



Thematic Sessions

Emerging threats and risks

The proliferation character of today's CBRNe threats is drawing concern beyond defense circles. Many CBRNe threats are emerging, and we have in the last five years experienced state use of chemical weapons and terrorist supported individuals that have been disrupted to perform biological, chemical and explosive terrorist acts in Western countries. This session will focus on many aspects of the CBRNe threats including:

- Emerging technologies to provide an overview of the challenges faced to our first responders
- Emergency services and military in responding to new types of attacks that challenges national and global security

Physical Protection

This session will include, but is not limited to, the following topics:

- New and emerging technologies for personal and collective protection
- Improved protection against CBRNe
 - Filtration and adsorbents
 - Material research
 - Collective protection (COLPRO)
- Protection against CBRN in combination with explosives

Identification/Forensics CBRNe

The session will include the latest research on disease-causing microbes, traditional and nontraditional chemical agents and RN-material and what is being done to detect and trace-back those agents, and how the analytical results can be communicated with stake-holders. Specific topics:

- Efforts to enable capabilities such as development of improved identification methods for traditional and nontraditional chemical agents
- Development of diagnostics for existing and emerging infectious disease threats
- Novel technologies for first responders for rapid and accurate identification of pathogens
- Strategies and methods for differentiation of a natural outbreak from an accidental release or from the intentional use of biological agents in bioterrorism and biological warfare
- Recent research and development of existing technology and methodology for RN identification
- CBRNe forensics

Detection and on-site analysis CBRNe

This session will include, but is not limited to, the following topics:

- Recent research and development of existing technology and methodology
- Wearable sensors/detectors
- Emerging sensor technologies adaptable for CBRNe applications
- Alarm algorithm development and optimization
- Sensor Networks
- CBRNe Detection and on-site analysis by, e.g., Mobile laboratories

Medical Management

This session will include, but is not limited to, the following topics:

- Physiological effects on the human body by CBRN agents
- Rapid identification of individuals exposed to a CBRN agent, e.g. biomarkers and specific symptom interpretation
- Medical response to a CBRN incident, e.g. development of triage systems and optimization of the medical chain
- Research and development of medical countermeasures
- Research on skin decontamination
- Civil military cooperation in a medical context of CBRN events

Decontamination

This session will include, but is not limited to, the following topics:

- Interaction studies of CBR-agents and decontaminants on surfaces
- Chemical transport in materials
- Computer modeling of underlying molecular mechanisms of chemical transport
- Research on new materials for surface decontamination
- Rapid detection methods for decontamination evaluation

Health risk assessment CBRN

This session will include, but is not limited to, the following topics:

- Modelling and simulation based intelligence
- Methodologies for hazard identification, dose-response, exposure assessment and risk characterization
- Case studies

Commercial developments

This session will include, but is not limited to, the following topics:

- State-of-the-art technology developed to improve detection of CBRN substances and explosives
 - new or refined instruments that can be purchased or are close to market release
 - innovative applications contributing to improve operative CBRNe capabilities
- New developments in physical protection
 - Protective materials and protective ensembles
 - Filtration and adsorbents
 - Collective protection
- Decontamination
 - Decontamination concepts for materials, vehicles, environment etc.
 - Decontamination of skin, casualties and personal
- New developments of medical countermeasures

Education/Training/Exercises

Improving organizational capability and readiness as well as individual skills and efficiency is key to secure performance in CBRNe events. The session will include, but is not limited to, the following topics:

- Training methodology for first responders handling CBRNe events
- Training Command and Control for CBRNe response
- Simulation tools for training medical response in CBRNe environments
- Virtual Reality tools for training first responders handling CBRNe
- Training program development for organizational learning
- Improving learning from large scale exercises
- Educational tools for students learning CBRNe

Hazard management

This session will include, but is not limited to, the following topics:

- Scenario based hazard management
 - Decision support tools
 - Case studies
- Dispersion modelling of CBRNe
 - Urban geometry
 - Long range modelling
 - Treating modelling uncertainties
 - Source reconstruction
 - Source modelling
- CBRNe risk assessment
- Model verification