

Academic Vitae

Aaron Wootton
Department of Mathematics

Professional Information and Teaching Experience

Academic Appointments

- Tenure Track Assistant Professor, Department of Mathematics, University of Portland, Fall 2005 - present
- Visiting Assistant Professor, Department of Mathematics, Alfred University, Spring Semester 2005
- Visiting Assistant Professor, Department of Mathematics, University of Arizona, Fall Semester 2004
- Graduate Teaching Associate, Department of Mathematics, University of Arizona, Fall 1998- Spring 2004

Education

- BSc in Mathematics and Philosophy (First Class Joint Honours), University of Southampton, England, 1995-1998
- PhD in Mathematics, Department of Mathematics, University of Arizona, 1998-2004.
 - Title of Dissertation: “*Defining Algebraic Polynomials for Cyclic Prime Covers of the Riemann Sphere.*”
 - Supervisor: Professor Klaus Lux.

Teaching Experience

- Courses Taught
 - Trigonometry
 - Finite Mathematics
 - Calculus I
 - Vector Calculus
 - Discrete Structures
 - Modern Algebra II
 - College Algebra
 - Business Calculus
 - Calculus II
 - Linear Algebra
 - Modern Algebra I
 - Complex Variables
- Independent Studies/Undergraduate Research Supervised
 - A Study of “Primes is in P,” Fall 2004
 - Cryptography Using Non-Abelian Groups, Fall 2004
 - Modern Algebra II, Fall 2006
 - Classifying Quasiplatonic Abelian Groups and Signatures, Summer 2006, Fall 2006, Spring 2007
 - The Genus Level of a Group, Summer 2007
 - An Introduction to Cryptography, Spring 2009

Scholarly Activities

Publications

- **Topologically unique maximal elementary Abelian group actions on compact oriented surfaces**, (with S. Allen Broughton), J. of Pure and Applied Algebra, Volume 213, Issue 4, (2009) pp. 557-572
- **Finite abelian subgroups of the mapping class group**, (with S. Allen Broughton), Algebraic & Geometric Topology 7 (2007) 1651–1697
- **Extending topological group actions to conformal group actions** Albanian J. Math. 1 (2007), no. 3, 133–143
- **The Full Automorphism Group of a Cyclic p -gonal Surface**, J. of Algebra, Volume 312, Issue 1, (2007) pp. 377–396
- **Defining Polynomial Equations for Cyclic Prime Covers of the Riemann Sphere**, Israel J. of Mathematics, Vol. 157 (2007) pp. 103–122
- **Non-Normal Belyĭ p -gonal Surfaces**, Computational Aspects of Algebraic Curve, Lect. Notes in Comp., Vol 13, World Scientific, (2005) pp. 95–108
- **Multiple Prime Covers of the Riemann Sphere**, Central European J. Math. Vol. 3 (2) (2005) pp. 260–272
- **Counting Belyĭ Surfaces with many Automorphisms**, Proceedings of the 10th International ACA Conference, (2004) pp. 74–80

Grants

- External
 - Mathematical Association of America award to support the ORCA Math Conference for Teachers and Undergraduates in Chico, California, July 2008. Co-Principle Investigator.
 - National Science Foundation sub-award from Willamette Valley Consortium for Undergraduate Mathematics Research. Faculty Mentor.
- Internal
 - University of Portland Butine Grant for Conference Travel, Fall 2009
 - University of Portland Butine Grant for Conference Travel, Summer 2008
 - University of Portland Butine Grant for Conference Travel, Fall 2008
 - University of Portland Butine Grant for Research, Summer 2007
 - University of Portland Butine Grant for Conference Travel, Spring 2007
 - University of Portland Butine Grant for Research and Summer Stipend, Summer 2006

Seminar Talks (Since Fall 2005)

- **Cyclic n -gonal Surfaces**, 25th Nordic and 1st British-Nordic Congress of Mathematicians, Oslo, Norway, June 2009
- **Bounding the Number of Group Actions on a Compact Oriented Surface**, Joint Mathematical Meeting, Washington D.C., January 2009
- **Topological and Conformal Group Actions on Compact Oriented Surfaces**, Southwestern Group Theory Day, University of Arizona, November 2008
- **Quasiplatonic Cyclic n -gonal Surfaces**, ICMS Workshop on “Grothendieck’s Theory of Dessin’s D’Enfant’s,” Edinburgh, Scotland, September 2008
- **Finite Abelian Group Actions on Closed Oriented Surfaces**, Southampton University Mathematics Colloquium, Southampton, England, May 2008
- **Tilings of Surfaces**, Linfield College Science Colloquium, May 2008
- **Extending Topological Group Actions to Conformal Group Actions**, Oakland University, ACA Conference Session on “Computational Aspects of Algebraic Curves,” July 2007
- **Symmetries of Surfaces and Generating Sets for Groups**, Willamette Valley REU Research Group Presentation, Willamette University, June 2007
- **Symmetries of Surfaces and Generating Sets for Groups**, Rose Hulman Institute of Technology REU Colloquium, June 2007
- **The Full Automorphism Group of a Cyclic p -gonal Surface**, AMS Western Sectional Meeting, University of Arizona, Tucson, April 2007
- **Groups of Automorphisms of Compact Riemann Surfaces**, University of Portland Math Colloquium, February 2007
- **Defining Algebraic Polynomials for Cyclic Prime Covers of the Riemann Sphere**, Rice University Algebraic Geometry Seminar, October 2006
- **Automorphism Groups of Surfaces**, Willamette University Math Colloquium, October 2006
- **Automorphism Groups of Surfaces**, Southern Oregon University, MAA Regional Meeting, June 2006
- **Finite Subgroups of the Mapping Class Group**, (Invited) Oregon State University Colloquium, June 2006
- **The Poincare Conjecture**, University of Portland, Math Colloquium, February 2006

Research Interests

- Complex Algebraic Geometry
 - Automorphisms of Compact Riemann Surfaces
 - Problems in Moduli
- Algebraic Topology
 - Topological group actions on surfaces
 - Mapping Class Groups of Compact Connected Surfaces

Conferences & Workshops Organized, Panel Participation

- Co-organizer and Co-chair of Special Session on “Automorphisms of Curves” at the AMS Eastern Sectional Meeting, Pennsylvania State University, October 2009
- “Pursuing a Successful Career in Graduate School” Willamette Valley REU Panel Discussion, University of Portland, July 2008
- “ORCA Math Conference for Teachers & Undergraduates” CSU, Chico, California, July 2008
- “Pursuing a Successful Career in Graduate School” Willamette Valley REU Panel Discussion, University of Portland, July 2007
- Co-organizer and Co-chair of Special Session on “Automorphisms of Curves” at the AMS Western Sectional Meeting, University of Arizona, April 2007
- Organizer and Chair of Panel on “Developing a Research Agenda” at the Pacific Northwest Section MAA Meeting, Linfield College, April 2007
- Organizer of Workshop on Mathematics and Reading, Mary Welty Elementary School, Nogales, Arizona, May 2003
- Co-organizer of Second Annual Mathematics Graduate Day Mini Conference, University of Arizona, Spring 2000

Undergraduate Research Supervised

- “Group Actions of Genus Levels 1 and 2” REU faculty mentor at the University of Portland, Summer 2007 (with H. Nordstrom)
- “Classifying Quasiplatonic Surfaces with Certain Common Automorphism Groups” Robert Benim, University of Portland, Fall 2006 & Spring 2007, (Honors Thesis - Awarded best Honors Thesis in the University of Portland for graduating class of 2007)

Service

University Service

- Member of the Presidents Advisory Committee on Athletics (Academic Year 2007-08)
- Faculty Advisor for Women’s Soccer Club (2008-present)
- Faculty Advisor for undeclared students in the College of Arts and Sciences (2006-present)
- Department Representative at Visitation Day (2009)
- University of Portland RHA Casino Night, Spring 2006 (Poker dealer) & Spring 2007 (Blackjack dealer)
- Presider for Session on “Computers and the Classroom” for the University of Portland Faculty Development Day, 2006

Department Service

- Library Liason for Department of Mathematics (Fall 2006 - present)
- Mathematics Colloquium Organizer (2007-present)
- Faculty Advisor for mathematics majors (2008-present)
- Member of the Mathematics Hiring Committee, (2008-09)
- Webwork Administrator (2008-present)

Professional Service

- Co-organizer and Co-chair of Special Session on “Automorphisms of Curves” at the AMS Eastern Sectional Meeting, Pennsylvania State University, October 2009
- Co-organizer and Co-chair of Special Session on “Automorphisms of Curves” at the AMS Western Sectional Meeting, University of Arizona, April 2007
- Organizer of Panel on “Developing a Research Agenda” at the Pacific Northwest Section MAA Meeting, at Linfield College, April 2007
- Language Editor for the Central European Journal of Mathematics
- Referee for three different journals
- Reviewer for Mathematical Reviews
- Reviewer for Zentralblatt für Mathematik

Community Service

- Faculty Supervisor for University of Portland Freshman Day of Service
 - Fall 2005 – clearing invasive plants in Forest Park
 - Fall 2006 – landscaping the grounds of Portsmouth Middle School
 - Fall 2007 –clearing invasive plants on Sauvie Island
 - Fall 2008 – clearing invasive plants in Forest Park
- Problem author for Webwork
- Problem author for HP- Σ Invitational Math Contest

Other Information

Awards, Honors and Fellowships

- Pacific Northwest Regional Project Next Fellow, 2006-2007
- Teaching Award - Outstanding Faculty Member for the 2000-2001 Academic Year, from University of Arizona Disabilities Resource Center
- E. T. Davies Award for Outstanding Performance in Pure Mathematics, Southampton University, 1998

Professional Memberships

- Member of the AMS (American Mathematical Society)
- Member of the MAA (Mathematical Association of America)

Conferences Attended (Fall 2005 Onward)

- AMS Eastern Sectional Meeting, Pennsylvania State University, October 2009
- “25th Nordic and 1st British-Nordic congress of Mathematicians,” Oslo, Norway, June 2009
- Joint AMS/MAA Mathematical Meetings, Washington DC, January 2009
- Southwestern Group Theory Day, University of Arizona, November 2008
- Workshop on “Grothdieck’s Theory of Dessin’s D’Enfants,” ICMS, Edinburgh, Scotland, September 2008
- ACA Conference, Oakland University, July 2007
- AMS Western Sectional Meeting, University of Arizona, April 2007
- Joint AMS/MAA Mathematical Meetings, New Orleans, January 2007
- MAA PNW Regional Meeting, Linfield College, April 2007
- MAA PNW Regional Meeting, Southern Oregon University, June 2006
- PNW Number Theory Conference, Digipen Institute of Technology, February 2006
- Joint AMS/MAA Mathematical Meetings, San Antonio, January 2006

Workshops Attended

- “Measuring Learning in Mathematics: What is possible now and in the future?,” Workshop sponsored by John Wiley and Sons, Inc., San Antonio, March 2008
- Pacific Northwest Project NExT Meeting, Linfield College, April 2007
- Pacific Northwest Project NExT Meeting, Southern Oregon University, August 2006