

R. Jason Parsley

Address: Department of Mathematics
Wake Forest University
P.O. Box 7388
Winston-Salem, NC 27109-7388

Email: parslerj@wfu.edu
Phone: 336 758 4990
Fax: 336 758 7190
Web: <http://www.wfu.edu/~parslerj>

ACADEMIC POSITIONS

Wake Forest University, Department of Mathematics
Associate Professor, August 2006 - present

University of Georgia, Department of Mathematics
NSF VIGRE (Vertical Integration of Research & Education) Postdoctoral Fellow
August 2004 - July 2006

EDUCATION

University of Pennsylvania, Department of Mathematics, September 1998 - May 2004
Ph.D. in Mathematics, May 2004. Advisors: Dennis DeTurck and Herman Gluck
Dissertation: *The Biot-Savart operator and electrodynamics on bounded subdomains of the 3-sphere*
M.A. in Mathematics, August 2001
Master's thesis: *The Taylor problem in plasma physics*

Duke University, August 1992 - May 1996
B.S. Engineering degree, *summa cum laude*. Honor societies: Phi Beta Kappa, Tau Beta Pi
Major: Mechanical Engineering. Minor: Mathematics. GPA: 3.83/4.0

ARTICLES WRITTEN

1. "A new cohomological formula for helicity in R^{2k+1} reveals the effect of a diffeomorphism on helicity"
Jason Cantarella and Jason Parsley
J. of Geometry & Physics, 60:9, Sept. 2010, 1127-1155
doi: 10.1016/j.geomphys.2010.04.001
<http://arxiv.org/abs/0903.1465>
2. "An infinite family of convex Brunnian links in R^n "
Bob Davis, Hugh Howards, Jonathan Newman, and Jason Parsley
Geometriae Dedicata, 155:1, 141-149, Dec. 2011
doi: 10.1007/s10711-011-9581-4
<http://arxiv.org/abs/1101.4863>
3. "The Biot-Savart operator and electrodynamics on subdomains of the three-sphere"
Jason Parsley
J. of Math. Physics, 53:1, 013102, 2012
doi:10.1063/1.3673788
<http://arxiv.org/abs/0904.3524>

4. “The 27 possible intrinsic symmetry groups of 2-component links”
Jason Cantarella, James Cornish, Matt Mastin, and Jason Parsley
Symmetry 2012; 4(1):129-142
doi:10.3390/sym4010129
<http://arxiv.org/abs/1201.2722>
5. “Intrinsic symmetry groups of links with 8 and fewer crossings”
Berglund M., Cantarella J., Casey M.P., Dannenberg E., George W., Johnson A., Kelley A., LaPointe A., Mastin M., Parsley J., Rooney J., Whitaker R.
Symmetry, 2012; 4(1):143-207
doi:10.3390/sym4010143
<http://arxiv.org/abs/1010.3234>
6. “A geometric and combinatorial view of weighted voting”
Sarah Mason and Jason Parsley
submitted, <http://arxiv.org/abs/1109.1082>

INTERDISCIPLINARY ARTICLES

1. “Understanding geometry in the dance studio”
Jason Parsley and Christina Soriano
J. of Mathematics and the Arts, 3:1, March 2009, 11-19
doi: 10.1080/17513470902864262
2. “Student-led exit poll accurately predicts county’s elections”
Annalissa Johnson, Andrew McCarty, Jason Parsley, and Robert Reinhard,
submitted

ARTICLES IN PREPARATION

1. “Existence and computation of Taylor states”
Jason Parsley
2. “A geometric power index for weighted voting”
Annalissa Johnson, Sarah Mason, and Jason Parsley
3. “Power indices for 5 voters”
Annalissa Johnson and Jason Parsley

GRANTS

Conference on Applications of Geometry to Topology and Physics, NSF Division of Mathematical Sciences, \$19,900, principal investigator. Awarded for conference Nov. 2008.

Science Research Fund, internal WF grant, “The Ropelength of Knots, and its Connection to Particle Physics”, April 2008-2010.

Science Research Fund, internal WF grant, “Topological Fluid Dynamics and Helicity”, April 2012.

AWARDS

MAA Southeastern Section Award for Distinguished Teaching by a Beginning College or University Mathematics Faculty Member, 2010

Recognized for excellence in lower division (freshman/sophomore) advising at WFU, 2011, 2012

Dean's Award for Distinguished Teaching, School of Arts & Sciences, U. of Pennsylvania, 2002

Penn Prize for Excellence in Teaching by Graduate Students, U. of Pennsylvania, 2000

Moez Alimohamed Graduate Student Award for Distinguished Teaching in Mathematics, Department of Mathematics, U. of Pennsylvania, May 1999

Good Teaching Award, Department of Mathematics, University of Pennsylvania.

7-time award winner: Fall 1998, Spring/Fall 1999, Spring/Fall 2000, Fall 2001, Fall 2002, Fall 2003

Trinity Scholarship (full cost, academic merit-based), Duke University, August 1992-May 1996

RECENT COURSES

<i>Semester</i>	<i>Course</i>	<i>Name</i>
Spring 2012	Math 361/661	Topics in Mathematics – Undergraduate Topology
	Math 107	Explorations in Mathematics (2 sections)
Fall 2011	Math 311/611	Real Analysis
	Math 107	Explorations in Mathematics
Spring 2011	Math 732	Knot Theory
	Math 334/634	Differential Geometry
Fall 2010	Math 731	Topology
	Math 113	Multivariable Calculus
	Math 165	Problem-Solving Seminar, co-taught with J. Rouse (by invitation to our best first-year students)
Spring 2010	Math 733	Geometric Topology
	Math 113	Multivariable Calculus
Fall 2009	Math 331/631	Geometry
	Math 112	Calculus II
Fall 2008	Math 331/631	Geometry
	FYS 100	First-Year Seminar on Math & Voting
Spring 2008	Math 732	Differential Topology
	FYS 100	First-Year Seminar on Math & Voting
Fall 2007	Math 331/631	Geometry
	Math 107	Explorations in Mathematics
Spring 2007	Math 334/634	Differential Geometry
	Math 107	Explorations in Mathematics
Fall 2006	Math 112	Calculus II (2 sections)

TEACHING AND MENTORING EXPERIENCE

Master's Thesis Students at Wake Forest

Robert Sizemore, 2013
 Kara Staskelis, 2013 (co-advising with S. Mason)
 James Cornish, 2012
 Katherine Novacek, 2012 (co-adviser with S. Raynor)
 Matt Evans, 2010
 Jonathan Newman, 2009 (co-adviser; primary advisor: H. Howards)
 Adam Cross, 2008

Mathematics Senior Thesis Students at Wake Forest

Kristen McGahan, 2013
 George Story, 2012 (co-adviser with S. Mason)

Advisor to Undergraduate Researcher in Mathematics, Annalaissa Johnson, spring 2009-2012

Advisor to WFU Undergraduate Summer Research student Annalaissa Johnson (2009), one of 7 WFU undergrads selected for statewide conference [SNCURCS] that fall

Co-supervisor, U. of Georgia undergrad/grad research group in Geometric Knot Theory, Fall 2005, sponsored by NSF VIGRE grant
 student Rachel Whitaker awarded MAA prize for undergraduate papers, Mathfest, 2006

Supervisor, U. of Georgia undergrad/grad research group in Mathematical Plasma Physics, 2005-06

Supervisor, independent study: Riemannian Geometry, 2007-08; hyperbolic geometry 2005-06

Developed (with L. Horn) Mathematics TA Training program (2009)

Developed (with J. Rouse) Mathematics Seminar for first-year students (2010)

Instructor, U. of Georgia, VIGRE Teaching Workshop, June 2006

Teaching Assistant, Institute for Advanced Study/Park City Mathematics Institute, undergraduate course on differential forms, July 2001

Teaching Assistant, Penn Advance (online course)
 Calculus I, 2002, 2003
 Ideas in Mathematics 2000 (spring, fall), 2001

Master TA, Penn Mathematics TA Orientation Program, August 1999 - May 2004

WORKSHOPS AND FACULTY DEVELOPMENT

Visiting Fellow, Isaac Newton Institute, University of Cambridge, fall 2012 for workshop *Topological Dynamics in the Physical and Biological Sciences*

Project Next (New Experiences in Teaching) Fellow, 2005-2006, "Sterling Dot" cohort.
 (national new faculty development program for mathematicians)

Project Next-SE, participant and presenter, 2008, 2010, 2011

MAA short course on "Math and Social Justice", March 2008

Participant, Conference on Configuration Spaces, Braids, and Applications, Tulane University, January 2012

Participant and Speaker, Intl. Centre for Theoretical Physics, Conference on Knot Theory and its Applications to Physics and Biology, Trieste, Italy, May 2009

Participant, MSRI Knots in Vancouver summer school, July 2004

Participant and Teaching Assistant, Institute for Advanced Study/Park City Mathematics Institute, July 2001

Member, AMS, 1998 - present; MAA, 1999 - present

SIGMAA (special interest group of MAA) on Math & Arts, 2008 - present

SERVICE

Department level

Mathematics Colloquium Committee Chair, 2009-2012; organizer of annual Gentry Lectures
Committee Member 2006-13

Postdoctoral Committee, 2010-2013, Chair 2012-13

Hiring Committee, 2009-10

Graduate Committee, 2006-08, 2012-13

Undergraduate Committee, 2010-11

Math Contests Committee, 2006-09

Presenter, on the mathematical genealogy of Fred Howard and Gaylord May at their retirements from WFU

Seminar Organizer, U. of Georgia: Geometry Seminar, VIGRE Seminar

Penn: Graduate Student 'Pizza' Seminar

University level

Lower Division Adviser at WFU, 5 advising groups, 2007-present

Faculty Lecturer, WFU PreSchool Conference for Freshmen, 2011

Speaker, WFU new faculty orientation, 2010

Speaker, WFU TA Training program, 2009

Phi Beta Kappa, WFU: Program Committee 2007-08; Audit Committee 2010-12, Treasurer 2012-present

Wrote article, "Teaching Mathematics as a Liberal Arts Course", for Teaching & Learning Center newsletter (TLCEXchange), Spring 2008

Selection Committee, Penn Prize for Graduate Teaching, Spring 2002

Penn Graduate Student Association, Department of Mathematics representative, 2001-02

Intramural Sports Council, University of Pennsylvania, January 2003 - May 2004

Mathematical Community and Public

Organizer, "Conference on Applications of Geometry to Topology and Physics", 70th birthday mathematical conference for my advisor, Herman Gluck. Rutgers-Newark, November 8-10, 2008.

Organizer, Special Session on *Geometric Knot Theory and its Applications*, AMS Southeastern Sectional meeting, Sept. 24-25, 2011

Referee for journals: *American Math. Monthly*, *Expositiones Mathematicae*, *Far East J. Math Sci.*

Judge, 2012 Mathematical Art Exhibition, Joint Mathematics Meetings

Judge, Undergraduate Student Paper/Poster Session, Joint Mathematics Meetings, 2010, 2008, 2006
MAA Sectional Meeting, 2008, 2010-12

Coordinator, Wake Forest hosting American Math Competitions (one site for national secondary math contest), 2008

Mathematical representative, Winston-Salem Open (tennis tournament) draw ceremony, Aug. 2011

PLENARY LECTURES

1. Entanglement and Linking Workshop, part of Knots and Applications Intensive Research Period, Centro di Ricerca Matematica Ennio De Giorgi, Pisa, Italy, 18 May 2011
2. MAA SE Sectional Meeting, Tuscaloosa, AL, 02 April 2011

INVITED CONFERENCE, SEMINAR, AND COLLOQUIUM LECTURES

1. 12/03/12 - Workshop on Quantised Flux in Tightly Knotted and Linked Systems, Isaac Newton Institute, Cambridge U.
2. 10/25/12 - Topological Dynamics in the Physical and Biological Sciences, Isaac Newton Institute, Cambridge U.
3. 10/19/12 - Workshop on Tangled Magnetic Fields in Astro- and Plasma Physics, ICMS, Edinburgh
4. 04/29/12 - Southeast Geometry Seminar, Georgia Tech
5. 3/02/12 - Geometry Seminar, U. of Georgia
6. 1/04/12 - Joint Math Meetings, Boston, Special Session on Generalized Cohomology Theories in Engineering Practice [40 min. talk]
7. 10/22/11 - AMS Sectional Meeting, Salt Lake City, Special Session on Special Session on Category Theory in Graphs, Geometry and Inverse Problems [40 min. talk]
8. 9/25/11 - AMS Sectional Meeting, Winston-Salem, Special Session on Geometric Knot Theory and its Applications
9. 3/03/11 - Colloquium, Winthrop University
10. 1/08/11 - Joint Math Meetings, New Orleans, AMS Special Session on Knots, Links, 3-Manifolds & Physics
11. 11/07/10 - AMS Sectional Meeting, Richmond, Special Session on Math & the Arts
12. 4/15/10 - WFU Physics Colloquium, "Glueballs and the ropelength of knots"
13. 4/12/10 - Southeast Geometry Seminar, Atlanta
14. 4/10/10 - AMS Sectional Meeting, St. Paul, MN, Special Session on Physical Knots
15. 3/10/10 - Geometry Seminar, UCSD
16. 2/23/10 - Topology/Geometry Seminar, Tulane University
17. 8/14/09 - Southeast Workshop on Ranking & Clustering, Charleston, SC
18. 5/26/09 - ICTP Conference on Knot Theory and its Applications to Physics and Biology, Trieste, Italy
19. 9/30/08 - Geometry Seminar, Duke University
20. 4/03/08 - Geometry Seminar, U. of Pennsylvania
21. 3/27/08 - Colloquium, College of Charleston
22. 1/23/08 - Seminar, UNC-Asheville
23. 1/09/08 - AMS/MAA Joint Meetings, Session on Mathematics & the Arts
24. 11/04/07 - AMS Sectional Meeting, Murfreesboro, TN, Special Session on Physical Knots & Links
25. 10/13/07 - AMS Sectional Meeting, Albuquerque, Special Session on Topics in Mathematical Physics
26. 2/16/07 - Geometry Seminar, U. of Georgia
27. 12/04/06 - Colloquium, James Madison University
28. 3/23/06 - Colloquium, Wake Forest University
29. 3/05/06 - Southeast Geometry Conference, College of Charleston
30. 2/13/06 - Colloquium, Mills College
31. 2/10/06 - Colloquium, Rose-Hulman University
32. 12/06/05 - Geometry Seminar, Emory University
33. 10/14/05 - Geometry/Topology Seminar, Georgia Tech
34. 12/08/04 - Southeast Geometry Seminar, Birmingham, AL
35. 2/02/04 - Colloquium, Wofford College

36. 1/26/04 - Colloquium, Western Carolina University
37. 1/10/04 - Joint Meetings of MAA & AMS, Phoenix, Special Session on Low-Dimensional Topology
38. 11/24/03 - Colloquium, Stockton College

SELECTED OTHER TALKS

1. 1/18/12 - WF Math Opening Colloquium
2. 7/19/11 - NC Governor's School
3. 5/08/11 - Southeast Geometry Conference, Columbia, SC
4. 1/13/11 - WF Math Opening Colloquium
5. 11/11/10 - Wake Forest Math Club
6. 7/20/10 - WFU Math Summer Undergrad Research Seminar
7. 7/07/10 - NC Governor's School
8. 3/27/10 - MAA Sectional Meeting, Elon, NC - "A Student-run Exit Poll", jointly given with Annalaissa Johnson
9. 1/21/10 - Wake Forest Math Club
10. 11/20/09 - High Point University, Invited Lecturer, Geometry Course
11. 7/09/09 - NC Governor's School
12. 6/25/09 - WFU Math Summer Undergrad Research Seminar
13. 6/06/09 - Journal of Differential Geometry Conference, Lehigh University, Bethlehem, PA
14. 3/28/08 - MAA Sectional Meeting, Special Session on Connecting Math to the Liberal Arts, Charleston, SC
15. 3/27/08 - Project Next-SE Presentation, MAA Sectional Meeting, "Writing Projects in Math Courses"
16. 2/27/08 - Wake Forest Teaching & Learning Fair - "Learning Geometry in the Dance Studio", joint with Christina Soriano
17. 11/30/06 - Wake Forest Math Club
18. 1/14/06 - Joint Meetings of MAA & AMS
19. 10/04/05 - U. of Georgia Math Club
20. 9/12/05 - U. of Georgia Geometry/Topology Seminar
21. 4/29/05 - Midwest Geometry Conference, Columbus, OH
22. 4/08/05 - U. of Georgia Geometry Seminar
23. 3/11/05 - Southeast Geometry Conference, Columbia, SC
24. 2/15/05 - U. of Georgia VIGRE Seminar
25. 9/03/04, 9/10/04, and 9/24/04 - U. of Georgia Geometry Seminar
26. 6/10/04 - Journal of Differential Geometry Conference, Lehigh University, Bethlehem, PA
27. 1/29/04 - Penn Pi Mu Epsilon
28. 7/10/03 and 7/17/03 - Penn Morse Theory Seminar
29. 6/13/03 - Journal of Differential Geometry Conference, Lehigh University, Bethlehem, PA
30. 11/20/02 - Penn Graduate Student Geometry Seminar
31. 3/22/02 - Penn Prospective Grad Student Conference
32. 3/19/02 - Penn Geometry Reading Seminar
33. 2/06/02 - Penn Graduate Student Geometry Seminar
34. 11/30/00 and 12/07/00 - Penn Graduate Student Geometry Seminar
35. 7/25/00 - Penn Summer Science Academy