

# EPID

## EPIDEMIOLOGY

A core discipline in public health, epidemiology is the study of disease and health in human populations, with the goals of preventing disease, promoting health, and reducing health disparities between groups. At the UM School of Public Health, you will gain the expertise necessary to design and implement epidemiologic studies in many types of settings.

### CAREER OPPORTUNITIES

We prepare students to fill the demand for professionals in many different areas of public health, including:

- International health organizations such as the World Health Organization (WHO)
- National health organizations such as the Centers for Disease Control and Prevention (CDC) and the Food and Drug Administration (FDA)
- State and local health departments
- Industry and private research organizations
- Not-for-profit organizations and foundations such as the American Heart Association and the American Cancer Society
- Health-care facilities and organizations such as hospitals and health maintenance organizations (HMOs)
- Academia

### RESIDENTIAL DEGREES OFFERED

- Master of Public Health (MPH)
- Master of Science (MS) in Clinical Research
- Doctor of Philosophy (PhD)

### Master of Public Health Programs in Epidemiology

- *General Epidemiology*: The design and conduct of studies and systems to increase our understanding of disease etiology and outcome and to improve the health of target populations
- *Hospital and Molecular Epidemiology*: Applications of epidemiology to the study of infectious disease and vaccinology, with a focus on molecular techniques
- *International Health*: Applications of epidemiologic principles and methods to deal with health problems in underdeveloped countries and to understand global health issues
- *Environmental and Occupational Epidemiology (joint program with Environmental Health Sciences)*: The design and conduct of studies to understand how and to what extent physical, chemical, and occupational exposures affect disease risk and population health
- *Preventive Medicine Residency*: An epidemiology-focused training program for physicians interested in board certification in the specialty of general preventive medicine and public health



SPH epidemiologists are engaged in a two-year study of flu transmission.

“ SPH COURSES AND RESEARCH EXPERIENCE PROVIDED ME WITH A FIRM FOUNDATION FOR A CAREER IN DIABETES EPIDEMIOLOGY, AND I FEEL THAT I AM MAKING SOME IMPORTANT CONTRIBUTIONS TO THE PREVENTION AND TREATMENT OF THE DISEASE IN THE U.S. SOME OF MY COLLABORATIONS ARE WITH MORE RECENT GRADUATES OF SPH, AND THEIR KNOW-HOW REINFORCES WHAT A FINE EPIDEMIOLOGY PROGRAM MICHIGAN CONTINUES TO HAVE. ”

—CATHERINE COWIE, PHD '88

[www.sph.umich.edu/epid](http://www.sph.umich.edu/epid)

### CONTACT INFORMATION

Department of Epidemiology  
University of Michigan  
School of Public Health  
1415 Washington Heights  
Room 4647 SPH Tower  
Ann Arbor, MI 48109-2029  
Phone: 734.764.5415  
Fax: 734.764.3192  
Email: [sph.inquiries@umich.edu](mailto:sph.inquiries@umich.edu)



## FACULTY AND RESEARCH

**SARA D. ADAR, SCD, MHS, Assistant Professor** ■ Environmental epidemiology, exposure science for epidemiology, chronic and acute health effects of air pollution, traffic-related pollution, community noise

**ALLISON E. AIELLO, PHD, MS, Associate Professor** ■ Multidisciplinary approaches for assessing antibiotic resistance in the community, clinical, and institutional setting; lifecourse SES, social context, and infectious diseases in elderly minority populations

**ANA BAYLIN, MD, DRPH, Assistant Professor** ■ Nutritional epidemiology, genetics, chronic disease, and global health

**LAWRENCE BIELAK, DDS, MPH, Assistant Research Scientist** ■ Epidemiology of subclinical coronary atherosclerosis and coronary artery calcification

**MATTHEW L. BOULTON, MD, MPH, Associate Professor; Joint Appointments: Health Management and Policy; Internal Medicine, Division of Infectious Diseases; Director, Center of Excellence in Public Health Workforce Studies; Director, Preventive Medicine Residency** ■ Public health systems and services; surveillance and field investigation of infectious diseases, especially vaccine-preventable diseases; assessment and training of the public health workforce; public health in China and India

**ANA V. DIEZ ROUX, MD, PHD, MPH, Professor; Director, Center for Social Epidemiology and Population Health** ■ Social determinants of health, race/ethnic disparities, neighborhood health effects, cardiovascular disease epidemiology, epidemiologic methods, urban health and health in Latin America

**JOSEPH N.S. EISENBERG, PHD, MPH, Associate Professor** ■ Infectious disease, transmission modeling, risk assessment, waterborne pathogens, vectorborne disease

**BETSY FOXMAN, PHD, MSPH, Professor; Director, Center for Molecular and Clinical Epidemiology of Infectious Diseases** ■ Molecular epidemiology of infectious disease

**SIOBÁN D. HARLOW, PHD, Professor; Interim Director, Center for Integrated Approaches to Complex Diseases** ■ Women's health, occupational health, reproductive epidemiology, international health

**SHARON L. R. KARDIA, PHD, Professor and Chair; Director, Public Health Genetics Program** ■ Genetic epidemiology, with a focus on genetics of common chronic diseases

**JAMES S. KOOPMAN, MD, MPH, Professor** ■ Analysis and control of infection transmission systems, theoretical basis for epidemiological analysis, causal modeling of epidemiological processes, complex systems, networks, public health surveillance

**LYNDA D. LISABETH, PHD, MPH, Associate Professor** ■ Race-ethnic and gender differences in stroke, stroke epidemiology, the genetics of ischemic stroke

**CARL F. MARRS, PHD, Associate Professor** ■ Molecular epidemiology, antibiotic resistance of bacterial pathogens

**DANIEL S. MCCONNELL, PHD, Associate Research Scientist** ■ Estrogen and androgen assays or pathways

**CARLOS F. MENDES DE LEON, PHD, Professor** ■ Epidemiology of late-life health, social epidemiology, health disparities, psychosocial risk factors for disease and disability, longitudinal methods

**RAFAEL MEZA-RODRIGUEZ, PHD, Assistant Professor** ■ Cancer risk assessment, analysis of cancer epidemiology using mathematical models of carcinogenesis, smoking and lung cancer risk, colon cancer epidemiology, public health policy modeling, mathematical modeling of infectious disease dynamics, contact network epidemiology, cancers with infectious disease etiology

**JOLYNN P. MONTGOMERY, PHD, MPH, Assistant Research Scientist** ■ Applied epidemiology and public health practice with specialization in control of communicable diseases, disease surveillance systems, public health emergency preparedness and response

**ARNOLD S. MONTO, MD, Professor** ■ Occurrence, etiology, and prevention of infectious diseases in industrialized and developing countries; frequency and cause of respiratory infections in families living in the community

**HAL MORGENSTERN, PHD, Professor; Director, Graduate Summer Session in Epidemiology** ■ Cancers, end-stage renal disease, musculoskeletal disorders, clinical epidemiology, epidemiologic methods, occupational and environmental epidemiology

**MARIE S. O'NEILL, PHD, MS, Associate Professor; Joint appointment: Environmental Health Sciences** ■ Environmental epidemiology, air pollution, climate change, environmental equity, international health, cardiovascular mechanisms

**SUZANNE E. OHMIT, DRPH, Associate Research Scientist** ■ Epidemiology of respiratory infections, influenza vaccine efficacy/effectiveness evaluations

**SUNG KYUN PARK, SCD, MPH, Assistant Professor** ■ Environmental and occupational epidemiology, age-related disease, gene-environment/nutrition-environment interactions

**PATRICIA A. PEYSER, PHD, Professor** ■ Genetics and cardiovascular disease

**ERIN M. REES CLAYTON, PHD, MPH, Research Investigator** ■ Life course socioeconomic position, social determinants of health, the link between infectious and chronic disease

**ALEX RICKARD, PHD, Assistant Professor** ■ Bacterial response to cell-cell signal molecules and the resulting changes in biofilm community composition using state-of-the-art molecular techniques and microscopy

**AMR S. SOLIMAN, MD, PHD, Associate Professor; Director, Cancer Epidemiology in Special Populations Program** ■ Cancer, cancer epidemiology, international health, developing countries, special populations, field methods

**USHA SRINIVASAN, PHD, Research Investigator, Center for Molecular and Clinical Epidemiology of Infectious Diseases** ■ Molecular methods for bacterial identification, breast milk pathogens, antibiotic resistance, bacterial vaginosis, microbiology of dental caries

**KRISTEN TOMEY, PHD, MS, Assistant Research Scientist** ■ Physical functioning limitations, what contributes to their development and progression; neighborhood effects on physical activity and nutrition-related health conditions

**EDUARDO VILLAMOR, MD, MPH, DRPH, Associate Professor; Joint appointment: Environmental Health Sciences** ■ Nutritional epidemiology, nutritional determinants of maternal and child health, developmental origins of health and disease, reproductive epidemiology, nutrition and infection

**ERIK VOLZ, PHD, Assistant Research Scientist** ■ Epidemiology of HIV, mathematical modeling of infectious disease dynamics, contact networks, phylodynamics and evolution of infectious diseases

**EDEN V. WELLS, MD, MPH, Clinical Assistant Professor** ■ Public health practice and emergency preparedness, applied epidemiology, disaster epidemiology, emerging public health threats, preventive medicine education

**MARK L. WILSON, SCD, Professor** ■ Ecology of infectious disease, spatial pattern analysis, global change and health

**ZHENHUA YANG, MD, PHD, Associate Professor** ■ Molecular epidemiology and pathogenesis of tuberculosis

**LIXIN ZHANG, PHD, MS, Research Assistant Professor** ■ Emergence and maintenance of infectious diseases; urinary tract infection using epidemiologic, molecular, statistic, simulation, and informatic tools; mechanisms of microbial pathogenesis

**HUIYONG ZHENG, PHD, MS, Assistant Research Scientist** ■ Theory and application of nonlinear dynamic systems, chaos, fractal; longitudinal study; statistical filtering; scientific computing and simulation