

BIOSTAT

BIOSTATISTICS

The Department of Biostatistics provides leadership and outstanding research, teaching, and service to meet the needs of society, the university, the health-research community, and the statistics profession by offering graduate programs and conducting biostatistical and collaborative research in health-related areas.

As a student in the Department of Biostatistics, you will be working on critical new areas of biostatistics methodological research, including image analysis, survival and event history analysis, statistical genetics and bioinformatics, causal inference, observational studies, clinical trials, Bayesian methods, statistical computing, longitudinal data analysis, methods for missing data, and survey research.

You'll also have the opportunity for collaborative research with faculty in the schools of public health, medicine, nursing, dentistry, and the Institute for Social Research, among others. Both methodological and collaborative research are well funded through grants from the National Institutes of Health and other government and private agencies.

RESIDENTIAL DEGREES OFFERED

- *Doctor of Philosophy (PhD)* A research degree; students complete course work in biostatistics and an application area, and write a dissertation. Graduates have research careers in which they play lead roles in academia, government, and industry.
- *Master of Science (MS)* A research degree; students complete course work in biostatistics and an application area. Graduates work as research team members in industry, government, and research institutions.
- *Master of Public Health (MPH)* A professional degree; students complete course work in biostatistics and all SPH departments. Graduates work as research team members in industry, government, and research institutions.

OTHER PROGRAMS AND DEGREES

In addition to traditional graduate programs, the department offers the On Job/On Campus (OJOC) Master's in Clinical Research Design and Statistical Analysis Program. This non-residential program is designed for those who want to obtain a master's degree in clinical research.

CAREER OPPORTUNITIES

SPH biostatistics graduates are prepared to fill the demand for professionals in many different areas, including:

- Academia
- Other industries
- Government
- Medical research institutions
- Pharmaceutical industry

JOB TITLES OF RECENT GRADUATES

- Assistant professor
- Market analyst
- Biostatistician
- Research analyst
- Clinical trials analyst
- Research investigator
- Health data analyst
- Survey statistician

All applicants to the master's and PhD programs are considered for funding as either Graduate Student Instructors (GSI), Graduate Student Research Assistants (GSRA), or as traineeship recipients based on their existing qualifications. Support includes full tuition, a monthly stipend, and health insurance.

www.sph.umich.edu/biostat

CONTACT INFORMATION

Department of Biostatistics
University of Michigan School of Public Health
1415 Washington Heights
Ann Arbor, MI 48109-2029

Phone: 734.764.5425

Fax: 734.763.2215

Web: www.sph.umich.edu/biostat

Email: sph.bio.inquiries@umich.edu



SPH biostatisticians are at the forefront of new genetic technologies such as microarray imaging.

“ MICHIGAN'S REPUTATION IN THE FIELD OF BIOSTATISTICS IS UNSURPASSED, AND OPENED DOORS FOR ME AS I STARTED MY CAREER.

—LORA SCHWAB, PHD '88 ”

BIOSTAT

BIostatISTICS

FACULTY AND RESEARCH

GONCALO ABECASIS, PHD, Professor ■ Identification of genes involved in complex diseases, haplotype analysis, pedigree analysis

MOULINATH BANERJEE, PHD, Associate Professor ■ Large sample theory, likelihood-based methods, nonstandard asymptotics, shape-restricted estimation, nonparametric methods and their applications to the natural and biological sciences

MOUSUMI BANERJEE, PHD, Research Professor ■ Longitudinal modeling, survival analysis, competing risks methodology, analysis of interrater agreement data, cancer epidemiology

VERONICA BERROCAL, PHD, Assistant Professor ■ Spatial and spatio-temporal statistics, geostatistics, spatial epidemiology, copulas and spatial copulas, statistics for environmental and public health data, data fusion/data assimilation, Bayesian statistics

MICHAEL BOEHNKE, PHD, Distinguished University Professor ■ Design and analysis of human gene-mapping studies of common multifactorial diseases, including Type 2 diabetes, schizophrenia, and glaucoma

TOM BRAUN, PHD, Associate Professor ■ Bone marrow transplantation, Bayesian Phase I trial designs, estimation and inference for cumulative incidence in competing risks settings

MORTON BROWN, PHD, Professor Emeritus ■ Clinical trials, categorical data analysis, statistical computing, robust methods, and model fitting

MICHAEL ELLIOTT, PHD, Associate Professor ■ Design and analysis of observational studies, applications in injury control

ANDRZEJ GALECKI, MD, PHD, Research Scientist ■ Developing computational methods for analyzing correlated and over-dispersed data

BRENDA GILLESPIE, PHD, Research Associate ■ Applied biostatistics, survival analysis, clinical trials, and applications of biostatistics to epidemiology

HUI JIANG, PHD, Assistant Professor ■ Developing statistical and computational methods for the analysis of high throughput genomic data

TIMOTHY JOHNSON, PHD, Associate Professor ■ Statistical modeling of biomedical data; applications in neurology, cancer, radiology and endocrinology

NIKO KACIROTI, PHD, Associate Research Scientist ■ Longitudinal data analysis, Bayesian methods, missing data, clinical trials; application of statistics in an interdisciplinary setting: medical and social science, developmental data, managing chronic disease, and global health

JACK KALBFLEISCH, PHD, Professor ■ Development of statistical methods and theory, survival analysis, analysis of event history and longitudinal studies, clinical trials, mixture models, stochastic modeling, bootstrapping and estimation functions

HYUN MIN KANG, PHD, Assistant Professor ■ Genome-wide association mapping with next-generation sequencing data, population stratification in association studies, genetics-driven approach to drug discovery, statistical and computational method development in genetics

HYUNGJIN KIM, SCD, Research Scientist/CSCAR ■ Evaluation of feasibility, effectiveness, and accuracy of various telemedicine approaches compared with traditional on site medical care

JAMES LEPKOWSKI, PHD, Professor ■ Survey methodology, particularly sampling design and estimation

YUN LI, PHD, Research Assistant Professor ■ Causal inference, missing data issues, Bayesian inference, surrogate and auxiliary data issues, mixed models, survival analysis, applications in clinical trials, observational studies, cancer, cardiovascular disease, and liver and kidney disease

YI LI, PHD, Professor ■ Developing methodologies for analyzing high dimensional correlated discrete and continuous outcome data and correlated censored failure time data

RODERICK LITTLE, PHD, Professor ■ Statistical analysis with missing data; inference from complex surveys; Bayesian methods; applications of statistics in epidemiology, neurology, cancer, social sciences

BHRAMAR MUKHERJEE, PHD, Associate Professor ■ Bayesian semiparametric methods, experimental design, statistical methods for case-control and other choice-based sampling schemes, applications in epidemiology

SUSAN MURRAY, SCD, Associate Professor ■ Nonparametric survival analysis, missing data issues, quality of life research, group sequential monitoring of survival endpoints, correlated survival endpoints, breast cancer

BIN NAN, PHD, Professor ■ Semiparametric regression models, cohort studies, clinical trials

ROBERT PARKER, PHD, Research Professor ■ Design of interventional studies, adaptive clinical trials, probability of success, drug development portal decisions, statistical consulting

TRIVELLORE RAGHUNATHAN, PHD, Professor and Chair ■ Statistical analysis of incomplete data, multiple imputation, Bayesian inference, design and analysis of sample surveys, small area estimation, analysis of longitudinal data

BRISA SANCHEZ, PHD, Assistant Professor ■ Bayesian variable selection, clustering, nonparametric bayes, wavelets, bioinformatics, DNA microarray analysis

MAUREEN SARTOR, PHD, Research Assistant Professor ■ Developing statistical methodology for high throughput genomic and proteomic experiments and other bioinformatics applications

DOUGLAS SCHAUBEL, PHD, Associate Professor ■ Multivariate survival analysis, recurrent event data, dependent censoring

LAURA SCOTT, PHD, Associate Research Scientist ■ Design and analysis of genetic studies of complex diseases, integration of biological information in the evaluation of genetic associations

ANANDA SEN, PHD, Research Associate Professor ■ Recurrent event data, analysis of competing risks, accelerated failure-time modeling, Bayesian methodologies in survival analysis and reliability

KERBY SHEDDEN, PHD, Professor ■ Statistical modeling in the natural sciences, high dimensional and massive data sets, statistical computing

PETER SONG, PHD, Professor ■ Bioinformatics, generalized linear models, longitudinal data analysis, missing data in clinical trials, statistical computing, statistical genetics, time series analysis

CATHY SPINO, PHD, Research Associate Professor ■ Clinical trials and statistical computing

JEREMY TAYLOR, PHD, Professor ■ Longitudinal and survival analysis, cure models, missing data, Box-Cox transformations, statistical methods for bioinformatics, surrogate and auxiliary variables, statistical modeling of biomedical data

ALEXANDER TSODIKOV, PHD, Professor ■ Multivariate semiparametric survival models, applications in cancer

LU WANG, PHD, Assistant Professor ■ Nonparametric and semiparametric regression, semiparametric efficiency, missing data, longitudinal (correlated/clustered) data, epidemiology, observational studies, clinical trials

NAISYIN WANG, PHD, Professor ■ Statistical modeling of biological/medical data and method development; measurement error models, longitudinal and functional data analysis; non- and semiparametric regression

KATHY WELCH, MS, Lecturer, SAS Consultant ■ Models for correlated data for continuous outcomes, generalized estimating equations and other models for correlated discrete outcomes

XIAOQUAN WEN, PHD, Assistant Professor ■ Bayesian and computational statistics with applications in genetics and genomics

WEN YE, PHD, Assistant Research Professor ■ Longitudinal data analysis, joint modeling of longitudinal and survival data, biostatistics modeling in endocrinology data, multi-center clinical trial studies.

MIN ZHANG, PHD, Assistant Professor ■ Semiparametric methods with missing and censored data, clinical trials, causal inference, survival analysis, and longitudinal data analysis

SEBASTIAN ZÖLLNER, PHD, Associate Professor ■ Genetic modeling, particularly the inheritance process; gene mapping