C. Jordan Allen-Flowers

Program in Applied Mathematics
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Education

B.S. Mathematics, University of New Mexico, 2007.

Minor: Physics.

M.S. Applied Mathematics, University of Washington, 2008.

Ph.D. Student, Applied Mathematics, University of Arizona, 2009-present.

Thesis: Self-focusing and filamentation in high-power optical pulses.

Expected graduation: May 2014.

Employment

University of Arizona

NSF Fellow: Graduate Students and Teachers Engaging in Mathematical Sciences, Summer 2012 - present.

Research Assistant for Dr. Karl Glasner, Spring 2011 - Spring 2012.

Teaching Assistant, College Algebra, Fall 2009 - Fall 2010.

Air Force Research Laboratory

Directed Energy Summer Scholar, High Power Microwave Division, May 2011 - August 2011.

Mercer Education Group, Inc.

Mathematics Instructor, June 2008 - May, 2009.

University of Washington

Teaching Assistant, Scientific Computing, Fall 2007.

University of New Mexico

Math and Physics Tutor, Center for Academic Program Support, Fall 2006 - Spring 2007.

Skills

Mathematical

Modeling, simulation, analysis of differential equations, numerical analysis, probability, statistics.

Computing

Matlab, Mathematica, Linux, LaTeX, MS Office, SPICE, Python.

Other

Signal processing, circuit design, lab work.

Research

Interests

Differential equations, wave theory, asymptotic methods, nonlinearity, numerical analysis, high performance computing, perturbation theory, stochastic processes.

Projects and Papers

LC circuit-based nonlinear transmission lines.

> French, D., et al. Nonlinear transmission line based electron beam driver, Rev. Sci. Instrum. 83, 123302 (2012)

Self-similar collapse of the NLS.

> Glasner, K., and Allen-Flowers, J. Transient behavior of collapsing ring solutions in the critical nonlinear Schrodiner equation, *submitted to Physica D*

Extinction time in a free boundary heat equation.

Deformation of fluids on a super-hydrophobic surface.

Internal waves in a density stratified fluid.

Nonlinear Schrodinger equation in fiber optics.

Professional Activities

Member, Society for Industrial and Applied Mathematics, 2007 - present.

Member, American Mathematical Society, 2009 - present.

Honors, Awards, & Fellowships

Dean's List, University of New Mexico, Fall 2003 - Spring 2007.

Presidential Scholar, University of New Mexico, Fall 2003 - Spring 2007.

S-Stem Fellow, University of Arizona, Fall 2009 - Spring 2010.

VIGRE Fellow, University of Arizona, Summer 2010.