HEALTH EFFECTS LABORATORY DIVISION

National Institute for Occupational Safety and Health

The **Health Effects Laboratory Division (HELD)** is a part of the **National Institute for Occupational Safety and Health (NIOSH)**. HELD conducts basic and applied laboratory research focused on evaluating, controlling and preventing workplace safety and health hazards. The division has the following goals:

- Conduct occupational-related laboratory research in the areas of immunology, allergy, and inflammation.
- Provide statistical design, analysis, and interpretation for experimental research and conduct collaborative observational research focused on introducing new laboratory- based technology into population-based studies.
- Conduct applied research and establish new methods to identify and assess occupational exposures using a variety of approaches including direct reading instruments, sensors, and analytical methods.
- Research new and improved techniques to assess the exposure of workers to chemical, physical, and biological hazards.
- Perform occupational-related research in the area of pathology and physiology.
- Develop realistic models that simulate work activities to better understand exposure response relationships in the workplace.
- Investigate the biological factors responsible for occupational health problems.

Technology & Product Highlights

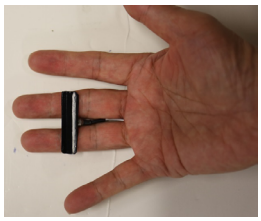
NIOSH Manual of Analytic Methods (NMAM)

NMAM is a collection of methods for sampling and analysis of contaminants in workplace air, on workplace surfaces, and in the blood and urine of workers who are occupationally exposed. www.cdc.gov/niosh/nmam

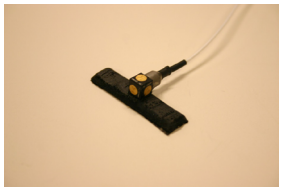
Acoustic Particle Generation System

The acoustic particle generation system is based on a NIOSH patented technology and is used to investigate health effects of occupationally relevant nanoparticles and dusts.

Finger Adapter Method



This method evaluates finger protection for workers using vibration reducing (VR) gloves. VR gloves are used to protect workers from hand-transmitted vibration exposure when using power hand tools. The current ISO standard assesses the effectiveness of VR gloves at the palm of the hand, but does not directly assess protection of the fingers. This method has proven to be a convenient and reliable method and a valuable addition to the current standard.



Personal Bioaerosol Cyclone Sampler

This licensed technology collects airborne particles from the environment into relevant respiratory size and into appropriate tubes to facilitate analysis. The air entering the sampler swirls like a cyclone, sticking the airborne particles against the sampler's walls. Particle size determines where the particles will deposit in the lungs and how dangerous they are to the worker's health. The sampler and its sister designs have been used to study many types of airborne hazards.

NIOSH is the U.S. federal agency that conducts research and makes recommendations to prevent worker injury and illness. NIOSH was established under the Occupational Safety and Health Act of 1970. It is part of the Centers for Disease Control and Prevention in the U.S. Department of Health and Human Services.

For more information

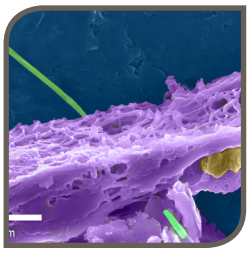
www.cdc.gov/niosh/contact/im-held.html

(304) 285-6121

OUR SAFETY AND HEALTH RESEARCH AREAS

Occupational Immunology

Inhalation Toxicology and Respiratory Disease



Nanotoxicology

Biostatistics Analysis

Genomics and Biomarkers

Infectious Disease Transmission

Neurotoxicology

Epidemiology of Subclinical Measures

Musculoskeletal Disorders Control

Exposure Assessment

Centers and Programs

Center for Direct Reading and Sensor Technology

This center coordinates research and develops recommendations on the use of new technologies in occupational safety and health.
www.cdc.gov/niosh/topics/drst

Immune, Infectious and Dermal Disease Prevention Program

This program includes the study of work-related immune diseases, such as irritant and allergic contact dermatitis, allergic rhinitis, asthma, or infectious disease, caused by work-related exposures. It also includes workplace exposures to chemicals that can be absorbed through contact with skin that may result in adverse health impacts.
www.cdc.gov/nora/councils/iid

OUR STAFF

HELD has 199 full-time positions and has offices and labs in Morgantown, West Virginia, and Cincinnati, Ohio.
Staff have experience in the following areas:

Biostatistics and Epidemiology: Epidemiologist I Psychologist I Statistician
Engineering: Biomechanical/Biomedical/Computer/Mechanical/Industrial Engineers I Computer Scientist Informatics
Exposure Assessment: Chemical Engineer I Chemist I Environmental Health Specialist I Physical Chemist I Industrial Hygienist
Pathology: Biologist I Physical Scientist I Pathology Technician I Physiologist I Veterinary Medical Officer
Quality Assurance: Laboratory Quality Coordinator
Toxicology: Biologist I Pharmacologist I Toxicologist
Support: Medical Technologist I Public Health Analyst I Visual Information Specialist

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Find NIOSH products and get answers to workplace safety and health questions:
1-800-CDC-INFO (1-800-232-4636) | TTY: 1-888-232-6348
CDC/NIOSH INFO: cdc.gov/info | cdc.gov/niosh
Monthly NIOSH eNews: cdc.gov/niosh/eNews