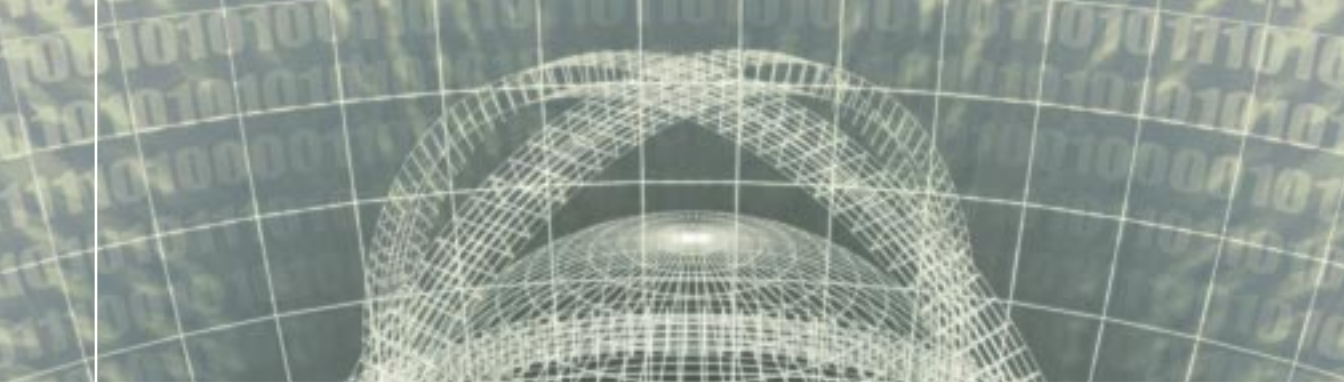


JOHNS HOPKINS BLOOMBERG SCHOOL OF PUBLIC HEALTH



*Department of*  
**Biostatistics**

Protecting Health, Saving Lives—*Millions at a Time*



## **ADVANCING STATISTICAL SCIENCE AND PUBLIC HEALTH**

Biostatistics is the creation and application of quantitative methods for research in the health sciences. In the Department of Biostatistics at the Johns Hopkins Bloomberg School of Public Health, our faculty develop new principles and methods for drawing inferences from scientific studies.

Our designs and analytic methods enable health scientists and professionals in academia, government, pharmaceutical companies, medical research organizations, and elsewhere to acquire knowledge efficiently and draw valid conclusions from their ever-expanding sources of information. Our graduates have leadership careers as researchers and educators in academic departments of statistical science and in government and industry.



“As the world gets smaller, international public health is becoming more and more crucial to all of us. I hope that by teaching diverse students the tools of data analysis I can help them to **become better researchers.**”

—FELICITY BOYD, PHD '02, DEPARTMENT OF BIostatISTICS, JOHNS HOPKINS

## AN INSTITUTION

As the oldest and largest school of its kind, the Johns Hopkins Bloomberg School of Public Health is the place where many of the world's leading public health professionals work together to improve the public's health and save millions of lives. These leaders will be your teachers, your mentors, and eventually your colleagues as you learn and grow in a place that is helping to shape the future of biostatistics and public health.

The School welcomes students from across the nation and around the world—each contributing in a unique way to a dynamic learning environment. Our location in the lively and inviting city of Baltimore provides easy access to the rich cultural, social, and recreational opportunities of the mid-Atlantic region. As students in the School of Public Health, you may also tap into the resources of the other divisions of The Johns Hopkins University, with locations around the Baltimore-Washington area and offering many academic disciplines.

## A FOUNDATION

The School is organized into ten academic departments, including the Department of Biostatistics. The School and the Department will provide you with an exceptional educational experience. You will work side by side with the best teachers and the best students, gaining the skills and the knowledge that will prepare you to become a leader in biostatistics and further advance the effort to prevent disease and advance the public's health.

We offer doctor of philosophy (PhD) and master of science (ScM) degrees that include a thesis project. We also offer a master of health science (MHS) in biostatistics for those individuals who already have an advanced degree (e.g., MD, PhD) or who are earning a PhD in another department of the School. An MHS degree in bioinformatics is planned. In addition to degree programs, we offer numerous short courses through the summer and winter institutes.

## FACULTY HIGHLIGHTS

The Department of Biostatistics at Johns Hopkins was the first academic department of statistical science in the United States, created in 1918. The founding chair, Raymond Pearl, was a student of Karl Pearson and the author of 700 papers and 23 books. William Cochran, chair of the Department of Biostatistics from 1948 to 1958, was one of the most influential of American statisticians and the father of the modern approach to the analysis of data from observational studies. Paul Meier was an assistant professor in the Department in 1957 when he and Edward Kaplan wrote their seminal paper on the estimator of the survival function that bears their names. Jerome Cornfield developed the standard methods of inference for case-control data and was a key player in the controversy with R.A. Fisher about the association of smoking and lung cancer.

Today, our diverse and talented faculty continue the tradition:

- *Ron Brookmeyer, PhD*, and adjunct professor *Mitch Gail, MD, PhD*, developed the "back-calculation method" that is used by public health departments around the world to track progression of the AIDS epidemic. Dr. Brookmeyer has now turned his efforts to anthrax and bioterrorism.



“Before I came here I was told that **faculty treat students like colleagues** and staff help you like family—I did not believe them. Now I say the same thing.”

—ZHIJIN WU, PHD CANDIDATE

- *Francesca Dominici, PhD*, and colleagues created the spatial-time series models relied upon by the EPA to monitor the health effects of air pollution in U.S. cities.
- *Rafael Irizarry, PhD*, and colleagues discovered a better way to measure gene expression and are leading methodologic and software advances for the analysis of gene chip data.
- *Kung-Yee Liang, PhD*, and *Scott L. Zeger, PhD*, developed GEE, a novel regression methodology for longitudinal and family studies. They have been among the most cited mathematical scientists in the world for the last decade.
- *Tom Louis, PhD*, developed optimal Bayesian ranking methods with applications in risk assessment, microarray analysis, health services, and educational assessment.
- *Giovanni Parmigiani, PhD*, created BRCAPro, the leading tool for using genetic information to predict a woman's risk of breast cancer. He will co-direct our planned MHS in bioinformatics.

## DEGREES OFFERED

### Doctor of Philosophy (PhD)

- Four- to five-year program in research training
- Two years of core coursework, written and oral exams, and research thesis
- Prior master's degree not required
- Opportunity for up to five years of funding: tuition, research assistantship, and health insurance.
- NIH training positions available to qualified candidates

### Master of Science (ScM)

- Two-year program
- Applied degree designed to prepare students for a career as a professional statistician
- One and one-half years of core coursework, written exam, and six months of work on research thesis

### Master of Health Science (MHS)

- Applied degree designed to provide an intensive course of study in biostatistical theory and methods for doctoral-level researchers working primarily in other fields of public health
- One-year program of core coursework, a written exam, and final research project

## OTHER OPPORTUNITIES

Our annual summer and winter institutes provide short-term concentrated coursework in basic biostatistical methods and concepts used in public health as well as more advanced courses in specific statistical areas. More information is available at [www.jhsph.edu/Academics/Continuing\\_Ed/summ\\_instit.html](http://www.jhsph.edu/Academics/Continuing_Ed/summ_instit.html).

## CHOOSING THE RIGHT ACADEMIC PATH

If you plan to work in academia, government, or private industry and are interested in leading a research team or teaching at the graduate level, a PhD is the optimal degree.

If you seek a career as a data analyst, working as a team member, consider an ScM degree.

If you are a doctoral-level professional or have academic training in a related discipline, or you are a student concurrently enrolled in a doctoral program at the School, consider an MHS.



“Thursday morning bagel sessions summarize our department philosophy: **faculty and students learning together**. Gathering in our library with bagels and coffee, we all engage in a lively discussion of major issues raised in our weekly seminars.” —KENNY SHUM, PHD CANDIDATE

## LEARNING ENVIRONMENT

The Department of Biostatistics is a collegial group of roughly 20 faculty and 40 PhD students working together to advance statistical science and public health. We take a broad perspective on statistics, from foundations and methods to applications. We work with teams of the world's best biomedical and health scientists.

Hopkins Biostatistics is a diverse community with faculty and students from around the world. There is an active social life including an annual three-day retreat on the Chesapeake Bay, weekly seminars, a student journal club, Thursday morning bagels, and Friday evening happy hour. There are regular meetings of working groups on major research topics. Students develop important leadership and communication skills through these and other informal learning opportunities.

Our students work closely with outstanding faculty members in an apprenticeship model of graduate education. From the first day, you will become a member of the biostatistics community, learning in classrooms, but even more through ongoing conversations with other students and faculty.

## ADMISSIONS

The Admissions Committee seeks students from a variety of academic and professional backgrounds. Our best candidates demonstrate a genuine interest in science, mathematical aptitude, and a commitment to excel.

Applying online will save you time and money. Our application, related forms, detailed instructions, deadlines, transcript, and standardized test requirements are on our website at [www.jhsph.edu/admissions](http://www.jhsph.edu/admissions).

### Departmental Admissions Requirements

- Baccalaureate degree in a related field
- Completed School of Public Health application
- Results from the Graduate Record Examination (GRE)
- TOEFL (Test of English as a Foreign Language) results, if your most recent academic degree is from a university where English is not the primary language of instruction
- Three letters of recommendation
- Statement of purpose

## VISIT WITH US

We encourage you to visit with us, talk with faculty and students, and explore all our student services before you choose your school for graduate study. Visitor Days include information about admissions, individual departments, student diversity, and student services. Campus tours are also included. If you are not able to visit with us in person, take our virtual tour online or participate in one of our Web Chats. For a complete list of events, go to [www.jhsph.edu/admissions](http://www.jhsph.edu/admissions), or call 410-955-3543.

