

CONTACT INFORMATION	Regents Hall St. Olaf College Northfield, MN 55057	612.220.3218 (Cell) 507.786.3418 (Office) richeym@stolaf.edu
EDUCATION	Dartmouth College , Hanover, NH Ph.D. (Mathematics), 1985. M.A. (Mathematics), 1983. <ul style="list-style-type: none"> • Area of Study: Lattice Statistical Mechanics • Ph.D. Thesis: <i>The \mathbf{Z}_n Baxter Model</i> • Adviser: C. A. Tracy Kenyon College , Gambier, OH B.A., 1981. <ul style="list-style-type: none"> • Majors: Mathematics and Physics both with distinction • Mathematics Thesis: <i>Godel's Incompleteness Theorem</i> • Physics Thesis: <i>Philosophical Implications of Quantum Mechanics</i> 	
LEADERSHIP POSITIONS	St. Olaf College Associate Dean for Natural Sciences and Mathematics 2008 to present Chair Mathematics, Statistics, and Computer Science Department 1997-2001, 2002-2004 Interim Director of Computer Science Program 1996-1997	
ACADEMIC APPOINTMENTS	St. Olaf College Department of Mathematics, Statistics, and Computer Science Professor 2004 to present Associate Professor 1992-2004 Assistant Professor 1986-1992 Columbia University Visiting researcher, Biosphere 2, Oracle, AZ January-July 2002 University of Minnesota, Visiting researcher, The Geometry Center 1991-1992 University of California, Davis Lecturer in Mathematics 1985-1986	
PUBLICATIONS	Peer-reviewed Richey, Matthew. The Evolution of Markov Chain Monte Carlo Methods, <i>The American Mathematical Monthly</i> , May 2010, 383-413. Legler, Julie; Richey, Matthew; Roback, Paul; Lane-Getaz, Sharon; Ziegler-Graham, Kathryn, and Scott, James. A Model for an Interdisciplinary Undergraduate Research Program, <i>The American Statistician</i> , February, 2010. Richey, Matthew and Zorn, Paul. Beta, Basketball, and Bayes. <i>Mathematics Magazine</i> , December 2005, 354-367.	

Devenow, Pearl and Richey, Matthew. HyperText: Reading Tool at the Fingertips. *Perspectives In Education and Deafness*, v16 n3, 23 Jan-Feb 1998.

Abbott, Stephen D. and Richey, Matthew. Take a walk on the Boardwalk, *College Mathematics Journal*, 28 (1997), no. 3, 162–171.

Gilbert, George T. and Richey, Matthew. Cuspidal coverings for pairs of congruence subgroups, *Journal of Mathematical Physics*, 36 (1995), no. 1, 426–434.

Benson, Steve and Richey, Matthew. Much Ado About Coset Multiplication, *Primus*, Vol. IV (1994), Number 1.

Richey, Matthew P. and Tracy, Craig A. Algorithms for the computation of polynomial relationships for the hard hexagon model, *Nuclear Physics B*, 330 (1990), no. 2-3, 681–704.

Richey, Matthew P. and Tracy, Craig A. Equation of state and isothermal compressibility for the hard hexagon model in the disordered regime, *Journal of Physics A* 20 (1987), no. 16. L1121-L1126.

Richey, Matthew P. and Tracy, Craig A. Symmetry group for a completely symmetric vertex model, *Journal Physics A* 20 (1987), no. 10, 2667-2677.

Richey, Matthew P. and Tracy, Craig A., Z_n Baxter model: symmetries and the Belavin parametrization, *Journal of Statistical Physics* 42 (1986), no. 3-4, 311–348.

Other

Richey, Matthew. Neural Network Model for Predicting Non-custodial Parent Recidivism, Technical Report, State of Virginia Department of Child Welfare, 2007.

Three contributed chapters in *Problems for Student Investigation, Vol. 4*, Ramsay, John and Jackson Mic, editors, Mathematical Association of America. 1993.

SELECTED INVITED LECTURES AND PRESENTATIONS

Upper Midwest PKAL Regional Gathering: Leadership Strategies: Accidental vs. Intentional. Northfield, MN, October 2010.

Center for Applied Mathematics Invited Spring Lecture. University of St. Thomas, April 2010.

Sustainable Building Design. National Council for Science and Environment, Washington, D.C., January 2010.

Sigma Xi Invited Lecture, Mayo Clinic, Rochester, MN. November 2009.

So you want a tenure-track position?. Young Mathematicians Network, Joint Meetings of the Mathematical Association of America and the American Mathematical Society, January 2010.

Building a Mathematics Major. Joint Meetings of the Mathematical Association of America and the American Mathematical Society, January 2008.

Attracting and Retaining Mathematics Majors. Texas Association of Academic

Administrators in the Mathematical Sciences. Baylor University, September 2003.

Biology and Mathematics: Creating an environment for cooperation. Bio2010: Computational Solutions to Biological Problems, Bridging Research and Teaching, Washington University, June 2003.

The Mathematics Major: It's more than the discipline. PEW Midstates Conference on Attracting and Retaining Majors in the Sciences, March 2003.

Attracting Undergraduate Mathematics Majors. NSF Mathematics Chairs Conference, Washington, D.C., November 2001.

A Mathematics Major for the next Century. MAA Workshop, Joint Meetings of the Mathematical Association of America and the American Mathematical Society. January 2000.

A Proposal For a new Mathematics Major. Workshop on Computational Science in Undergraduate Education, Gustavus Adolphus College, March 1999.

Markov Chain Monte Carlo Techniques. Workshop on Computational Mathematics, Macalaster College., June 1998.

GRANT WORK

Pending

Co-author and co-Principal Investigator, proposal (\$1,600,000) to the National Science Foundation to extend the St. Olaf Center for Interdisciplinary Research.

Funded

Author and Principal Investigator, proposal (\$499,675) to National Science Foundation project #0630930 for S-STEM scholarship program to support students from traditionally underrepresented groups pursue a mathematics major. 2006.

Recipient, Lilly International Service (internal), proposal (\$15,000) to St. Olaf College project to support field work in Chennai, India with computer science students working on educational software for the Interchurch Service Agency. Summer 2004 (and 2005).

Co-author and co-Principal Investigator, proposal (\$1,310,000) to the National Science Foundation project #0354308 to create the St. Olaf *Center for Interdisciplinary Research*. 2003.

Co-author, proposal (\$35,000) to the National Science Foundation #9150275 for a project to develop curriculum materials for the mathematics department's Advanced Mathematics Computing Laboratory. 1991.

Not Funded

Co-author, proposal (\$935,000) to the National Science Foundation to create a consortium of schools sharing undergraduate research projects and expertise. 2008.

Lead author, proposal (\$135,000) to FIPSE to create a Mathematical Computing Concentration. 1995.

Co-author, proposal (\$155,000) to the National Science Foundation for a Research Experiences for Undergraduates program. 1998.

RECENT
STUDENT
RESEARCH
PROJECTS

Lord Kelvin and pre-computational Monte Carlo Methods

Benjamin Simmons, Summer 2010.

Does pitch count affect pitching performance in MLB?

Andrew Lithio, Ben Langholz, and Nick Roetker, Academic Year 2008-2009.

The effect of batting order on run production in baseball

Carl Emersh, Academic Year 2008-2009.

The impact of gender on student retention in mathematics courses

Kris Herrin, Summer 2005.

Clutch hitting in baseball via Bayesian analysis

Mark Holland and Daniel Syzdlo, Academic Year 2004-2005.

OTHER
SELECTED
PROFESSIONAL
ACTIVITIES

Recent External Reviews for Mathematics Program Reviews

Loras College, 2008.

Doane College, 2007.

Moravian College, 2004.

Luther College, 2005.

Hamline University, 2005.

Transylvania University, 2005.

Wittenberg University, 2004.

McDaniel College, 2004.

Winona State University, 2003.

Recent National Science Foundation Grant Proposal Review Panels

Course, Curriculum, and Laboratory Implementation (CCLI), (three times).

Mentoring Through Critical Transition Points (MCTP), (two times).

Research Experiences for Undergraduates (REU).

Integrative Graduate Education and Research Traineeship (IGERT).

Proactive Recruitment in Introductory Science and Mathematics (PRISM) formative workshop.

Other

Member, Associated Colleges of the Midwest Steering Committee for Undergraduate Research. 2001 to present.

Co-Organizer, MAA Prep Workshop, *Developing Internal Departmental Self-Studies for Mathematical Sciences Departments*. 2009.

Member and vice-Chair, Board of Directors of SciMathMN, a non-profit, statewide education and business coalition advocating for quality K-12 science, mathematics and technology education based on research, national

standards and effective practices. 2006 to present.

Outside consultant, James Madison University, NSF-funded STEP program. 2007.

Co-organizer PEW Conference on Upper Level Statistics. 2003.

Professional Memberships and Offices Held

Mathematical Association of America (MAA)

President, North Central Section of MAA, 2003-2004

American Mathematical Society

American Association for the Advancement of Science

Society for Industrial and Applied Mathematics

MAJOR COLLEGE **College-wide Committees**

COMMITTEES

Assessment subcommittee of Curriculum Committee, *ex-officio* 2009 to present.

AND DUTIES

Review and Planning Committee, 2004-2007, Chair 2005-2007.

Academic Regulations Committee, 1992-1994, Chair 1993-1994.

Academic Retention and Financial Aid Committee, 1988-1990.

Other

Academic Excellence Working Group, a presidentially appointed group charged with developing a strategic plan for the academic program. 2010 to present.

St. Olaf Site Director, NorthStar Alliance, a Louis Stokes Alliance for Minority Participation (LSAMP) NSF-funded project. 2007 to present.

Member, Diversity Steering Committee in the FNSM. 2006 to present.

Science Facilities Design Committee. 1998-2006.

Governance Reform and Evaluation Committee (subcommittee of Review and Planning Committee). 2001-2002.

TEACHING

EXPERIENCE

Mathematics

Calculus I/II/III, Linear Algebra, Differential Equations, Modern Computational Mathematics, Abstract Algebra I/II, Elementary Real Analysis, Complex Analysis, Probability, Mathematics Practicum, Topology, Seminar in Applied Mathematics

Statistics

Elementary Statistics, Mathematical Statistics

Computer Science

Principles of Computer Science, Algorithms and Data Structures, Software Design, Seminar in Computer Science, Theory of Computation

SOFTWARE

CONSULTING

State of Virginia, developed and implemented neural network for predicting non-custodial parent child support recidivism. 2006-2007.

St. Olaf College, principal designer for Student Information System relational database. 2004-2006.

Barr-Mullin, Inc., developed the first algorithm in the industry for optimizing rip saw setup operations. The resulting software, *ArborMaster*, was nominated for the Woodworking Product of the Year in 1995. 1995-1997.

Partridge River, Inc., developed and implemented software system for managing production and inventory. 1993-2000.