



Chemical and Biological Defense

CBIAC
Information Analysis Center

Newsletter

Fall 2004

Volume 5 Number 4

A U.S. Department of Defense Information Analysis Center sponsored by the **Defense Technical Information Center**

Dr. Klaus Schafer, Acting Deputy Assistant to the Secretary of Defense for Chemical and Biological Defense

Brig. Gen (Ret.) Klaus O. Schafer, MD, MPH, is currently the Acting Deputy Assistant to the Secretary of Defense for Chemical and Biological Defense (DATSD(CBD)). He serves as the single focal point within Office of the Secretary of Defense (OSD) for oversight, coordination, and integration of the chemical biological defense, and counterproliferation support. He is a member of the OSD Steering Committee for Chemical-Biological Defense, and represents the Department of Defense on numerous interagency and international groups addressing CB issues. Additionally, he is an associate professor at Johns Hopkins University, Bloomberg School of Public Health.

Before joining the Pentagon staff, Dr. Schafer supported the Defense Threat Reduction Agency, ChemBio Directorate, and the Advanced Strategic Concepts Office, where he is assigned as an advisor.

He was also recently an Executive Vice President, Business Development of COMPRESSUS, Inc., a company involved in image management and software development.

Dr. Schafer retired from the Air Force on January 1, 2002, as the Assistant Surgeon General for Medical Readiness, Science and Technology, Office of the Surgeon General, Bolling Air Force Base, Washington, DC. He was responsible for Air Force Medical Service (AFMS) readiness activities, providing policy to more than 46,000 people and 79 medical treatment facilities. Additionally, he was the AFMS focal point for advances in science and technology.



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Dr. Schafer is a graduate of the U.S. Air Force Academy. He received his medical degree under full Air Force sponsorship from the University of Iowa Medical School in May 1977. He completed his family practice residency at Eglin Air Force Base, FL, in 1980, and became an operational flight surgeon the same year. He completed his master of public health degree and aerospace medicine residency in 1985. He has held positions as Chief of Aerospace Medicine; command flight surgeon; clinic and hospital commander at U.S. Air Forces in Europe; National Defense University faculty member; and associate director of medical programs and resources for the Air Force Surgeon General.

The General is a diplomate of the American Board of Family Practice, the American Board of Preventive Medicine, and the American Board of Medical Management.

Dr. Schafer has been responsible for the development and deployment of technologies for disease surveillance, electronic medical records, and field-ready DNA

fingerprinting technologies that are in common use today. The system is used in Illinois, Florida, Kentucky, and Northern Virginia for medical resource management. A forward thinker in information technology, he was awarded the Information Week's "Annual Top 100 Award" in 2001.

For Dr. Schafer's presentation slides from the **2004 Quarterly Chem/Bio Roundtable**, June 16, 2004, Arlington, VA, see <http://proceedings.ndia.org/430B/Schafer.pdf>



The **Chemical and Biological Defense Information Analysis Center (CBIAC)** is a Department of Defense (DoD)-sponsored Information Analysis Center (IAC) operated by Battelle Memorial Institute and supported by Horne Engineering Services, Inc., Innovative Emergency Management, Inc., MTS Technologies, Inc., QuickSilver Analytics, Inc., and SciTech, Inc., and administered by the Defense Technical Information Center (DTIC) under the DoD IAC Program Office (Contract No.SP0700-00-D-3180).

The CBIAC Contracting Officer's Technical Representative (COTR) may be contacted at the following address:

CDR USA RDECOM
Edgewood Chemical Biological Center
ATTN: AMSRD-ECB-RT (CBIAC COTR)
5183 Blackhawk Road
Aberdeen Proving Ground, MD 21010-5424

U.S. Government agencies and private industry under contract to the U.S. Government can contact the CBIAC for information products and services. CBIAC services also extend to all state and local governments and the first responder community, to include local emergency planners, firefighters, medics and law enforcement personnel.



Table of Contents

Fall 2004

Volume 5 Number 4

Dr. Klaus Shafer, Acting Deputy Assistant to the Secretary of Defense for Chemical and Biological Defense	1
The Lab Response Network	3
Contract Awards	4
New CBIAC Products	4
New CBIAC Information Resources	5
Calendar of Events	6
Uniformed Services University WMD Course	7
In the News	9
Starlight: Knowledge Management on a Whole New Plane	10
Sustainable Range Management Conference	16

The **CBIAC Newsletter**, a quarterly publication of the CBIAC, is a public release, unlimited distribution forum for chemical and biological defense information. It is distributed in hardcopy format and posted in Portable Document Format (PDF) on the CBIAC Homepage.

The CBIAC welcomes unsolicited articles on topics that fall within its mission scope. All articles submitted for publication consideration must be cleared for public release prior to submission. The CBIAC reserves the right to reject or edit submissions. For each issue, articles must be received by the following dates: Winter (First Quarter) - November 1st; Spring (Second Quarter) - February 1st; Summer (Third Quarter) - May 1st; Fall (Fourth Quarter) - August 1st.

All paid advertisements and articles are subject to the review and approval of the CBIAC COTR prior to publication. The appearance of an advertisement or article in the *CBIAC Newsletter* does not constitute endorsement by the DoD or the CBIAC.

The CBIAC is located in building E3330, Room 150, Aberdeen Proving Ground-Edgewood Area, Maryland 21010. For further information or assistance, visit or contact the CBIAC.

CBIAC

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<http://www.cbiac.apgea.army.mil/>



The Laboratory Response Network

Partners in Preparedness

The **Laboratory Response Network (LRN)** is a national network of local, state and federal public health, food testing, veterinary diagnostic, and environmental testing laboratories that provide the laboratory infrastructure and capacity to respond to biological and chemical terrorism, and other public health emergencies. The LRN is a partnership between key stakeholders in the preparation and response to biological and chemical terrorism. The Centers for Disease Control and Prevention (CDC), the Federal Bureau of Investigation (FBI), and the Association of Public Health Laboratories (APHL) are its founding partners.

The Centers for Disease Control and Prevention established the LRN after President Clinton issued Presidential Decision Directive 39 in 1995, which outlined national anti-terrorism policies and assigned specific missions to federal departments and agencies.

Through a collaborative effort involving the Federal Bureau of Investigation and the Association of Public Health Laboratories, the LRN became operational in August 1999. Its objective was to ensure an effective laboratory response to bioterrorism by helping to improve the nation's public health laboratory infrastructure, which had limited ability to respond to bioterrorism. While oversight of the LRN is accomplished by a committee made up of leaders from the CDC and LRN partners, the CDC is ultimately accountable for the program.

Today, the LRN is charged with the task of maintaining an integrated network of state and local public health, federal, military, and international laboratories that can respond to both bioterrorism and chemical terrorism. The LRN is a unique asset in the nation's growing preparedness for biological and chemical terrorism. The linking of state and local public health laboratories, veterinary, agriculture, military, and water- and food-testing laboratories is unprecedented.

In the years since its creation, the LRN has played an instrumental role in improving the public health infrastructure by helping to boost laboratory capacity. Laboratories are better equipped, their staff levels are increasing, and laboratories are employing advanced technologies. Public health infrastructure refers to essential public health services, including the people who work in the field of public health, information and communication systems used to collect and disseminate

accurate data, and public health organizations at the state and local levels.

MISSION

The LRN and its partners will maintain an integrated national and international network of laboratories that are fully equipped to respond quickly to acts of chemical or biological terrorism, emerging infectious diseases, and other public health threats and emergencies.

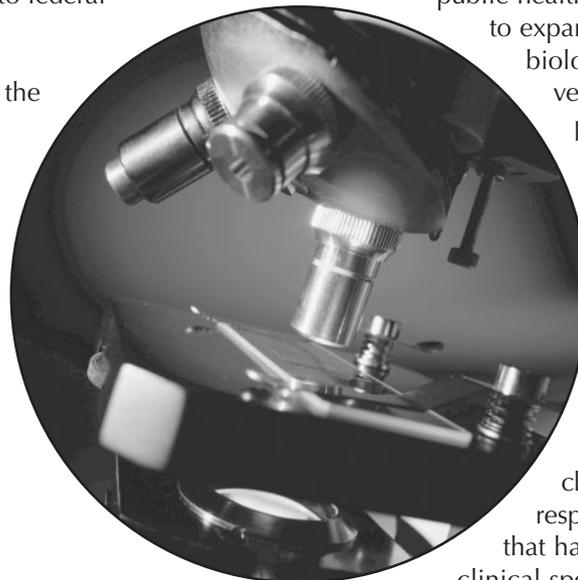
NETWORK FOR BIOLOGICAL AND CHEMICAL RESPONSE

On the biological side, there are currently 126 member laboratories, representing all 50 states, Australia, and Canada. The LRN continues to add new member laboratories for biological agent detection. The majority of current members are public health laboratories. One of the LRN's goals is to expand membership to broaden the scope of biological agent detection, particularly among veterinary diagnostic, food and water testing, private, and commercial laboratories.

On the chemical side, there are 62 LRN laboratories, including 46 state and local public health laboratories that provide testing on clinical specimens to measure human exposure to toxic chemicals.

The LRN, however, is one network that encompasses both bioterrorism and chemical terrorism preparedness and response. In fact, LRN chemical laboratories that have the capacity to measure metabolites in clinical specimens are also public health laboratories that have been designated as reference testing laboratories for biological agent detection.

But their approaches to a response are different. LRN bioterrorism preparedness and response activities emphasize local laboratory response by helping to increase the number of trained laboratory workers in state and local public health facilities; distributing standardized test methods and reagents to local labs; promoting the acquisition of advanced technologies; and supporting facility improvements. The chemical side of the LRN employs a more centralized structure. This means initial testing in a suspected chemical event will occur at CDC. Using sophisticated mass spectrometry, CDC laboratories perform tests on the first 40 clinical specimens to measure human exposure. Results of these tests would be reported to affected states, and if needed, appropriate LRN members may be asked to test additional samples. This approach is necessary because the



Contract Awards

by Mary Frances Tracy

Development Of State-Of-The-Art In Thin Film Filter Technology And Demonstrate Capabilities By Producing Demonstration Components For Personnel And Space

Barr Associates Inc.

Westford, MA

\$5,496,857

July 29, 2004

By Air Force Research Laboratory, Wright-Patterson Air Force Base, OH

Continued Development of Sensor System to Monitor Chemical and Biological Agents CombiMatrix Corporation

Mukiltero, WA

\$2,300,000

August 5, 2004

By Department of Defense, Washington, DC

Fire Act Grants

271 Grants To Fire Departments Throughout The United States \$22,170,719 (Help local fire departments purchase firefighting equipment, fund firefighter health and safety programs, enhance emergency medical services programs, and conduct fire education and prevention programs) August 27, 2004
By Department of Homeland Security, Washington, DC

Biodefense Research: Study of Molecular Events that Enable Bacteria to Subvert the Immune System

Caprion Pharmaceuticals Inc.

Montreal, Quebec, Canada

\$13,100,000

August 10, 2004

By National Institute of Allergy and Infectious Diseases, Bethesda, MD

Enhancement Of The Capability Of Ukrainian Border Service Units To Prevent Smuggling Of Weapons Of Mass Destruction

Raytheon Technical Services Co. LLC

Waltham, MA

\$7,088,570

August 13, 2004

By Defense Threat Reduction Agency/BDCC, Fort Belvoir, VA

Development Of Vaccine Against The Bacterium Burkholderia pseudomallei

University of California, Irvine

\$5,800,000

August 25, 2004

By National Institute of Allergy and Infectious Diseases, Bethesda, MD

Protection Of The Food Supply Of California And The Nation Against Acts Of Terrorism

University of California, Davis

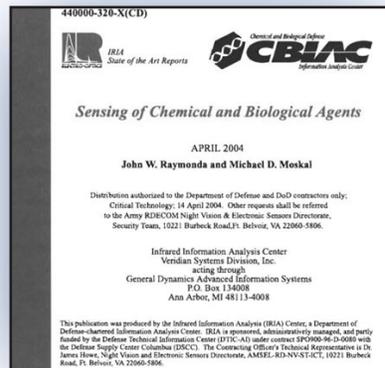
\$4,700,000

August 30, 2004

By Department of Homeland Security

New CBIAC Products

Sensing of Chemical & Biological Agents



SOAR-04-12

March 2004

\$75.00—\$200.00

Distribution Limitation:

U.S. Department of Defense Agencies and their contractors; Unclassified

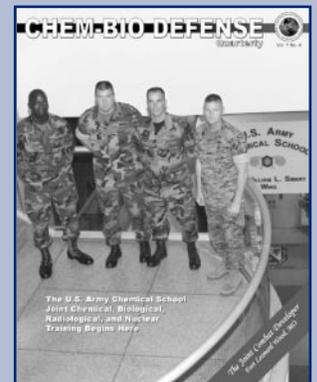
This report, available in CD-ROM or hardcopy format, is a joint project of the Infrared Information Analysis Center (IRIAC) and the CBIAC. It covers all aspects of the detection and identification of CB agents. The SOAR presents the best available data on CB agent detection and identification systems, including those still in development, across all missions, applications, and platforms. It is 729 pages in length with 95 tables and 292 figures and contains an introduction to CB agents, general requirements, sensing phenomenology and instrumentation, chemical agent sensing systems, sensing of biological agents, emerging CB sensing, and enabling technologies.

To view the **CBIAC Product Catalog**, visit <http://www.cbiac.apgea.army.mil/products/catalog.pdf>.

To order CBIAC Products online, use our interactive **Product Request Form** at http://www.cbiac.apgea.army.mil/products/product_request.html.

Vol. 1 No. 4 of the Chem-Bio Defense Quarterly Magazine is Now Available Online!

This issue focuses on the U.S. Army Chemical School and its role in providing the world's best chemical and biological defense training and equipment to the world's best Armed Forces as part of the Department of Defense mission in the Chemical and Biological Defense Program. Features include one day in the life of a Soldier attending the Advanced Non-Commissioned Officer Academy, and an interview



with Dr. Klaus O. Schafer, Deputy Assistant to the Secretary of Defense for Chemical and Biological Defense Programs, for insight on his chem bio views and initiatives for the future.

For the current issue and archives, visit <http://www.jpocbd.osd.mil/magazine.htm>.

New CBIAC Information Resources • By Richard M. Gilman

Books

Committee on Research Standards and Practices to Prevent the Destructive Application of Biotechnology, National Research Council. **Biotechnology Research in An Age of Terrorism.** Washington, D.C.: National Academy Press, 2004.

Topics receiving chapter-length treatment include technologies for monitoring the BWC, "Redirecting Biological Warfare Capacity to International Health Biotechnology" and biotechnology information restriction and control regimes.

Includes numerous tables and three appendices.

CB-191838
ISBN 0-309-08977-8
National Academy Press
Box 285
2101 Constitution Ave., N.W.
Washington, D.C. 20055
Phone: 1-800-624-6242 or 202-334-3313
<http://www.nap.edu>



Ritz, Michael W, Hensley, Ralph G, Jr. and James C. "Chris" Whitmire, eds. **The Homeland Security Papers: Stemming the Tide of Terror.** Maxwell Air Force Base, Alabama: U.S. Air Force Counter-proliferation Center, 2004.
http://www.au.af.mil/au/awc/awcgate/cpc-pubs/hls_papers/cover.htm

Includes chapter-length discussions of "What Price Security? The USA PATRIOT Act and America's Balance Between Freedom and Security," "Protecting America's Seaports: The Vulnerability of Intermodal Commerce," "Improving The Effectiveness Of First Responders In Homeland Security," "Homeland Security: Strategic, Operational, and Tactical Partnerships," and "The Psychological Impact of Terrorist Attacks: Lessons Learned For Future Threats."

CB-192077
USAF Counterproliferation Center
Air War College
Maxwell Air Force Base, Alabama 36112
<http://www.au.af.mil/au/awc/awcgate/awc-cps.htm>

Schneider, Dr. Barry R. and Davis, Dr. Jim A, eds. **The War Next Time: Countering Rogue States and Terrorists Armed With Chemical and Biological Weapons.** Second Edition. Maxwell Air Force Base, Alabama: U.S. Air Force Counter-proliferation Center, 2004.
http://www.au.af.mil/au/awc/awcgate/cpc-pubs/war_next_time/cover.htm

Includes chapter-length discussions of "Asymmetrical Rivals: the Enemy Next Time," "Not with Impunity: Assessing U.S. Policy for Retaliating to a Chemical or Biological Attack," "Pointing the Finger: Unclassified Methods to Identify Covert Biological Warfare Programs," "The Worldwide Biocruise Threat," the prevention and mitigation of psychological and social consequences of a BW attack, and the economic consequences a BW attack.

CB-192083
USAF Counterproliferation Center
Air War College
Maxwell Air Force Base, Alabama 36112
<http://www.au.af.mil/au/awc/awcgate/awc-cps.htm>

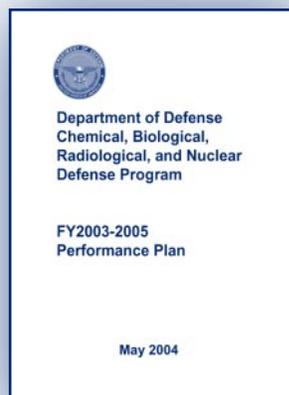
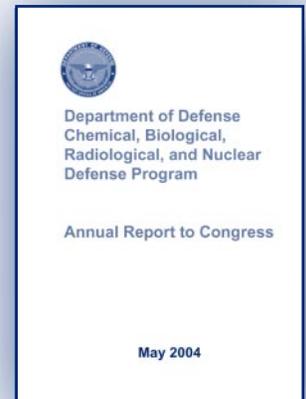
Documents

Department of Defense Chemical, Biological, Radiological, and Nuclear Defense Program. Annual Report to Congress. May 2004.

CB-192070
<http://www.acq.osd.mil/cp/files2004cbrndpreport.pdf>

"This report is intended to assess:

- (1) the overall readiness of the Armed Forces to fight in a chemical-biological warfare environment and steps taken and planned to be taken to improve such readiness; and
- (2) requirements for the chemical and biological warfare defense program, including requirements for training, detection, and protective equipment, for medical prophylaxis, and for treatment of casualties resulting from the use of chemical and biological weapons." (Executive Summary)



Department of Defense Chemical, Biological, Radiological, and Nuclear Defense Program. FY2003-2005 Performance Plan.

CB-192069
<http://www.acq.osd.mil/cp/files/2004cbrndppperformanceplan.pdf>

"The Department of Defense (DoD) Chemical, Biological, Radiological, and Nuclear Defense Program (CBRNDP) performance plan provides an assessment of the most recently completed fiscal year

(FY03) and outlines performance targets for the next two years (FY04-FY05) for the program." (Introduction)

Calendar of Events

If you would like to have a Chemical and/or Biological Defense or Homeland Security course or event posted on the CBIAC Calendar of Events, submit the pertinent information via email to cbiac@battelle.org. Due to space limitations, the CBIAC will accept submissions on a first-come, first-served basis and reserves the right to reject submissions. For a more extensive list of events, visit our website at <http://www.cbiac.apgea.army.mil/>.

December 1-2, 2004

**Homeland Defense Training Workshop®:
Emergency Preparedness for Government Facilities**

TBA/Washington, DC Area

http://www.homelanddefensejournal.com/conf_emergprep2.htm

December 1-4, 2004

ASM Conference on Signal Transduction in Viral Systems

Savannah, GA

<http://www.asm.org/meetings/index.asp?bid=18481>

December 2, 2004

**Homeland Defense Training Conference®:
Emergency Response Training**

Arlington, VA

http://www.homelanddefensejournal.com/conf_emerg_resp.htm

December 5-8, 2004

**U.S. Environmental Protection Agency Region III -
Emergency Preparedness & Prevention Conference**

Philadelphia, PA

www.2004conference.org

December 6-9, 2004

**Interservice /Industry Training, Simulation & Education
Conference: Transforming 21st Century Operations**

Orlando, FL

<http://www.iitsec.org/>

December 6-10, 2004

SISPAT IV/ CBMTS-Asia I

Singapore

<http://www.dso.org.sg/SISPAT/>

December 7-8, 2004

Harmonizing Federal Physical & Cyber Security Strategies

Washington, DC

[http://www.kingpublishing.com/conferences/
current_conferences.htm](http://www.kingpublishing.com/conferences/current_conferences.htm)

December 13-15, 2004

Metabolic Profiling

Lake Buena Vista, FL

<http://www.healthtech.com/2004/mbp/index.asp>

December 13-16, 2004

The International Soldier Systems Conference 2004

Boston, MA

[http://www.ndia.org/Template.cfm?Section=5960&Template=
/ContentManagement/ContentDisplay.cfm&ContentID=3002](http://www.ndia.org/Template.cfm?Section=5960&Template=/ContentManagement/ContentDisplay.cfm&ContentID=3002)

December 13-16, 2004

**USSOCOM Chemical, Biological, Radiological, & Nuclear
Conference & Exhibition**

Tampa, FL

[http://www.ndia.org/Template.cfm?Section=5630&Template=
/ContentManagement/ContentDisplay.cfm&ContentID=3513&MicrositeID=0](http://www.ndia.org/Template.cfm?Section=5630&Template=/ContentManagement/ContentDisplay.cfm&ContentID=3513&MicrositeID=0)

December 16, 2004

**Course:Initial Procedures for Handling Chemical /
Biological Incidents**

Smyrna, GA

[http://www.pe.gatech.edu/conted/servlet/
edu.gatech.conted.course.ViewCourseDetails?COURSE_ID=108](http://www.pe.gatech.edu/conted/servlet/edu.gatech.conted.course.ViewCourseDetails?COURSE_ID=108)

2005 MEETINGS

February 1-3, 2005

AFCEA/U.S. Naval Institute Western Conference & Exposition

San Diego, CA

<http://www.west2005.org>

February 2-4, 2005

SO/LIC Symposium & Exhibition

Washington, D.C.

<http://www.ndia.org>

February 7-11, 2005

**Field Management of Chemical & Biological Casualty (FCBC)
Course**

Aberdeen Proving Ground, MD

https://ccc.apgea.army.mil/courses/in_house/brochureFCBC.htm

February 13-16, 2005

**International Conference on the Removal or Destruction of
Highly Toxic Chemical and Biological Contamination**

Melbourne, Australia

[http://www.dst.defence.gov.au/corporate/conferences/
decondownunder/home.html](http://www.dst.defence.gov.au/corporate/conferences/decondownunder/home.html)

February 16-18, 2005

AUSA Winter Symposium & Exhibition

Fort Lauderdale, FL

<https://www.ausa.org/www/ia.nsf>

March 2, 2005

**Course:Initial Procedures for Handling Chemical / Biological
Incidents**

Smyrna, GA

[http://www.pe.gatech.edu/conted/servlet/
edu.gatech.conted.course.ViewCourseDetails?COURSE_ID=108](http://www.pe.gatech.edu/conted/servlet/edu.gatech.conted.course.ViewCourseDetails?COURSE_ID=108)

March 13-18, 2005

**Management of Chemical & Biological Casualty (MCBC)
Course**

Aberdeen Proving Ground, MD and Fort Detrick, MD

https://ccc.apgea.army.mil/courses/in_house/brochureMCBC.htm

March 21-25, 2005

**4th Annual Interoperability & Systems Integration
Conference**

Norfolk, VA

[http://www.ndia.org/Template.cfm?Section=5120&Template=
/ContentManagement/ContentDisplay.cfm&ContentID=3006](http://www.ndia.org/Template.cfm?Section=5120&Template=/ContentManagement/ContentDisplay.cfm&ContentID=3006)

The Uniformed Services University (USU) Weapons of Mass Destruction (WMD) Course

Until recently, weapons of mass destruction were primarily only a concern in the DoD but are now widely recognized as the nation's greatest domestic and international security threat. The DoD Uniformed Services University (USU) is the nation's leader in military operational medicine having trained military

medical officers for nearly 30 years and recently has increased training at the local and national government levels.

USU has expanded its courses in WMD available to the local community and offers a three semester Weapons of Mass Destruction (WMD) Course. The three

WMD Graduate courses address the needs of the DoD, Federal and local agencies in

understanding bioterrorism and homeland security; chemical warfare and consequence management; and the threat of nuclear, radiation and high yield explosives.

These three WMD Courses bring together leading authorities in weapons of mass destruction from throughout the federal, state and local governments. Each multidisciplinary Graduate school course consists of twelve to fourteen 2½ hour sessions (30-35 contact hours) that meet at USU's Bethesda campus on Tuesday evenings. Sessions include lectures, expert panel discussions and demonstrations. There is a comprehensive final exam at the end of each course for all graduate students and those who want to receive an USU Certificate of Knowledge specific for each course. Students successfully completing all three Graduate courses will receive a comprehensive USU Certificate of Knowledge in Weapons of Mass Destruction. **Only registered USU graduate students are eligible to receive graduate credit.**

All those interested in registering for the next course, *Chemical Threats and Consequence Management*, starting in February 2005 should send information via e-mail to one of the Course Directors that includes your educational background, current position/affiliation, a brief explanation of your interest in taking the course, and complete contact information. Arrangements for payment will be made after notification of acceptance into the course (non-active duty employees). Acceptance for the course will be determined by USU faculty and will be done on a continuous basis up to the first class for each course. All sessions will be UNCLASSIFIED.

In the wake of the September 11th attacks, rapid developments have been made in our nation's ability to respond to WMDs. The goal of each course is to go beyond reviewing the medical aspects for treating exposure to the specific agents. The issues of consequence management in limiting casualties and impact on society are emphasized. Currently available and future technologies for detection of agents, personal protective

equipment, information management, incident command and control are all thoroughly reviewed. Discussion of more controversial topics that participants may face in making policy decisions throughout federal, state and local government will also be emphasized. Although participants will include physicians and graduate students, each course has been designed to meet the needs of many different agencies.

For further information, contact Course Directors:

CDR Randy Culpepper, MC, USN (AFMIC)

RCulpepper@afmic.detrick.army.mil

CAPT Robert Darling, MC, USN (Navy BUMED/OHLS)

RGDarling@us.med.navy.mil

CDR Duane Caneva, MC, USNR (Navy BUMED/OHLS)

DCCaneva@us.med.navy.mil

Dr. Kevin Yeskey (USUHS CDHAM)

Kyeskey@cdham.org

or visit the following Web sites:

<http://www.disasterhelp.gov>

<http://www.usuhs.mil/>

http://www.usuhs.mil/cbw/new_page_1.htm



*Serving the CB Defense and
Homeland Security communities*

“LRN” (cont.)

analytical expertise and technology resources required to respond to a chemical event is substantially high.

PRIVATE AND COMMERCIAL LABORATORY SUPPORT

There are an estimated 25,000 private and commercial laboratories in the United States, some of which can provide critical sentinel laboratory capacity. While most of these laboratories do not have the facilities or the technology to perform confirmatory testing, they represent the first contact with patients and are in a position to alert public health officials. They can also conduct tests to rule out other diseases and ship samples to appropriate reference laboratories.

VETERINARY LABORATORY SUPPORT

Many diseases, such as anthrax, plague, and tularemia, are zoonotic, meaning that they can be shared by both humans and animals. Disease outbreaks are often preceded by illness among animal populations. Veterinary diagnostic laboratories serve as reference laboratories for animals and can alert public health officials to potential disease outbreaks so that agent-specific response plans can be implemented.

LABORATORY SELECTION PROCESS

For inclusion as a reference testing facility for biological agent detection, prospective members must demonstrate certain capabilities and capacities, and meet established agent-specific performance standards. For both biological and chemical laboratory membership, the state public health laboratory director has a key role in determining whether additional laboratory capacity is critical to the state's overall emergency response goals. If needed, additional laboratories may be invited to participate by a state laboratory director. Laboratories are subjected to routine proficiency testing in order to prove testing accuracy.

FUNDING AND CDC ASSISTANCE

The LRN is a CDC program. Congress appropriates money through the Department of Health and Human Services, which oversees CDC activities. Between 2002 and 2004, the LRN has received about \$367 million for bioterrorism preparations and about \$95 million for chemical terrorism preparations. Each year, through a governmental cooperative agreement, the money is distributed among LRN-member laboratories to fund laboratory positions, renovations, and acquire the latest technology. Individual states are responsible for determining how the funds are divided up among public health laboratories in their states.

CDC has assisted LRN members with purchasing instruments needed for measuring chemicals in blood and urine. Because of the complexity of the instrumentation, on-site operation training is provided by the instrument vendor as part of the purchase package. Through hands-on training at CDC and computer-based training, CDC is training Level 2 and Level 3 labs on

analytical methods. Network members that receive methods and instrumentation must also participate in a rigorous quality assurance program to ensure that network labs provide precise, accurate, high-quality data. CDC is also providing a “train-the-trainer” course that will give chemical terrorism coordinators the tools they need to train partners in their jurisdictions, such as hospital staff, about sample collection and shipping.

LABORATORY NETWORK FOR BIOLOGICAL TERRORISM

National Laboratories

National laboratories, including those operated by the CDC and the U.S. Army Medical Research Institute of Infectious Diseases (USAMRIID), are responsible for specialized strain characterizations, bioforensics, select agent activity, and handling highly infectious biological agents.

Reference Laboratories

Reference laboratories are responsible for investigation and/or referral of specimens. They are made up of more than 100 state and local public health, military, international, veterinary, agriculture, food, and water testing laboratories. In addition to laboratories located in the United States, facilities located in Australia and Canada serve as reference laboratories abroad.

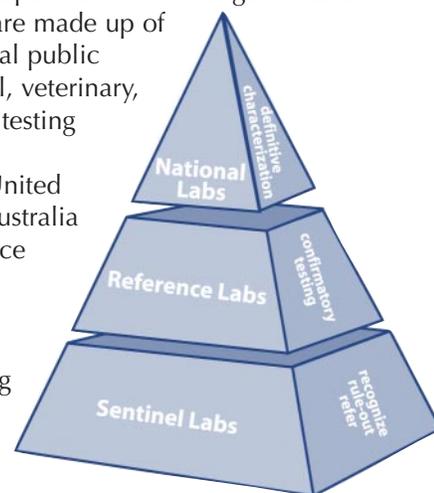
Sentinel Laboratories

The LRN is currently working with the American Society for Microbiology and state public health laboratory directors to ensure that private and commercial laboratories are part of the LRN. There is an estimated 25,000 private and commercial laboratories in the United States. The majority of these laboratories are hospital-based, clinical institutions, and commercial diagnostic laboratories.

Sentinel laboratories play a key role in the early detection of biological agents. Sentinel laboratories provide routine diagnostic services, rule-out, and referral steps in the identification process. While these laboratories may not be equipped to perform the same tests as LRN reference laboratories, they can test samples to determine whether those samples should be shipped to reference or national laboratories for further testing.

LABORATORY NETWORK FOR CHEMICAL TERRORISM

Currently, 62 state, territorial and metropolitan public health laboratories are members of the chemical component of the network. A designation of Level 1, 2, or 3 defines network participation, and each level builds upon the preceding level.



In the News • *By Mary Frances Tracy*

Interpol Launches Police Training Programme On Bio-Terrorism - Major Grant From Sloan Foundation To Fund Global Initiative

Interpol Media Release

July 6, 2004

"Interpol has launched a comprehensive two year programme to counter the threat of bio-terrorism, following the award of a grant of nearly one million dollars from the Alfred P. Sloan Foundation. The Interpol programme will raise awareness of the bio-terrorism threat among members of the international law enforcement community, develop police training programmes and help strengthen enforcement of existing legislation."

<http://www.interpol.int/Public/ICPO/PressReleases/PR2004/PR200425.asp>

Kazakhstan Opening Laboratory on Infectious Diseases NTI/Global Security Newswire

July 30, 2004

"Kazakhstan is strengthening its efforts to prevent biological weapons attacks with the opening of a reference laboratory on dangerous infectious diseases and by equipping regional centers that chart the spread of disease around the country, the Kazakh deputy health care minister said yesterday."

http://www.nti.org/d_newswire/issues/2004_7_30.html

Army Probes Clamshell Ordnance

Terri Sanginiti

The News Journal

August 4, 2004

"The U.S. Army plans to investigate how and why vintage munitions are turning up in crushed clamshell driveways in Delaware, officials said Tuesday. Three Dover Air Force Base servicemen were injured last month trying to disarm a World War I-era projectile found in a poultry farmer's clamshell driveway."

<http://www.delawareonline.com/newsjournal/local/2004/08/04armyprobesclams.html>

Protein Vaccine Fully Protects Mice from Lethal Aerosol Challenge with Ricin Toxin

U.S. Army Medical Research Institute of Infectious Diseases News Release

August 4, 2004

"Scientists have developed an experimental vaccine against ricin, a potential biological threat agent, which fully protected mice from aerosol challenge with lethal doses of the toxin."

http://www.usamriid.army.mil/press%20releases/olson_press_release.pdf

DoD Assists CDC with Anthrax Plasma Project United States Department of Defense News Release

August 11, 2004

"The Departments of Defense (DoD) and Health and Human Services (DHHS) today announced that the military will

support a Centers for Disease Control and Prevention (CDC) effort to create a new medication against anthrax. This new medication, anthrax immune globulin (AIG), is an antibody-based medication and could become a critical medical countermeasure for the nation in case of an anthrax attack. Anthrax-vaccinated military personnel at Army installations will be invited to donate some of their blood plasma to support this effort to create and evaluate AIG."

<http://www.defenselink.mil/releases/2004/nr200408111106.html>

DoD Helps Local, State, Federal Agencies in Disaster-Response Exercise

Petty Officer 1st Class Beverly K. Allen

American Forces Press Service

August 12, 2004

"It was a nightmare worst-case scenario. But that's what U.S. Northern Command officials had intended for "Determined Promise '04." The exercise, which ran from Aug. 5-10, was designed to test NORTHCOM's ability to respond to multiple, simultaneous homeland-defense and federal-relief efforts. This year's exercise was combined with North American Aerospace Defense Command's Amalgam Virgo '04, a binational, multi-agency air-security exercise. The simulated attacks came from land, sea and air."

http://www.defenselink.mil/news/Aug2004/n08122004_2004081204.html

VX Projectile Campaign Completed At Tooele Chemical Agent Disposal Facility

U.S. Army Chemical Materials Agency Desert Chemical Depot Press Release

August 16, 2004

"The last of more than 53,000 155-millimeter artillery projectiles filled with VX nerve agent was destroyed today at 5:33 a.m. by workers at the Tooele Chemical Agent Disposal Facility (TOCDF). With the previous completion of the VX M-55 Rocket and Ton Container Campaigns, the only VX munitions left in storage at Deseret Chemical Depot are remaining spray tanks and land mines."

<http://www.cma.army.mil/include/docrendition.asp?DocID=003673678>

New Joint Service Gas Mask Tested Aboard Bonhomme Richard

Seaman Ryan Valverde

NavNews

August 19, 2004

"The joint military Development Test Command (DTC) tested a newly developed gas mask aboard USS Bonhomme Richard (LHD 6) Aug. 1-13 during its transit to Seattle and back. All branches of the military are currently testing the Joint Service General Purpose Mask (JSGPM) to determine its effectiveness in the field, said John Strang, a DTC staff member. The mask is planned to replace the MCU-2P, the Navy's current gas mask."

www.news.navy.mil/local/lhd6

Starlight: Knowledge Management on a Whole New Plane

by Brian Kritzstein

Starlight is the leading edge of an emerging class of information systems that couples advanced information modeling and management techniques within a visual interface.

The advantage of Starlight lies in its ability to make the relationships among vast amounts of data visible. By displaying the correlations visually, Starlight brings to analysts, researchers, and decision-makers a powerful new set of tools to access, exploit and control information buried in vast amounts of data.

The product of over six years of information visualization work by researchers at Pacific Northwest National Laboratory's National Security Directorate, Starlight is now fielded for a variety of national security applications.

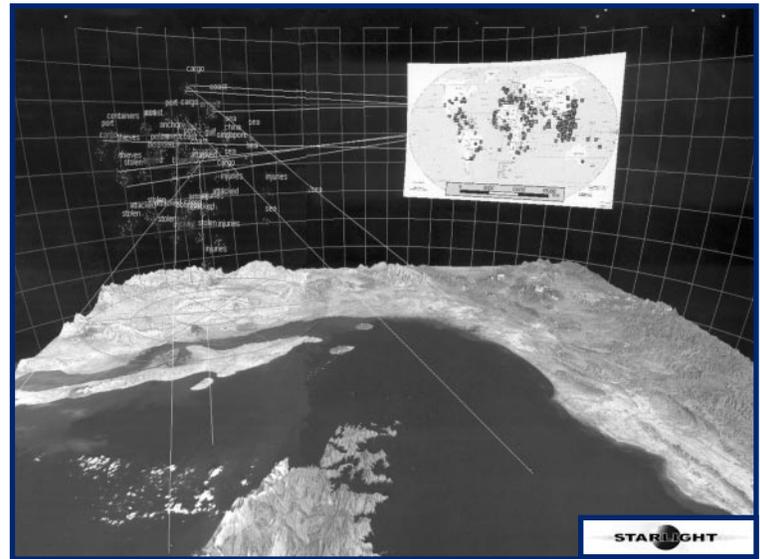
The Laboratory, which is managed by Battelle Memorial Institute for the U.S. Department of Energy, is now working with Battelle to pursue other applications for Starlight. The possibilities are varied, from law enforcement, medical and legal research, to industrial and business intelligence.

So in addition to being advanced, Starlight is adaptable, powerful, and complex in the network environment. It was developed originally to provide the military intelligence community with an improved set of tools to combine information gathered from the field with supporting information from a variety of other sources in other modes—from statistical databases to detailed maps to photographs and news archives.

The research and development into Starlight at the Laboratory sought to create advanced computer-based tools to aid analysts and decision-makers who needed to plow through mountains of data to find a few small nuggets of critical information.

The end product, now in its second generation, is called Starlight because it visually displays common patterns and themes in clusters like the stars in galaxies. Starlight runs on a standard PC. As with any visualization, high quality graphics and large screen or dual monitors increases the effectiveness of the tool. Among Starlight's features:

- Integrates data from disparate sources
- Simultaneously analyzes structured data and unstructured data
- Includes a Geographic Information System (GIS)
- References tagged images and diagrams
- Provides sophisticated query tools for data and data mining
- Uses industry standards: Extensible Markup Language (XML)
- Runs on Windows NT/2000/XP platforms
- Enables collaboration with client-server software architecture



One of the unique features of Starlight is its capacity for integrating spatial and non-spatial information in a visual display for easier and faster integrated analysis. By creating spatial representations of non-spatial information (think complex mind maps) and placing these representations into the same visualization environment with spatial information, interesting and powerful new forms of information analysis become possible.

Starlight's allows intelligence analysts to take data from different sources, in different formats and cross reference data simultaneously:

- By theme or concept
- By date and time
- By geographic proximity
- By similar field values

Combining these capabilities provides an analyst with the power of a suite of traditional tools and allows analysts to see patterns and anomalies in the data rather than traditional, time consuming, field-by-field comparisons.

Flexibility Built Into Design

Starlight has many useful applications for defense and homeland security decision-makers, among others, because of its generic design, interface features, and the speed with which it can crunch mega amounts of data.

Starlight's flexibility has led to its use for analysis of the structure and content of files from a computer's hard drives, known as computer forensics; detection of computer network intrusion events; Web page links; test result evaluations; and all

Continued pg. 11

“Starlight” *cont.*

manner of competitive intelligence gathering and analysis. The potential for Starlight to be used in a variety of applications to help decision-makers is quite broad. In public health settings, Starlight could be used to look for previously undetectable correlations among certain classes of symptoms reported from field to hospital admission, with ultimate diagnoses to uncover possible illness-causing exposures.

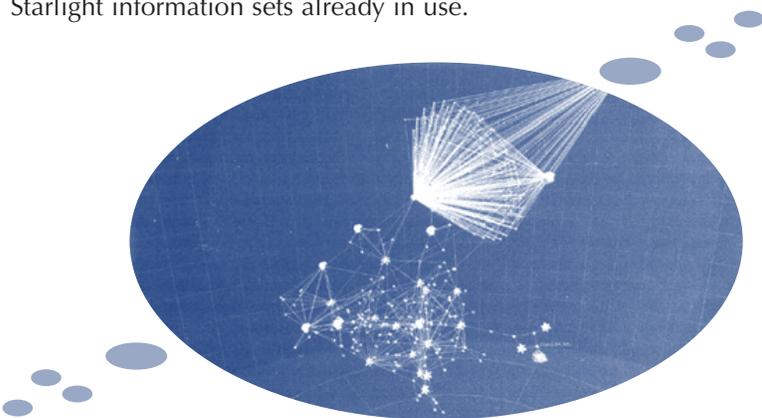
In accident investigations, Starlight can be used to compare the detailed records of maintenance histories to look for previously undiscovered relationships between certain parts and ultimate accident-causing failures in aircraft, vehicles, or other modes of transport.

Maps to Faces

One of the most exciting features of Starlight is the variety of important types of spatial information views that can be entered into the analysis process and collated to reveal common threads with other forms of data and information.

Maps, terrain, and different types of image files can be incorporated into a Starlight analysis process. Two-dimensional, or flat, map views, three-dimensional terrain views, and image files of faces and other objects can be entered into the analysis stream.

Using Starlight’s Geographic Information System (GIS) design, maps can be incorporated in two-dimensional window displays, regardless of whether the map is a raster (pixel-based) or vector (computer-coded) design file. Starlight’s MapView function supports the display of maps and attaches geo-coordinates that correlate locations on the maps with the contents of other Starlight information sets already in use.



Information is grouped as “constellations” in a visual environment thus allowing for expedited analysis and decision-making.

The system automatically adds these coordinates as new map views are opened, enabling the complete integration of spatial data with non-spatial information that has associated spatial attributes.

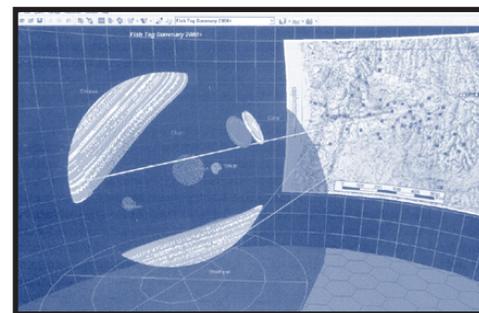
MapView provides a range of standard GIS analysis functions, including graphical feature selection and spatial and feature

attribute queries. In turn, a map query answer involving information set object properties can be used to make queries to content or association data sets. This allows analysts to quickly access non-spatial information that is correlated with spatial features of interest.

Finally, the contents of map views can be added to local visualizations that focus in on subsets of information resulting from Starlight queries.

3-D Terrain and Images

Starlight uses a utility called TerraGen to process elevation and raster-generated data into three-dimensional terrain models for display in Starlight. A terrain view has a dedicated map view associated with it that serves as the display controller. Any data displayed in terrain view’s associated map view will be automatically “draped” onto the terrain model, making possible a more realistic assessment of that location information.



Starlight software illustrates connections among non-spatial and spatial information.

Locations on terrain views can be linked graphically to information objects contained within concurrently displayed information sets by adding it to a geospatial Link Array Plane.

In addition to two- and three-dimensional map and terrain views, Starlight also supports digital image files. Facial photos, news photos and other images are used in Starlight to provide visual context and as a memory aid for other non-spatial information being analyzed.

Starlight prepares digital images with a utility called MetalImage. Using this tool, the user can call out digital images from metadata files and assemble them into image libraries. Using MetalImage, digital image files can be accessed and displayed in a variety of ways. For example, spatial locations of features of interest can be included in the images, such as the location of a particular person in a crowd photo, or position of a name in an organization chart.

Once images have been processed using MetalImage, the digital image files can be loaded into Starlight and treated in much the same way as map views. A Starlight MetalImage can be opened from an image library into an image view window, and the contents of that window can be added to a Link Array Plane, where it will be graphically linked to correlated information in other information sets.

Continued pg. 12

“Starlight” *cont.*

Work is now under way to extend Starlight’s spatial information and analysis capabilities to include support for three-dimensional models that have associated attribute information.

Battelle researchers at Pacific Northwest National Laboratory are working on developing a parser for three-dimensional CAD (computer aided design) data and related non-spatial information. Such a feature would enable, for example, researchers to compare detailed aircraft design models with repair records and data files of specific aircraft parts, as a way of performing a comprehensive analysis of aircraft accident data.

Starlight’s developers also are working on a 3D model analogue to the Metalmage utility so that in the future, users will be able to create their own 3D model metadata libraries. At present, Starlight users can load 3D model files in either Inventor or in a format using VRML (Virtual Reality Markup Language) in the main Starlight display, but cannot link those objects to associated non-spatial information.

At Pacific Northwest National Laboratory and Battelle, we regard Starlight as a work in progress—a powerful tool whose design capabilities we intend to expand and refine.

Notes:

Brian Kritzstein is a Principal Research Scientist with Battelle. For more information about Starlight, Brian can be contacted by email at kritzsteinb@battelle.org.

The principles similar to those used in Starlight have been utilized on other visual information tools developed by Pacific Northwest National Laboratory. For further information, see <http://www.pnl.gov/infoviz>.

A similar article on Starlight also appeared in Military Training Technology Volume 8, Issue 5, 2003, published by KMI (Kerrigan Media).

Open Source Evaluation and Event Reporting (OSEER) Project Utilizes Starlight

Defense Threat Reduction Agency (DTRA) tasked the CBIAC (under TAT 219) to analyze open source news for predictive threat analysis from chemical agents, biological agents, or other weapons of mass destruction. This project uses targeted open source collection strategies, data transformation to XML, a Native XML Database, and a data analysis process utilizing Starlight. During this project, Starlight was used to analyze large amounts of open source information to find interesting combinations of data that pointed to potential threats that would have been otherwise extremely difficult to discern.

DTRA expanded the project to support the USDA Animal Plant Health Inspection Service (APHIS) to analyze foreign plant and animal pests and disease related information to discern potential threats from outbreaks of animal diseases or plant pests and diseases.

“LRN” *cont.*

Level 1 Laboratories

Each chemical network member participates in Level 1 activities. Level 1 laboratories are responsible for:

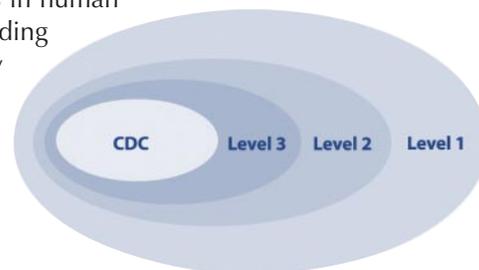
- Working with hospitals in their jurisdiction;
- Knowing how to properly collect and ship clinical specimen;
- Ensuring that specimens, which can be used as evidence in a criminal investigation, are handled properly and chain-of-custody procedures are followed;
- Being familiar with chemical agents and their health effects;
- Training on anticipated clinical sample flow and shipping regulations; and
- Working to develop a coordinated response plan for their respective state and jurisdiction.

Level 2 Laboratories

Forty-one labs also participate in Level 2 activities. At this level, laboratory personnel are trained to detect exposure to a limited number of toxic chemical agents in human blood or urine. Analysis of cyanide and toxic metals in human samples are examples of Level 2 laboratory activities.

Level 3 Laboratories

Five laboratories participate in Level 3 activities. At this level, personnel are trained to detect exposure to an expanded number of chemicals in human blood or urine, including all Level 2 laboratory analyses, plus analyses for mustard agents, nerve agents, and other toxic chemicals.



NATIONAL AND INTERNATIONAL COVERAGE OF THE LABORATORY RESPONSE NETWORK

LRN-member laboratories are strategically located across the United States and abroad, each playing a role in their state’s or territory’s overall emergency response plan. They include state and local public health, federal, and military labs, each capable of performing confirmatory testing for high priority biological agents.

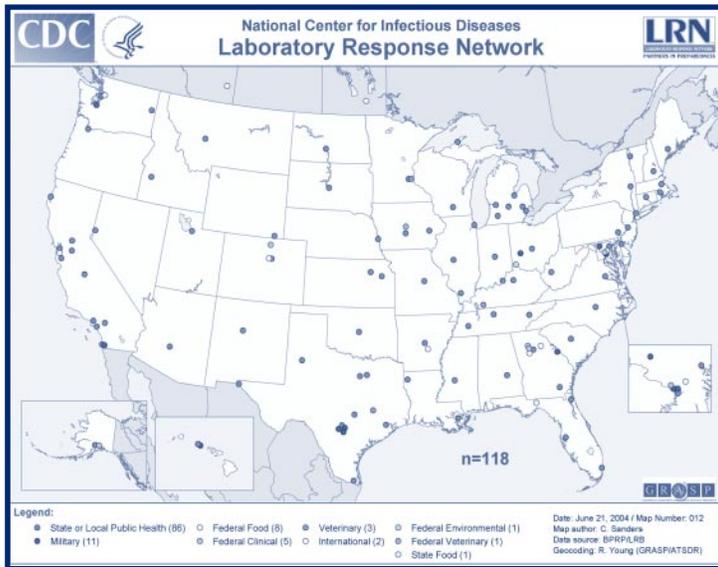
The majority of states and territories currently have laboratories that are designated as Biosafety Level 3 (BSL-3) facilities, meaning they are facilities that meet strict safety and security guidelines and personnel follow procedures that protect them and their colleagues from inadvertent infection. One goal of the LRN is to have all of its reference and national laboratories designated as BSL-3, which is the second highest laboratory safety designation available.

The close proximity that national, military, and public health laboratories have to one another gives the LRN the capacity to

Continued pg. 13

“LRN” cont.

handle disease outbreaks anywhere in the United States. Laboratories are capable of transferring samples to the nearest appropriate partner laboratory if they cannot perform the required tests or become overwhelmed.



LRN PARTNERS AND OTHER RELATED SITES

DEPARTMENT OF HEALTH AND HUMAN SERVICES (HHS)

Centers for Disease Control and Prevention (CDC)

CDC is recognized as the lead federal agency for protecting the health and safety of people—at home and abroad—providing sound science and credible information to enhance health decisions, and promoting health through strong partnerships. CDC serves as the national focus for developing and applying disease prevention and control, environmental health, and health promotion and education activities designed to improve the health of the people of the United States. The Laboratory Response Network (LRN) is one component of CDC's overall mission to combat emerging infectious disease. A significant part of its effort includes strengthening local, state, and national public health laboratory capacity in response to acts and threats of biological and chemical terrorism.

Food and Drug Administration (FDA)

The FDA is responsible for protecting the public health by assuring the safety, efficacy, and security of human and veterinary drugs, biological products, medical devices, our nation's food supply, and cosmetics. Food safety and security are key components of the Public Health Security and Bioterrorism Preparedness and Response Act of 2002. FDA's Center for Food Safety and Applied Nutrition and its Office of Regulatory Affairs are working with the LRN on developing standardized food sample testing methods for use among LRN-member laboratories. The LRN is also working with the joint USDA-FDA administered laboratory network for food security, the Food Emergency Response Network (FERN).

DEPARTMENT OF AGRICULTURE (USDA)

The USDA's Animal and Plant Health Inspection Service (APHIS) laboratory in Ames, Iowa, in collaboration with the veterinary diagnostic laboratory community, act as a reference and sentinel laboratories for the detection of zoonotic agents, organisms that can cause diseases affecting both animals and humans. The USDA's Food Safety and Inspection Services laboratories also act as reference and sentinel laboratories for agents that may be found in meat, poultry and egg products.

DEPARTMENT OF DEFENSE (DOD)

The DoD contributes scientific expertise at the LRN's national laboratory level through the U.S. Army Medical Research Institute of Infectious Diseases in Ft. Detrick, Maryland and the Naval Medical Research Center in Bethesda, Maryland. Other military-based laboratories also serve as LRN reference laboratories.

DEPARTMENT OF ENERGY (DOE)

When the LRN was launched in 1999, the DOE shared expertise from its national laboratories. Lawrence Livermore National Laboratory (LLNL) in Livermore, California, is an applied-science national security laboratory operated by the University of California. LLNL continues to work with the LRN through the recently created Science and Technology Directorate, which is part of the Department of Homeland Security. Its contributions include the co-development of pathogen detection methods using their unique genomics capabilities and operational experience. LLNL is working with the other government agencies responsible for counterterrorism activities, assessing U.S. capabilities, developing technologies to address vulnerabilities, and participating in counterterrorism drills, exercises and operations.

DEPARTMENT OF HOMELAND SECURITY (DHS)

The DHS mandate is to unify the vast number of government organizations and institutions for the purpose of securing the homeland. The LRN and DHS have been working together, along with the Environmental Protection Agency on an environmental surveillance program called BioWatch, an air-monitoring effort taking place in a number of large cities across the country. BioWatch air samplers provide 24-hour monitoring of densely-populated areas. Samples are transported to LRN laboratories where they are analyzed using rapid DNA-matching technology to detect the presence of a number of threat agents.

DEPARTMENT OF JUSTICE (DOJ)

Federal Bureau of Investigation (FBI)

The LRN is a unique collaboration between law enforcement and public health. The FBI, a founding partner of the LRN, brought its forensic expertise and requirements to the program. A partnership between public health and law enforcement is a prerequisite to the program's response to a chemical or biological attack. Because public health and law enforcement have overlapping approaches and goals to their investigations,

Continued pg. 14

it is important that public health workers, such as epidemiologists, and law enforcement officials collaborate to both enhance and protect the integrity of their investigations.

ENVIRONMENTAL PROTECTION AGENCY (EPA)

Because of its inherent role in protecting human health and the environment from possible harmful effects of certain chemical, biological, and nuclear radiochemical materials, EPA is actively involved in counterterrorism planning and response efforts. EPA is currently working with the LRN on laboratory-related issues and tests that will assist in monitoring our nation's drinking water. In addition, the agency is a key component in BioWatch, a program that monitors air in select cities for potential threat agents. EPA assists with air sample collection, provides the air samplers, and LRN laboratories perform the daily tests on collected samples.

SCIENTIFIC ORGANIZATIONS

Association of Public Health Laboratories (APHL)

APHL is one of the LRN's founding partners. In 1999, APHL, the FBI, and CDC formed the LRN to help laboratories across the country prepare for and respond to acts of biological terrorism. It was later expanded to include chemical terrorism. APHL provides guidance to state and local public health laboratories across the country and helps to coordinate state and local public health laboratories for the LRN.

American Society for Microbiology (ASM)

ASM has been instrumental in the development of sentinel-level laboratory testing protocols for the detection of biothreat agents. Along with CDC and APHL, ASM serves as a resource for training and education for microbiologists in private and public health laboratories. ASM also educates and trains those in hospital-based and commercial laboratories regarding their roles and responsibilities as sentinel laboratory members.

American Association of Veterinary Laboratory Diagnosticians (AAVLD)

AAVLD is assisting CDC and the APHL in recruiting veterinary diagnostic labs as LRN reference laboratories to boost the network's capacity to detect threat agents that can be shared by both animals and humans.

Contacts for Further Information:

Centers for Disease Control and Prevention

Laboratory Response Branch
Bioterrorism Preparedness and Response Program
National Center for Infectious Diseases
1600 Clifton Road NE, Mailstop C-18
Atlanta, GA 30333
Telephone: (404) 639-2790
lrn@cdc.gov

<http://www.bt.cdc.gov/lrn/index.asp>

Association of Public Health Laboratories

2025 M Street NW, Suite 550
Washington, DC 20036
Telephone: (202) 822-5227 Fax: (202) 887-5098
info@aphl.org
<http://www.aphl.org/>

Examples of the LRN in Action

Anthrax attacks of 2001

In 2001, just weeks after terrorists attacked the World Trade Center in New York City and the Pentagon in Washington, D.C., letters containing spores of anthrax destined for Florida, New York City, and Washington, D.C., infected 22 people, killing five. The LRN played a pivotal role in the quick detection of *Bacillus anthracis*, the bacteria that causes anthrax.

On Oct. 4, 2001, CDC confirmed the first case of the 2001 anthrax attacks in a 63-year-old Palm Beach County, FL, man who was exposed to *B. anthracis* at his workplace. The discovery came when clinical specimens taken from the man revealed the organism. The specimens were forwarded to a state public health laboratory that was an LRN member. The state public health laboratory confirmed the anthrax infection and alerted CDC.

Investigators collected environmental and clinical samples from the victim's workplace, a local hospital, and from sites in North Carolina where the man had traveled just prior to getting sick. Testing performed by LRN laboratories helped determine that exposure occurred at work after being exposed to anthrax that was mailed to the man's office.

Subsequent testing of postal facilities, U.S. Senate office buildings, and newsgathering organizations' offices occurred in the weeks and months that followed. Between October and December of 2001, LRN laboratories successfully and accurately tested more than 125,000 samples, which amounted to more than 1 million separate bio-analytical tests.

BioWatch

Using a network of air samplers maintained by the Environmental Protection Agency (EPA), the environment of densely populated areas of undisclosed cities is tested around the clock. Filters from these samplers are removed at least once each day and transported to a designated LRN BioWatch. BioWatch is an environmental surveillance effort initiated by the Department of Homeland Security. Laboratory, where the samples are analyzed using PCR technology.

A positive result from these tests would trigger emergency response activities that follow well-established procedures with defined roles and responsibilities for emergency management.

Severe Acute Respiratory Syndrome

CDC laboratories sequenced the genome for the coronavirus believed to be responsible for the global epidemic of severe acute respiratory syndrome (SARS). The genome sequencing paved the way for LRN-developed PCR assays aimed at identifying the virus. The LRN has also developed reagents to support the SARS PCR. Both the tests and reagents are available to LRN members.

The information in this article (and more) is posted on the LRN Web site at <http://www.bt.cdc.gov/lrn>.

New CBIAC Info. Resources *cont.*

Office of the Deputy Assistant to the Secretary of Defense for Counter-Proliferation and Chemical and Biological Defense Programs

Email: <http://www.acq.osd.mil/cp/contact.html>

Tucker, Jonathan B. **Biosecurity: Limiting Terrorist Access to Deadly Pathogens.**

Washington, D.C.: United States Institute of Peace, 2004.
<http://www.usip.org/pubs/peaceworks/pwks52.pdf>

The emerging field of "biosecurity" concerns itself with preventing the deliberate theft or diversion of pathogenic organisms or toxins for malicious purposes. The author, a former UNSCOM biological weapons inspector and recognized authority in the field of counter-proliferation studies, provides chapter length discussions of "The Biosecurity Challenge," "The Threat of Pathogen Diversion," "U.S. Biosecurity Legislation," and "Global Security Standards."



An appendix is provided on "Dangerous Pathogens and Toxins Subject to U.S. Federal Regulations."

CB-192078
United States Institutes of Peace
1200 17th Street NW, Suite 200
Washington, D.C. 20036
Phone: (202) 457-1700
Fax: (202) 429-6063
<http://www.usip.org>

McCarthy, Claudine and Julie Fischer. **Inching Away From Armageddon: Destroying the U.S Chemical Weapons Stockpile.** Washington, D.C.: Henry L. Stimson Center, 2004.
<http://www.stimson.org/cbw/pdf/chemdemilguide.pdf>



The purpose of this publication is to serve as a reference guide to the U.S. government's efforts to destroy America's chemical weapons stockpile. Areas specially addressed include chemical weapons demilitarization sites, the nature of the munitions and the mode of storage, demil technologies,

the agencies and organizations associated with the demil process, program timelines, cost and timeline overruns and legislation and oversight.

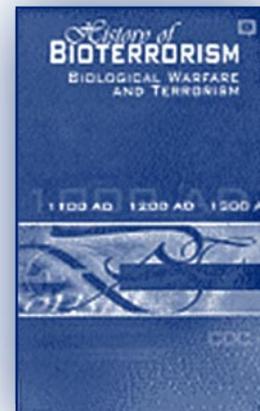
Includes numerous tables and diagrams and a glossary.

CB-191931
The Henry L. Stimson Center
11 Dupont Circle, NW
9th Floor
Washington, D.C. 20036
Phone: (202) 223-5956
Fax: (202) 238-9604
<http://www.stimson.org>

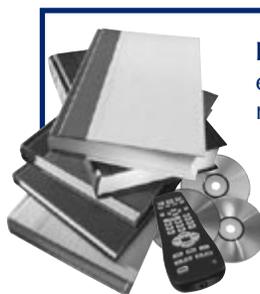
Videos

Bioterrorism Preparedness and Response Planning, CDC.
The History of Bioterrorism. Atlanta, Georgia: Centers for Disease Control and Prevention, 2004.
<http://www.bt.cdc.gov/training/historyofbt/index.asp>

This 25 and one half minute video presentation describes what the CDC calls Category A diseases and their use and potential use as agents of biological terrorism. These disease agents are smallpox, anthrax, botulism, plague, tularemia, and viral hemorrhagic fevers. When employed as agents of biological terrorism or warfare they have a potential for causing the maximum levels of illness and death.



CB-192082
Bioterrorism Preparedness and Response Planning
Centers for Disease Control and Prevention
1600 Clifton Rd.
Atlanta, Georgia 30333
Phone: 888-246-2675
<http://www.bt.cd.gov>



Donations Welcome! If you have books, electronic files, documents, CDs, or videos relevant to the CB Defense and Homeland Security mission of the CBIAC, we would welcome the addition of new resources to our collection.

CONFERENCE & EXHIBITION

22-25 August 2005 | San Antonio, Texas

2nd Sustainable Range Management

Military ranges and training areas are used to test and evaluate weapon systems and to train DoD personnel. Increasingly, the military's goal to "train as we fight" is being challenged by various encroachment issues, which must be resolved in order to sustain the military's ability to conduct realistic training into the foreseeable future.

Call for Abstracts

Abstracts are welcome on any of the diverse issues related to sustaining military ranges and maneuver areas in the following topic areas: Infrastructure, Operations, Maintenance, Encroachment, Environmental Responsibility, Outreach, and New Technologies.

For more information contact Lisa Legeer at telephone 410-306-8684, email rangecon@battelle.org or visit the conference web site.

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