

Education

- **Vanderbilt University**, Nashville, TN
PhD., Mathematics expected May 2011, GPA: 3.9.
Supervisor: Alexander Olshanskii.
- **Vanderbilt University**, Nashville, TN
Teaching Certificate expected January 2010.
- **McMaster University**, Hamilton, ON, Canada
M.Sc., Mathematics, 2004-2006, GPA: 3.9.
Thesis title: Computations in Galois Cohomology and Hecke Algebras.
Supervisor: Romyar Sharifi.
- **University of Hawaii at Manoa**, Honolulu, HI
B.A., Mathematics, Minor, English, 2000-2003, GPA: 3.6.

Research Interests

- Geometric and Combinatorial Group Theory
- Dehn Functions of Groups
- Distortion Functions of Groups and Semigroups
- Varieties of Groups

Courses Taught

- **Math 150A, Calculus I**, Vanderbilt University, Fall 2009
- **Math 150A, Calculus I**, Vanderbilt University, Spring 2009
- **Math 150B, Calculus II**, Vanderbilt University, Fall 2008
Was the head instructor of first and second semester Calculus classes. Duties included lecturing three hours per week, holding office hours, writing and grading tests and quizzes and supervising a Teaching Assistant. Obtained average student satisfaction rating 4.34 out of 5.
- **Algebra I**, St. Andrews Priory School, Summer 2003
Taught Summer Course in Accelerated Introductory High School Algebra. Prepared lesson plans, exams, and activities; managed classroom.

Invited Talks

- **Pi Mu Epsilon Lecture**, Chico State University, Chico, CA, April 2009.

Funding Awarded

- **Teaching as Research Award**, Center for the Integration of Research, Teaching and Learning award from NSA, Fall 08-present
- **Teaching Assistantship**, Vanderbilt University, 2006-present
- **Research Scholarship**, Vanderbilt University, 2006-present
- **Teaching Assistantship**, McMaster University, 2004-2006
- **Research Scholarship**, McMaster University, 2004-2006

Workshops

- **Workshop on Groups and Embeddings**, University of Hawaii at Manoa, March 2009
- **Content, Learning Theory and Lesson Design Workshop**, Vanderbilt University, September 2008

- **Mathematics Education Forum**, Fields Institute, Toronto, ON, Fall 2005

Courses TA-ed

- **Math 155A, Accelerated Calculus I**, Vanderbilt University, Fall 2006
- **Math 155A, Accelerated Calculus I**, Vanderbilt University, Fall 2007
- **Math 155B, Accelerated Calculus II**, Vanderbilt University, Spring 2008
Helped instruct first and second semester Calculus classes. Obtained average student satisfaction rating 4.39 out of 5.
- **Math 1B03, Linear Algebra**, McMaster University, Fall 2004
- **Math 1B03, Linear Algebra**, McMaster University, Spring 2005
- **Math 1B03, Linear Algebra**, McMaster University, Fall 2005
- **Math 1B03, Linear Algebra**, McMaster University, Spring 2006
Prepared and led tutorials in Linear Algebra. As Head TA from 2005-2006, also oversaw and coordinated exam marking and proctors.
- **English 101** University of Hawaii English Department, 2002-2003.
Assisted in teaching English 101; tutored small groups of remedial English students. Received substantial training in composition pedagogy.

Talks Given

- **Passive vs. Active Approaches to Mathematics Instruction**, Poster Session for Teaching as Research Fellows, Vanderbilt University, January 2009.
- **Sudoku**, Undergraduate Student Seminar, Vanderbilt University, Spring 2008, Spring 2009; Harpeth Hall Math Club, Spring 2009.
- **Infinity**, Undergraduate Student Seminar, Vanderbilt University, Fall 2007, Fall 2008.
- **A Construction of the Real Numbers**, Undergraduate Student Seminar, Vanderbilt University, Spring 2007.
- **Group Theory**, Undergraduate Student Seminar, Vanderbilt University, Fall 2006.
- **Classification of Finite Simple Groups**, Graduate Student Seminar, McMaster University, Spring 2005.
- **Elliptic Curves**, Graduate Student Seminar, McMaster University, Fall 2004.
- **The Fundamental Theorem of Algebra**, Undergraduate Seminar, University of Hawaii, Fall 2003.

Community Work

- **American Women in Mathematics Mentor**, Served as a mentor to an undergraduate student, March 2008-present.
- **Co-organizer of Undergraduate Student Seminar**, Vanderbilt University Mathematics Department. Helped arrange for funding, speakers and all logistics of the seminar, September 2007-present.
- **Computer Liaison Committee Member**, Vanderbilt University Mathe-

mathematics Department, September 2007-present. Created a website cataloging all information relevant to graduate mathematics students.

- **Mathematics Department Liason Committee Member**, McMaster University Mathematics Department, 2005-2006.
- **Co-wrote the Handbook for LTS All-Science Challenge**, Hamilton, ON, April 2006.

Seminars Attended

- **Mathematics Teaching Seminar**, Vanderbilt University Mathematics Department, Spring 2007
- **Topology and Group Theory Seminar**, Vanderbilt University, 2006-present
- **Department Colloquium**, Vanderbilt University, 2006-present
- **Arithmetic Geometry Seminar**, McMaster University, 2004-2006
- **Graduate Student Seminar**, McMaster University, 2004-2005
- **Department Colloquium**, McMaster University, 2004-2006
- **Undergraduate Seminar**, University of Hawaii, 2002-2004

Membership

- Mathematical Association of America
- American Mathematical Society
- American Women in Mathematics

Tutoring

- **Calculus Tutor**, Vanderbilt Mathematics Department, Spring 2007.
- **Calculus Tutor**, McMaster University Mathematics Department, 2004-2006.
- **Calculus Tutor**, University of Hawaii Mathematics Department, 2002-2004. Demonstrated and explained mathematical principles to students and aided with homework assignments; managed the tutoring room.

Volunteer Work

- **Better Tomorrows**, Reading tutor for illiterate adults, Nashville, TN, September 2007-June 2008.
- **Hamilton Literacy Council**, Reading tutor for illiterate adults, Hamilton, ON, 2005-2006.
- **Habitat for Humanity**, Construction Volunteer, Dodoma, Tanzania, 2002.
- **Queen Kaahumanu Elementary School**, English as a second language tutor, Honolulu, HI, 1999.

Personal

- Home address: 2822 Blair Blvd., Nashville, TN 37212 USA
- Phone number: (615) 496-0953
- E-mail address: tara.c.davis@vanderbilt.edu
- Citizenship: USA
- Language skills: Speak French proficiently, some Japanese

- Computer skills: Magma, Latex, Excel