

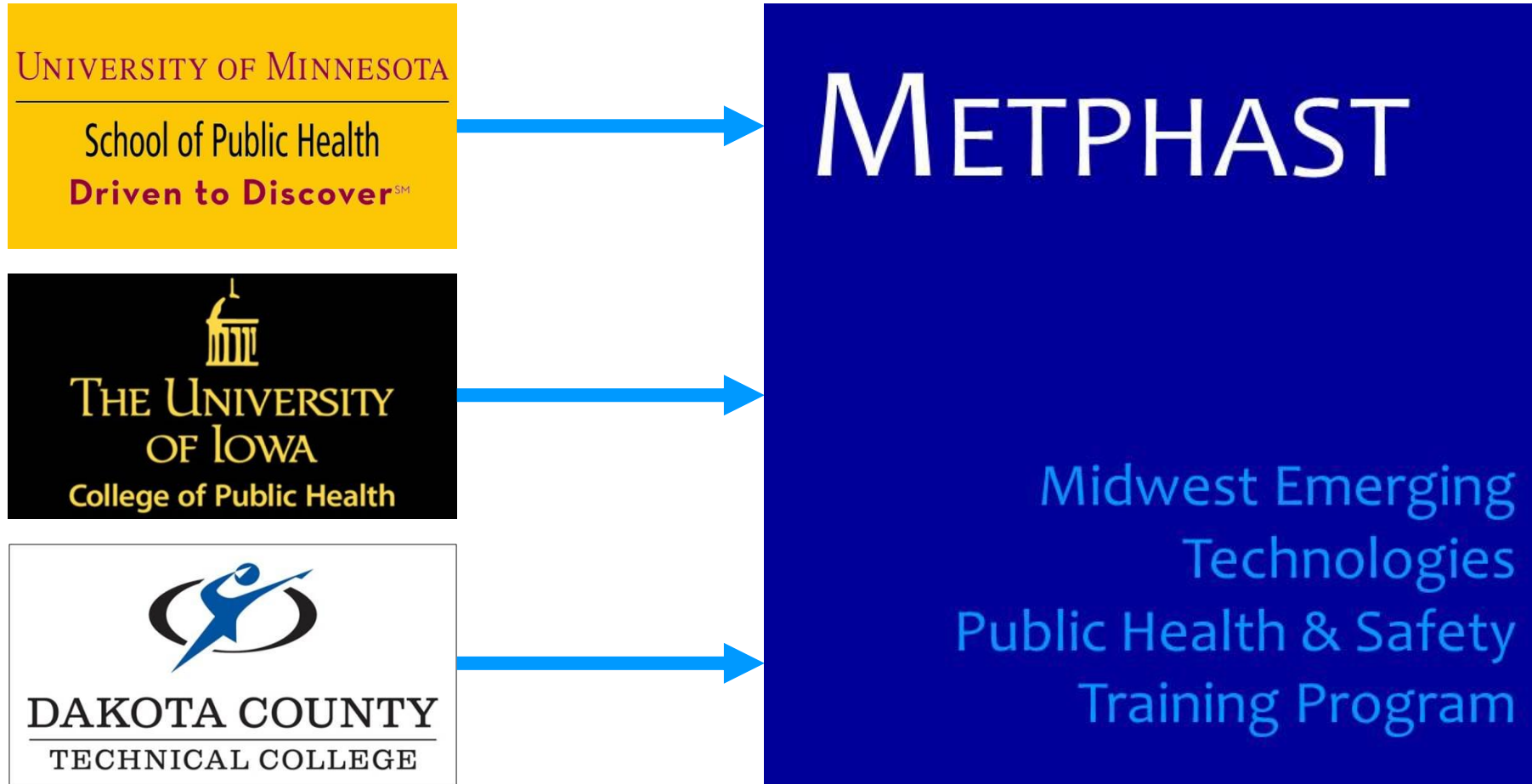
# METPHAST

Midwest Emerging  
Technologies  
Public Health & Safety  
Training Program

# NIEHS SRP R25 Program

- NIEHS has legislative mandate to support training of personnel who evaluate human health hazards at facilities at which hazardous substances are located using short courses, continuing education, and graduate-level training in environmental and occupational health and safety
- Superfund Research Program Occupational and Safety Education Programs on Emerging Technologies (R25)

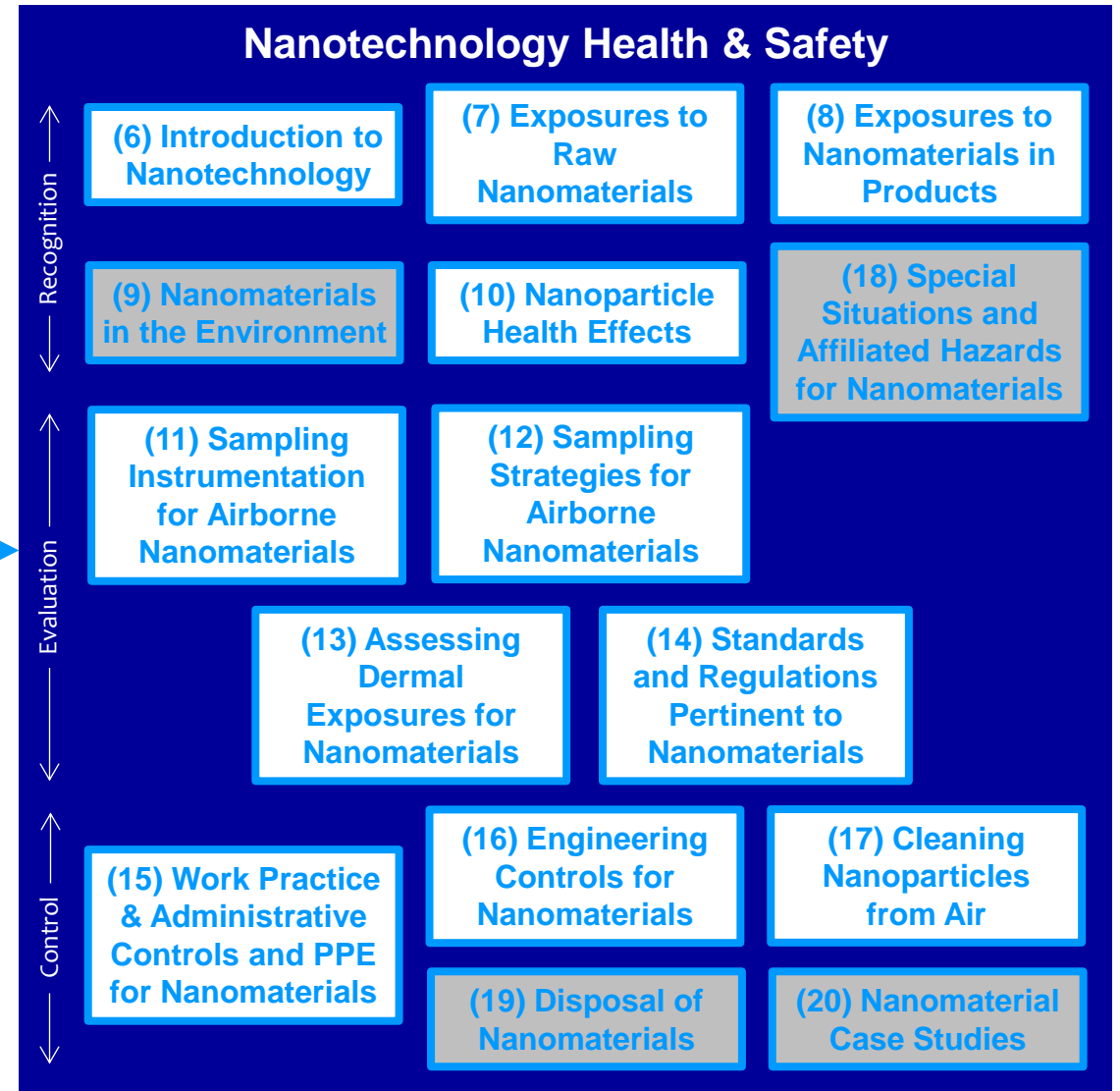
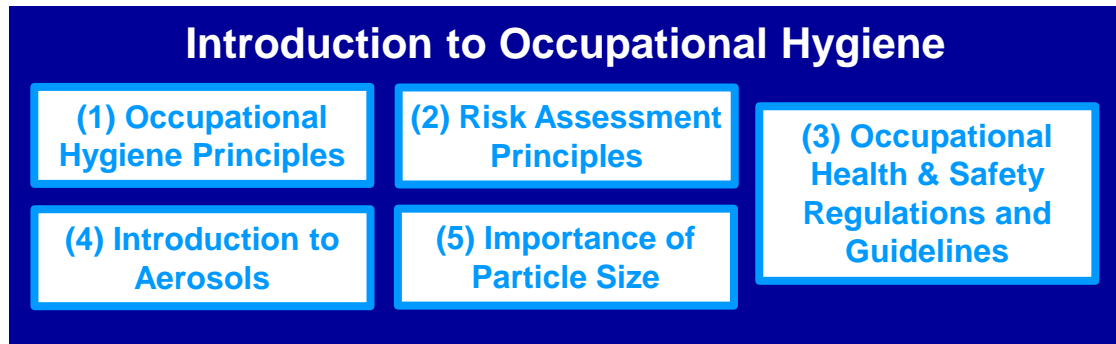
# METPHAST Program Partners



# METPHAST Program Goals

- 2013-2016: Develop comprehensive array of focused, web-based modules about nanotechnology health and safety
- 2016-2021+: Develop comprehensive web-based curriculum on occupational hygiene, with emphasis on applications to worker health and safety in emerging technologies
- Use flexibly to serve unique needs of different learners
  - Academic courses
  - Continuing education
  - Individual lessons
  - Educating the public

# Existing Modules



# Elements of Existing Modules

- Lesson
  - Narrated screencast, about 1-hour long
  - Knowledge checks, in some applications
  - Example: [Condensation Particle Counters in Module 11](#)
- Hands-on Activity
  - Guide for Instructors
  - Instructions for Learners
  - Narrated video showing how to conduct the activity
  - Example: [Hands-on Activity Demonstration: Dust Generation](#)

# Application of Content

- Academic course at University of Minnesota
  - PubH 6100, Topics: Environmental Health (Nanotechnology Health & Safety)
  - Offered for the first time in Spring 2016
  - Offered again currently: <https://ay16.moodle.umn.edu/course/view.php?id=11119>
- Continuing education
  - On-line modules with graded knowledge checks and automatic certificate generation
  - "Audience" includes CIHs, CSPs, CHMMs, COHNs, PEs
  - Available at <http://www.sph.umn.edu/academics/ce/courses/>
- YouTube channel: <http://youtube.com/METPHASTProgram>
- Nano-Link: <http://nano-link.org/>
- Future plans
  - Shorter learning assets
  - Dedicated METPHAST Program web site
  - Flipped industrial hygiene curriculum





# Air Pollution Exercise (For Communities)

- Objectives

- Identify different types of air pollution
- Describe sources of air pollution around you
- Describe the health effects of air pollution
- Identify techniques to reduce exposure in the home and community
- Develop a plan to take further action steps

- Guides

- Participant Guide: <http://med.uc.edu/docs/default-source/Environmental-Health/mwc/mwc-air-pollution-exercise-participant-guide-final.pdf?sfvrsn=0>
- Facilitator Guide: <http://med.uc.edu/docs/default-source/Environmental-Health/mwc/mwc-air-pollution-exercise-facilitator-guide-final.pdf?sfvrsn=0>

- Structure

- No lectures
- Participants encouraged to use resources, mostly electronic
- Instructor should prepare for local issues and resources
- Instructor should facilitate and assure questions are answered

# Resources for Air Pollution Exercise

- Readings in Participant Guide
- METPHAST Program: Introduction to Aerosols (Draft), from 3:15-7:25
  - Aerosol particle sources created by human activities
  - Sizes of different types of particles
  - <https://www.youtube.com/watch?v=paavEoiRp8c>
- EPA: My Environment
  - Look for Air Quality Index in local zip code
  - <https://www3.epa.gov/enviro/myenviro/>
- EPA: Toxic Release Inventory (TRI)
  - Gather information on releases by zip code, city, county, and/or state
  - <https://www.epa.gov/tri/>
- Other resources, including from METPHAST Program, listed at end

# Other Exercises

- What is happening in my zip code?
  - My Environment
  - myRTK (my Right-to-Know)
  - ECHO (Enforcement and Compliance History Online)
- Hazard Control Refresher – Using the ERG
  - Uses the ERG app
- NIOSH Pocket Guide Performance Measure
  - Not designed specifically for mobile use
- In development...
  - Tox Town exercise
  - Generic app exercise