Distinctly Brown

Over 250 years since its founding, Brown remains committed to the values that define and sustain our record of excellence and influence in the world. Brown is a place where ideas, passion, and constructive irreverence lead to lives of purpose and positive consequence. Our students have opportunities to learn, grow, and explore amidst a supportive and distinguished community of scholars.

About Biostatistics at Brown

Biostatistics is a highly dynamic and rapidly expanding field of study which is central to the emerging data sciences and has subject matter grounding in medicine and public health, biology and the health related social sciences. We develop new statistical theory, methods and data analytics; we collaborate in interdisciplinary research across broad areas of subject matter; and we teach students at all levels. Major research areas in our Department include, causal inference, the evaluation of biomarkers and diagnostic tests, high dimensional data analysis, computational biology, neuroscience, research synthesis and evidence based medicine, missing and longitudinal data analysis, and multi-level modeling.

By developing new quantitative methods and making innovative applications to substantive and demanding scientific problems, biostatisticians play a central role in the advancement of biomedical and public health research. Demand for advanced expertise in biostatistics continues to be high in academia and in the public and private sectors, particularly in settings emphasizing research in biomedicine and biotechnology.

Brown School of Public Health

The Brown University School of Public Health has three distinguishing features. First is an overarching approach that carries across our departments and 11 nationally-renowned research centers and institutes: we learn public health by doing public health. The enterprise has expanded since its founding in 2000 to support more than 200 faculty and 275 undergraduate and graduate students—and to attract over $56 million in annual external research funding. Second we embrace Brown University's ethos of service to others. Our work has impact on entire populations, with the potential to improve the health and well-being of millions. And finally the School is focused on training professionals who can collect, analyze, and apply data that inform public policy. Graduates from our programs go on to fulfilling careers in education, service, policy and practice in the fields of public health.

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Degrees Offered

Doctor of Philosophy (PhD)
Master of Science (ScM)
Master of Arts (AM)
Plus, a fifth-year Master degree for Brown Undergraduates

Requirements for admission

Those applying for graduate study in Biostatistics should possess a strong background in undergraduate mathematics, with courses in calculus, linear algebra and (ideally) probability. Prior coursework in mathematical statistics and experience with scientific computing will prove helpful but is not required. The GRE general test is required of all applicants. MCAT or LSAT tests cannot be substituted. Applicants are required to submit GRE exam scores (within five years). Other standardized tests (e.g., MCAT, LSAT) may not substitute for the GRE. Subject test scores can be submitted but are not required. TOEFL scores are required for a student whose native language is not English, but may be waived for those who hold a bachelor’s or master’s degree from a US institution.

Although many of our applicants have a degree in mathematics or statistics, applications from students in fields such as biology, the physical sciences, economics and computer science are strongly encouraged, with the understanding that necessary mathematical coursework may have to be completed before or soon after enrollment in the program.

- Applications are due January 5th for fall-semester admission
- Masters applications are reviewed on a rolling basis. To receive full consideration for financial aid, applications must be received by February 1st.

Faculty

The Department of Biostatistics’ Graduate Programs are led by a highly interdisciplinary faculty within Brown University’s School of Public Health. The Department’s faculty includes: Cici Bauer, Assistant Professor (space-time models, spatial epidemiology), Fenghai Duan, Assistant Professor (Res) (computational biology, biomarker evaluation), Roee Gutman, Assistant Professor (causal inference, health services and comparative effectiveness research), Joseph Hogan, Professor (causal inference, missing data, large-scale observational studies, HIV research), Eunhee Kim, Assistant Professor (diagnostic test and biomarker evaluation), Hana Lee, Assistant Professor (Res) (causal inference, survival analysis, HIV research), Tao Liu, Assistant Professor (Res) (causal inference, clinical trials, HIV research), Xi (Rossi) Luo, Assistant Professor (high dimensional data, neuroscience), George Papandonatos, Associate Professor (Res) (hierarchical modeling, population genetics, behavioral medicine), Christopher Schmid, Professor (research synthesis, evidence based medicine), Zhijin Wu, Associate Professor (computational biology, high dimensional data), Zheng Zhang, Assistant Professor (Res) (diagnostic test and biomarker evaluation) and Constantine Gatsonis, Professor and Chair (diagnostic test and biomarker evaluation, comparative effectiveness research, Bayesian methods). Biostatistics faculty are members of the Center for Statistical Sciences (CSS) and other centers in the School of Public Health.

CSS supports a large research enterprise, involving faculty, students, and professional staff. The Center hosted the Biostatistics Center for NCI-funded American College of Radiology Imaging Network (ACRIN) since 1999 and now co-hosts the Biostatistics Center of ECOG-ACRIN Cancer Research Group. Other major research projects include the Biostatistics Core for Brown’s Center for AIDS Research (CFAR), and the Biostatistics Core for Brown’s multidisciplinary Alcohol Research Center for HIV (ARCH).

“...We offer forward looking and rigorous programs, emphasizing both the core and the interdisciplinary aspects of Biostatistics, and promoting scientific innovation and critical thinking by our students.”

Student Profile

MICHAEL J. LOPEZ
PhD candidate in Biostatistics

Currently a fourth-year student, Michael has been an IMSD trainee at Brown, and received the June Rockwell Levy Foundation Fellowship. Michael also earned a pair of prestigious student awards from the Health Policy Statistics Section of the American Statistical Association, to present in Montreal (2013) and forthcoming in Boston (2014).

Recently, he was awarded an NIH Fellowship for his proposal “Treatment Choice for Aging Population: Causal Inference with Multiple Treatments.” The $42,000 fellowship will fund his research to extend current statistical methodology to allow investigators to simultaneously identify the causes and effects of multiple treatments or therapies.

“I’ve been blessed with countless opportunities over the last few years to learn and grow as a student, whether it was within the department or across the School of Public Health and each collaboration has been a valuable part of my experience.”