

Steven P. Lansel
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EDUCATION

- 2006-Present **Stanford University, Stanford, CA**
Ph.D. candidate in Electrical Engineering
- 2002-2005 **Georgia Institute of Technology, Atlanta, GA** (Grad/Undergrad GPA 4/3.87)
Master of Science in Electrical Engineering (12/05)
Bachelor of Science in Electrical Engineering, Highest Honor (8/05)
Bachelor of Science in Applied Mathematics, Highest Honor (8/05)
Engineering Entrepreneurship and International Affairs Certificates
- 1998-2002 **Palm Harbor University High School, Palm Harbor, FL**
International Baccalaureate Diploma (GPA 4.0, Valedictorian)

RESEARCH

- 01/06-Present **Graduate Research Assistant with David Donoho, Stanford University**
- Research applications of wavelets and other multi-resolution techniques to image processing
- 08/04-12/05 **Graduate Research Assistant in Georgia Tech Optical Networking Lab**
- Developed frequency/time domain analysis and simulation for next generation optical internet
- 05/03-08/05 **Dynamical Systems Research of Billiards**
- Investigated ergodic theory, chaos theory, and nonlinear dynamics
 - Developed billiards simulation software in Matlab for public distribution and used it to investigate scientific questions related to billiard systems

PAPERS

- S. Lansel, M. A. Porter, and L. A. Bunimovich, "One-Particle and Two-Particle Billiards," *Chaos*, vol. 16, no 1: 013129, 2006.
- M. A. Porter and S. Lansel, "Mushroom Billiards," *Notices of the American Mathematical Society*, vol. 53, no. 3, pp. 334-337, 2006. (cover article)

SOFTWARE

- S. Lansel and M. A. Porter, "A Graphical User Interface to Simulate Classical Billiard Systems," May 2004. (Documentation available online at arXiv: nlin.CD/0405033, Software available online at <http://www.stanford.edu/~slansel/billiards.htm>)

CONFERENCES

- S. Lansel and M. A. Porter, "Dynamical Simulation of Classical Billiards," Dynamics Days 2004, Chapel Hill, NC, Jan. 2004.
- S. Lansel, M. A. Porter, and L. A. Bunimovich, "Mixed Regular and Chaotic Dynamics in Elliptical Mushroom Billiards," American Physical Society, Los Angeles, CA, Mar. 2005.

AWARDS

- **Sigma Xi Undergraduate Research Award:** Presented to 2 undergraduates at Tech annually
- **Georgia Institute of Technology President's Scholar:** Top 3% of incoming freshmen
- **Outstanding Undergraduate Student in School of Mathematics 2005**
- **Georgia Tech President's Undergraduate Research Award:** Funding for research
- **National Science Foundation VIGRE award:** Funding for undergraduate research
- **Robert Byrd Scholarship:** Granted by U.S. Department of Education for exceptional high school performance

TEACHING

- 08/03-12/05 **Learning Center Coordinator for Learning Assistance Program**
- Directly supervise, train, evaluate, recruit, and interview tutors. In charge of Learning Centers in freshmen dorms. Develop promotions and evaluations.
 - Promotion from tutor in fall and spring of 2003-2004
- 08/03-05/05 **Senior Undergraduate Teaching Assistant for Calculus I and II**
- Conducted recitation, held office hours, and graded all assignments and exams

ACTIVITIES

- 2002-2005 **Solar Jackets (student organization that builds solar cars for competition)**
- Serve as electrical design leader in charge of electrical system design, construction, and direction of electrical team
 - Hands-on experience with constructing a solar car
- 2002-2005 **Putnam Undergraduate Math Competition**
- Practice and solve extremely difficult math proofs and essays
 - Ranked in top 500 in nation in 2002-2004 out of approximately 3,500 students
- 1998-Present **Mu Alpha Theta (high school math honor society)**
- Test writer and editor for state-wide math tests in Florida
 - Currently co-planning 2007 National Convention

ORGANIZATIONS

- Eta Kappa Nu (EE Honor Society)
- IEEE (EE Professional Society)
- Tau Beta Pi (Engineering Honor Society)
- Mathematical Association of America

RELEVANT COURSEWORK

EE: Statistical Signal Processing, Image Processing, Image and Video Compression, Digital Speech Processing, Advanced DSP, Fundamentals of DSP, Fourier Techniques and Signal Analysis, Audio Applications of the FFT, Error-Correcting Codes, Information Theory, Communication Systems, Random Processes, Random Signals, Optoelectronics devices/integration/systems/packaging

Math: Analysis I and II, Measure and Integration Theory, Math Methods of Applied Sciences, Numerical Analysis, Complex Analysis, Abstract Algebra, Probability and Statistics, Statistics and Applications, Applied Combinatorics, Abstract Vector Spaces, Linear Programming, Linear Algebra, Asymptotic Approximations and Perturbation Theory, Mathematical Problem Solving, Math Methods in Engineering, Honors Differential Equations, Calculus I-III

CS: Computer Vision, Machine Learning, Object Oriented Programming, Media Computation