

BIO STAT

BIO STATISTICS

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, 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.

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

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

— LORA SCHWAB, PHD '88 ”

www.sph.umich.edu/biostat

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FACULTY AND RESEARCH

GONCALO ABECAIS, PHD, Professor

■ Identification of genes involved in complex diseases, haplotype analysis, pedigree analysis

MOUSUMI BANERJEE, PHD,

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

MICHAEL BOEHNKE, PHD, Professor

■ Design and analysis of human gene-mapping studies of common multifactorial diseases, including Type 2 diabetes, schizophrenia, and glaucoma

TOM BRAUN, PHD, Assistant 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,

Assistant Professor ■ Applied biostatistics, survival analysis, clinical trials, and applications of biostatistics to epidemiology

TIMOTHY JOHNSON, PHD, Associate

Research Scientist ■ Statistical modeling of biomedical data; applications in neurology, cancer, radiology and endocrinology

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 estimating functions

HYUNGJIN KIM, SCD, Adjunct Assistant

Professor ■ Evaluation of feasibility, effectiveness, and accuracy of various telemedicine approaches compared with traditional on site medical care

SINAE KIM, PHD, Assistant Professor

■ Bayesian variable selection, clustering, nonparametric bayes, wavelets, bioinformatics, DNA microarray analysis

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

RODERICK LITTLE, PHD, Professor

and Chair ■ 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, Associate Professor

■ Semiparametric regression models, cohort studies, clinical trials

ZHAOHUI QIN, PHD, Assistant Professor

■ Modeling and computation in statistical genetics and genomics, applications in bioinformatics, Monte Carlo methods

TRIVELLORE RAGHUNATHAN, PHD,

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

NOAH ROSENBERG, PHD,

Associate Professor, Joint Appointment ■ Statistical methods for analysis of data on genetic variation, mathematical modeling, computer simulations, and statistical inference

BRISA SANCHEZ, PHD, Assistant

Research Professor ■ Bayesian variable selection, clustering, nonparametric bayes, wavelets, bioinformatics, DNA microarray analysis

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

KERBY SHEDDEN, PHD, Associate

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

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,

Assistant Professor ■ Genetic modeling, particularly the inheritance process; gene mapping

CONTACT INFORMATION

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