

EHS

ENVIRONMENTAL HEALTH SCIENCES

Environmental health sciences is a field of study and practice that aims to protect human health from adverse environmental conditions — in particular from harmful practices and harmful exposures in air, water, and food in the workplace, home, and ambient environment.

WHY CHOOSE A CAREER IN ENVIRONMENTAL HEALTH SCIENCES?

If you're interested in understanding and improving environmental impacts on human health, and you want to influence how humans modify the environment, this field will open your career.

The field of environmental health sciences utilizes multiple approaches that are reflected in specialty areas of graduate study:

- Environmental health
- Industrial hygiene
- Hazardous substances management
- Human nutrition
- Occupational and environmental epidemiology
- Risk science
- Toxicology

In addition, students may elect a general course of study in environmental health sciences and they can also supplement their work toward their degree with an interdepartmental program at the School of Public Health.

CAREER OPPORTUNITIES

- Private industries including pharmaceutical, chemical, and consumer-product industries
- Consulting and research firms

- Public and private educational institutions
- National health/research organizations such as the Centers for Disease Control (CDC), the National Institute for Occupational Safety and Health (NIOSH), the National Institutes of Health (NIH), and the Food and Drug Administration (FDA)
- International health organizations such as the World Health Organization (WHO)
- Public and private health care organizations, including state and local health departments and HMOs

RESIDENTIAL DEGREES OFFERED

- Master of Public Health (MPH)
Graduates work as practitioners and leaders in chosen field
- Master of Science (MS)
Graduates have careers in research in area of specialization
- Doctor of Philosophy (PhD)
Graduates have leadership careers in academia, government, and industry

OTHER PROGRAMS AND DEGREES

In addition to traditional graduate programs, the department offers an executive education program, also known as On Job/On Campus (OJOC). This non-residential program is designed for those who are unable to reside on campus full-time but want to obtain a master's degree (MPH) while working full-time.

www.sph.umich.edu/ehs

CONTACT INFORMATION

See reverse side.



SPH environmental health scientists are conducting global studies of air quality.

“MY ENVIRONMENTAL HEALTH SCIENCE EDUCATION ALLOWED ME TO CHOOSE FROM A VARIETY OF INTERESTING CAREER CHOICES — AND HELPED ME DETERMINE HOW TO APPROACH AND SUCCEED IN MY CAREER.”

—REBECCA HEAD, PHD '83

FACULTY AND RESEARCH**NILADU BASU, PHD***Assistant Professor* ■

Ecotoxicology, fish and wildlife sentinels, neurochemical biomarkers, ecosystem health, water quality, and risk assessment of legacy and emerging pollutants

STUART BATTERMAN, PHD*Professor; Joint Appointment: Professor, Civil and Environmental Engineering* ■

Exposure assessment, biological monitoring, human health risk and environmental impact assessment, innovative measurement techniques for air pollutants, environmental policy (air quality, hazardous waste, and drinking water)

J. TIMOTHY DVONCH, PHD*Research Assistant Professor* ■

Exposure assessment and health effects of air pollution, with a focus on chemical composition of airborne particles and air pollution source identification

ALFRED FRANZBLAU, MD*Professor; Joint appointment: Associate Professor, Emergency Medicine* ■

Work-related musculoskeletal disorders, biological monitoring of methanol exposure, occupational neurological disease, and occupational respiratory disease

CRAIG HARRIS, PHD, Professor ■

Mammalian developmental toxicology, biochemical mechanisms of teratogenesis, role of biochemical defenses influencing incidence and severity of dysmorphogenesis

HOWARD HU, MD, MPH, SCD*Professor and Chair; Joint appointment: Professor, Epidemiology and Medicine* ■

Metals exposure and genetics to the causation of chronic diseases in adults and impaired development in children, clinical syndromes such as idiopathic environmental intolerances, children's environmental health issues such as neonatal exposure to phthalates

OLIVIER JOLLIET, PHD, Associate Professor ■

Environmental health risks and impacts, multi-media fate and exposure modeling, indoor and outdoor intake fractions, risks of chemicals, contaminated sites, trade and environmental justice, life cycle assessment of new technologies

GERALD KEELER, PHD*Professor; Joint appointments: Professor, Civil and Environmental Engineering; Professor, Atmospheric,*

Oceanographic and Space Sciences ■ Sources, chemistry, transport, and deposition of trace elements in the environment with a focus on mercury; air pollution meteorology and chemistry; ecosystem studies of trace element cycling; environmental sensor and instrumentation development

RITA LOCH-CARUSO, PHD, Professor ■

Reproductive toxicology; molecular and cellular mechanisms by which environmental pollutants, particularly bioaccumulating toxicants of concern, alter placental and uterine functions that regulate parturition; oxidative stress as a mechanism of reproductive toxicity

PETER MANCUSO, PHD, Assistant Professor

■ Inflammation and infection of the lung, role of eicosanoids in pulmonary host defense, leptin and immune function, malnutrition

JOHN MEEKER, SCD, Assistant Professor ■

Exposure assessment and epidemiology of endocrine disruptors and other chemicals commonly encountered in the environment, assessment and control of occupational exposures

JEROME NRIAGU, PHD, DSC, Professor

■ Sources, fate, and effects of toxic metals in the environment; environmental food contamination; water-quality issues in the Great Lakes; environmental health in developing countries

MARIE S. O'NEILL, PHD*Assistant Professor; Joint appointment: Assistant Professor, Epidemiology* ■

Environmental epidemiology, air pollution, climate change, environmental equity, international health, cardiovascular mechanisms

SUNG KYUN PARK, SCD*Assistant Research Professor* ■

Environmental epidemiology related to toxic metals and air pollution impacts on chronic disease, such as cardiovascular disease, neurodegeneration, cataracts; gene-environment interactions

MARTIN PHILBERT, PHD, Professor;*Senior Associate Dean for Research* ■

Experimental neuropathology, development of nano-optical chemical systems, nanostructure-based imaging of head and neck tumors

RUDY RICHARDSON, PHD, Professor ■

Neural injury with applications to neurodegenerative disease and stroke, biomarkers of neurotoxicant exposure, dysfunction and recovery, chemistry and neurotoxicity of organophosphorus, risk assessment and policy

THOMAS ROBINS, MD, MPH, Professor

■ Exposure assessment and disease outcomes, epidemiology of inhaled toxins such as coal dust, lead, allergens, ambient air pollutants, metalworking fluid aerosols

ANITA SANDRETTO, PHD, Lecturer ■

Interactions between nutrient intake, nutrition status, and physical activity on body weight and body composition

ALAN TSAI, PHD, Associate Professor ■

Effects of socioeconomic and lifestyle changes on nutritional status and health, nutritional status and health among the aging

JAMES VINCENT, PHD, DSC, Professor

■ Aerosol science, experimental fluid mechanics, air pollution control engineering, dust sampling and control in workplaces, exposure assessment, inhalation research, pharmacokinetic and dosimetric modeling for inhaled aerosols, occupational exposure standards

CHUANWU XI, PHD, Assistant Professor ■

Application of molecular techniques and nanotechnology in environmental microbiology; biofilms, water quality, advanced bio-imaging, molecular microbial ecology, environmental genomics and integrated biosensors for environmental monitoring

EDWARD ZELLERS, PHD, Professor;*Joint appointment: Professor, Chemistry* ■

Microfabricated chemical sensor arrays and microanalytical systems for real-time monitoring of workplace contaminants in air and biological media, permeation of organic solvents through protective clothing

CONTACT INFORMATION

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