List of Recent Doctoral Graduates

Applied Mathematics:

Gary Feldman, 2003, Tweed, A Forward-Backward Fluence Model for the Low-Energy Neutron Boltzmann Equation.
Alvaro Islas, 2003, Schober, Multi-Symplectic Integrators for Nonlinear Wave Equations.
Boriboon Novaprateeep, 2003, Kaneko, Superconvergence of Iterated Solutions for Linear and Nonlinear Integral Equations: Wavlet Applications.
Iain McKaig, 2001, Adam, Mathematical Models of Quiescent Solar Prominences.
Julia S. Arnold, 2000, Adam, Diffusion Problems in Wound Healing and a Scattering Approach to Immune System Interactions.
Martha S. Clowdsley, 1999, Heinbockel, A Numerical Solution of the Low-Energy Neutron Boltzmann Equation.
Peter Padilla, 1998, Kaneko, Superconvergence in Iterated Solutions of Integral Equations.
Carryn Bellomo, 1998, Adam, Mathematical Models of Tumors and Their Remote Metastases.
Richard S. St. John, 1998, Tweed, The Solution of Hypersingular Integral Equations with Applications in Acoustics and Fracture Mechanics.
Kim Y. Ward, 1998, Adam, Reaction-Diffusion Models of Cancer Dispersion.
Iem H. Heng, 1998, Cooke, Error Correcting Codes Associated with Generalized Hadamard Matrices over Groups.
Jacalyn M. Huband, 1997, Li, Reverse Engineering of Aircraft Wing Data Using a Partial Differentiation Surface Model.
Joe L. Manthey, 1997, Hu, High-Order Finite-Difference Schemes and Their Application to Computational Acoustics.

S. Moosevizadeh, 1996, Dorrepaal, Exact Solutions for Orthogonal and Non-orthogonal Magnetohydrodynamic Stagnation Point Flow.
John C. Panetta, 1995, Adam, Mathematical Models of Chemotherapy.
Mushtaq A. Khan, 1995, Lasseigne, Thermal Ignition Analysis in the Laminar Boundary Layer Behind a Propagating Shock Front.
Sang K. Yang, 1995, Cooke, Elimination of Edge Effects Using Spline Wavelets which Maintain a Uniform Two-Scale Relation.
John G. Landry, 1995, Heinbockel, Nozzle Flow with Vibrational Nonequilibrium.
Frank P. Kosusko, 1995, Lasseigne, Studies of Mixing Processes in Gases and Effects on Combustion and Stability.
Kotien Wu, 1994, Weinstein, Rational Cubic B-Spline Interpolation and Its Applications in Computer-Aided Geometric Design.
Michael Toner, 1994, Kroll, Invariant Manifold of a Toy Climate Model.
Gilbert Kerr, 1993, Tweed, Boundary Value Problems in Rectilinearly Anisotropic Thermoelastic Solids.
Mark H. Dunn, 1991, Tweed, The Solution of a Singular Integral Equation Arising From a Lifting Surface Theory for Rotating Blades.
Tze J. Chang, 1991, Cooke, On Shock Capturing for Liquid and Gas Media.
Thomas G. Wangler, 1990, Swetits, A Mathematical Model for the Dynamics of an Optically Pumped Codoped Solid State Laser System.
Stuart Davidson, 1990, Melrose, Boundary Value Problems in Elasticity and Thermoelasticity.
George Derise, 1990, Adam, The Fokker-Plank and Related Equations in Theoretical Population Dynamics.
Leon Arriola, 1990, Heinbockel, A Generalization of Linear Multistep Methods.
Jay Casper, 1990, Dorrepaal, An Extension of Essentially Non-oscillatory Shock-Capturing Schemes to Multi-Dimensional Systems of Conservation Laws.
Andrew G. McMorran, 1990, Cooke, Higher Order Accurate Asymptotic Factorization of Operators.

Statistics:

Deepak Mav, 2005, Chaganty, Statistical Analysis of Longitudinal and Multivariate Discrete Data.
Kusaya Plungpongpun, 2003, Naik, Analysis of Multivariate Data Using Kotz Type Distribution.
Genming Shi, 2003, Chaganty, Estimation of Parameters in Replicated Time Series Regression Models.
Brian Reck, 2002, Morgan, Nearly Balanced and Resolvable Block Designs.
Patrick M. Hannon, 2000, Dahiya, Estimation of Parameters for the Truncated Exponential Distribution.
Andrew M. Hartley, 1997, Naik, Analysis of Repeated Measures Data Under Circular Covariance.
Shampa Saha, 1997, Dahiya, Mark Recapture Creel Survey and Survival Model.
Sudesh K. Srivastav, 1996, Morgan, Optimality and Construction of Designs with Generalized Group Divisible Structure.
Justine Shults, 1996, Chaganty, The Analysis of Unbalanced and Unequally Spaced Longitudinal Data Using Quasi-Least Squares.
Shantha S. Rao, 1996, Naik, Linear Models for Multivariate Repeated Measures Data.
Shoba Prabhala, 1995, Naik, Analysis of Growth Curves under Some Special Covariance Structures.
Akhil K. Vaish, 1994, Chaganty, Invariance Properties of Statistical Tests for Dependent Observations.
Hassan Lakkis, 1994, Dahiya, Some Sampling Designs and Estimation Problems.
Rajan Gupta, 1991, Lee, Estimation in a Marked Poisson Error Recapture Model of Software Reliability.
Paul G. Staneski, 1990, Dahiya, The Truncated Cauchy Distribution Estimation of Parameters and Application to Stock Returns.

Department of Mathematics and Statistics

Old Dominion University, a member of the highest Carnegie classification for doctoral institutions, is one of the few American institutions offering a program expressly in applied mathematics. There are currently 16 applied mathematics research faculty exploring a wide range of applied and computational projects. The five statistics faculty ranked prominently based on publications in the Annals of Statistics and specialize in applied statistics and biostatistics. Most of the faculty have had research support from various funding agencies such as NASA, Eastern Virginia Medical School, National Science Foundation, Department of Energy and Department of Defense.

The department is part of the Computational Science and Engineering Initiative at Old Dominion University which is managed by the Center for Computational Science (CCS), Dr. Alex Pothen , Director.

Financial Aid

The prestigious, competitively awarded, *Dominion Graduate Scholarships* carry a $18,000/year stipend and full tuition. Recipients remaining in good academic standing are assured of funding for a four-year period. Minimum requirements include GRE scores of 1200, combined verbal and quantitative, and an undergraduate GPA of 3.2 overall and 3.5 in major. Graduate Assistantships carry a stipend of at least $15,000/academic year. Additional support is available in summer.

Location

Norfolk, in eastern Virginia, is located in one of the most favored climate regions of the United States. Proximity to the ocean moderates the summer heat, and winter temperatures usually approximate those in northern Florida. The NASA-Langley Research Center, the Jefferson National Accelerator Facility, the Virginia Modeling, Analysis and Simulation Center, the Center for Pediatric Research and the Eastern Virginia Medical School are within easy driving distance and provide excellent practical research internships for the ambitious graduate student.

Contact

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Norfolk, VA 23529

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Fax: 757-683-3885

Applied Math Faculty

John Adam, *Ph.D., London*. Mathematical biology, mathematical modeling of tumor growth and wound healing.
Przemek Bogacki, *Ph.D., SMU*. Numerical initial value problems, computer-aided geometrical design.
Charlie Cooke, *Ph.D., North Carolina State*. Numerical fluid dynamics, finite element methods, cryptography, combinatorics.
J. Mark Dorrepaal, *Ph.D., Toronto*. Classical fluid mechanics, viscous flows, asymptotic analysis.
John Heinbockel, *Ph.D., North Carolina State*. Radiation transport, solar energy modeling, systems analysis, tensor analysis.
Fang Hu,* *Ph.D., Florida State*. Computational fluid dynamics, acoustics, turbulent mixing, numerical analysis.
Hideaki Kaneko, *Ph.D., Clemson*. Numerical integral equations, approximation theory, finite element methods.
John Kroll, *Ph.D., Yale*. Geophysical fluid dynamics, oceanography, chaotic dynamics.
D. Glenn Lasseigne, *Ph.D., Northwestern*. Computational fluid dynamics, combustion, supersonic flow, integral equations.
Gordon Melrose, *Ph.D., Old Dominion*. Fracture mechanics, elasticity, singular integral equations.
Richard Noren, *Ph.D., Virginia Tech*. Integral equations.
John Swetits, *Ph.D., Lehigh*. Approximation, optimization.
John Tweed, *Ph.D., Glasgow*. Fracture mechanics, acoustics, radiation transport.
Stanley Weinstein, *Ph.D., Michigan State*. Approximation theory, numerical analysis, computer-aided geometric design.
Li-Shi Luo,* *Ph.D., Georgia Tech.* Kinetic theory and nonequilibrium statistical mechanics, Lattice Boltzmann equation and CFD, soft matter and complex fluids, scientific Computing.
Glenn Williams,* *Ph.D., North Carolina.* Numerical solution of differential equations, nonlinear optimization, computational biology, environmental modeling.
Ruhai Zhou,* *Ph.D., New Mexico.* Numerical analysis, scientific computation, computational biology, environmental modeling.

*indicates that faculty holds joint position with Center for Computational Science (CCS).

Statistics Faculty

N. Rao Chaganty, *Ph.D., Florida State*. Large deviations, longitudinal data analysis, mathematical statistics.
Ram Dahiya, *Ph.D., Wisconsin*. Statistical methodology and inference, biostatistics, applied statistics.
Michael Doviak, *Ph.D., Florida*. Applied and biostatistics.
Larry Lee, *Ph.D., Missouri*. Statistical inference, reliability.
Dayanand N. Naik, *Ph.D., Pittsburgh*. Linear models, multivariate analysis, applied statistics.

Computational and Applied Mathematics

The Graduate Program in Mathematics and Statistics at Old Dominion University

Dr. J. Mark Dorrepaal – Chair
Dr. Hideaki Kaneko – Graduate Program Director
Dr. N. Rao Chaganty – Statistics Program Director

The Graduate Program

The master's program and the doctoral program in computational and applied mathematics are designed to produce applied mathematicians and applied statisticians who can meet the growing demand for analytical and computational skills in traditional scientific and new multidisciplinary fields. Students in the program pursue an option in either applied mathematics or statistics/biostatistics.

We are proud of every graduate. Our lives and our research have been enriched by the time they spent with us. As of May 2005, 62 doctoral degrees have been officially awarded. Our graduates are employed by research agencies, universities, pharmaceutical companies, research hospitals, software companies, etc. The names and dissertation titles of our recent graduates can be found on the reverse of this brochure or on the department Web site, http://sci.odu.edu/math/ We look forward to adding your accomplishments to this list of our graduates.

Old Dominion University