

CURRICULUM VITAE

DANIEL J. MILLER

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Education

- University of Wisconsin - Madison, 1997-2003, Ph.D. in Mathematics, May 2003
Dissertation: *A Preparation Theorem for Weierstrass Systems*
- The Pennsylvania State University, 1993-1997, B.S. in Mathematics, May 1997
Honors Thesis: *A Fourier Analysis of the Interphase Slip Algorithm*

Work Experience

- Assistant Professor of Mathematics at Emporia State University; fall 2007 - present
Fall Teaching:
 - College Algebra
 - Calculus I (differential calculus supplemented with weekly computer labs working with Maple)
 - Mathematical Proofs (an online graduate course, co-taught with Joe Yanik)Department Service:
 - Library liaison for the Department of Mathematics, Computer Science and Economics
 - Graduate committee
- Visiting Instructor of Mathematics at Emporia State University; fall 2006 - spring 2007
Fall Teaching:
 - Precalculus (algebra and trigonometry)
 - Calculus I
 - Discrete Mathematics (an introduction to proofs covering number theory, sets, functions, and elementary logic)Spring Teaching:
 - College Algebra
 - Calculus I
 - Projective Geometry (a graduate course covering both the synthetic and analytic sides of the field)Department Service: same as above
- Visiting Assistant Professor at Wesleyan University; spring 2006
Teaching: Calculus II, Linear Algebra
- Applied Mathematics, Inc.; June 2005 - July 2005
- Post-doctoral Fellow at the University of Toronto; July 2003 - May 2005
Teaching: first year Calculus, O.D.E.'s for engineering science, Calculus II for engineering science

- Teaching Assistant at U.W.-Madison; fall 1997 - fall 2001, spring 2003
Lectured for two sections of College Algebra. Ran recitations for finite mathematics and for various calculus courses: calculus for science and engineering majors, calculus for business majors, and precalculus/calculus combination courses.
- Research Assistant at U.W.-Madison; spring 2002 - fall 2002
- Undergraduate research project at the Applied Research Labs, Penn State University; summer 1996 - spring 1997 (see honors thesis)
- Small group calculus tutor at Penn State University; fall 1994

Research Interests

- o-minimal structures (an area of model theory generalizing semialgebraic and subanalytic geometry)

Published Papers

- T. F. Miller and D. J. Miller, *A Fourier analysis of the IPSA/PEA algorithms applied to multiphase flows with mass transfer*, *Computers & Fluids* **32** (2003), 197-221.
- D. J. Miller, *A preparation theorem for Weierstrass systems*, *Trans. Amer. Math. Soc.* **358** (2006), no. 10, 4395-4439.

Work in Progress

- D. J. Miller, *Characterizing the decidability of theories of polynomially bounded o-minimal structures with C^∞ uniformization*.
- D. J. Miller, *Constructing o-minimal structures which define transcendental functions and have decidable theories*.
- M. Aschenbrenner, R. Cluckers, D. Miller, *Integration of real subanalytic functions, their logarithms, and their exponentials*.
- R. Cluckers and D. J. Miller, *Integrating \mathbb{Q} -semialgebraic functions*.

Talks

- Joint Meetings of the AMS, New Orleans, LA; January 2007 (special session on Logical Methods in Computational Mathematics)
- Wesleyan University, Logic Seminar; November 2005
- Association for Symbolic Logic Annual Meeting, Stanford; March 2005 (special session in Model Theory)
- University of Illinois at Urbana-Champaign, Logic Seminar; February 2005
- Joint Meetings of the AMS, Baltimore, MD; January 2003 (special session in Computability and Models)
- Notre Dame, Logic Seminar; November 2002
- Sectional Meeting of the AMS, Madison, WI; October 2002 (special session in Effectivity Questions in Model Theory)