Until recently food was considered an unlikely target for terrorism. But, terrorism events around the world now require a redoubled effort to protect the safety of the food supply. Concerned governments and industries need to evaluate and adapt countermeasures to reduce potential threats to this most fundamental need. To achieve this goal, research is needed to develop and deploy technologies that minimize the likelihood of attacks. The conference will focus on the technology-based efforts that can be employed to prevent, detect, and minimize health effects of terrorist attacks throughout the food chain, from production to consumption.

Conference Objectives
(1) Provide a forum to discuss the current state of knowledge associated with foodborne terrorism, including:
   - threat assessment methods,
   - methods of detection,
   - track, trace, authentication and anti-tampering technologies, and
   - hazard mitigation
(2) Identify research needs to develop effective science and technology-based countermeasures; and
(3) Foster collaborative ties to advance the scientific and technological basis for threat reduction.

Modes of Deliberation
The combination of lectures, question and answer periods, and ample discussion time during each session will provide a foundation for information exchange. The opportunity for further discussions will be fostered, however, by the nature of the meeting facilities. All meals will be taken as a group, and the Center offers opportunities to congregate each evening.

Meeting Recommendations and Publication
Session chairs have been charged to challenge speakers and audience participants to develop a series of recommendations and conclusions for each session. Results will be compiled and published as a book or as a supplement to the journal of Food Protection.

Organization
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BARD Organizing Committee
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  Isabel Walls, International Life Science Institute
## PROGRAM

### DAY 1 Monday, June 30

**OPENING SESSION- Byrd Auditorium**

- 8:00 Welcome and Meeting Overview: Arthur J. Miller (FDA) JIFSAN Welcome
- 8:15 Edo Chalutz, (BARD) Welcome from BARD

**TECHNICAL SESSION I -- PERSPECTIVES (Co-Chairs: Samir Droby; Arthur Miller). Byrd Auditorium**

- 8:30 Jesse Majkowski (USDA, Food Safety and Inspection Service) Food Security Initiatives
- 8:55 Oded Nir (Veterinary Services and Animal Health, Israel Ministry of Agriculture) Bio-terrorism against animals and Humans
- 9:45 Break

**TECHNICAL SESSION II -- THREAT ASSESSMENT (Co-Chairs: Douglas Abbott; Avi Stark). Byrd Auditorium**

- 1:30 Robert Brackett (FDA, Center for Food Safety and Applied Nutrition)
- 2:00 Avi Stark (Tel Aviv University), Threat assessment of mycotoxins as weapons: molecular mechanisms of acute toxicity.
- 2:30 Break
- 3:00 Darryl Drayer (Sandia National Laboratory) A prototype biosecurity risk assessment tool
Science and Technology Based Countermeasures to Foodborne Terrorism

3:30 Daniel Elad (Kimron Veterinary Institute) Risk assessment of malicious bio-contamination of food

4:00 Terry Wilson (USDA-APHIS) Post 911 farm-to-fork surveillance

4:30 Discussion

Day 2, Tuesday, July 1

TECHNICAL SESSION III -- MICROBIOLOGICAL SAMPLING AND DETECTION METHODOLOGIES (Co-Chairs: Isabel Walls; Judith Rishpon). Byrd Auditorium

8:00 Antje J. Baueumner (Cornell University) Bioanalytical Microsystems: approaching single cell level detection of bacteria and viruses

8:30 Judith Rishpon (Tel Aviv University) Electrochemical biosensors for detection of toxic agents

9:00 Bart Weimer (Utah State University) Microbe detection with fluidized bed capture

9:30 Thomas Cebula (FDA) Chips and SNPs, bugs and hugs: a molecular sleuthing perspective

10:00 Break


11:00 Richard Durst (Cornell University) Detection of femto-/attomolar concentrations of botulinum neurotoxin and cholera enterotoxin using a ganglioside-nanovesicle immunoassay.

11:30 Discussion

12:00 Lunch

TECHNICAL SESSION IV – TECHNOLOGIES FOR TRACKING, ANTI-TAMPERING, AND SECURITY (Co-Chairs: Sherri Clark; Daniel Elad). Byrd Auditorium

1:30 Sherri Clark (New Mexico State University) The product surety center: current activities and future services

2:00 Richard Jotcham (Axess Technologies, Ltd.,) A review of authentication, anti-tampering and track and trace technologies for use in foods

2:30 Break

3:00 Alan Shlosberg (Kimron Veterinary Institute) Chemical bioterror in food products of animal origin – assessment of risk and monitoring exposure

3:30 Alan Rudolph (Defense Advanced Research Projects Agency) Agricultural security technologies

4:00 Charles Sizer (Illinois Institute of Technology) Cutting edge anti-tampering technologies

4:30 Discussion

Day 3, Wednesday, July 2

TECHNICAL SESSION V --- CHEMICAL AND NUCLEAR SAMPLING AND DETECTION METHODOLOGIES (Co-Chairs: Roni Shapira; Doug Park). Byrd Auditorium

8:00 Thomas B. Whitaker (USDA-ARS) Sampling uncertainties for the detection of chemical agents in complex food matrices

8:30 Frederick L. Fricke, Jr. (FDA Forensic Chemistry Center) Application of toxin screens for food matrices using LC/MS and GC/MS.
Science and Technology Based Countermeasures to Foodborne Terrorism

9:00  Robert M. Eppley (FDA CFSAN)  
Analysis of T-2 Toxin in food matrices using ELISA technology.

9:15  Michael E. Stack (FDA CFSAN)  
Analysis of foods for amanitin

9:30  Eric A. E. Garber (FDA CFSAN)  
Detection of ricin in food matrices using ELISA and lateral flow devices

10:00  Break

10:30  Richard C. Whiting (FDA CFSAN)  
Analysis of Clostridium botulinum toxin in food matrices using ELISA technology.

10:50  Reginald W. Bennett (FDA CFSAN)  
Rapid identification of staphylococcal enterotoxin in foods by ELISA-based technology

11:10  Patricia A. Hansen (FDA CFSAN)  
Methods for detection of radionuclides in food – An overview with examples of current FDA efforts relevant to counter-terrorism

11:30  Douglas L. Park (FDA CFSAN)  
Analytical method validation programs

11:45  Discussion

12:00  Lunch

TECHNICAL SESSION VI -- MITIGATION TECHNOLOGIES (Co-Chairs – Nachman Paster; Charles Sizer). Byrd Auditorium

1:30  Nachman Paster (Agricultural Research Organization) – Mycotoxins in agricultural produce and food: prevention and decontamination

2:00  Break

2:30  Roni Shapira, (Hebrew University of Jerusalem) Biodegradation of mycotoxins

3:00  Bruce Cords, (Ecolabs)  
Decontamination and disinfection of contaminated environments

3:30  Discussion

CLOSING SESSION

4:00  Research Needs Discussion – Panel

4:15  Arthur Miller, Samir Droby – Closing comments

4:30  Meeting closes