

Climate Impacts of Worker Health:

Industrial Hygiene Training Needs Due to Climate Change

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Howdy from Texas!





Texas Medical Center, Houston, Texas

Flooded loading dock – McGovern Medical School at UTHealth Houston (2001)



Flooded loading dock before pumping



Flooded loading dock after pumping

Brand new: Houston Community College “Resiliency Center of Excellence”



Hurricane Harvey impacts on Houston, August 2017 (Courtesy of Houston Chronicle)



Artist rendition of new HCC Resiliency Center of Excellence, the first of its kind in the United States

<https://www.hccs.edu/campaigns/resiliency-reimagined-protecting-houstons-future-today/>

Consider the following perils...

- Extreme weather
- Extreme temperatures
- Flooding
- Drought
- Wildfires
- Melting ice
- Changing ecologies

Consider the following perils...

- Extreme weather – hurricanes, tornadoes, etc.
- Extreme temperatures – polar vortices, heat advisory warnings, red tide, etc.
- Flooding – water intrusion, mold, sanitation, etc.
- Drought – impacts to agriculture, airborne particulates, erosion, etc.
- Wildfires – fire damage, soot, erosion, etc.
- Melting ice – sea level rise
- Changing ecologies – species loss, displacement of people and animals, opportunities for emerging pathogens, etc.

Nature: *Infectious Disease in an Era of Global Climate Change*

Recent outbreak/pandemic examples include:

- Nipah (1999)
- SARS (2003)
- Swine flu (2009)
- MERS (2012)
- Ebola (2013-2016)
- Zika (2015)
- COVID-19 (2019-??)

<https://www.nature.com/articles/s41579-021-00639-z#Abs1>

Nature: *Infectious Disease in an Era of Global Climate Change*

- Range of global pathogens expanded, with particular risk for vector-borne pathogens, may be a phenomenon of global climate change
- Increases in population, population density (urbanization), global travel, trade, and mobility allow for rapid transmission of disease

<https://www.nature.com/articles/s41579-021-00639-z#Abs1>

American Industrial Hygiene Association

CERTIFIED

WHAT IS THE CERTIFIED INDUSTRIAL HYGIENIST (CIH) CREDENTIAL?

The Certified Industrial Hygienist (CIH) credential is the global standard for certification in protecting the health and safety of workers and the public by anticipating, recognizing, evaluating, and controlling chemical, physical, ergonomic, or biological hazards, including COVID-19.

A CIH must meet the minimum requirements for education and experience, and through examination, demonstrate a minimum level of knowledge and skills in the following areas:

- Air Sampling & Instrumentation
- Analytical Chemistry
- Basic Science
- Biohazards
- Biostatistics & Epidemiology
- Community Exposure
- Engineering Controls/Ventilation
- Ergonomics
- Health Risk Analysis & Hazard Communication
- Industrial Hygiene/OEHS Program Management
- Noise
- Non-Engineering Controls
- Radiation – Ionizing and Non-ionizing
- Thermal Stressors
- Toxicology
- Work Environments & Industrial Processes

American Industrial Hygiene Association

The screenshot shows the AIHA website's navigation bar with links for Catalyst, Find Consultants, Job Board, Marketplace, Member Center, SIGN IN, Search, and Join Now. The main header includes About AIHA, Membership, Get Involved, AIHA University, Events, IH/OEHS Careers, Publications, and Public Resources. The main content area features the AIHA logo and the title "Biosafety and Environmental Microbiology Committee". Below this is the "Mission" statement: "The committee provides a forum for disseminating and exchanging ideas and information about hazardous microbiological agents and their byproducts to health professionals and to the community." A secondary navigation bar includes a home icon, Get Involved, Volunteer Groups, and the current page title. The "Get Involved" sidebar lists: Advancing OEHS Science and Practice, AIHA Brand Ambassador Program, AIHA Content Development, AIHFoundation, AIHA Guideline Foundation, and Distinguished Lecturer Program. The "Goals and Objectives" section includes a paragraph and a bulleted list of five points. A small icon of a person is visible in the bottom right corner.

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About AIHA Membership **Get Involved** AIHA University Events IH/OEHS Careers Publications Public Resources

Biosafety and Environmental Microbiology Committee

Mission

The committee provides a forum for disseminating and exchanging ideas and information about hazardous microbiological agents and their byproducts to health professionals and to the community.

Home | Get Involved Volunteer Groups **Biosafety and Environmental Microbiology Committee**


Get Involved

- Advancing OEHS Science and Practice
- AIHA Brand Ambassador Program
- AIHA Content Development +
- AIHFoundation +
- AIHA Guideline Foundation +
- Distinguished Lecturer Program

Goals and Objectives

Assemble, evaluate, and disseminate to occupational and environmental health professionals information on bio-hazardous agents in industry and the built environment to facilitate the recognition, evaluation, and control of their risks. A bio-hazardous agent is one of biological origin that has the capacity to produce deleterious effects upon humans, and includes organisms, toxins, and allergens.

- Discuss and act upon biosafety and environmentally linked microbiological issues.
- Solicit papers, organize session, provide session arrangers, chairs, and monitors for AIHce.
- Communicate plans and activities to other AIHA committees that may be affected or concerned. Provide liaison support and technical assistance to other professional committees.
- Provide education and training on Biosafety and Environmental Microbiology issues.



<https://www.aiha.org/get-involved/volunteer-groups/biosafety-and-environmental-microbiology-committee>

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October 14, 2021

AIHA Issues Updated Guide on Role of OEHS Professionals in a Pandemic

October 14, 2021 (Falls Church, Va.)—[AIHA](#), the association for scientists and professionals committed to preserving and ensuring occupational and environmental health and safety (OEHS) in the workplace and community, has released the second edition of its guidance document *The Role of the Industrial Hygienist in a Pandemic* ([PDF](#)). Originally published in 2006 by the AIHA Biosafety and Environmental Microbiology Committee to address the then-recent SARS outbreak, the guide has been updated to incorporate information relevant to the COVID-19 pandemic. Senior editors Roger D. Lewis, PhD, CIH, FAIHA, and Robert D. Strode, MS, CIH, FAIHA, headed the project, which received support from the Centers for Disease Control and Prevention.

The Role of the
Industrial Hygienist in a
Pandemic
2nd edition

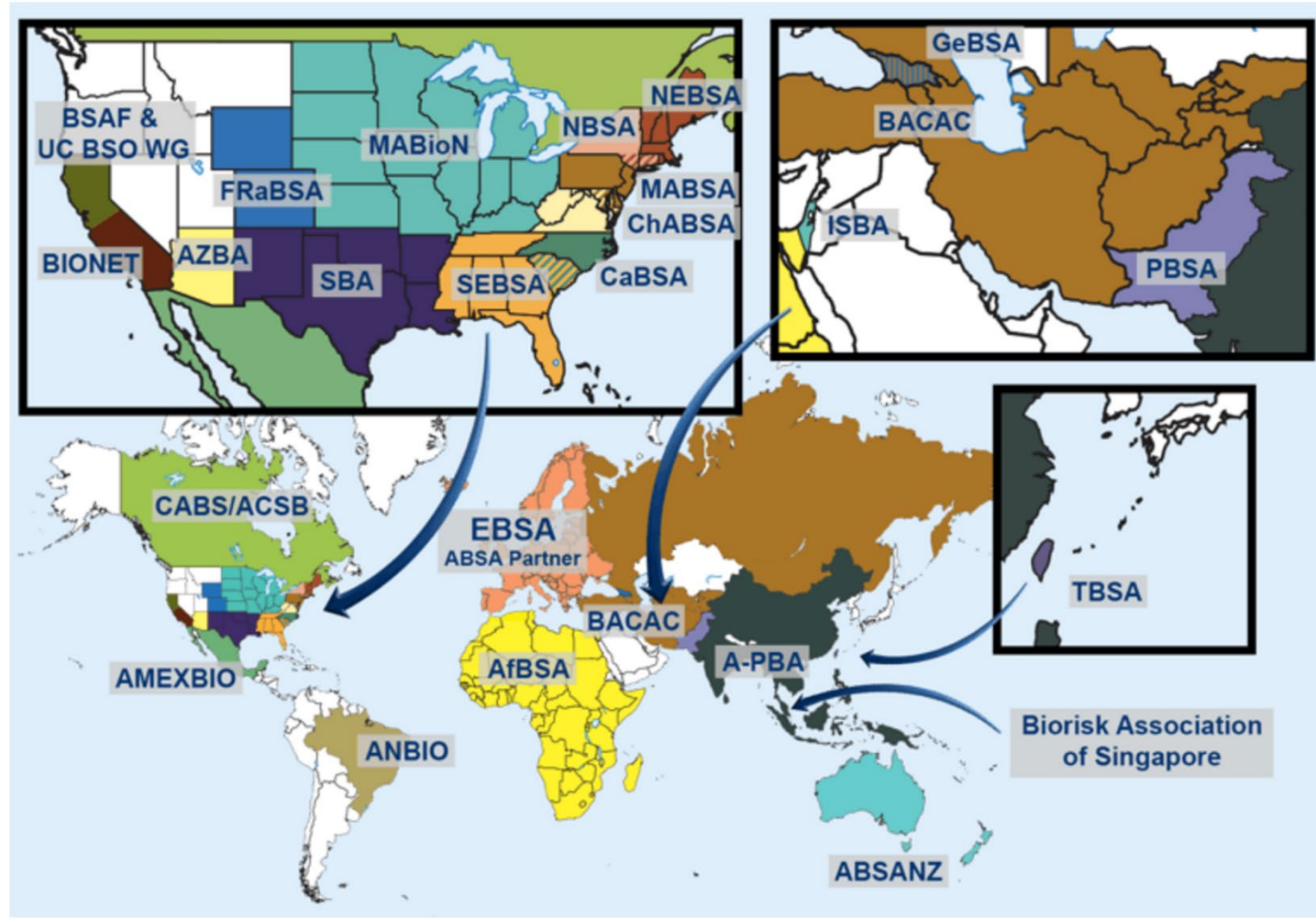
<https://www.aiha.org/press/aiha-issues-updated-guide-on-role-of-oehs-professionals-in-a-pandemic>



ABSA

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The Association for Biosafety and Biosecurity



ABSA Affiliates and Partners



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#BiosafetyWI2022

65th Annual Biosafety and Biosecurity Hybrid Conference

WISCONSIN CENTER
Milwaukee, Wisconsin

October 14-19, 2022



Applied Biosafety

www.absa.org

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Thank you!

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