

Master's Theses

To earn a Master's degree at San Diego State, a student must either write a thesis or pass a comprehensive examination. Almost all of the graduates in pure and applied mathematics write a thesis, as do some Statistics and Math Education students. The thesis is often expository (summarizing a topic in mathematics at an advanced level) or experimental (involving computer simulations), and occasionally one is theoretical and original, resulting in some sort of publication. In any case, the writing of a thesis is a very useful exercise in putting together documentation of a major project, and prospective employers often value the experience the student has had, especially if the job that is applied for involves technical writing. The following is a list of Master's graduates in December 2006, May 2007 and August 2007. The titles should give prospective students an idea of what kinds of thesis topics are typical.

Authors and Titles

Guillermo Alvarez, MS Applied Mathematics
OFDM Signal Power Analysis
Chair: Dr. Stefan Hui

Tyler Barry, MS Applied Math
Analysis and Simulation of Wireless OFDM
Chair: Dr. Stefan Hui

Eric John Bieri, MS Applied Math
Modeling the Demand for Insurance Dependent on the Premium Charged
Chair: Dr. Vladimir Rotar

Michael Carlyle Davis, MS Applied Mathematics
Optical Manipulations for Matter-Waves in the context of Bose-Einstein Condensation
Chair: Dr. Ricardo Carretero

Eric Gorenstein, MS Applied Mathematics
A Construction and Analysis of Quasi-Cyclic and Convolutional Low Density Parity Check Codes
Chair: Dr. Roxana Smarandache

Charles Hohensee, MA(TS) Mathematics
Student's Emerging Understanding of Concepts Related to Similarity and Slope
Chair: Dr. Joanne Lobato

Tam Thanh Lieu, MS Applied Mathematics
Sexual Networks and Small Worlds
Chair: Dr. Peter Salamon (cont. next page)

Rich Levine, SDSU, Sept. 21, Climate Change Uncertainties: Is global warming really our fault?

David Whitman, SDSU, Sept. 14, The Nature of Now

Martin Bohner, University of Missouri at Rolla, May 3, Logistic Differential, Difference and Dynamic Equations

Kung-Jong Lui, SDSU, May 2, Interval estimation of the risk difference in non-compliance of randomized trials.

Ricardo Nemirovsky, SDSU, April 25, Tools and the Mathematical Imagination

Imre Tuba, SDSU-Imperial Valley, April 19, Topological Quantum Computing, Tensor Categories and Braid Groups

Valdimir Rotar, SDSU, April 6, On asymptotic proximity of probability distributions and the non-classical invariance principle.

Vadim Ponomarenko, SDSU, April 5, Two simple ways to rig an election: an introduction to voting theory.

Kristin Duncan, SDSU, April 2, Parametric and nonparametric Bayesian models for items response.

Steve Baer, Arizona State U, March 23, Slow passage through a Hopf bifurcation: New insights into the memory effect with application to neuronal bursting.

Sigrun Bodine, U of Puget Sound, March 15, On dichotomies, weaker and stronger, in asymptotic integration of linear differential systems.

Martin Haenggi, U of Notre Dame, March 14, Coverage and sentry selection in wireless sensor networks.

Gilbert Walter, U of Wisconsin, Milwaukee, March 8, Prolate Spheroidal Waves and Wavelets and their remarkable properties.

Adolfo J. Rumbos, Pomona College, March 1, Resonance in nonlinear elliptic boundary value problems.

Andres Valloud, Cincon Systems, Feb. 23, A pattern of perception.

Kristin Lauter, Microsoft Research, February 15, Cryptographic hash functions from expander graphs.

Bernd Sturmfels, UC Berkeley, February 7, Algebraic Statistics for Computational Biology

Mark Dunster, SDSU, February 2, The Incomplete Zeta Function

Bob Grone, SDSU, January 26, An Iterative Method of Solving a Game