**Curriculum Vitae**

**Carol S. Schumacher**

Department of Mathematics and Statistics

Kenyon College

**Education**

* The University of Texas at Austin**;** Ph.D. in mathematics, 1989. *Speciality*: Banach Space Theory
* Hendrix College; Conway, AR; Bachelor of Arts with honors, 1982. *Major*: Mathematics.

**Kenyon Employment History**

* Professor of Mathematics, 2002 to the present
* Associate Professor of Mathematics, 1994 - 2002.
* Assistant Professor of Mathematics, 1991-1994.
* Dana Assistant Professor of Mathematics, 1988-1991

**Awarded:** Kenyon’s *Senior Trustee Teaching Excellence Award*. Spring, 2005.
**Professional Affiliation**: Member of the Mathematical Association of America. (MAA).

**Courses Taught at Kenyon**

Surprises at Infinity, Precalculus, Calculus w/ Elementary Functions, Calculus I, II, and III., Honors Calculus I and II, Foundations, Linear Algebra I and II, Vector Analysis, Discrete Math, Euclidean/Non-Euclidean Geometry, Differential Equations, Abstract Algebra I and II, Real Analysis I and II, Complex Functions, Topology. Also, honors seminars on Banach Spaces, Analysis in Economic Theory, Measure and Lebesgue Integration, Honors Complex Analysis, Set Theory, Functional Analysis, Topology.

**Kenyon Summer Science Scholars Projects Directed**

* Seth Colbert-Pollack: Summer, 2015. *Tangloids and their Symmetries*.
* Samuel Justice: Summer, 2014. *Generalizing the Four Numbers Problem to Planar Graphs.*
* Hannah Ross: Summer, 2009: *Metric Centers*
* Heather Van Ligten : Summer, 2001 : *Fixed Points and the Mathematics of the Infinite.*
* Teena Conklin : Summer 1997 : *The Dynamics of Halley’s Method.*
* Dave Carroll : Summer 1997 : *Cellular Automata Models in Genetics.*
* Seth Peter : Summer 1994 : *Series Decoration of Trees.*
* Colleen Hopkins : Summer 1993 : *Decorating Trees.*

# Publications and Scholarly Writing

* (with Seth Colbert-Pollack) *Tangloids and their Symmetries*, in preparation.
* (as co-chair Martha J. Siegel and Paul Zorn as editor) *2015 CUPM Curriculum Guide to Majors in the Mathematical Sciences*, MAA, 2015.
* (With Brian Jones) *Books of Sand*, in preparation.
* (With Hannah Ross) *Metric Centers*, in preparation.
* **Instructor’s Resource Guide** for *Closer and Closer: Introducing Real Analysis*. Jones and Bartlett, 2008.
* **Solutions Manual** for *Closer and Closer: Introducing Real Analysis*. Jones and Bartlett, 2008.
* **Closer and Closer**: *Introducing Real Analysis*. Jones and Bartlett Publishers, 2007.
* *Pointing the Way to Proof.*Conference Proceedings for Fifth Southern Hemisphere Conference on Undergraduate Mathematics and Statistics Teaching and Learning (Kingfisher Delta '05). November, 2005.
* **Instructor’s Resource Guide** *for Chapter Zero---Fundamental Notions of Abstract Mathematics*, 2e. Addison-Wesley, 2001.
* **Chapter Zero**: *Fundamental Notions of Abstract Mathematics*, 2e. Addison-Wesley, 2001.
* **Instructor’s Resource Guide** *for Chapter Zero---Fundamental Notions of Abstract Mathematics*, Addison-Wesley, 1996.
* **Chapter Zero**: *Fundamental Notions of Abstract Mathematics*, Addison-Wesley, 1996.
* (With Colleen Hopkins), *Decorating Trees*, (1996.)
* *JH\* has the C\*PCP*, Lecture Notes in Mathematics, Springer-Verlag, Berlin/New York (1989), 150-155.
* (With E. Odell)  *JH\* has the PCP*, Contemporary Math. **85** (1989), 275-295.

**Invited Addresses and Panels**

* Invited Plenary Speaker: *Life Scripts in the Classroom*. Project NExT workshop; Mathfest. Columbus, OH, August, 2016.
* Invited Panelist: “What we see/What they hear: Culture Shock in the Classroom.” CTUM Panel: *Developing the Mathematical Pedagogy Guide*. Joint Mathematics Meetings, Seattle, WA. January 2016.
* Invited Speaker: CUPM Curriculum Guide: *A resource for continual curricular development*. Ohio Section MAA Fall Meeting, Capital University, Columbus, OH, October, 2015.
* Invited Presenter: *Implementing the 2015 CUPM curricular recommendations*. Allegheny Mountain Section NeXT workshop, September, 2015.
* *Teaching Real Analysis, An Active Approach*. (75 minute workshop.) Project NExT Workshop. Mathfest. Washington, D.C., August, 2015.
* Invited Speaker: *Fast Forward, Slow Motion*. MAA Kentucky Section, spring meeting. Morehead State University, Morehead, KY, March 2015.
* Randolph Lecturer: *What is the Definition of Definition? and other Mathematical Cultural Conundrums*. MAA Seaway Section, Fall Meeting, Alfred University, October, 2014.
* Invited Presenter: inquiry-based learning workshop for mentors; IBL workshop for new and experienced users. Upstate New York IBL users group. October, 2014.
* *Teaching Real Analysis, An Active Approach*. (75 minute workshop.) Project NExT Workshop. Mathfest. Portland, OR. August, 2014.
* Invited Panelist: *Different Approaches to Teaching.* I presented the perspective of inquiry-based learning. Project NExT Workshop. Mathfest. Portland, OR. August, 2014.
* Co-Organizer and presenter: *Inquiry-Based Learning Workshop in Mathematics*; Kenyon College, Gambier, OH. June, 2014 and Portland, OR, August, 2014. (These workshops were sponsored by the Academy of Inquiry-Based Learning and the PREP program of the Mathematical Association of America. They were funded by NSF grant DUE-1225833.)
* Invited Speaker: “*What is the definition of definition? And other conundrums*” Special Session on Mathematics and Effective Thinking. Joint Mathematics Meetings, January, 2014. Baltimore, MD.
* Invited Speaker: “What we see/What they hear: Culture shock in the classroom.” MAA-CTUM IPS on Pedagogy. Joint Mathematics Meetings, January, 2014. Baltimore, MD.
* Invited Presenter: *Workshop on Inquiry-Based Learning*. Ohio Section MAA Fall Meeting. Cleveland State University. Cleveland, OH. October, 2013.
* *Teaching Real Analysis, An Active Approach*. (75 minute workshop.) Project NExT Workshop. Mathfest. Hartford, CT. August, 2013.
* Invited Panelist: *In-class Group Work*. Project NExT 2011-2012 Fellows. Mathfest. Hartford, CT. August, 2013.
* Co-Organizer and presenter: *Inquiry-Based Learning Workshop in Mathematics*; CalPoly, San Luis Obispo, CA. June, 2013. (This workshop was sponsored by the Academy of Inquiry-Based Learning and the PREP program of the Mathematical Association of America. It was funded by NSF grant DUE-1225833.)
* Panelist: “*Birds of a Feather*” --- CUPM panel. Mathfest. Madison, WI. August, 2012.
* *Using Inquiry to Teach thinking and Mathematics*. (4-hour minicourse). Project NExT Workshop. Mathfest. Madison, WI. August, 2012.
* Invited Panelist: *Teaching Introduction to Proofs Courses*. Project NExT 2011-2012 Fellows. Mathfest. Madison, WI. August, 2012.
* *Teaching Real Analysis, An Active Approach*. (75 minute workshop.) Project NExT Workshop. Mathfest. Lexington, KY. August, 2011.
* Invited Panelist (plenary session). *Choosing a Way to Teach*. Project NExT Workshop. Mathfest. Lexington, KY. August, 2011.
* Plenary address. *Legacy*. Legacy of R.L. Moore Conference. Washington, DC. June, 2011.
* Invited Presenter: Workshop on Inquiry-Based Learning; Ann Arbor, MI. May, 2011.
* Plenary Address. *What is the Definition of Definition? and other mathematical cultural conundrums*. Project NExT Workshop. Mathfest. Pittsburgh, PA, August, 2010.
* Invited Presenter: Workshop on Teaching Proof through Inquiry-Based Learning; Austin, TX. May, 2010.
* *Teaching Real Analysis, An Active Approach*. (75 minute workshop.) Project NExT Workshop. Mathfest. Portland, OR, August, 2009.
* Plenary Speaker: 3rd Biennial Mercer University Undergraduate Research in Mathematics Conference and Georgia MAA State Luncheon; Macon, GA. February 21, 2009.

Georgia MAA State Luncheon: *Zeroing in on the Implicit Function Theorem*
MUURMC: *Fast Forward, Slow Motion: a graphical link between fast and slow time scales*

* *Real Analysis---an inquiry-based approach*. AMS-MAA special session on Inquiry-Based Learning. National Joint Mathematics Meetings, Washington, D.C., January, 2009.
* *Teaching Real Analysis, An Active Approach*. (75 minute workshop.) Project NExT Workshop. Mathfest. Madison, WI, August, 2008.
* Invited Presenter: PREP Workshop on Teaching Proof through Inquiry-Based Learning; Austin, TX. June, 2008.
* Invited Address: *Building Bridges*. Legacy of RL Moore Conference. Austin, TX, April, 2007.
* *Teaching Students to Write Proofs*. (75 minute workshop.) Project NExT Workshop. Mathfest. San Jose, CA, August, 2007.
* *Teaching Students to Write Proofs*. (75 minute workshop.) Project NExT Workshop. Mathfest. Knoxville, TN, August, 2006.
* Invited Speaker: *What*?. . . *Where*? *Culture Shock in the Classroom***.** CUPM invited paper session: Pointing the Way to Proof.Mathfest**.** Knoxville, TN, August, 2006.
* Co-leader, Workshop on Conducting a Departmental Self-Study. Offered under the sponsorship of the Mathematical Association of America’s PREP program. Dickinson College, Carlisle, PA. June, 2006.
* Invited Address: *Zeroing in on the Implicit Function Theorem*. Fall Meeting of the Ohio Section of the Mathematical Association of America. Ashland University. Ashland, Ohio. October, 2005.
* *Teaching Students to Write Proofs*. (75 minute workshop.) Project NExT Workshop. Mathfest. Providence, RI, August, 2004.
* Invited Address: *Preparing the Ground*. National Conference on "The Legacy of R. L. Moore.” Austin, TX. March, 2004.
* *Teaching Students to Write Proofs*. (75 minute workshop.) Project NExT Workshop. Mathfest. Boulder, CO, 2003.
* *Teaching Students to Write Proofs*. (75 minute workshop.) Project NExT Workshop. Mathfest. Burlington, VT. August 2002.
* Panelist: *Panel on Discovery Learning*. Project NExT Workshop. Mathfest, 2001. Madison, WI. August 2001.
* *Teaching Students to Write Proofs*. (75 minute workshop.) Project NExT Workshop. Mathfest. Madison, WI. August 2001.
* *Surprises at Infinity---Self-Similarity and Self-reference in Mathematics*. Keynote Speaker: Sewanee-Rhodes-Hendrix Mathematics Symposium. Hendrix College. Conway, Arkansas. April 2001.
* *Confessions of a Heretic*. AMS Special Session on Discovery Learning. National Joint Mathematics Meetings; New Orleans, LA. January 2001.
* Panelist: *Panel on Modified Moore Methods*. National Joint Mathematics Meetings; New Orleans, LA. January, 2001.
* Panelist: *Math Courses for Liberal Arts Majors*. Project NExT Workshop. Mathfest . Los Angeles, CA. August 2000.

**NSF Grants**

* National Science Foundation, TUES, $364,925; Co-PI; Collaborative Research: Supporting Pedagogical Innovation for a Generation of Transformation via Inquiry-Based Learning in Mathematics, 2013-1015.
* National Science Foundation, DUE, $149,804; Co-PI; Undergraduate Curriculum Guide for the Mathematical Sciences, 2012-2015.

**Lectures and Professional Talks**

* *Books of Sand*. Hendrix College, October, 2011.
* *Books of Sand*. Slippery Rock University, April, 2011.
* *Zeroing in on the Implicit Function Theorem*. College of Wooster, October, 2007.
* *Zeroing in on the Implicit Function Theorem*. Oberlin College, March, 2007.
* *Pointing the Way to Proof*. Fifth Southern Hemisphere Conference on Undergraduate Mathematics and Statistics Teaching and Learning (Kingfisher Delta '05). Fraser Island, Queensland, Australia. November, 2005.
* *Infinite Polite Speeches*, *Konig’s Theorem, and Aperiodic Tilings of the Plane.* Contributed Paper Session. National Joint Mathematics Meetings, Atlanta, GA. January, 2005.
* *Infinite Polite Speeches, Konig’s Theorem, and the Morse-Thue Sequence*. Regional MAA Meeting (Ohio Section). Cincinnati, Ohio. March, 2004.
* *Surprises at Infinity---Self-Similarity and Self-reference in Mathematics*. Science Division Colloquium, Kenyon College. November 2000.
* *Surprises at Infinity---Self-Similarity and Self-reference in Mathematics*. (Ohio Small Colleges, Speaker’s Circuit). Ohio Wesleyan University, November 2000.
* *Confessions of a Heretic.* National Conference on “The Legacy of R. L. Moore.” Austin, TX. April 2000.
* *It’s their transition: You can’t make it for them.* Special Session on Transition Courses in the Mathematics Curriculum. National Joint Mathematics Meetings. San Antonio, TX. January 1999.
* *Real Life in a Moore Method Class*. Special session on Mentoring Mathematics Majors. Mathfest 98. Toronto, Canada. August 1998.
* *Ramsey’s Theorem: Combinatorics for Analysts*. (Ohio Small Colleges, Speaker’s Circuit). Denison University. April 1998.
* *Decorating Trees*.Regional MAA Meeting (Ohio Section). Youngstown, Ohio. March, 1997.
* *Ramsey’s Theorem: Combinatorics for Analysts*. (Ohio Small Colleges, Speaker’s Circuit). Oberlin College. April 1997.
* *Decorating Trees*. (Ohio Small Colleges, Speaker’s Circuit). Wooster College. March 1993.
* *Revolution in Mathematics: The Discovery of Non-Euclidean Geometry.* (Ohio Small Colleges, Speaker’s Circuit). Denison University. March 1991.
* *Logical Independence*. (Ohio Small Colleges, Speaker’s Circuit). Ohio Wesleyan University. November 1991.
* *Sequential Domination in Banach Spaces and some new classes of Baire-1 functions*. Special Session on Banach Spaces. Regional AMS meeting. Denton, TX. November 1990.
* *Infinite Sets and Cantor’s Diagonalization Argument*. Mathematics seminar. Arkansas Governor’s School for the Gifted and Talented. Conway, AR. July 1990.
* *Sequential Domination in Banach Spaces and the geometry of JH\*.* Doctoral Defense; The University of Texas at Austin. August 1989.
* *JH\* has the C\*PCP* C Special Session on Banach Spaces. National Joint Mathematics Meetings. Atlanta, GA. January 1988.

**Attendance at Professional Meetings**

* **Mathfest**---National MAA meeting; (August) Columbus, OH; 2016; Washington DC; 2015; Portland, OR; 2014. Hartford, CT; 2013. Madison, WI; 2012. Lexington, KY; 2011. Pittsburgh, PA; 2010. Portland, OR; 2009. Madison, WI; 2008. San Jose, CA; 2007. Knoxville, TN; 2006. Providence, RI; 2004. Providence, RI; 2004. Boulder, CO; 2003; Burlington, VT; 2002. Madison, WI; 2001. Los Angeles, CA; 2000. Toronto, Canada; 1998.
* **National Joint Mathematics Meetings**; (January) Seattle, WA; 2016. San Antonio,TX; 2015. Baltimore, MD; 2014. MA; 2012. New Orleans, LA; 2011. San Francisco, CA; 2010. Washington, DC; 2009. San Diego, CA; 2008. New Orleans, LA; 2007. San Antonio, TX; 2006. Atlanta, GA; 2005. Phoenix, AZ; 2004. San Diego, CA; 2002. New Orleans, LA; 2001. Washington, DC; 2000. San Antonio, TX; 1999. San Diego, CA; 1997. Orlando, FL; 1996. San Francisco, CA; 1995. Baltimore, MD; 1992. Atlanta, GA; 1988.
* **Legacy of RL Moore Conference**; Denver, CO; June 2014. Austin, TX; June 2013. Austin, TX; June 2012. Washington, DC; June, 2011. Austin, TX, July 2009. Austin, TX, April, 2007. Austin, TX. March, 2004. Austin, TX. April 2000. Austin, TX. April, 1999.
* **Ohio Section (MAA) Meeting**s; October 2015. October, 2013. March, 2010. October, 2009. April, 2009. April, 2008. October, 2007. April, 2007. April, 2006. October, 2005. April, 2005. April, 2001. April, 2001. April, 1999. April, 1998. April, 1997. October, 1989.
* **National Conference for Undergraduate Women in Mathematics**; University of Nebraska-Lincoln; Lincoln, NE; January, 2010.
* Fifth Southern Hemisphere Conference on Undergraduate Mathematics and Statistics Teaching and Learning (**Kingfisher Delta '05**). Fraser Island, Queensland, Australia. November, 2005.
* Workshop on Self-Study and Outside Evaluation of Mathematics Departments. Sponsored by the Mathematical Association of America. (Participation by invitation only.) Dickinson College, Carlisle, PA. June, 2005.
* Workshop on “Knot Theory.” Sponsored by Ohio Section (MAA). Ohio Northern University. Ada, OH. June, 2004.
* Regional AMS meeting; Special Session on Banach Spaces; The University of North Texas; Denton, TX; November, 1990.
* National Joint Meetings of the AMS and MAA; The Ohio State University; Columbus, Ohio; August, 1990.
* Functional Analysis Colloquium; Kent State University; Kent, Ohio; March 1989.

**Professional Organizations and Service**

(Recent)

* CUPM (Committee on the Undergraduate Program in Mathematics); committee of the Mathematical Association of America. Member, 2004-January, 2008. January, 2011-January, 2015. Chair, January, 2008-January 2011.
* Steering Committee for next CUPM Curriculum guide. MAA. 2011-2015.
* Outside evaluator for Mathematics Departments at Gustavus Adolphus College (Fall, 2015); SUNY-Potsdam (Fall, 2013) ; Alma College (Spring, 2013); Whitman College (Spring, 2012); Roger Williams University (Spring, 2009); Allegheny College (Fall, 2007).
* Member, MAA Program committees, Joint Mathematics Meetings, New Orleans, 2007 and Washington, D.C. 2009.
* Member Merten Hasse Prize Selection Committee (national MAA committee), 2007. Chair, 2009.
* Local arrangements chair; Fall Meeting of the Ohio Section of the MAA; Fall, 2009.
* Member: working group on Self-Study and Outside Evaluation of Mathematics Departments. Mathematical Association of America.
* Professional Development Planning Group. Committee of the Mathematical Association of America. 2007-2011.
* Consultant for Project NExT. 1998-present.
* Member, Search committee for Editor of *Math Horizons* Magazine. 2007.
* Editorial board: Journal of Inquiry-based Learning in Mathematics, 2003-present.
* Legacy of R.L. Moore Advisory Committee, 2008-present.
* Reviewer for *College Mathematics Journal* and *Primus* and *American Mathematical Monthly.*
* Member Anneli Lax New Mathematical Library Editorial Board, 2004-2007.

**Collegiate Citizenship**

**Faculty Governance.**

* Chair of the Faculty and member of the senior staff. July 2015-present.
* Co-chair; Curricular Essentials Committee, Spring and Fall, 2013.
* Tenure and Promotion Committee. 1999-2001, 2006-2007. Chair: 2007-2009.
* Chair of the Science Division. 2001-2002.
* Course Evaluation Committee. 1998-1999.
* Curricular Policy Committee. 1993-1995.
* Faculty Governance Committee. 1990-1991.
* Advising and Standards Committee. 1988-1991.

**College-wide Search Committees.**

* LBIS search for library and technology consultants. 1998-1999.
* Vice President for Information and Library Services. 1997-1998
* IPHS director. 1991-1992.
* Director of Network Systems and Technical Services. 1990-1991.

**Other College Committees**.

* Dance Prize Committee. 2001.
* Information Technology Advisory Committee. 1999
* Library Subcommittee of Curricular Policy Committee. 1997-1999.
* College Media Board. 1990-1992.
* Ashford Memorial Award Selection Committee. 1989-1990.
* Member, search committee for technology consultants, LBIS 2000-2001.
* Member, Spanish search committee, 2004-2005.
* Member, mentoring committee for Marta Sierra, Spanish. 2003-2005.
* Member, mentoring committee for Maria del Carmen Parafita, Spanish. 2005-2007.
* Member, mentoring committee for Daniel Hartnett, Spanish. 2000-2011.

**Mathematics Department Service.**

* Department Chair. 1996-1999, 2003-2006, 2012-2014
* Organized a student trip to NCUWM; Lincoln, NE. January, 2010.
* Organized a reading of Tom Stoppard’s play *Arcadia* through KCCDF.
* Chair of Keith Howard’s Mentoring committee. 2000-2001.
* Served as Mentor for department visitors Michael Nathanson and Chris Brown.
* Search Committees. Member: 1988-89, 1990-91, 1991-92, 1994-95, 1995-96, 2005-2006, 2006-2007, 2008-2009. Co-chair in 1996-97, 2005-2006, 2008-2009. Chair in 1998-99, 1999-2000, 2000-2001, 2004-2005
* Organized student trips to Ohio Section meetings. Spring, 1998. Spring, 1999. Fall, 2000. Spring, 2001. Spring, 2005. Fall, 2006. Spring, 2007. Spring, 2008.
* Organized student trips to Case Western Reserve University for daylong session on Operations Research and Operations Management. Fall 1998 and Fall 2000.
* Organized participation in Ohio Small College’s Speaker’s circuit. 1998-91,1992-94.
* Co-organizer for Math Mondays; 2011-present.
* Library purchasing. 1992-94. Math department liaison to the science librarian, 1994-2004.