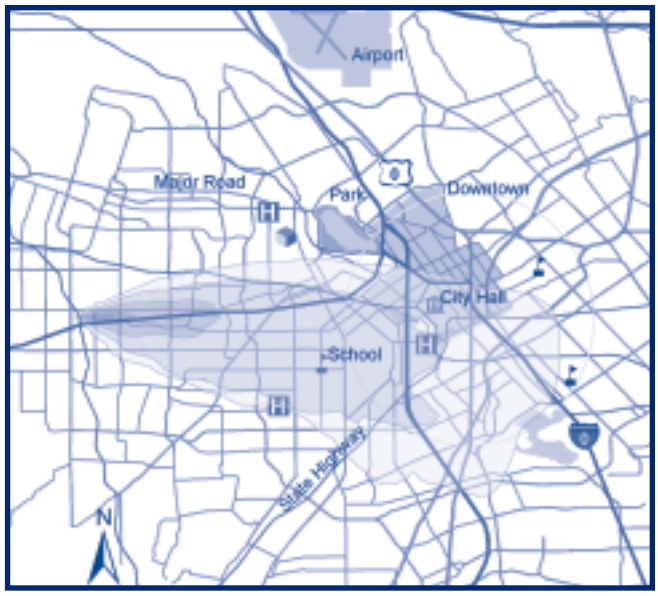
Chemical and Biological Defense
CBIAC Information Analysis Center Newsletter
Summer 2004 Volume 5 Number 3
A U.S. Department of Defense Information Analysis Center sponsored by the **Defense Technical Information Center**

Computers Against Infectious Diseases: NIH Project Aims to Combat Bioterrorism

By Karin Jegalian and Alisa Zapp Machalek

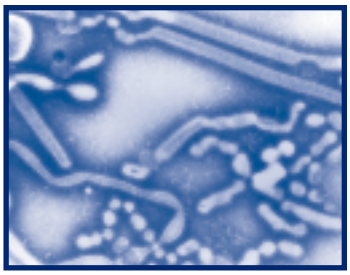
A new initiative from the National Institutes of Health (NIH) aims to harness the nation's computing skills to help prevent and respond to disease outbreaks, whether they occur naturally or as a result of bioterrorism. The initiative, called MIDAS, supports researchers from different disciplines—such as statistics, epidemiology, and public health—to develop user-friendly computer models of how epidemics arise and spread and what kind of responses work best to combat them. **MIDAS**, an acronym for **Models of Infectious Disease Agent Study**, is sponsored by the National Institute of General Medical Sciences (NIGMS), which awarded the first four grants for this project in May.

"MIDAS will play a key role in the NIH biodefense plan," said Elias A. Zerhouni, M.D., the NIH director. "The computer models created through this initiative will help us determine the best strategies to detect, control, and prevent the spread of disease."



Computer simulations like this, which models the release of sarin gas over a city, help scientists study the spread of chemical, biological, and radiological agents. MIDAS scientists will develop similar models to help understand and respond to the spread of infectious diseases. National Atmospheric Release Advisory Center

Except under unusual circumstances, the databases, analytical tools, and simulation models developed through the MIDAS initiative will be made available to the scientific community, policy makers, and public health officials. If there is an infectious disease outbreak, NIH may call upon the MIDAS network to develop specific models to help public officials understand and respond to the outbreak.



Electron micrograph of influenza A, which caused the 1918 flu pandemic and other major flu epidemics. It is the first disease MIDAS scientists will model together. CDC/Dr. Erskine Palmer

"MIDAS is designed not only to help prepare us for infectious disease crises, but also to be an active part of the response," said Jeremy M. Berg, Ph.D., the NIGMS director. "In the case of a national medical emergency, MIDAS scientists can redirect their work to help government officials quickly determine the best way to deal with the epidemic."

The network is guided by a steering committee, which consists of scientists involved in MIDAS research as well as NIH representatives and outside experts. The committee predicts that MIDAS will gain recognition and develop enhanced tools as it builds long-term relationships with other agencies and with the public health community.

In an effort to quickly develop resources and collaboration within MIDAS, the committee requested that, in addition to the individual projects being conducted by each group, the network immediately begin to study a problem together. The committee selected influenza, spreading after a slight genetic change, as the first disease to model. MIDAS researchers plan to take into account variables such as the structure of social networks, availability of transportation, and travel policies. They will also attempt to computationally replicate historical outbreaks, such as the 1918 flu pandemic, to validate and fine-tune their models.

The four MIDAS projects currently underway include one informatics group and three research groups:

Continued pg. 11

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

Summer 2004 Volume 5 Number 3

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.

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cbiac-tat@battelle.org
Knowledge Management & Development Program:
cbiac-kmd@battelle.org

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

U.S. Army Dedicates New Facility Designed To Destroy Chemical Weapons

Munitions Assessment and Processing System (MAPS) to Treat Recovered Munitions

By Jason Huffine and Karen Drewen

The U.S. Army Non-Stockpile Chemical Materiel Program (NSCMP) dedicated the **Colonel Garland M. White Munitions Assessment and Processing System (MAPS) Facility**, its newest capability and first fixed facility for the treatment and recovery of chemical weapons, during a ceremony at the Edgewood Area of Aberdeen Proving Ground, Maryland, on May 5, 2004. The MAPS Facility will be used to treat stable chemical and acidic smoke munitions recovered at APG during environmental remediation activities. The facility provides the Army and the community with an environmentally friendly alternative to open detonation for most recovered munitions.

Donald Benton (left), systems manager, explains a model of the MAPS facility to Dennis Schrader, director, Maryland Governor's Office of Homeland Security, at MAPS' May 5 th dedication ceremony. Looking on is Lt. Col. Paul Fletcher, NSCMP Program Manager (right). (photo by Conrad Johnson/U.S. Army)

Many individuals and organizations have been part of the MAPS team, contributing to the success of development and construction since the project began. These include the Aberdeen Proving Ground Restoration Advisory Board; Maryland Department of the Environment; Edgewood Chemical Biological Center; U.S. Army Technical Escort Unit; U.S. Army Materiel Systems Analysis Activity; Tennessee Valley Authority; Sandia National Labs; Mitretek Systems; Science Applications International Corporation; U.S. Army Corps of Engineers, Baltimore District; and John C. Grimberg Construction Company.

In his remarks during the ceremony, Lt. Col. Paul Fletcher, Program Manager for Non-Stockpile Chemical Materiel, explained that the cooperation of these organizations aided in the development and completion of the MAPS facility and represents a unique partnership between the Army, its contractors, citizens, local community leaders, environmental advocates and the state of Maryland.

NSCMP is part of the U.S. Army Chemical Materials Agency (CMA), the world leader in programs to store, treat, and dispose of chemical weapons safely and effectively. CMA Director Michael Parker spoke at the ceremony. "This isn't just a building developed and designed by scientists, engineers, technicians, and other experts and professionals," said Parker. "Its existence is proof the public has a voice in the Army's mission, and that we're all on this team together."

The dedication ceremony featured remarks from Col. Robert J. Davis, Baltimore District Commander, U.S. Army Corps of Engineers, who discussed COE's commitment to serve the community's interest and protect the environment. Dennis Schrader, Director of the Maryland Governor's Office of Homeland Security, addressed homeland security issues and the role the MAPS facility plays in the U.S. Army's commitment to chemical weapons disposal. Kevin Flamm, CMA Program Manager for the Elimination of Chemical Weapons, led the ribbon-cutting ceremony that marked the official dedication of the facility to Col. Garland M. White, the first commander of the U.S. Army Technical Escort Unit at APG. "The Colonel Garland M. White Munitions Assessment and Processing System Facility will uphold the chemical weapons disposal mission embraced by Colonel White," Flamm said "Forty-four years later, the MAPS facility prepares to continue Colonel White's work."

Kevin Flamm, Program Manager for the Elimination of Chemical Weapons, assists Lt. Col. Paul Fletcher, NSCMP Program Manager, in unveiling the dedication plaque for the Col. Garland M. White MAPS Facility during the ceremony on May 5. (photo by Conrad Johnson/U.S. Army)

As the first commander of TEU in 1945, White pioneered the safe, secure escort of chemical munitions. His leadership led to a Meritorious Unit Commendation for his unit after completing 847 missions without serious injury. In 1949, White realized the need for chemical disposal and positioned

Continued pg. 10

Contract Awards • *by Mary Frances Tracy*

Field Range Testing and Laboratory Support Services for the West Desert Test Center, Dugway Proving Ground, Utah
Jacobs Engineering Group Inc
Ft. Walton Beach, FL
$285,000,000 March 11, 2004
By U.S. Army

Construction of the Chemical/Biological Defense Facility at Naval Surface Warfare Center, Dahlgren Division, VA
Whiting-Turner Contracting Co.
Bethesda, MD
$7,025,000 (Not to exceed $500,000,000) April 22, 2004
By Engineering Field Activity Chesapeake,
Naval Facilities Engineering Command, Washington, DC

Design, Construction, And Installation Of The Guardian Installation Protection Program Lead Systems Integrator
Science Applications International Corp.
San Diego, CA
$26,426,000 April 28, 2004
By U.S. Army Space and Missile Defense Command,
Huntsville, AL

Black Vinyl Overshoe for the Army, Navy, Air Force, and Marine Corps
Norcross Safety Products, LLC
Rock Island, IL
$6,615,000 April 30, 2004
By Defense Supply Center Philadelphia,
Philadelphia, PA

Joint Biological Standoff Detection System
Science and Engineering Services Inc.
Columbia, MD
$6,415,000 (Part of $10,508,624) May 4, 2004
By U.S. Army Robert Morris Acquisition Center,
Aberdeen Proving Ground, MD

Integration of Chemical, Biological, Radiological and Nuclear Protection Program at 200 Defense Department Facilities
Science Applications International Corp.
San Diego, CA
$390,000,000 May 7, 2004
By Joint Program Executive Office for Chemical and
Biological Defense and the Joint Project Manager,
McLean, VA

Immune Building Demonstration
Battelle Memorial Institute
Columbus, OH
$19,986,159 May 14, 2004
By Defense Advanced Research Projects Agency,
Arlington, VA

Automated System for Liquid Phase Detection of Toxic Compounds
University of Maine
Orono, ME
$5,330,291 (Part of $5,330,291) June 1, 2004
By U.S. Army Robert Morris Acquisition Center,
Aberdeen Proving Ground, MD

Malaria Vaccines: Clinical Research & Trial Sites in Endemic Areas
Noguchi Memorial Institute for Medical Research, University of Ghana
Legon, Accra, Ghana
$8,743,860 June 1, 2004
By National Institutes of Health,
National Institutes of Allergy and Infectious Diseases,
Bethesda, MD

Bright Onyx Program (A Compact, Active Multi-spectral Chemical Sensor Operating in the 3 - 5 um Region for Remote Chemical Detection of Chemicals Associated with Weapons of Mass Destruction)
Akamai Physics Inc.
Las Cruces, NM
$999,824 June 22, 2004
By AF Research Laboratory, Wright-Patterson AFB, OH

Development of a Portable Chemical / Biological Detector
Sensor Research and Development Corporation
Orono, ME
$1,799,999 June 23, 2004
By Office of Naval Research, Arlington, VA

Chemical/Biological Gas Mask Kits in Support of Navy and Air Force
Mine Safety Appliances
Murrysville, PA
$42,017,698 June 30, 2004
By Headquarters Warner Robins Air Logistics Center,
Robins Air Force Base, GA

Joint Biological Point Detection System Interim System Production
General Dynamics
Deland, FL
$25,506,134 August 12, 2004
U.S. Army Research, Development, and Engineering
Command, Aberdeen Proving Ground, MD

New CBIAC Information Resources • *By Richard M. Gilman*

CDs

Society of Toxicology. **The 43rd Annual Meeting of the Society of Toxicology.** Reston, VA: SOT, 2004.

SOT Annual meetings are the largest toxicology meetings and exhibits in the world and currently draw approximately 6000 scientists. This CD includes abstracts of approximately 2100 symposia, workshops, roundtable discussions and poster sessions.

CB-104867
Society of Toxicology
1821 Michael Faraday Drive,
Suite 300
Reston, VA 20190
Phone: (703) 438-3115
http://www.toxicology.org

Documents

Chalk, Peter. **Hitting America's Soft Underbelly—The Potential Threat of Deliberate Biological Attacks Against the U.S. Agricultural and Food Industry**. Santa Monica, CA: Rand Corporation, 2004.
http://www.rand.org/publications/MG/MG135/MG135.pdf

"In terms of accurate threat assessments and consequence management procedures, the agriculture sector, and the food industry in general, by and large has not been a part of the wide-ranging emphasis that has been given to critical infrastructure in the United States.

This report aims to expand the current debate on domestic homeland security by assessing the vulnerabilities of the agricultural sector and the food chain to a deliberate act of biological terrorism." (Preface)

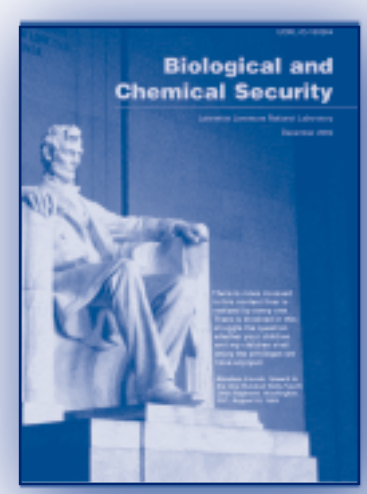
Includes tables and a bibliography.

CB-191996
Rand Corporation
1700 Main Street

P.O. Box 2138
Santa Monica, CA 90407
Phone: (310) 451-7002
http://www.rand.org

Fitch, P. J. **Biological and Chemical Security**. Livermore, CA: Lawrence Livermore National Laboratory, 2002.
http://www.llnl.gov/tid/lof/documents/pdf/244774.pdf

This compilation of articles from LLNR's Science & Technology Review provides an overview of Lawrence Livermore National Laboratories' Chemical & Biological National Security Program (CBNP). There are article-length treatments of such topics as LLNR's forensic science center, determining the virulence of plague bacteria, field detection of biological agents, assessing the threat potential of missiles with biological warheads, and DNA-based signatures of biological agents.



CB-191997
Science & Technology Review
Mail Stop L-664
Lawrence Livermore National Laboratory
P.O. Box 808
Livermore, CA 94551
Phone: (925) 423-3432

Military Medical Operations, Armed Forces Radiobiology Research Institute. **Medical Management of Radiological Casualties Handbook.** Second Edition. Bethesda. MD: Armed Forces Radiobiological Institute, 2003.
http://www.afrri.usuhs.mil/www/outreach/pdf/2edmmrchandbook.pdf

"Unfortunately, the proliferation of nuclear material and technology has made the acquisition and adversarial use of ionizing radiation weapons more probable than ever. In the modern era, military personnel and their nation's population will expect that a full range of medical modalities will be employed to decrease the morbidity and mortality from the use of these weapons. Fortunately, treatment of radiation casualties is both effective and practical." (Introduction)

Contains numerous tables, eight appendices and an index.

CB-190442
Military Medical Operations
Armed Forces Radiobiological Research Institute
8901 Wisconsin Ave.
Bethesda, MD 20889-5603
Meir@afrii.usuhs.mil
Phone: (301) 295-5603

Continued pg. 8

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/**.

October 17-20, 2004
47th Annual Biological Safety Conference
San Antonio, TX
http://www.absa.org/confsem.html

October 18-20, 2004
9th Annual New Mexico Environmental Health Conference
Albuquerque, NM
www.nmehc.org

October 18-21, 2004
Sixth Joint International Military Sensing Symposium (MSS): Network Centric Warfare
Dresden, Germany
http://www.fom.fgan.de/mss2004/

October 18-21, 2004
Conference on Science and Technology for Chem-Bio Information Systems
Williamsburg, VA
http://www.cbis2004.com

October 18-22, 2004
Field Management of Chemical & Biological Casualty (FCBC) Course
Aberdeen Proving Ground, MD
http://ccc.apgea.army.mil/courses/in_house/brochureFCBC.htm

October 21-22, 2004
Rural Homeland Security Technology Expo
Johnstown , PA
http://www.cermusa.francis.edu/HomelandSecurityExpo/default.htm

October 25-27, 2004
AUSA Annual Meeting
Washington, DC
http://www.ausa.org/www/am2004.nsf/home?OpenForm

October 26-27, 2004
Federal Information Assurance Conference 2004
Adelphi , MD
http://www.fbcinc.com/fiac/

October 26-28, 2004
Missile Defense Sensors, Environments and Algorithms (MD-SEA)
Monterey, CA
http://www.iriacenter.org/msssked.nsf/4400ec509bec652785256c64004c02c5/d047ba64c932633b85256c5b0044c369?OpenDocument

October 30- November 2, 2004
44th Annual ICAAC (Interscience Conference on Antimicrobial Agents and Chemotherapy)
Washington, DC
http://www.icaac.org/44ICAAC/44icaac.asp

October 31 – November 5, 2004
Management of Chemical & Biological Casualty (MCBC) Course
Aberdeen Provind Ground, MD and Fort Detrick, MD
http://ccc.apgea.army.mil/courses/in_house/BrochureMCBC.htm

November 7-10, 2004
Meet Me in St. Louis
3rd Annual Congress on Infrastructure Security for the Built Environment (ISBE)
St Louis, MO
http://www.meetmeinstlouis.org/agenda.htm

November 14-19, 2004
AMSUS Annual Meeting
Denver, CO
http://www.amsus.org
(Annual Meetings button)

November 15-16, 2004
Fluorescent Proteins in Drug Development
La Jolla , CA
http://www.healthtech.com/2004/gfp/index.asp

November 15-16, 2004
Toxicity Biomarkers
Philadelphia, PA
http://www.healthtech.com/2004/bmx/index.asp

November 15-18, 2004
2004 Scientific Conference on Chemical & Biological Defense Research
Hunt Valley, MD
http://www.cbdefense.com

November 17-20, 2004
Emergency Response Conference & Exposition
San Diego , CA
http://www.emergencyresponse2004.com

November 21-23, 2004
Crossing Boundaries: Medical Biodefense & Civilian Medicine
Manassas , VA
http://www.gmu.edu/centers/biodefense/about_events.html

November 28 - December 2, 2004
7th International Conference on Molecular Biology
Suzdal, Russia
http://molbiol.ru/cgi-bin/ubb/ultimatebb.cgi?ubb=print_topic;f=12;t=000066

November 29 – December 2, 2004
24th Army Science Conference
Orlando, FL
http://www.asc2004.com

Calendar of Events *cont.*

November 30 – December 2, 2004
Aircraft Survivability 2004: Survivability Within the Integrated Battlespace
Monterey, CA
http://www.ndia.org/Template.cfm?Section=5940&Template=/ContentManagement/ContentDisplay.cfm&ContentID=2995

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

Please visit the CBIAC Web site and complete our **User Survey** at http://ss-cbiac.apgea.army.mil/about_us/survey.html It takes just a few seconds and provides us with valuable feedback about our CBIAC products and services!!!

In the News • *By Mary Frances Tracy*

British Scientists Develop Biological Agent Detection System
Global Security Newswire
April 15, 2004
"Scientists at the United Kingdom's Defense, Science and Technology Laboratory at Porton Down have developed biological sensors based on antibodies, a system which could be used to detect bioterror agents, Biotech Week reported… Based on antibodies — the natural defenses animals produce when attacked by microbes — the detection system can tell the difference between closely related pathogens."
http://www.nti.org/d%5Fnewswire/issues/2004/4/15/0f2b58e2%2D648b%2D494c%2D9ef1%2D0f6e3a26218f.html

Homeland Security Establishes Its First Government "Think Tank"
U.S. Department of Homeland Security Press Office
April 23, 2004
"The U.S. Department of Homeland Security's Science and Technology Directorate today announced that Analytic Services Incorporated (ANSER) has been selected to operate the Homeland Security Institute, which is the Department's first Federally Funded Research and Development Center (FFRDC). The Institute will provide independent analysis on a variety of issues related to securing the homeland. This FFRDC will particularly focus on those matters involving policy and security where scientific, technical, and analytical expertise is required such as those in the extremely complex threat and vulnerability assessment areas."
http://www.dhs.gov/dhspublic/display?content=3509

Government Leaders Detail Biodefense Plan, Initiatives
Sgt. 1st Class Doug Sample
American Forces Press Service
April 29, 2004
"The government's new plan to counter a bioterrorism attack on the United States was announced at an April 28 news conference…
The announcement came as part of President Bush's directive to integrate anti-bioterrorism efforts across all government agencies."
http://www.defenselink.mil/news/Apr2004/n04292004_200404291.html

Greatest Army Inventions for 2003 Announced
Larry McCaskill
RDECOM Magazine
May 2004
Ten teams were the recipients of the U.S. Army Greatest Inventions of the Year, the Army-wide program that recognizes the best technology solutions.
http://www.rdecom.army.mil/rdemagazine/200405/itf_2003inventions.html

Continued pg. 9

New CBIAC Info. Resources *cont.*

World Health Organization. **Public Health Response to Biological and Chemical Weapons. WHO Guidance.** Second edition. Geneva: World Health Organization, 2004. http://www.who.int/csr/delibepidemics/biochemguide/en/

This new edition of a WHO report on the same subject matter published 34 years ago includes chapter length discussions on such topics as: developments in the chemical and biological weapons arena since 1970, assessing the threat of CB weapons to public health, the nature of chemical and biological agents, "Public Health Preparedness and Response," "Legal Aspects," and "International Sources of Assistance."

Includes seven appendices.

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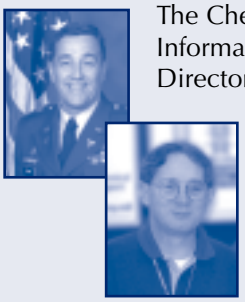
CBIAC Deputy Director Coauthors Book Chapter



The Chemical and Biological Defense Information Analysis Center (CBIAC) Deputy Director, James M. King, Ph.D., and COL. James A. Romano Jr., Ph.D., Deputy Commander, U.S. Army Medical Research and Materiel Command (MRMC) recently co-authored a book chapter entitled *Psychological and Neuropsychological Sequelae of Chemical Terrorism*. The chapter, which focused on the neurobehavioral aspects of responding to a terrorist event involving the use of chemical agents, was a part of the book **Pharmacological Perspectives of Toxic Chemicals and Their Antidotes**. The volume was published by Narosa Publishing House.

DTIC Established as DoD Field Activity

In a Decision Memorandum signed June 4, 2004, Mr. Paul Wolfowitz, Deputy Secretary of Defense, announced his determination to establish the Defense Technical Information Center (DTIC) as a DoD Field Activity. DTIC will be under the Under Secretary of Defense for Acquisition, Technology and Logistics (AT&L) and will report to the Director, Defense Research & Engineering (DDR&E), Dr. Ronald Sega. In promoting this organizational realignment in the DoD, the DDR&E has stated this action will enhance the use of DTIC scientific and technical information databases by all DoD research and engineering activities. In response to the announced decision, Mr. Kurt Molholm, the DTIC Administrator, said: "I consider this a business process transformation action, moving DTIC back to the primary functional community it's chartered to support."

In pursuing this course of action for DTIC, Dr. Sega has outlined several goals for the organization that are designed to focus DTIC on meeting the overall objective. They are:

1. Closely align technology performers (labs, product centers, non-DoD research organizations, etc.) with the scientific and technical information providers at DTIC,
2. Facilitate an enhancement of DTIC efforts to support the USD(AT&L) "E-Business" initiatives in research and engineering,
3. Promote the exploitation of emerging information technology tools on dynamic science and technology databases,
4. Expand on the synergy of research and engineering facilities, people, and information.

DTIC is known for several core missions. It is the central collection and dissemination point for DoD's scientific reports with over 2 million collected since its inception in World War II and an annual acquisition of over 25-30,000 new reports. Ongoing and planned R&D project information is garnered from both the DoD community and industry.

DTIC also oversees the management of 11 DoD Information Analysis Centers that are tasked to provide technical and analytical services to areas of critical DoD interest.

A third area of principal focus is the provision of web services to over 100 DoD web sites including the DoD home page DefenseLink and a number of R&D related sites in support of the DoD community.

For more information about DTIC, please visit the web site at www.dtic.mil or contact its user services staff at (703) 767-8244.

In the News *cont.*

HHS Awards $498 Million to States to Improve Hospitals' Response to Bioterror and Other Disasters

U.S. Department of Health & Human Services News Release

May 24, 2004

"HHS Secretary Tommy G. Thompson today announced $498 million in awards to states, territories and four major metropolitan areas to strengthen the ability of hospitals and other health care facilities to respond to bioterror attacks, infectious diseases, and natural disasters that may cause mass casualties."

http://www.hhs.gov/news/press/2004pres/20040524.html

CDC Collaboration Yields New Test for Anthrax

CDC Press Release

June 7, 2004

"A new test funded by the Centers for Disease Control and Prevention and developed in collaboration with a commercial partner has become the first test approved by the Food and Drug Administration for detecting antibodies to anthrax. The test, produced by Immunetics Inc. of Boston, provides an easy-to-use clinical laboratory tool for assessing whether patients have been infected with anthrax."

http://www.cdc.gov/od/oc/media/pressrel/r040607.htm

HHS Awards $849 Million to Improve Public Health Preparedness

U.S. Department of Health & Human Services News Release

June 17, 2004

"HHS Secretary Tommy G. Thompson today announced an additional $849 million in awards to states, territories, and four major metropolitan areas to strengthen the ability of government and public health agencies to respond to bioterror attacks, infectious diseases and natural disasters."

http://www.hhs.gov/news

DoD Expands Troop Anthrax, Smallpox Vaccinations

Gerry J. Gilmore

American Forces Press Service

June 30, 2004

"More U.S. service members -– including those serving in South Korea -- will be vaccinated against smallpox and anthrax, the Defense Department's senior medical adviser said today."

http://www.defenselink.mil/news/Jun2004/n06302004_200406304.html

Advanced Integrated Management Services, Inc. Signs Marketing Agreement with University of Alabama

Patrick Arnett

Press Release

July 7, 2004

"Advanced Integrated Management Services, Inc (AIMSI) today announces a marketing agreement to develop and market hand-held chemical, biological and radiological detection devices. This new technology is based on an idea developed by University of Alabama, Huntsville,…that takes a hand-held computer, a Geiger counter and the GPS (Global Positioning Satellite) system to record real-time calculations of radiation readings at specific geographical points…(This) will enable first responders to quickly generate a map illustrating danger areas."

http://home.businesswire.com/portal/site/google/index.jsp?ndmViewId=news_view&newsId=20040707005183&newsLang=en

Bush Signs $5.6 Billion BioShield Legislation

Jim Garamone

American Forces Press Service

July 21, 2004

"President Bush today signed bipartisan legislation designed to make America safer in the face of a biological attack.

Bush signed the Project BioShield legislation at a ceremony in the Rose Garden. The president thanked the Senate and House members from both parties who worked on and sponsored the legislation.

Project BioShield grew out of the desire to protect Americans from the threat that terrorists armed with biological weapons pose to the United States."

http://www.defenselink.mil/news/Jul2004/n07212004_2004072103.html

CDC Makes Advances in Identifying and Measuring Chemical Agents in Humans

CDC Press Release

"The Centers for Disease Control and Prevention (CDC) and the *Journal of Analytical Toxicology* have collaborated on a special edition of the journal devoted to assessing human exposure to chemical agents. The edition, released today, highlights new methods using state-of-the-art instruments to measure low-level exposure to chemicals, including, those that might be used by terrorists, such as nerve agents, sulfur mustard agents, and cyanide compounds, and provides detailed animal-exposure information and reference values for assessing potential human exposure."

http://www.cdc.gov/od/oc/media/pressrel/r040728.htm

Vol. 1 No. 3 of the CHEM-BIO DEFENSE QUARTERLY MAGAZINE is now available online!

The theme, **Chemical and Biological Medical Systems**, focuses on the U.S. military medicine that is addressing the battlefield medical threat. This issue introduces some of the people who are leading the chemical and biological defense effort in the advanced development of products for our warfighters, and discusses the vital role the U.S. Food and Drug Administration plays in ensuring our medical products are safe and effective.

To view this issue and archives, visit http://www.jpeocbd.osd.mil/magazine.htm

"MAPS facility" *cont.*

TEU to take the lead on future disposal missions. Today, TEU remains the longest continuously active military chemical unit in existence.

MAPS systems manager Donald Benton was also recognized for his efforts with a Commander's Award for Civilian Service for the six years he spent managing the design and construction of the facility.

Designed with safety and flexibility in mind, MAPS will be capable of processing a variety of smoke and chemical-filled munitions including World War I-era British and French munitions. This flexibility translates into the ability to quickly and safely process recovered munitions to reduce the number of open detonations and reduce the strain on APG's available storage facilities. Workers at the MAPS facility will drill each munition and drain chemical or smoke fill for treatment at the APG Chemical Transfer Facility. Explosives from the treated and drained munition then will be detonated within the MAPS Burster Detonation Vessel. Testing of the system continues, with operations scheduled to begin in 2005.

NSCMP leads the nation in the development and use of advanced technology to safely eliminate America's non-stockpile chemical materiel in an environmentally sound and cost-effective manner. NSCMP researches and develops treatment options and destruction plans that comply with all federal, state and local regulations, and encourages public participation in its activities.

For additional information visit the CMA Web site at http://www.cma.army.mil.

Safety features key to MAPS design

Safety to workers and the environment was key to the Army, APG neighbors and regulators alike, and was the primary driver in the MAPS design. Several elements make MAPS effective in its mission and safe in its operations.

photo courtesy of U.S. Army

Air Filtration system

Air Filtration System – The Air Filtration System contains carbon filters for removing contaminants from the building air. This system also maintains the process areas in the facility under negative pressure which ensures that the building air is filtered to remove contaminants prior to its release into the environment.

Air Monitoring System – The air monitoring system consists of 15 real-time monitors located in key areas throughout the facility that search round-the-clock for the presence of chemical agent. In the event of a chemical agent vapor leak, these monitors will alert the on-duty operators so that they can take appropriate emergency response procedures.

Glove Box – The glove box provides the worker the means to safely handle recovered munitions inside a specially designed container that is kept under negative pressure, reducing the risk of chemical agents being released into the process room.

photo courtesy of U.S. Army

Glove box

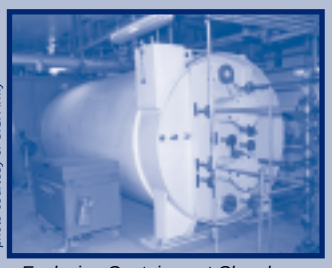


photo courtesy of U.S. Army

Explosion Containment Chamber

Explosion Containment Chamber – The Explosion Containment Chamber (ECC) is where the munitions will be drilled to provide access to the chemical or smoke fill. In the event of an accidental detonation during the opening of a munition shell, the ECC can withstand a blast of up to 13 pounds of TNT without a vapor release. Since no item to be processed in MAPS will have an explosive capacity greater than 3.5 pounds of TNT, the chamber has a margin of safety of nearly 400 percent.

Burster Detonation Vessel – Once a munition has been drained of its chemical or smoke fill, the Burster Detonation Vessel (BDV) will be used to destroy the empty muniton body, fuze and burster.

Walls – The walls between rooms in the MAPS allow for the eventual installation of X-ray assessment equipment on-site should the need arise.

photo courtesy of U.S. Army

Burster Detonation Vessel

Building Layout – The layout of the building compartmentalizes work areas, providing additional protection for staff in the unlikely event of an agent release. Shower areas are attached to the process room so that workers exposed to chemical materiel can clean their equipment and themselves, while built-in systems will provide workers in protective suits with a safe, constant supply of clean air as they clean contaminated areas.

Power – MAPS will be attached to the power grid but will have its own on-site generator to allow for an orderly shut down of operations in the event of a power outage. Numerous redundancies are included in the design to prevent accidents and to mitigate their impact in the unlikely event they should occur.

"NIH Project" cont.

- **Pilot Projects for Models of Infectious Disease Agent Study (MIDAS)**

Principal investigator: Diane Wagener, Ph.D., Research Triangle Institute International

This informatics group is responsible for developing computational tools and data sets for the three research groups described below. This team will also create a portal that will allow access by the scientific community, policy makers, and medical personnel to MIDAS databases, analytical and statistical tools, and simulation models. Research Triangle Institute International is working with IBM to develop infrastructure for MIDAS, and with SAS Institute, Inc. to provide statistical tools for analyzing and verifying models. Consultants from Duke and Emory Universities are contributing expertise in infectious disease modeling and biological information analysis.

- **Computational Models of Infectious Disease Threats**

Principal investigator: Don Burke, M.D., the Johns Hopkins University

This diverse team will create highly visual, user-friendly models of disease outbreaks using historical and modern data. The models will incorporate factors such as length of disease incubation, transmission rate, weather patterns, the individual susceptibility of people, and social networks. The researchers—scientists from the Johns Hopkins University, the Brookings Institution, NASA, the University of Maryland, the University of Pittsburgh, and Imperial College London—will evaluate the efficacy of various containment strategies, such as vaccination, contact tracing, and quarantining. They plan to analyze outbreaks of smallpox, dengue fever, and West Nile virus. The collaborating investigators are experts in infectious diseases, epidemiology, ecology, biostatistics, time series analysis, non-linear dynamics, network theory, and decision theory.

- **Population Mobility Models of Urban Disease Outbreak**

Principal investigator: Stephen Eubank, Ph.D., Los Alamos National Laboratory

This research group will explore the effects of social networks in hypothetical urban areas (population 1.5 million) on the spread and possible containment of multiple, interacting disease-causing organisms. The scientists will model how social contacts might change in response to an outbreak or to intervention strategies. The basis for these models will be a program (EpiSims) originally designed to study transportation networks. The researchers will model how social contacts might change in response to an outbreak or in response to intervention strategies. The models will incorporate variables such as the transmission dynamics of various diseases, modes of pathogen introduction into communities, the initial state of health of a population, and response strategies. The researchers will attempt to parse out which features of social networks have the most effect on the course of a potential epidemic. The scientists will also modify the social networks and populations to simulate epidemics in a variety of hypothetical cities.

- **Containing Bioterrorist and Emerging Infectious Diseases**

Principal investigator: Ira Longini, Ph.D., Emory University

This research group will model a disease outbreak in hypothetical American communities (population sizes 2,000 to 48,000) to find the best method(s) of controlling the epidemic. The researchers will examine the effectiveness of policies including surveillance and containment, vaccination, medical treatment and the closing of key institutions. They will adapt their model for smallpox, SARS, pandemic influenza, and other possible bioterrorism agents or naturally occurring diseases. They will also investigate how certain microorganisms cause disease within individual people and then spread through a population.

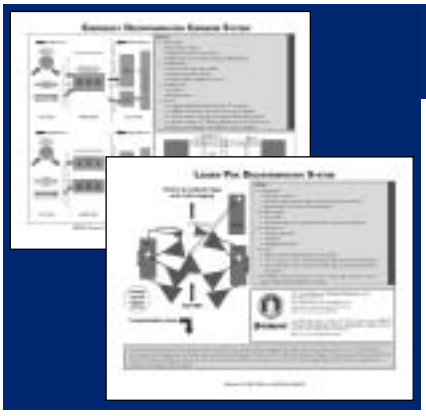
More information and resources are available at the MIDAS Web site: http://www.nigms.nih.gov/research/midas.html. The site includes a PowerPoint presentation describing the organization and goals of MIDAS, project summaries from the funded research groups, and meeting reports.

New CBIAC Products

Quick Response Guidelines for a Suspected Chem/Bio Attack

Distribution Limitation: *Unlimited; Unclassified*
CR-04-11 **March 2004** **$2.00**

This laminated card provides guidelines for emergency response personnel who may have to deal with a chemical or biological incident. The card addresses enroute activities, scene assessment, and operations, and covers indicators of a chemical or biological attack, scene assessment and safety, victim identification and rescue, triage, decontamination, and chemical agent symptomology.



Emergency Decontamination Corridor and Ladder Pipe Decontamination Systems

Distribution Limitation: *Unlimited; Unclassified*
CR-04-12 **March 2004** **$2.00**

This laminated card provides guidelines for emergency response personnel who must perform decontamination activities in response to a chemical or biological incident. The card addresses the advantages, disadvantages, requirements for, and set up of the emergency decontamination corridor system and the ladder pipe decontamination system. The card also provides site layout diagrams for each system.

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