# BACHELOR OF SCIENCE IN PUBLIC HEALTH

- Concentration in Environmental Health
- Department of Public Health, Nutrition & Wellness
- Approved to be Launched in 2017-2018
- First of its kind at the undergraduate level in the Adventist Health School System.

### CONTACT INDIVIDUALS

- Program Director: Padma Tadi Uppala, Ph.D., MPH
- Professor, Environmental Health and Environmental Toxicology
- Padma@Andrews.edu x3043
- Sherine Brown-Fraser PhD, RD, CPT
- Department Chair Public Health, Nutrition, & Wellness
- Associate Professor
- brownfraser@Andrews.edu x3370
- Department of Public Health, Nutrition & Wellness

### DEGREE AND CERTIFICATION

- Bachelor of Science in Public Health
- Eligible to take the exam: Registered Environmental Health Specialists (REHS)
  administered by National Environmental Health Association (NEHA).
- Qualifies undergraduates for entry-level positions in the field of environmental health.
- Social and Behavioral students are also eligible to take the exam if they
  complete internships at environmental health agencies that prepare them
  for the exam.
- Students can also pursue Masters in Public Health online while pursuing their careers.

- Prepares students for careers in public health and environmental health
- Degree can be used as a foundation for advanced degrees: environmental toxicology., emergency preparedness, environmental nutrition, applied agricultural sciences, environmental engineering, epidemiology.....
- Satisfy entrance requirements for professional degrees such as medicine, nursing, veterinary medicine, dentistry, physical therapy and pharmacy.



## WHAT IS ENVIRONMENTAL HEALTH?

- According to World Health Organization (WHO), environmental health is a field of study that addresses the physical, chemical, biological and all the other related factors that are external to an individual and impact his/her behaviors and health.
- It is a branch of public health that is concerned with all aspects of natural and built environment that may affect human health.
- The definition of "environmental health" has broadened to include social, and cultural as well
  as the environment we create for ourselves, by smoking or not smoking, and by our dietary
  choices, for example.
- Global environmental problems: global climate change, increasing number of earth quakes, hurricanes, tsunamis, tornadoes and floods; diminishing biodiversity, growing shortages in freshwater supplies, long range transport of air pollutants and accumulation of persistent organic compounds in food webs, and wars to mention just a few.
- The coal burned in China, the air pollution cloud created in Asia, or the pesticides used on farms in Central America or the 2011 Fukushima tsunami radiation disaster involving radioactive cesium-137 plume that reached US waters can affect all of us
- FOCUS: PROTECT PUBLIC HEALTH

# WHAT DO ENVIRONMENTAL AND OCCUPATIONAL HEALTH SPECIALISTS (EOHS) DO?

- Environmental health professionals touch everyone's lives every day
- They ensure that the food we eat, water we drink and the air we breathe are safe and our workplace conditions are healthy and safe
- They protect the environment from contamination
- They are the first responders at public safety sites
- They engage in activities such as community education, preparation for natural disasters or bioterrorism threats, hazardous waste management, water quality assurance, inspection of recreational areas, restaurant inspections
- EHOS monitor air quality, noise pollution, toxic substances and pesticides, infectious diseases and vector control, land use and housing, environmental catastrophes such as hurricanes, tornadoes and earthquakes.

#### WHAT DO EHOS DO?

- 1. Make sure that people follow rules, laws and regulations
- 2. Interview employees who have been exposed to hazardous materials
- 3. Respond to complaints
- 4. Make recommendations for improved health and safety
- 5. Develop legislation
- 6. Collect samples for laboratory analysis from contaminated drinking water, sewer, oil spills in the ocean, diminishing coral reefs in the great Australian Barrier, toxic hazardous waste sites and land fills.

## WHERE DO ENVIRONMENTAL & OCCUPATIONAL HEALTH SPECIALISTS WORK?

- They work at the Local, state or federal public health agencies (Riverside County Department of Public Health; California Department of Public health; Centers for Disease Control, Atlanta; Food and Drug administration in Washington DC; Environmental protection Agency in Washington DC
- Work at a health care Institutions: LLU Medical center, Riverside General Hospital or Kaiser Permanente; businesses such as Babcock Environmental Sampling facility, Disney Land etc.)
- Work as Environmental scientists or Environmental engineers at the National Institute for Occupational Safety and Health, and Occupational Safety and Health Administration or National Institute of environmental Health Sciences.
- Private industry and businesses, including manufacturing, transportation, and construction.

#### **EDUCATION**

- Education:
- While you can be hired with a bachelor's degree, some jobs, particularly those in occupational health, require a graduate degree or further training and professional credentials.
- Master of Public Health in Environmental and Occupational Health;
   School of public health Loma Linda University
- Registered Environmental Health Specialist (REHS)

#### **AVERAGE SALARY**

- Occupational Health Specialists
- The average annual salary ranges between: \$33,570-\$85,690.
- Source: U.S. Department of Labor Statistics, May 2006
- **Environmental Health Scientists**
- The average annual salary ranges between: \$47,240-\$87,080.
- Source: U.S. Department of Labor Statistics, May 2006
- Pay is dependent on geographic location, company/business, and advanced education or professional credentials. For example, an occupational health specialist with a graduate degree and certifies as an industrial hygienist can earn more.

# ENVIRONMENTAL AND PUBLIC HEALTH CAREERS IN THE 21<sup>ST</sup> CENTURY

### JOB OUTLOOK

- Projected to grow 11% from 2014-2024, faster than the average for all occupations.
- According to an assessment conducted by the Association of the Schools of Public Health (ASPH), the United states needs more than 250,000 additional public health workforce by 2020 to avoid a major public health crisis. ASPH warns that shortage in Public health professionals can leave the country vulnerable to disease, bioterrorism and health threats.
- One of the reasons for the shortage of public health workforce is due to an increase in the retirement of current public health workers.

### JOBS, EMPLOYMENT AND SALARY

- Environmental Health Specialist job ranks 22 among top 100 "Best jobs in America"-CNNMoney; General Surgeons rank 75; anesthesiologists rank 68 and Emergency Room physician ranks 25
- Environmental health specialist,Environmental scientist
- Environmental engineer
- Registered sanitarian,
- · Occupational health specialist,
- Industrial hygienist
- Air pollution, Food safety specialist
- Drinking water specialist
- Hazardous waste specialist
- Toxicologist
- Emergency Response specialist
- Environmental Health Academic

## JOB OUTLOOK FOR SOCIAL AND BEHAVIORAL PROFESSIONAL

- Projected to grow 12% from 2014-2024 faster than the average for all occupations.
- Social workers and Mental health consultants, Health educators and community workers, Marriage & family therapists, Probation officers and Correctional Treatment Specialists, Psychologists, Rehabilitation Counselors, School and Careers Counselors, Social and community Service Managers, Social and Human Service Assistance, and Substance abuse & Behavior Disorder Counselors. Social workers help people solve and cope with problems in their everyday lives. One group of social workers, clinical social workers also diagnose and treat mental, behavioral, and emotional issues.

## EMPLOYMENT GROWTH IN MICHIGAN

- In 2010 there were 7,360 more public health professionals working in Michigan than there were in 2006. Thus, in Michigan, this field has grown by 56% in four years. This is faster than the trend for public health professionals around the US. Nationally,
- In Michigan, as the number of public health professionals is growing, the salaries earned by public health professionals are increasing. The mean salary for public health professionals in 2006 was \$58,087 per year, and in 2010 the mean salary was \$61,860 per year.

### SALARY-REHS ENVIRONMENTAL HEALTH INSPECTORS AND ENVIRONMENTAL JOBS

- Environmental Health & safety Specialist (Median Pay)----\$71,000; Top Pay \$99,000
- 10 year job growth (2008-2018) 28%
- Total jobs currently 30,000
- City/County/State Health Department
- Entry level health inspector \$35,000-55,000
- Senior or chief Health inspector \$40,000-80,000
- At the Federal for entry level health inspector (40,000-60,000)
- Private sector
- Food safety auditor \$32,000-\$125,000
- QA/QC inspector \$25,000-\$65,000
- Quality assurance director/Food manufacturer \$60,000-\$160,000
- Environmental health Safety Manager \$50,000-\$120,000

# WHY OBTAIN AN MPH IN ENVIRONMENTAL AND OCCUPATIONAL HEALTH AT ANDREWS UNIVERSITY?

Mission: Seek knowledge, affirm faith, transform the world

To bring hope, health, and healing to communities throughout the world through the discovery and dissemination of knowledge while integrating the Christian values of the Seventh-day Adventist Church.

#### Vision

Engage in intellectual discovery to change the lives of the public through disease prevention and wholeness of body mind and spirit

To be light bearer's, and to engage in the teaching and healing ministry of Jesus Christ.

Values: Love, faith, hope, excellence, equity and diversity.

