

Department of Mathematics
Rice University
6100 Main Street
Houston, TX 77005-1892
USA

Phone: 713-348-2868
cjd@rice.edu
<http://math.rice.edu/~cjd/>

Education

- Ph.D. in Mathematics, Rice University, *Perturbed, Genus-One Scherk Surfaces and Their Geometric Limits* (thesis title), May 2009 (anticipated).
- M.A. in Mathematics, Rice University, May 2007.
- B.A. in Mathematics and English, Summa Cum Laude, Southwestern University, May 2003.

Areas of Research Interest

Minimal Surfaces, Differential Geometry, Teichmüller Theory, Complex Analysis.

Research Experience

- **Graduate Research**, Rice University, 2003–present. Dr. Mike Wolf, advisor.
- **Undergraduate Research**, Southwestern University, 2002–2003. Individual research projects, including an REU in Hamming Codes and an independent study in Special Functions.

Teaching

Instructor (Rice University, Full Semester Course)

- Single Variable Calculus, Spring 2006; Sole instructor, organized course schedule and syllabus, maintained course website, wrote and graded assignments and exams, kept regular office hours, and provided practice exams as well as additional study sessions.

Instructor (Rice University, Summer Courses)

- Linear Algebra, Summer 2008.
 - Linear Algebra, Summer 2007.
 - Ordinary Differential Equations and Linear Algebra, Summer 2005.
- Wrote and graded exams, kept office hours, and held additional study sessions for above classes.

Teaching Assistant (Rice University)

- Honors Linear Algebra and Multivariable Calculus, Fall 2008; Conducted weekly recitation sessions, held office hours, and graded exams for both classes.
- Riemannian Geometry, Spring 2008; Graded weekly homework and held office hours.
- Partial Differential Equations, Fall 2007; Graded weekly homework and held office hours.
- Complex Analysis, Spring 2007; Wrote and graded exams.
- Topics in Complex Analysis, Fall 2006; Graded weekly homework and held office hours.
- VIGRE Seminar: The Calculus of Variations, Spring 2005 - Fall 2006; Assisted undergraduates with various research projects.
- Ordinary Differential Equations, Fall 2004; Conducted weekly recitation sessions, graded tests.
- Multivariable Calculus, Spring 2004; Conducted weekly recitation sessions and graded exams.
- Single Variable Calculus, Fall 2003; Conducted weekly recitation sessions and graded exams.

Organizer (Rice University)

- Current Research Seminar, Fall 2008; Co-organized and regularly lectured in a weekly graduate student seminar concerning current and often ongoing, graduate student research.
- Complex Differential Geometry Seminar, Spring 2007 - Spring 2008; Co-organized and lectured in a weekly graduate student seminar on Complex Differential Geometry.
- Negatively Curved Metric Spaces Seminar, Fall 2007; Co-organized and lectured in a weekly graduate student seminar on Negatively Curved Metric Spaces.
- Riemannian Geometry Seminar, Spring 2005 - Fall 2006; Organized and lectured in a bi-weekly, graduate student seminar on various introductory and intermediate topics in Riemannian Geometry.

Graduate Teaching Seminar Participant

Rice University, Fall 2003-2006.

High School and College Math Tutor

Fall 1999-Present. Worked as a Southwestern University Math tutor as an undergraduate and occasionally substitute taught introductory classes; tutored high school and college students while in graduate school.

Preprints

Perturbed, Genus-One Scherk Surfaces and Their Limits (48 pages); in preparation.

Presentations

- *Perturbed, Genus-One Scherk Surfaces and Their Limits*. AMS Sectional Meeting, Urbana, IL, March 27-29, 2009 (Invited Talk).
- *Perturbed, Genus-One Scherk Surfaces and Their Limits*, and *Minimal Surfaces: Past, Present, and Future*. Research Seminar and Undergraduate Colloquium, Holy Cross University, Worcester, MA, November 11, 2008.
- *Perturbed, Genus-One Scherk Surfaces*. AMS Sectional Meeting, Indiana University, Bloomington, IN, April 6, 2008.
- *Doubly-Periodic Genus-One and Genus-Zero Minimal Surfaces*. Geometry and Analysis Seminar, Rice University, March 2008.
- *The Navier Stokes Equation*. Current Mathematics Seminar, Rice University, Houston TX, October 25, 2007.
- *Minimal Surfaces, New and Old*. Southwestern University, Georgetown, TX, November, 2006.
- *Flat Structures and Teichmüller Theory*. Current Research Seminar, Rice University, Houston, TX, June 2006.
- *Infinite Dimensional Lie Groups and Lie Algebras*. Current Mathematics Seminar, Rice University, Houston, TX, October 13, 2006.
- *The Löwner Differential Equation*. Current Mathematics Seminar, Rice University, Houston, TX, March 2006.
- *Ahlfors' Five Island Theorem*. Current Mathematics Seminar, Rice University, Houston, TX, March 16, 2005.

Additional Talks and Service

- *A Crash Course in Measure and Integration Theory*. Rice University, June 2008. Introductory lecture given to VIGRE undergraduates conducting summer research.
- *Calculus II and Beyond*. Rice University, April 2006. Lecture given to undergraduates considering higher level math courses.
- *Soap Bubbles and Golden Bridges*. Rice University, March 2006. Lecture and demonstration given to visiting elementary school students.

Conferences Attended

- AMS Sectional Meeting. Indiana University, Bloomington, IN, April 2008.
- International Congress on Minimal and Constant Mean Curvature Surfaces. Buzios, Brazil, August 2007.
- Workshop on Teichmüller Theory. University of Michigan, Ann Arbor, MI, April 2007.
- Texas Geometry and Topology Conference. Rice University, Houston, TX, October 2006.
- Geometry Festival 2006. University of Pennsylvania, Philadelphia, PA, April 2006.
- Singularities in Analysis, Geometry, and Topology: A Conference Honoring the Retirements of F. Reese Harvey and John C. Polking. Rice University, Houston, TX, November 2005.
- AIM Conference on Moduli Spaces of Minimal Surfaces. Palo Alto, CA, June 2005.
- Ahlfors-Bers Colloquium. University of Michigan, Ann Arbor, MI, May 2005.

Fellowships and Honors

AMS Graduate Student Travel Grant to 2009 JMM.

NSF VIGRE Fellowship, Vertical Integration of Research and Education in Mathematical Sciences, Rice University, 2005-2007.

Graduate Fellowship, Rice University, 2003-Present.

Summer Research Assistantship, Rice University, Summers 2003-2008.

Phi Beta Kappa Society Membership (Southwestern University Chapter), 2003 - Present.

Professional Organizations

American Mathematical Society, 2003-Present

Mathematical Association of America, 2003-Present