GRADUATE STUDY IN STATISTICS
Rice University

WWW.STAT.RICE.EDU

For admission in 2017

Deadline for applications:
December 30th, 2016

Statisticians make important contributions to academia, business and the government. Nowadays, statistics is central to data science and the understanding of complex data. The Department of Statistics at Rice University is in the George R. Brown School of Engineering. Faculty research interests cover a wide spectrum of topics in theoretical and applied statistics, with interdisciplinary activities in key areas of engineering, natural sciences, business, medicine and the social sciences. The Department supports a modern statistics curriculum for students in statistics and the larger Rice community.

Students in the graduate program in statistics at Rice University have the opportunity for rigorous training in the theory and practice of statistics. Rice's relatively small size allows for a close working relationship between students and faculty, including those in other departments. Upon graduation, about half of our doctoral students take academic and research positons and half take industrial positions.

Core Research Areas
Current research foci of the core faculty include:

- Foundations of statistics, both theoretical and computational
- Bayesian methods, hierarchical models and graphical models or networks
- Statistical machine learning and multivariate analysis
- Functional data, nonparametric methods, categorical and mixed data methods
- Probability, stochastic processes, spatial and temporal processes
- Statistical computing, simulation and graphics

Interdisciplinary Research Areas
Faculty maintain active interdisciplinary research programs, primarily in areas identified as core national needs. These include:

- Biostatistics, bioinformatics, neuroscience, neuroimaging, and systems biology
- Computational finance and risk management
- Energy, environment and environmental impact on health
- National security and decisions under uncertainty
- Applied physics, planetary science and astronomy

Students interested in biostatistics, biomathematics, bioinformatics and statistical genetics will find excellent collaborative opportunities through our collaborative Ph.D. program with the University of Texas M.D. Anderson Cancer Center. See our website (www.stat.rice.edu) for the most current information regarding this program as well as our other areas of emphasis.

DEGREE REQUIREMENTS

Three graduate degrees are offered: a professional degree (M.Stat.), a research master's degree (M.A.), and the doctoral degree (Ph.D.). Rice does not offer a standalone MA degree. MA/PhD students earn their MA as they complete their PhD degree. Thirty semester hours are required for master level degrees. Additional requirements for the M.A. degree in statistics include a publicly defended original thesis or satisfactory performance on the second-year Ph.D. comprehensive examination and completion of a major project. Candidates for the doctorate must complete 90 hours of course work, including research hours, perform satisfactorily on preliminary and qualifying examinations and produce an original thesis that is publicly defended.

GRADUATE COURSES OFFERED

Courses offered by the Department range from foundations, statistical methods, and diverse applications to advanced topics. These include:

STAT 502 - Neural Machine Learning I
STAT 518 - Probability
STAT 519 - Statistical Inference
STAT 522 - Advanced Bayesian Statistics
STAT 532 - Foundations of Statistical Inference I
STAT 533 - Foundations of Statistical Inference II
STAT 541- Multivariate Analysis
STAT 542 - Simulation
STAT 545 - GLMs & Categorical Analysis
STAT 547 - Survival Analysis
STAT 549 - Functional Data Analysis
STAT 550 - Nonparametric Function Estimation
STAT 551 - Methods for Dependent Data
STAT 552 - Applied Stochastic Processes
STAT 553 - Biostatistics
STAT 581 - Mathematical Probability I
STAT 582 - Mathematical Probability II
STAT 605 - Statistical Computing and Graphics
STAT 606 - SAS Statistical Programming
STAT 615 - Regression and Linear Models
STAT 616 - Advanced Statistical Methods
STAT 621 - Applied Time Series and Forecasting
STAT 622 - Bayesian Data Analysis
STAT 623 - Probability in Bioinformatics and Genetics
STAT 630 - Topics in Clinical Trials
STAT 631 - Graphical Models
STAT 640 - Data Mining and Statistical Learning
STAT 650 - Stochastic Differential Equations

COMPUTER FACILITIES

Computing is an integral part of graduate education in the Department, and the faculty is committed to maintaining a first-class computer environment for its students. The Department, the School of Engineering and the University computing centers offer a wide range of computing equipment and support. The Department currently offers free access to desktop computing to all graduate students for research and instructional purposes. In addition, advanced parallel and graphical workstations are available for specific research projects.

GRADUATE FACULTY

Genevera Allen. Assistant Professor. Ph.D. (2010) Stanford University. Research interests: Statistical learning, applied multivariate and matrix-variate statistics, convex optimization, and applications to bioinformatics and neuroimaging.

E. Neely Atkinson. Senior Lecturer. Ph.D. (1981) Rice University.

Dennis D. Cox. Professor. Ph.D. (1980) University of Washington. Research interests: Computational statistics, functional data analysis, analysis of complex data, stochastic processes, nonparametric curve estimation and biomedical applications.

John Dobelman. Professor of the Practice. Ph.D. (2004) Rice University. Research interests: Financial statistics. Director of M.Stat program.

Katherine B. Ensor. Professor. Ph.D. (1986) Texas A&M University. Research interests: Time series, spatial processes, spatio-temporal processes, stochastic processes, financial modeling, environmental statistics.

Philip Ernst. Assistant Professor of Statistics. Ph.D (2014) University of Pennsylvania. Research interests: Asymptotic statistics, applied probability, stochastic optimization, stochastic control, mathematics of finance, statistics in medicine.

Rudy Guerra. Professor. Ph.D. (1992) University of California at Berkeley. Research interests: Biostatistics, statistical genetics, bioinformatics.

Marek Kimmel. Professor. Ph.D. (1980) Silesian University of Technology. Research interests: Population dynamics, branching processes, statistical genetics, molecular evolution, bioinformatics and systems biology.

Erzsebet Merényi. Research Professor. Ph.D. (1980) Szeged University, Hungary. Research interests: Neural computation, machine learning, self-organized learning, manifold learning.

Marie Lynn Miranda. Professor of Statistics and Howard R. Hughes Provost of Rice University. Ph.D.(1990) Harvard University. Research interests: Children environmental health, geospatial health informatics, impact of racial residential segregation on health.

Loren Hopkins Raun. Research Assistant Professor. Ph.D. (1998) Rice University. Research interests: Environmental statistics, air and water quality, risk assessment.

Michael Schweinberger. Assistant Professor of Statistics MS (2002), PhD (2007) University of Groningen, the Netherlands. Research interests: Dependent and high-dimensional data, graphical models, theoretical statistics, computational statistics, applications.

David W. Scott. Professor. Ph.D. (1976) Rice University. Research interests: Multivariate data analysis, density estimation, computer graphics, robust estimation, data mining.

Janet Siefert. Senior Faculty Fellow. Ph.D. (1997) University of Houston. Research interests: Molecular evolution, microbial metaboic evolution, microbial ecosystem modeling.

Marina Vannucci. Professor of Statistics and Chair. Ph.D. (1996) University of Florence, Italy. Research interests: Bayesian variable selection, classification and clustering, functional data analysis, application to bioinformatics and neuroimaging.

STUDENT LIFE

The ratio of Ph.D. students to faculty in the Department of Statistics is about 4 to 1, enabling close interaction between the two groups. Graduate students and faculty gather every Monday for a catered lunch, followed by a departmental colloquium in the afternoon. Students and faculty in the Department take a day trip each year to encourage interaction and build community. Graduate students regularly attend statistics conferences and present posters. The Graduate Student Association at Rice seeks to enrich the graduate experience and address issues of concern to the whole graduate population.

CAMPUS VISIT

We encourage you to visit Rice at any time for a firsthand look at the department and the beautiful, tree-lined campus near the heart of historic Houston. If you apply and are admitted, you may be invited to visit the campus. During your time here, you will not only visit with faculty, but usually you'll be hosted by current graduate students from whom you can learn more about graduate life and lifestyles in Houston. In the meantime, feel free to contact the department with any questions you may have.

ABOUT RICE AND HOUSTON

Rice is a leading American research university—small, private and highly selective—distinguished by a collaborative, interdisciplinary culture and a global perspective. Only a few miles from downtown Houston, it occupies an architecturally distinctive, 285-acre campus shaded by nearly 4,000 trees. State-of-the-art facilities and laboratories, internationally renowned centers and institutes and one of the country's largest endowments support an ideal learning and living environment.

The university attracts a diverse group of highly talented students and faculty with outstanding graduate and professional programs in the humanities, social sciences, natural sciences, engineering, architecture, music and business. With just 2,610 graduate students and 3,845 undergraduates, it offers an unusual opportunity to forge close relationships with eminent faculty scholars and researchers and the option to tailor graduate programs to specific interests.

Houston offers all the expected educational, cultural and commercial advantages of a large urban center, and more. It's home of the Texas Medical Center, the largest concentration of medical schools, hospitals and research facilities in the world, as well as several other universities. Rice has cooperative programs with the University of Houston, Baylor College of Medicine, the University of Texas Health Science Center and Texas Southern University. Houston is one of the few U.S. cities with resident companies in all four major performing arts—drama, ballet, opera and symphony. It also boasts a museum district featuring exhibits of national and international prominence.

As urban as it is, Houston also is a surprisingly green city. Houstonians enjoy the outdoors in more than 300 municipal parks and 120 open spaces, and many frequent the beach at Galveston Island, only a 45-minute drive away. Other short trips include Austin, the state's capital, and historic San Antonio, both of which are a little more than three hours away.

APPLICATION PROCEDURES

Applicants will be asked to provide GRE scores (quantitative, verbal, and analytical), undergraduate transcripts, and three letters of recommendation. TOEFL scores should also be included when appropriate.

Requests for application information should be sent to:

E-mail: statadmin@stat.rice.edu
Web site: statistics.rice.edu
Application to the program is only available online at the following website: https://statgradapps.rice.edu

FOR MORE INFORMATION

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Rice University homepage:
www.rice.edu

Rice University Office of Graduate and Postdoctoral Studies homepage:
http://graduate.rice.edu

Graduate Student Association homepage:
http://gsa.rice.edu

City of Houston homepage:
www.houstontx.gov

Houston information from the *Houston Chronicle*:
www.chron.com

Houston information from the Greater Houston Partnership:
www.houston.org.

Houston information from Citysearch:
http://houston.citysearch.com

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