

# **Homeland and Health Security:**

## **Understanding Today's Necessities, Tomorrow's Needs**

### **The RTI Fellows Symposium**

November 6-7, 2003

NC Biotechnology Center  
15 Alexander Drive  
Research Triangle Park, North Carolina

# Homeland and Health Security: Understanding Today's Necessities, Tomorrow's Needs

**Thursday, November 6, 2003**

**7:30 am – 8:30 am**      ***Continental Breakfast — Foyer***

**8:30 am – 12:00 pm**    **Plenary Session — Auditorium**

8:30 am      **Welcome, Introductions, and Conference Overview**

David Ensor, RTI-RTP, Conference Chair

Victoria F. Haynes, President and CEO, RTI International

8:40 am      **Welcome**

Victoria F. Haynes, RTI-RTP

8:50 am      **Strategic Medical Intelligence**

**Michael Allswede, University of Pittsburgh Medical Center, Pittsburgh, PA**

Introduced by Kathleen N. Lohr, RTI-RTP

9:30 am      **Public Health Preparedness: A Systems Approach**

**Edward Baker, UNC Public Health Leadership Institute, Chapel Hill, NC**

Introduced by Kathleen N. Lohr, RTI-RTP

**10:10 am**                      ***Break***

10:40 am      **USDA APHIS Agriculture Security Overview**

**John Williams, USDA Animal and Plant Health Inspections Service, Washington, DC**

Introduced by Michael Bryan, RTI-RTP

11:20 am      **Challenges for Statisticians in Counterterrorism**

**David Banks, Duke University, Durham, NC**

Introduced by Don Camburn, RTI-RTP

**12:00 – 1:30 pm**            ***Lunch — Congressional and Jordan Rooms***

**1:30 pm – 3:00 pm**      **Breakout Sessions**

**Agriculture and Food Safety — Auditorium**

*Michael Bryan, RTI-RTP, Chair*

National Research Roadmap for Agriculture Disaster Prevention, Response, and Recovery

*Robert Helms, RTI-RTP*

Agricultural Security and the Role of the First Responder

*Tim Moore, RTI-Anniston, AL*

Combining Anticipatory Failure Determination (AFD) with Traditional Risk Assessment Tools to Identify, Evaluate, and Mitigate Possible Foodborne Bioterrorism Threats

*Roberta Morales, RTI-RTP*

Discussion of Research Possibilities

*Rapporteur: Barrett Slanning, RTI-RTP*

**Medicine and Public Health I — Congressional Room**

*Herb Seltzman, RTI-RTP, Chair*

Sarin Compromises the Blood Brain Barrier

*Mohamed Abou-Donia, Duke University*

Antibodies for Detection of and Protection against Toxins

*C. Edgar Cook, RTI-RTP*

Homeland and Health Security: What Can Science and Engineering Do?

*Thomas Marrero, RTI-RTP*

Discussion of Research Possibilities

*Rapporteur: Jack Kepler, RTI-RTP*

**3:00 pm**                      **Break**

**3:30 pm – 5:00 pm**      **Breakout Sessions**

**Statistics and Syndromic Surveillance — Auditorium**

*Kerrie Boyle, RTI-RTP, Chair; Joe Eyerman, RTI-RTP, Co-chair*

Data Confidentiality, Data Integration, Data Mining, Data Quality: Homeland Security Challenges for Statisticians

*Alan Karr, National Institute of Statistical Sciences (NISS), Research Triangle Park, NC*

Surveillance of Syndromes: Methods of Surveillance and Intuitive Power Assessment

*Ken Kleinman, Harvard School of Public Health, Cambridge, MA*

Discussion of Presentations

*Paul Levy, RTI-RTP*

Discussion of Research Possibilities

*Rapporteur: Joe Eyerman, RTI-RTP*

**Sensors, Monitoring, and Protection — Congressional Room**

*Charles Rodes, RTI-RTP, Chair*

The NASA Aviation Security Program, “An RTI Opportunity”

*James Haidt, RTI-RTP*

An Integrated Mass Spectrometry System for Universal Threat Agent Detection

*Jonathan Bundy, RTI-RTP*

Reducing the Vulnerability of Water Supply Systems to Terrorism: Monitoring System Design

*Keith Little, RTI-RTP*

Discussion of Research Possibilities

*Rapporteur: Douglas VanOsdell, RTI-RTP*

**5:00 pm – 7:00 pm**      **Posters and Refreshments**  
**Biotech Center Central Foyer**

**Posters**

1. Protective Agents Against Nerve Gas Attack, *Wayne Mascarella, RTI-RTP*
2. Biodefense Partnerships: Anti-smallpox Agents from Basidiomycetes (mushrooms),  
*Nicholas H. Oberlies, RTI-RTP*
3. Artificial Enzymes Afford Protection Against Chemical Warfare Nerve Agents, *Herb Seltzman, RTI-RTP*
4. Research on Terrorism: A Cross-national Comparison of Inter-agency Coordination Between Public Health and Law Enforcement, *Joe D. Eyerman, RTI-RTP*
5. Monitoring of Participants Who Received the Extended Post-exposure Anthrax (Bacillus Anthracis) Prophylaxis, *Brian Burke, RTI-RTP*
6. The NoVac Study — Evaluation of Non-participants in the Pre-release Smallpox Vaccination Program, *Brian Burke, RTI-RTP*
7. Surveillance for Presence of Anthrax Spores in Our Mailrooms: “Seek and Ye Shall Find,”  
*Paul Levy, RTI-RTP*
8. Computer-based Security Analysis Tool, *Joseph Alexander, RTI-RTP*
9. Capabilities in Accreditation/Certification of Security Sites, *Michael R. Baylor, RTI-RTP*
10. The Use of Surrogate or Simulant Biowarfare Agents, *Karin Foarde, RTI-RTP*
11. Testing Program for Collective Protection Technologies, *Deborah Franke, RTI-RTP*
12. Chemical Warfare Agent Simulants, *Anita H. Lewin, RTI-RTP*
13. Towards the Development of a Metalloporphyrin-based "Chemical Reactivity" Sensor:  
Organophosphate Reactants, *Jim McKinney, RTI-RTP*
14. RTI's Support for TSWG in the Development of Standard Methods for Testing HVAC Air Cleaners,  
*Charles E. Rodes, RTI-RTP*
15. Strategies To Protect Buildings Against Chemical and Biological Attack: Potential Research Areas,  
*Jonathan Thornburg, RTI-RTP*
16. Use of Responsive Virtual Human Technology for Interview Training,  
*Geoffrey Frank, RTI-RTP*
17. Using Interactive 3D (i3D) Technology for First Responder Medical Simulation and Training,  
*Jerry Heneghan, RTI-RTP*

# Friday, November 7, 2003

## 9:00 am – 10:30 am Breakout Sessions

### Economic Impacts — Auditorium

- Jerry Cromwell, RTI-Waltham, MA, Chair; F. Reed Johnson, RTI-RTP, Co-chair*  
The Economics of Policies to Counter Terrorism  
*Paul Rothstein, Weidenbaum Center on the Economy, Government, and Public Policy, Washington University, St. Louis, MO*  
Probabilities, Perceptions, and Prices: Valuing Reduction in Homeland Security Risks  
*Reed Johnson, RTI-RTP*  
Insurance, Self-protection, and the Economics of Terrorism  
*Darius Lakdawalla, Labor and Population Program, The RAND Corporation, Santa Monica, CA*  
The Political Economy of Homeland Security: Who's Responsible for Protecting What?  
*Jerry Cromwell, RTI-Waltham, MA, and Ed Drozd, RTI-Waltham, MA*  
Discussion of Research Possibilities  
*Audience, Panel Members, and Chairs*

### Statistical Issues in Bioterrorism — Congressional Room

- Jim Chromy, RTI-RTP, Chair; Kerrie Boyle, RTI-STRD, Co-chair*  
Biosurveillance Geoinformatics of Hotspot Detection and Prioritization for Biosecurity  
*G. P. Patil, Penn State University, University Park, PA*  
Statistical Models for Anthrax  
*Ron Brookmeyer, Johns Hopkins University, Baltimore, MD*  
Discussion of Presentations  
*Jun Liu, RTI-RTP*  
Discussion of RTI Research Possibilities  
*Rapporteur: Kerrie Boyle, RTI-RTP*

## 10:30 am Break

## 11:00 am – 12:30 pm Breakout Sessions

### Medicine and Public Health II — Auditorium

- Kathleen Lohr, RTI-RTP, Chair; Joshua Wiener, RTI-DC, Co-chair*  
Defining Public Health Preparedness: Past, Present, and Future  
*David Driscoll, RTI-RTP*  
Rational Response: RTI Research Supporting Health System Preparedness  
*Lucy Savitz, RTI-RTP*  
The Juncture of Health Security and Public Health Systems Research  
*Ronald Fichtner, RTI-Atlanta, GA*  
Discussion of Research Possibilities  
*Audience, Panel Members, and Chairs*

### Training and Communication — Congressional Room

- Sam Field, RTI-RTP, Chair*  
National Capital Area Medical Simulation Center  
*Alan Liu, National Capital Area Medical Simulation Center Uniformed Services University, Bethesda, MD*  
Types of Terrorists and Their Likely Threats to Homeland Security  
*Margaret Zahn, RTI-RTP*  
Virtual Patient Simulation for Emergency Preparedness Training  
*Paul Kizakevich, RTI-RTP*  
The Communication of Fear: Past, Present, and Future Strategies for Discussing Homeland Security Issues with the American Public, *Anna Weaver, RTI-RTP, and Jill Miller Denning, RTI-RTP*  
Discussion of Research Possibilities  
*Rapporteur: Hal Waters, RTI-RTP*