Technical Report No. 2000/51, University of Leicester, 131–141.
13. Lemme B. Bourbaki (pen name), [On blindness](#), *Mathematical Intelligencer*, **21** 1 (1999) 4–5; response to letters, *Mathematical Intelligencer*, **21** 3 (1999) 3–4.
14. J.D. Phillips, A brief tribute to π , *Humanistic Mathematics Network Journal*, **15** July 1997, 12.
15. J.D. Phillips, A note on simple groups, *Communications in Algebra*, submitted, 1994.
16. J.D. Phillips, [Mathematics as an aesthetic discipline; a manifesto](#), *Educational Perspectives*, **XI** 1, (1993), 45–49, *Humanistic Mathematics Network Journal*, **12** October 1995, 17–21, and *The Australian Mathematics Teacher*, **52** 2 (1996), 28–32, reprinted on request from editors (as *Aesthetic mathematics*).
17. J.D. Phillips, Combinatorial Triality and Representation Theory, *Ph.D. thesis*, Iowa State University, 1992.
18. J.D. Phillips, with 15 others, Teaching Assistant Handbook, *Iowa State University Press*, 1990.

Grants and Awards

1. Excellence in Scholarship Award, NMU, 2023–2024.
2. AMS travel grant to participate in the International Congress of Mathematicians, Rio de Janeiro, \$3,300, 30 July–9 August 2018.
3. U.S. Department of Education FIPSE collaboration grant (Brazil), \$6,000, 2014–2015.
4. NSF TUES grant co-PI, \$160,000, 2011–2014.
5. NCTM travel grant awardee, to attend ICME-12, Seoul, July 2012.
6. Middle East Studies grant awardee, Northern Michigan U., 2010–2011.
7. Visiting Scholar, Western Carolina University, April 2010.
8. The 28th LaFollette Lecturer, Wabash College, 2007.
9. NSF REU grant, Wabash Summer Institute of Algebra, Program Director, \$194,000, 2005–2007, 2008–2009.
10. NSA grant, “Promoting Undergraduate Research in Mathematics,” at invitation of the AMS, Chicago, September, 2006.
11. Project Kaleidoscope Faculty for the 21st Century, fellow, 1999–2011.
12. University of Rethymnon, European Union grant, to deliver opening plenary address, 3rd Colloquium on the Didactics of Mathematics, Rethymnon, Crete, April 2003.
13. University of Oulu grant, to serve as Ph.D. thesis opponent of K. Myllälä, Oulu, Finland, January 2003.
14. Deans’ Round Table, honoree and featured speaker, Saint Mary’s College, November 11, 2000.
15. Faculty Alumni Fellowship, Saint Mary’s College, 2000.
16. COBASE, National Academy of Sciences and National Research Council, project development grant, Charles University, Czech Republic, July 1998.
17. IREX, advanced research fellowship, Charles University, Czech Republic, September 1–December 31, 1995.
18. Rocky Mountain Mathematics Consortium grants, “Discrete Mathematics, Combinatorics and Graph Theory,” and “Matrix Analysis,” University of Wyoming, Laramie, July 1995, and July 1993.

19. NSF grant, “Topics in Combinatorics,” University of Wyoming, Laramie, July 1992.
20. Phi Kappa Phi, Iowa State University, 1987–1992.
21. Iowa State University, research fellowships, summers, 1987–1991.
22. NATO grant, Advanced Study Institute, Université de Montréal, August 1991.
23. Teaching Excellence Award, Iowa State University, 1988.
24. Outstanding Senior Mathematics Major, graduated *summa cum laude*, Briar Cliff College, May 1986.

Selected Talks

1. “Automated theorem provers in mathematical research,” AITP 2023, Aussois, France, 5 September 2023.
2. “When is the commutant of a Moufang loop normal?” Loops ‘23, Będlewo, Poland, 1 July 2023.
3. “The varieties of Bol-Moufang rings,” invited talk, 3rd Brazilian meeting on loops and nonassociative systems, Uberlândia, Brazil, 3 November 2022.
4. “When is the commutant of a Moufang loop normal?” AMS Sectional Meeting, University of Madison, Wisconsin, 14 September 2019.
5. “FRUTE loops and other loops of generalized Bol-Moufang type,” plenary talk, 2nd Brazilian meeting on loops and nonassociative systems, Ouro Preto, Brazil, 29 August 2019.
6. “Generalized Bol-Moufang varieties—not just for breakfast anymore!” Loops ‘19, Budapest, Hungary, 11 July 2019.
7. “‘On the structure of AG (and related) groupoids’ or ‘linear groupoid identities of length six’,” AMS Sectional Meeting, University of Arkansas, Fayetteville, Arkansas, 4 November 2018.
8. “A Few Hard Problems From Algebra . . . But Not For The Computer!” Mathematics Department Colloquium, University of St. Thomas, St. Paul, Minnesota, 27 September 2018.
9. “Variations on a Theme by Moufang,” invited talk, MITI 2018 : International Conference on Mathematics, Informatics and Information Technologies dedicated to the illustrious scientist Valentin Belousov, Bălți, Moldova, 20 April 2018.

10. "Two Variations on a Theme by Moufang," plenary talk, Brazilian Meeting on Loops and Nonassociative Systems, São Paulo, 31 October 2017.
11. "Moufang and Commutants Elements in Groupoids," Mile High Conference on Nonassociative Mathematics, Denver, 4 August 2017.
12. "The Patagonia Effect, version.2.scot.stewart," Laughing Whitefish Audubon Society, Marquette, Michigan, 11 October 2017.
13. "A Few Hard Problems From Loop Theory ... But Not For The Computer!" Mathematics Department Colloquium, Universidade Federal do ABC, Santo André, Brazil, 27 July 2015.
14. "Commutant Elements in Bol Loops," Loops '15, Ohrid, Macedonia, 1 July 2015.
15. "On Bol (Bruck) Loops," Canadian Mathematical Society summer meeting, Winnipeg, 8 June 2014.
16. "Birds of the Upper Peninsula: an Embarrassment of Riches," main talk (invited), U.P. Environmental Coalition, annual celebration, Marquette, Michigan, 9 March 2013.
17. "Let Photography Revitalize your Birding," Laughing Whitefish Audubon Society, Marquette, Michigan, 9 February 2011.
18. "Moufang and Extra Elements," AMS Central Section Meeting, University of Notre Dame, South Bend Indiana, 7 November 2010.
19. "Abelian Inner Mapping Groups and Nilpotency in Loops," Western Carolina University mathematics colloquium, 28 April 2010.
20. "A Few Hard Problems from Loop Theory. . . but not for the Computer!" main talk, Upper Peninsula Computing Conference, Northern Michigan University, 20 March 2010.
21. "Loops With Abelian Inner Mapping Groups," main talk, Second Mile High Conference on Nonassociative Mathematics, University of Denver, 26 June 2009.
22. "Loops 'Close' to Groups," The Southwestern Group Theory Day, University of Arizona, Tucson, 8 November 2008.
23. "A Few Hard Problems from Loop Theory. . . but not for the Computer!" Algebra Colloquium, Charles University, Prague, 25 February 2008.
24. "On Self-Delusion and Unimaginable Beauty: a Mathematician's Reveries from the Margins," The 28th LaFollette lecture, Wabash College, 19 October 2007.

25. "The Commingling of Associativity and Commutativity in Bol Loops," Loops'07, Charles University, Prague, 22 August 2007.
26. "Equations, Hashish, and the Monster" or "What the $\#\$\&\@$ is an Almost Abelian Grape!?!?" Wabash mathematics department colloquium, 5 September 2006.
27. "Logic, Self-Delusion, and the Seductions of Existential Despair," 3rd International Conference on the Teaching of Mathematics, Istanbul, Turkey, 3 July 2006.
28. "Your Father is a Better Man Than You are, Right?" Chapel Talk, Wabash College, 8 December 2005.
29. "How Does it Happen?" plenary talk at the 2005 Novembertagung on the History of Mathematics, Paris, 5 November 2005.
30. "On C-loops," Mile High Conference on Loops, Quasigroups, and Nonassociative Systems, University of Denver, 3 July 2005.
31. "Euclid the Tyrant?" Association for Core Texts and Courses, Vancouver, 8 April 2005.
32. "Between Anger and Piety: How to Field Dress an Antelope," Chapel Talk, Wabash College, 17 March 2005.
33. "Loops of Bol-Moufang type," Algebra Colloquium, Charles University, Prague, 9 March 2005.
34. "British Population Broken Down by Sex and Age," Wabash mathematics department colloquium, 5 October 2004.
35. " $xy \cdot z = y \cdot zx$, Variations on a Familiar Theme" Award 2004 workshop, Argonne National Laboratory, 7 August 2004.
36. "An Introduction to Otter for Loop Theorists," A workshop, Charles University, Prague, 6 & 9 August 2003.
37. "Long Proofs in Loop Theory," Award 2003 workshop, Argonne National Laboratory, 11 July 2003.
38. "Eros and Thymos, Failure and Success," opening plenary address, 3rd Colloquium on the Didactics of Mathematics, University of Rethymnon, Crete, 18 April 2003.
39. "Otters and Loops," Zassenhaus Group Theory Conference, Evansville, Indiana, 15 March 2003.
40. "Quasigroups, Loops, and Automated Reasoning," University of Oulu, Finland, 10 January 2003.

41. "Mathematics and a Liberal Education," 2nd International Conference on the Teaching of Mathematics, Chersonissos, Crete, 3 July 2002.
42. "Is There a Place for Core Texts in Undergraduate Mathematics?" Association for Core Texts and Courses, Montréal, 6 April 2002.
43. "On Diassociative A -loops" and "On Bol Loops of Odd Order," Workshop on Multiplication Groups of Loops, Charles University, Prague, Czech Republic, June, 2000.
44. "From Bol to Bruck," AMS Central Section Meeting, University of Notre Dame, South Bend, Indiana, April, 2000.
45. "Nonassociative Group Theory," Groups'99, Oulu University, Finland, 5 August 1999.
46. "On Bruck Loops," Loops'99, Charles University, 30 July 1999.
47. "A Note on Simple Groups and Simple Loops," Fourth International Group Theory Conference, Pusan National University, Korea, 12 August 1998.
48. "Thinking about Cantor," Saint Mary's College, Moraga, California, 23 February 1998.
49. "Loops and Groups, the Latest Scoop," Mathematics Department Colloquia: University of West Alabama, 27 March 1997; University of Tennessee, Martin, 25 March 1997; San Jose State University, 19 September 1996; Santa Clara University, 2 May 1995.
50. "Simple Groups and Simple Loops," Some Trends in Binary Systems, Charles University, Prague, Czech Republic, 4 September 1996.
51. "Solvable Groups via Connected Transversals," universal algebra seminars, University of California at Berkeley, May and June 1996.
52. "The Osborn Problem," University of Rome, Italy, 15 December 1995.
53. "Transversals, Triality and Representation Theory," and "(Right) Loops, Transversals and Group Theory," Algebra Workshop, Charles University, Prague, Czech Republic, 16 & 20 June 1994.
54. "Triality, Moufang Loops and Groups," and "Quasigroups and Loops, a Tutorial," Stefan Banach International Mathematical Center, Warsaw, Poland, 8 June 1994.
55. "Combinatorial Triality," AMS Central Section Meeting, Southwest Missouri State University, Springfield, Missouri, 20 March 1992.
56. "Some aspects of Metabelian Moufang Loops," AMS & MAA Joint Meetings, Baltimore, Maryland, 11 January 1992.

57. “A Functorial Center and Representation Theory,” Stefan Banach International Mathematical Center, Warsaw, Poland, 20 November 1991.
58. “The Endocenter and Representation Theory,” Orono Mathfest, University of Maine, 11 August 1991.
59. “The Superiority of Lebesgue Integration Over Riemann Integration: An Example,” Drake University, 5 April 1991.

Selected Committees

1. Departmental committees too numerous to list (NMU), 2009–present.
2. Institutional Animal Care and Use Committee (NMU), 2009–2021.
3. Cultures and Traditions Steering Committee (Wabash), 2008–2009.
4. Advisor, FIJI house (Wabash), 2002–2009; honorary brotherhood, 2008.
5. Teacher Education Committee (Wabash), 2004–2007, 2008–2009.
6. Budget Committee (Wabash), 2005–2007. (Elected)
7. Wabash rep to the Great Lakes Colleges Association, 2004–2007. (Elected)
8. Academic Program Review Committee (Wabash), 2004–2007.
9. Lilly Scholars Selection Committee (Wabash), 2005–2007.
10. Presidential Search Committee (Wabash), June 2005–January 2006. (Elected)
11. Benefits Committee (Wabash), 2002–2005.
12. Teaching and Learning Committee (Wabash), 2002–2004.
13. Vice-chair, Chair, Faculty Senate (SMC), elected to three year term, 2000.
14. College Rank and Tenure Committee (SMC), elected to three year term, 1998.
15. Education Policy Committee (SMC), 1998.
16. Faculty Welfare Committee (SMC), 1994–1996.

Service to the larger mathematics community

1. Program/Scientific Committee:

- (a) Third Brazilian Meeting on Loops and Nonassociative Systems, Uberlândia, Brazil, November 2022.
 - (b) Second Brazilian Meeting on Loops and Nonassociative Systems, Ouro Preto, Brazil, August 2019.
 - (c) Loops'15, Ohrid, Macedonia, June 2015.
 - (d) Loops'11, Charles University, Třešť, Czech Republic, July 2011.
 - (e) Loops'07, Charles University, Prague, August 2007.
 - (f) Third International Conference on the Teaching of Mathematics, Istanbul, Turkey, July 2006.
 - (g) Award 2004 workshop, Argonne National Laboratory, August, 2004.
 - (h) Mile High Conference on Loops, Quasigroups, and Nonassociative Systems, University of Denver, July, 2005.
 - (i) Loops'03, Charles University, Prague, August 2003.
 - (j) Loops'99, Charles University, Prague, August 1999.
 - (k) Second International Conference on the Teaching of Mathematics, Chersonissos, Crete, July 2002.
 - (l) “My Three Favorite Calculus Problems,” Special session at MAA-AMS joint national meetings:
 - i. San Antonio, Texas, January 2006.
 - ii. Atlanta, Georgia, January 2005.
 - (m) Special sessions on quasigroups and loops, at American Mathematical Society meetings:
 - i. Madison, Wisconsin, September 2019.
 - ii. Tel Aviv, June 2014 (joint with Israel Mathematical Union).
 - iii. Ames, Iowa, April 2013.
 - iv. South Bend, Indiana, November 2010.
 - v. Binghamton, New York, October 2003.
 - vi. Morelia, May 2001 (joint with Sociedad Matemática Mexicana).
 - vii. South Bend, Indiana, April 2000.
2. Member, American Mathematical Society Committee to Select the Winner of the Exemplary Program or Achievement by a Mathematics Department, 2013–2016; chair, 2014–2015.
 3. Editorial board, *Spectrum*, a Mathematical Association of America book series, 2001–2007.
 4. Organizer and host for ADAM 12, an automated deduction workshop.
 5. Referee for mathematics journals too numerous to list.
 6. Reviewer, Math Reviews.

Undergraduate Mathematics Courses Taught

1. Elementary Functions
2. Trigonometry
3. Precalculus
4. Finite Mathematics
5. Introduction to Probability and Statistics (non-calculus based)
6. The Art and Practice of Mathematics: Logic and the Informal Fallacies
7. Non-Majors Calculus I
8. Non-Majors Calculus II
9. Calculus I
10. Calculus II
11. Calculus III (Vector Analysis)
12. Linear Algebra
13. Discrete Mathematics
14. Number Theory
15. Probability and Statistics (calculus based)
16. Differential Equations
17. Abstract Algebra I
18. Abstract Algebra II
19. Abstract Geometry
20. Combinatorics
21. Complex Variables
22. Real Analysis
23. Advanced Calculus
24. Point-Set Topology
25. Mathematical Modeling in the Behavioral and Social Sciences

26. Topology of n-space
27. Logic and Set Theory
28. Boolean Algebra
29. History and Philosophy of Mathematics
30. Seminar on Cwatsets
31. Senior Seminar
32. Intro to Mathematical Research (travel course to Charles U. in Prague)

Graduate Mathematics Courses Taught

33. Group Theory
34. Ring Theory
35. Advanced Linear Algebra
36. Topology
37. Automated Theorem Provers in Algebra

Philosophy Courses Taught

38. Modern Formal Logic
39. Aesthetics
40. On Chance

Core Curriculum and Interdisciplinary Courses Taught

41. Greek Thought
42. Roman, Christian and Medieval Thought
43. Renaissance, Seventeenth and Eighteenth Century Thought
44. Nineteenth and Twentieth Century Thought

45. The Sacred (graduate class)
46. Cultures and Traditions I
47. Culture and Traditions II

Mathematics Education Courses Taught

48. Mathematics for Primary Teachers
49. Mathematical Methods for Secondary Education
50. Intel Math (for practicing teachers)

Other Courses Taught

51. Business Statistics
52. Ecuadorian Birds (travel course)

Boards

1. [Laughing Whitefish Audubon Society](#), board member, 2019–2023.
2. [Center for Academic and Intellectual Freedom](#), advisory board member, 2018–2022.
3. [Quasigroups and Related Systems](#), editorial board, 2004–2021.
4. [American Journal of Undergraduate Research](#), editorial board, 2002–2018.
5. [Michigan Bird Records Committee](#), member, 2013–2018.
6. [Journal of Generalized Lie Theory and Apps.](#), editorial board, 2006–2016.
7. [Wabash Magazine](#), advisory board, 2003–2009.
8. [Spectrum](#), a Mathematical Association of America book series, editorial board, 2001–2007.
9. [Great Lakes Colleges Association](#), Board of Directors, 2005–2007.
10. [The Bachelor](#), faculty advisory board, 2004–2006.

11. [Tryon Farm Institute](#), Board of Directors, Member-at-large, 2004–2006.
12. [Center for Inquiry in the Liberal Arts](#), faculty advisory board, 2003–2005.
13. Loops'03 Conference Proceedings, editorial board, published in *Commentationes Mathematicae Universitatis Carolinae*, 2003–2004.
14. Liberal Arts Online, advisory board, 2002–2003.
15. [Collegiate Seminar](#), Governing Board, Saint Mary's College of California, elected, 2000–2001.
16. Graduate Liberal Studies Governing Board, Saint Mary's College of California, 1999–2001.
17. [National Association of Graduate and Professional Students](#), national board of directors, elected, 1990–1992.

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