

The Certificate Program in Public Health Genetics

CPHG

Students admitted to the University of Michigan School of Public Health (UMSPH) have a unique opportunity to augment their degree program by applying to the Public Health Genetics Certificate Program (CPHG).



"In this era of rapidly unfolding advances in genetics, public health professionals have a significant role in translating this new knowledge into improved health outcomes. Knowing which populations have a genetic variation that puts them at risk will help us to develop and implement public health interventions. We must provide guidance to policymakers as they address the new issues to preserve confidentiality, provide protection against discrimination, and regulate commercialized genetics products and services. In order to achieve these goals, we must all contribute our expertise to create an informed public health workforce."

Sharon Kardia, PhD

Director, Public Health Genetics Program

The CPHG at the UMSPH provides students with the knowledge and skills to understand and impact problems, programs, policies, and practices that are altering public health in the context of advances in genetics. While all students are invited to incorporate an analysis of public health genetics in their program at the UMSPH, the CPHG offers a formalized curriculum in this area.

Faculty and students from all five departments at the UMSPH, as well as affiliated faculty from other University of Michigan schools and colleges, participate in this exciting program. The CPHG entails a special supplemental curriculum, seminar, events, and optional internship. The curriculum is designed to accommodate students with or without prior academic preparation in genetics. For a more detailed description visit the CPHG website at www.sph.umich.edu/genetics.

The CPHG coursework can be completed as part any 60-credit masters-degree program without adding additional credit hours. Students are responsible for keeping track of program requirements as they plan their course schedules, and prior to graduation, the Completion Notice and Credential Request form outlining successful completion of the requisites should be submitted. Please contact Stephannie Moore, Program Coordinator, at stephmm@umich.edu if you plan to pursue the CPHG.

Faculty

The CPHG is directed by Sharon Kardia, PhD, with a committee of School of Public Health faculty members.

Sharon Kardia, PhD

Professor, Epidemiology

Director, Public Health Genetics Program

Director, Life Sciences and Society Program

Co-Director, Center for Public Health and Community Genomics

Dr. Kardia's main research interests are in the genetic epidemiology of cardiovascular disease and its risk factors. She is particularly interested in gene-environment and gene-gene interactions and in developing novel analytical strategies to understand the complex relationship between genetic variation, environmental variation, and risk of common chronic diseases.

Goncalo Abecasis, DrPhil

Associate Professor, Biostatistics

Dr. Abecasis' research focuses on the development of statistical tools for the identification and study of genetic variants important in human disease.

Michael Boehnke, PhD

Richard G. Cornell Collegiate Professor of Biostatistics

Director, Center for Statistical Genetics

Director, Genome Science Training Program

Dr. Boehnke's research focuses on problems of study design and statistical analysis of human genetic data, with a particular emphasis on development of statistical methods for human gene mapping, and their application to diseases including type 2 diabetes and bipolar disorder.

Toby Citrin, JD

Director, Center for Public Health and Community Genomics

Co-Director, Life Sciences and Society Program

Adjunct Professor, Health Management and Policy

Professor Citrin focuses on the development of community-academic partnerships to strengthen research, teaching and practice, and he specializes in the ethical, legal and social issues arising from the incorporation of genetics in public health policy and practice.

Stephen B. Gruber, MD, PhD

H. Marvin Pollard Professor of Internal Medicine

Associate Professor, Epidemiology

Associate Professor, Human Genetics

Dr. Gruber's research focuses on the genetic epidemiology of solid tumors, genetic predisposition to cancer among Ashkenazi Jews, and relationships between environmental risk factors and genetic predisposition to cancer.

Laura S. Rozek, Mancuso, PhD

Assistant Professor, Environmental Health Sciences

Dr. Rozek's research focus is on the epigenetic and genetic mechanisms underlying cancers, including an emphasis on gene-environment interactions.

Carl F Marrs, PhD

Associate Professor, Epidemiology

Dr. Marrs' research focuses on the bacterial genes involved in allowing some strains of a given bacterial species to cause disease. Specific areas of focus are urinary tract infections caused by *E. coli*, otitis media caused by *Haemophilus influenzae*, and new born invasive GBS disease.

Patricia Peyser, PhD

Professor, Epidemiology

Dr. Peyser's research focuses on genetics and epidemiology, the contribution of inherited differences among individuals to the prediction of diseases, and studies of diseases and traits that aggregate in families. Community based studies in Rochester, MN and in the Old Order Amish in Lancaster, PA focus on cardiovascular disease and its genetic and environmental etiologies.

Julia Richards, PhD

Harold F. Falls Collegiate Professor of Ophthalmology and Visual Sciences

Professor, Epidemiology

Dr. Richards studies the underlying genetic causes of inherited eye diseases with an emphasis on glaucoma. Her work entails gene mapping, gene cloning and bioinformatic approaches to gene identification, cDNA library construction and microarray screening as part of gene expression studies, mutation screening in clinical and clinical trials populations, and genotype/phenotype correlations.

J. Scott Roberts, PhD

Assistant Professor, Health Behavior and Health Education

Dr. Roberts' research is focused on the process and impact of genetic risk assessment for adult-onset disorders.

Courses

The UMSPH offers a wide range of courses relating to public health genetics including the following:

BIOS 666	"Statistical Models in Human Genetics"
BIOS 866	"Advanced Topics in Genetic Modeling"
EHS 504	"Genes and the Environment"
EPID 511	"Introduction to Public Health Genetics"
EPID 515	"Genetics in Public Health"
EPID 516	"Genomics in Epidemiology"
EPID 621	"Cancer Epidemiology"
HMP 517	"Issues in Public Health Genetics"
HBHE 610	"Ethical Considerations for Health Professionals"
HBHE 669	"Genetics, Health Behavior, and Health Education"
HG 541	"Gene Structure and Regulation"
HG 542	"Molecular, Cellular and Population Genetics"
HMP 630	"The Business of Biology"
PUBPOL 759	"Genetics and Biotechnology Policy"

For more information on the faculty and courses involved in the CPHG please visit www.sph.umich.edu/genetics.