

THOMAS C. RATLIFF

Department of Mathematics and Computer Science
Wheaton College, Norton, Massachusetts

Education

- Ph.D.** Mathematics, Northwestern University, Evanston, Illinois, 1992.
Thesis in algebraic topology, titled “Congruence Subgroups and Elliptic Cohomology”.
- M.S.** Mathematics, Northwestern University, Evanston, Illinois, 1988.
— Computer Science, University of North Carolina at Chapel Hill, 1986.
Completed first year of M.S. program.
- B.A.** Mathematics/Computer Science, *magna cum laude*, *Phi Beta Kappa*, Rhodes College, Memphis, Tennessee, 1985.

Positions Held

- Wheaton College, Norton, Massachusetts
Professor of Mathematics and Computer Science, 2008–
Associate Professor of Mathematics and Computer Science, 2002–2008
Assistant Professor of Mathematics and Computer Science, 1996–2002
- St. Olaf College, Northfield, Minnesota, Visiting Assistant Professor of Mathematics, 1994–1996
- Kenyon College, Gambier, Ohio, Visiting Assistant Professor of Mathematics, 1992–1994

Research Publications

- “Selecting committees”, *Public Choice*, Vol 126, Num 3-4 (2006), pp 343 - 355.
- “Some startling inconsistencies when electing committees”, *Social Choice and Welfare*, Vol 21, Num 3 (2003), pp 433-454.
- “A comparison of Dodgson’s method and the Borda count”, *Economic Theory*, Vol 20, Num 2 (2002), pp 357-372.
- “A comparison of Dodgson’s method and Kemeny’s rule”, *Social Choice and Welfare*, Vol 18, Num 1 (2001), pp 79-89.
- “Classifying spaces of central group extensions”, with J. Dietz, *Proceedings of Symposia in Pure Mathematics* 63 (1998), pp 191-196.
- “Congruence subgroups, elliptic cohomology, and the Eichler-Shimura map”, *Journal of Pure and Applied Algebra* 109 (1996), pp 295-322.

Pedagogical Publications

- “A geometric approach to voting theory for mathematics majors”, in *Innovative Approaches to Undergraduate Mathematics Courses Beyond Calculus* published in the *MAA Notes* series (2005).
- *Crushed Clowns, Cars, and Coffee to Go . . . Writing Projects for Mathematics Courses*, with A. Crannell, G. Larose, and E. Rykken, published in the *Classroom Resource Materials* series by the Mathematical Association of America (2004).
- “How we get our students to read the text before class”, with M. Boelkins, *FOCUS*, Vol 21, Num 1 (2001), 16-17, and online at <http://www.maa.org/features/readbook.html>.
- “How I (finally) got my calculus I students to read the text”, *Innovative Teaching Exchange* at MAA Online (www.maa.org), 1997.

Selected Presentations and Workshops

- “A Little Geometry, a Little Linear Algebra, and a Lot of Insight into Voting” and “Voters Vote & Candidates Win: Whats so hard about that?”, invited talks at the Spring Meeting of the Indiana Section of the MAA, St. Mary’s College, South Bend, Indiana, March 28–29, 2008.
- “Mathematical and Statistical Consulting at Wheaton College” in the session *Student Research in Industrial Mathematics* at MathFest, San Jose, California, August 5, 2007.
- “Voters Vote & Candidates Win: What’s so hard about that?”, an invited talk the Pi Mu Epsilon Induction Ceremony, Manhattan College, Riverdale, New York, April 19, 2007.
- *Workshop on Faculty Development Issues*, invited participant at United States Military Academy, West Point, New York, April 11–13, 2007.
- “Becoming a Leader in Your Department”, participant in a Project NExT Panel at the Joint Mathematical Meetings, New Orleans, Louisiana, January 5, 2007.
- “Voting, Geometry, and Lewis Carroll”, Brown University Mathematics Graduate Student Seminar, Providence, Rhode Island, November 1, 2006.
- *Developing Internal Departmental Self-Studies for Mathematical Science Departments*, a MAA PREP Workshop Dickinson College, Carlisle, Pennsylvania, June 11–14, 2006. Invited participant as potential outside evaluator for departmental reviews.
- *Spatial Voting: Choice Over Multidimensional Issues*, attendee at workshop at Institute for Mathematical Behavioral Sciences at University of California, Irvine, December 5–7, 2005.

- “Selecting Committees” at the meetings of the Public Choice Society, New Orleans, Louisiana, March 11, 2005, and Graduate Student Seminar, University of California, Irvine, May 20, 2004.
- “Waffle cones, ribbons, and barbershop poles” as part of the Bridgewater-Stonehill-Wheaton colloquium series at Bridgewater State College, Bridgewater, Massachusetts, November 8, 2004.
- “Getting your students to read their calculus text”, an invited workshop for Project NExT, Knoxville, Tennessee, August 8, 2006; Providence, Rhode Island, August 10, 2004; and Boulder, Colorado, July 30, 2003.
- “A graph theoretic approach to the selection of committees” at the Institute of Public Economics, Graz University, Austria, March 16, 2004.
- “Selecting committees with incomplete preferences” at the workshop *Analysis and Design of Electoral Systems* at Mathematisches Forschungsinstitut Oberwolfach, Germany, March 10, 2004.
- Co-organizer and presenter in the session *Workshop on Student Writing - A Hands on Approach*, sponsored by the MAA Committee on the Teaching of Undergraduate Mathematics at MathFest, Boulder, Colorado, August 2, 2003.
- “Encouraging Students through Reading and Writing in Mathematics Courses”, an invited presentation at the workshop *Changing the Nature of Undergraduate Science and Mathematics Teaching* at the IMPACT Center at the University of New Hampshire, September 19, 2002.
- “Cartoon Characters and Calculus”, in the session *Using Popular Culture in the Mathematics and Mathematics Education Classroom* at MathFest, Burlington, Vermont, August 2, 2002.
- “Assessment of Writing Projects in Mathematics Courses”, an invited presentation in the Project NExT session *Assessment Ideas and Practices to Consider When Starting Your Teaching Career*, Burlington, Vermont, July 31, 2002.
- “Some Startling Inconsistencies When Electing Committees”, at the Sixth International Meetings of the Society for Social Choice and Welfare, California Institute of Technology, July 12, 2002 and at the Public Choice Society Meetings, San Diego, California, March 22, 2002,
- “Thousands of Candidates and a Handful of Voters – An Application of Voting Theory from Pharmaceutical Development”, at the Second Tutorial and Workshop on Bioconsensus, Rutgers University, October 5, 2001.
- “A Geometric Comparison of Dodgson’s Method and Kemeny’s Rule”, at the Institute for Mathematics in the Behavioral Sciences at the University of California, Irvine, May 15, 2001.
- “Cycles Do Matter! Elections with Thousands of Candidates and a Handful of Voters”, Public Choice Society Meetings, San Antonio, Texas, March 2001.
- “A Comparison of Dodgson’s Method and the Borda Count”, Public Choice Society Meetings, Charleston, South Carolina, March, 2000.

- “A Comparison of Dodgson’s Method and Kemeny’s Rule”, in the special session on *Mathematical Aspects of Consensus Theory* AMS/MAA Meetings, Washington, DC, January, 2000.
- “Marvin the Martian and Opie Taylor: The Importance of Defining the Audience for Student Calculus Papers”, in the session *The Use of Creative Writing in Teaching Mathematics* at Math-Fest, Providence, Rhode Island, August 2, 1999.
- Invited speaker in a panel discussion in the *Special Session on Assessment Alternatives* at Math-Fest, Toronto, Canada, July 16, 1998.
- “A Tried and True Approach for Writing Assignments in Calculus”, presented with Annalisa Crannell of Franklin & Marshall College AMS/MAA Summer Meetings, Seattle Washington, August 11, 1996.

Other Professional Activities

- Chair of the Northeastern Section of the Mathematical Association of America, 2005–2007
 Vice-Chair of the NES/MAA, 2004–2005
 NES/MAA webmaster, 2006–
 Organizer of Contributed Papers for Fall and Spring NES/MAA meetings, 2000–2004
- Part of Review Team for External Departmental Evaluation, October 2006.
- 1994–95 Project NExT (New Experiences in Teaching) Fellow
- Refereed papers for
 - Social Choice and Welfare*
 - Journal of Public Economic Theory*
 - Journal of Theoretical Politics*
 - The American Statistician*
 - Discrete Applied Mathematics*
 - Neural Networks*
 - Mathematics Magazine*
 - College Math Journal*
 - DIMACS Educational Module Series*
 - Mathematical and Computer Modelling*

Courses Taught since 2002

- First Year Seminar, “Water, water, every where”
- Math 102 Calculus I with Economics Applications
Connected to Economics 102 Introduction to Microeconomics
- Math 104 Calculus II
- Math 141 Introductory Statistics
- Math 217 Voting Theory
Connected with Political Science 211 Congress and the Legislative Process
- Math 236 Multivariable Calculus
- Math 285 Mathematical and Statistical Consulting
- Math 301 Real Analysis
- Math 331 Geometry
- Math 401 Senior Seminar

Major Service at Wheaton since 2002

- Faculty Project Shepherd for Center for Scientific Inquiry and Innovation, an expansion and partial renovation of Wheaton’s Science Center. Fall 2002 –
- Recipient of AAUP Faculty Advocate Award, May 2008
- Tenure Committee, Fall 2005 – Spring 2008
Chair, Fall 2006 – Spring 2007
- Chair of Department of Mathematics and Computer Science, Fall 2005 – Spring 2007
Department completed external review in October 2005
Chair of Tenure Track Search Committee, Fall 2006 - Spring 2007
- Committee on Committees and Agenda, Fall 2002 – Spring 2005 (Sabbatical, Spring 2004)
Chair, Fall 2004 – Spring 2005
- Budget Advisory Committee, Spring 2005
- Chair of Quantitative Analysis Subcommittee of the Educational Policy Committee, Fall 2002 – Fall 2003.
Subcommittee drafted guidelines for courses to meet the QA requirement in the new Wheaton Curriculum.
- Supervised Honors Theses
Willie A. Stone, “Plurality Elections: How Many Voters Does It Take Before Anything Can Happen?”, 2003.

Rachel L. Bayless, “Knight Tours on a Hyperbolic Chess Board”, 2008.