Chemical and Biological Defense
CBIAC Newsletter
Information Analysis Center
2006
A U.S. Department of Defense Information Analysis Center sponsored by the **Defense Technical Information Center**
Volume 7 Number 3

Center for Homeland Defense and Security

The Nation's Homeland Security Educator

Located at the Naval Postgraduate School (NPS) in Monterey, California, the **Center for Homeland Defense and Security (CHDS)** has been the nation's premier provider of homeland security graduate and executive-level education since 2002.

The CHDS has conducted a wide range of graduate education programs to assist current and future homeland security leaders with the development of strategies, policies and organizational elements needed to defeat terrorism in the U.S. The programs are developed in partnership with and sponsored by the U.S. Department of Homeland Security. Through graduate and executive-level coursework, seminars, and research, government leaders gain the analytical skills and substantive expertise to prevent, deter, and respond to terrorist attacks and to bridge gaps in interagency and civil-military cooperation. This is accomplished by bringing together a diverse range of senior officials to share perspectives and lay the foundation for long-term homeland security collaboration. All CHDS programs are designed to create a multiplier effect through the distribution of content, technology, research and other resources to universities and agencies that are building national preparedness.

ACADEMIC PROGRAMS

Master of Arts Degree
This 18-month program is offered at no cost to eligible senior and fast-rising local, state, federal officials, and NORTHCOM-sponsored officers with significant homeland security responsibilities. Designed to accommodate busy leaders, this program requires participants to be in residence only 2 weeks each quarter (for a total of 12 weeks). Participants complete the remainder of their coursework via network-based distance learning methods. The curriculum and research are focused on current policy, strategy, and organizational design challenges. Participants complete research papers and a thesis on actual policy development issues confronting their city, state, or sponsoring organization. Many research papers have been implemented by government agencies around the country. The program graduated its first class in June '04 and graduates approximately 30 officials every 6 months.

Executive Leadership Program
The Executive Leadership Program is a non-degree graduate-level program for the nation's most senior homeland defense and security leaders. There are a total of four one-week sessions over 12 months. The goal of this program is to enhance senior leaders' capacity to identify and resolve problems as well as to build networks among the nation's local, state, federal, and private sector homeland security officials. Participants consider complex issues

> **"To strengthen the national security of the United States by providing graduate level educational programs that meet the immediate and long-term leadership needs of organizations responsible for homeland defense and security."**
>
> **-CHDS Mission**

Continued pg. 18

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.

Approved for Public Release; Unlimited Distribution

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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: First Quarter (Number 1) – October 15th; Second Quarter (Number 2)– January 15th; Third Quarter (Number 3) – April 15th; Fourth Quarter (Number 4) – July 15th.

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

Total Electronic Migration System (TEMS): Providing Real-Time Access to Scientific and Technical Information (STI)

"Information superiority is fundamental to the transformation of the operation abilities of the joint force. The Joint Force of 2020 will use superior information and knowledge to achieve decision superiority, to support advanced command and control capabilities, and to reach the full potential of dominant maneuver, precision, engagement, full dimension protection, and focused logistics. The breadth and pace of this evolution demands flexibility and a readiness to innovate."

—Joint Vision 2020

Today's technology is compelling all sources to provide information electronically. The **TEMS (Total Electronic Migration System)**, launched in 2004, is now ready for use in gaining instant, electronic access to the Scientific and Technical Information (STI).

TEMS represents a long-term approach to providing access to electronic documents. Each of the nine IACs sponsored by Defense Technical Information Center (DTIC) generates and maintains a vast repository of information related to its area of expertise. TEMS allows the IACs to store, search, retrieve, and use STI in a convenient, centrally located database. It stores information in a wide range of formats, including text, text and images, sound, and multimedia. TEMS users can then perform simple or complex queries of the entire IAC knowledge base, using any Web browser, running any operating system. For full-text searching, TEMS provides a simple search functionality similar to that found on many Internet search pages. For a more complex, algorithmically based search, TEMS includes a function modeled on a commercial search engine.

Using TEMS

Currently (as of July 2006), TEMS has about 39,500 full documents stored, and over 677,000 document citations for reference or further request. This represents more than double the number of document citations in the last year. The number of documents stored will increase soon, due to the conduct of new document scanning and importing to TEMS.

To register to use TEMS first go to www.dtic.mil and click **Registration** at the bottom of the page. This brings you to a page with instructions and information about the DTIC registration process. Once registered, you can search for documents and citations using a wide range of TEMS search functions and capabilities.

TEMS provides the tools to perform the following:

- Search all DTIC and individual IAC holdings using full text and taxonomy search tools
- Choose the type of search mode, and:
  - Utilize Boolean searches to locate information
  - Perform a taxonomy search
  - Perform a pattern search for a general subject area
  - Perform a concept search on a single term
  - Search using wild cards and special operators
  - Perform an advanced search on multiple subject areas
  - View the total number of results returned by a search
  - View hits appearing in metadata from a search as bold, colored text
  - Search full metadata and document text
- Display metadata with page of document
- Choose a presentation format
- Select document metadata, a single-page Portable Document Format (PDF), or an entire PDF document for review
- Create, edit, and export bibliographies in various formats
- Save queries and bibliographies

The overall operation of TEMS encompasses individual IAC systems (so-called Mini-TEMS) and a centralized CTEMS. To populate TEMS, individual IACs scan their paper documents into electronic format, and then enter metadata related to these documents into their local database (Mini-TEMS). The IACs' own Information Technology (IT) systems interface with the CTEMS, which acts as an archive for data repositories at the Mini-TEMS. Authorized users can access the metadata and documents stored in CTEMS via the Internet. These users will have different levels of access: some will be able to see actual scanned documents; others will be able to see only the metadata about the documents and will have to use other channels to request copies of these restricted access papers.

TEMS Search Capability

TEMS allows users access to a sophisticated search engine. With it, users can perform a concept, pattern, or Boolean search over document collections from various sources. Users can save search parameters and results for future reference and, if they wish, even edit and re-execute the query later. What makes this search engine unique is the concept search type. The concept search analyzes query terms as units of meaning. When a query is entered, the engine searches not only for exact word

Continued pg. 9

Contract Awards • *by Mary Frances Tracy*

Produce Monoclonal Antibodies for the Treatment of Botulism
XOMA Ltd.
Berkeley, CA
$16,000,000 July 31, 2006
By National Institute of Allergy and Infectious Diseases, Bethesda, MD

Improved Chemical Agent Monitor (ICAM) Units
Smiths Detection
Edgewood, MD
$9,500,000 June 27, 2006
By Department of Defense, Washington, DC

"ABthrax" Anthrax Drug
Human Genome Sciences
Rockville, MD
$165,205,217 June 21, 2006
By U.S. Department of Health and Human Services, Washington, DC

200,000 Doses of Heptavalent Botulism Antitoxin
Cangene Corporation
Winnipeg, Canada
$362,641,105 June 19, 2006
By U.S. Department of Health and Human Services, Washington, DC

Conversion of the M56 Smoke Generating System (SGS) to M56A1 SGS
L-3 Communications Titan Corporation
Melbourne, FL
$7,364,332 June 16, 2006
By U.S. Army Research, Development and Engineering Command, Aberdeen Proving Ground, MD

Development and Demonstration of a Proto-Type Bench Top Infectious Disease Identification System
Applied Biosystems
Foster City, CA
$24,500,000 June 14, 2006
By U.S. Air Force District of Washington, Bolling Air Force Base, DC

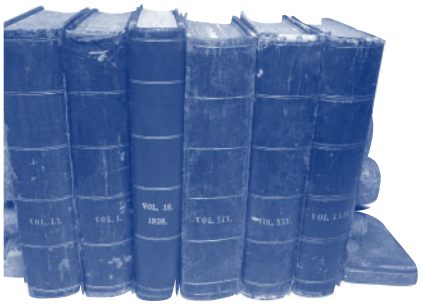
Develop a Version of Thraxinetm, an RPA (Recombinant Protective Antigen)-Based Anthrax Vaccine
Avecia Biotechnology
Teesside, UK
$3,900,000 June 12, 2006
By U.S. National Institute of Allergy and Infectious Diseases, Bethesda, MD

Bright Onyx Sensor
Akamai Physics Incorporated
Las Cruces, NM
$10,296,089 June 11, 2006
By U.S. Air Force Research Laboratory, Wright-Patterson Air Force Base, OH

Biological Combat Assessment System (BCAS) Advanced Technology Demonstration
(ATD) Program
Boeing Phantom Works
Chicago, IL
$8,200,000 June 5, 2006
By Defense Threat Reduction Agency, Fort Belvoir, VA

M31E2 Joint Biological Point Detection System/Biological Integrated Detection Systems High Frequency Radio
Harris Radio Corporation
Rochester, NY
$7,833,682 May 31, 2006
By U.S. Army Research, Development and Engineering Command, Aberdeen Proving Ground, MD

Joint Biological Agent Identification Diagnostic System
Idaho Technology Incorporated
Salt Lake City, UT
$14,722,405 May 26, 2006
By U.S. Army Space and Missile Defense Command, Frederick, MD



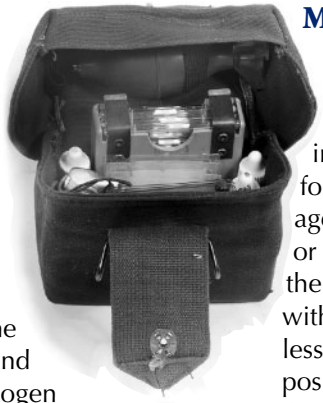
History of Chemical and Biological Detectors, Alarms, and Warning Systems†

Mr. Jeffery K. Smart, Command Historian

THE 1960'S

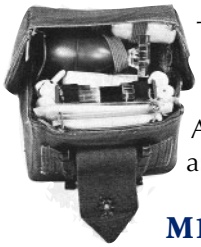
Chemical Agent Detectors

M15A1 Chemical Agent Detector Kit



An improved version of the kit, designated the M15A1 Chemical Agent Detector Kit, was standardized in 1961 to meet the Navy requirement and additional Army and Marine Corps needs. This kit could detect both G- and V-agents, in addition to mustard agent, cyanogen chloride (CK) and phosgene oxime (CX). The Army procured over 40,000 kits during 1962-64 and the Navy over 3,000 from 1962-65. The M15A1 Kit was obsoleted in 1970.

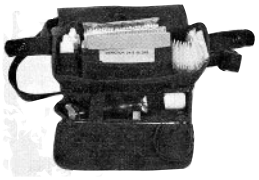
M15A2 Chemical Agent Detector Kit



The addition of M8 Detector Paper in the kits resulted in the M15A2 Chemical Agent Detector Kit being standardized in 1964. The Army procured over 62,000 kits from 1965-69 and the Navy almost 5,000 from 1965-67.[1]

M18A1 Chemical Agent Detector Kit

The M18A1 Chemical Agent Detector Kit, an improvement to the earlier kit, was standardized in 1961. The kit detected most known chemical warfare agents to include V-agents. The kit also included M6A1 Detector Paper and M7A1 Detector Crayons. Over 10,000 kits were procured from 1962-64. The kit was obsoleted in 1970.



M18A2 Chemical Agent Detector Kit

The M18A2 Chemical Agent Detector Kit was standardized in 1964 with the addition of M8 Detector Paper to replace the earlier M6A1 Paper. Over 16,000 kits were procured from 1965-68.[2]

M8 Chemical Agent Detector Paper

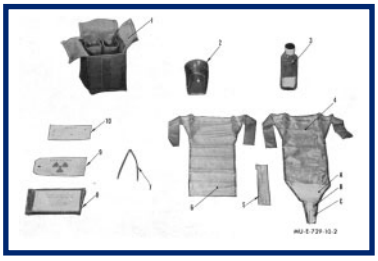
M8 (E57) Chemical Agent Detector Paper was standardized in 1963. The paper was a Canadian development and came in 25 4-inch by 2-1/2-inch sheets inside a booklet perforated for easy removal. The paper reacted with liquid chemical agents by turning dark blue for V-agents, yellow for G-agents, or red for mustard agent. A color chart on the inside cover of the booklet provided samples of the responses. One problem with the paper was that some less dangerous liquids gave positive responses. In addition to the United States, most NATO countries procured M8 Paper.[3]

M19 CBR Agent Sampling and Analyzing Kit

The M19 (E34) Kit was standardized in 1964 to replace the M10A1 Chemical Agent Analyzing Kit. Usage of the kit was restricted to chemical laboratory technicians and chemical intelligence teams. The purpose of the kit was to identify enemy chemical warfare agents, perform preliminary processing of unknown chemical, biological, and radiological agents and delineate contaminated areas. The main items in the kit were color coded with fluorescent paint that allowed identification at night with a small lightweight battery-operated ultraviolet lamp. The M19 Kit was obsoleted in 1996.[4]

M34 CB Agent Sampling Kit

The M34 Kit was originally a refill kit for the M19 CBR Agent Sampling and Analyzing Kit and was standardized in 1964. Later it was redesignated a separate item. The kit consisted of two soil sampling kits, one container for vials, and two pairs of gloves packed in a fiberboard box. The kit was used by training personnel to sample soil, surfaces, and water for chemical and biological agents. It could also



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†*This article is Part IV of a series of articles extracted from the **History of Chemical and Biological Detectors, Alarms, and Warning Systems**, by Mr. Jeffery K. Smart, U.S. Army Research, Development and Engineering Command (RDECOM) Historian, June, 2000. This presentation is edited, with permission of the author, for the **CBIAC Newsletter** forum.*

In the News • *by Mary Frances Tracy*

New NIAID Program Aims to Model Immune Responses and Key Infectious Diseases

NIH Press Release

July 12, 2006

"A new program at the National Institute of Allergy and Infectious Diseases (NIAID),…aims to better understand the complex biochemical networks that regulate the interactions between infectious organisms and the human or animal cells they infect. The Program in Systems Immunology and Infectious Disease Modeling (PSIIM) will employ a powerful new approach called computational systems biology…"

http://www3.niaid.nih.gov/news/newsreleases/2006/systemsbio.htm

Dugway Tests Detection System: Army Vehicle is Capable of Sensing Chemical Agents

Stephen Speckman

Deseret Morning News

June 29, 2006

"Army officials at Dugway are in the final phase of testing a light armored vehicle that will be capable of detecting the presence of chemical and biological agents as it leads convoys down roads in hostile territory."

http://deseretnews.com/dn/view/0,1249,640190883,00.html

Munitions Found in Iraq Meet WMD Criteria, Official Says

Samantha L. Quigley

American Forces Press Service

June 29, 2006

"The 500 munitions discovered throughout Iraq since 2003 and discussed in a National Ground Intelligence Center report meet the criteria of weapons of mass destruction, the center's commander said here today."

http://www.defenselink.mil/news/Jun2006/20060629_5547.html

DHS Starts Construction for the National Biodefense Analysis and Countermeasures Center

DHS Press Release

June 26, 2006

"Department of Homeland Security Deputy Secretary Michael Jackson participated today in a groundbreaking ceremony for the National Biodefense Analysis and Countermeasures Center (NBACC) at Fort Detrick in Frederick, Maryland."

http://www.dhs.gov/dhspublic/interapp/press_release/press_release_0933.xml

U.S., Jamaica to Screen for Radiation

Caribbean Net News

June 21, 2006

"The United States and Jamaica have agreed to install radiation detection equipment at Jamaican ports."

http://www.caribbeannetnews.com/cgi-script/csArticles/articles/000020/002074.htm

Top Training Carlsbad Becoming 'Dirty Bomb' Resource for Nation

Kyle Marksteiner

Current-Argus Staff Writer

June 21, 2006

"Carlsbad is on the way to becoming the nation's leading resource center for training rescue workers to deal with dirty bombs."

http://www.currentargus.com/apps/pbcs.dll/article?AID=/20060621/NEWS01/606210306/

'Dream Team' Coming to Test Site

Ian Mylchreest

Las Vegas Business Press

June 19, 2006

"…NSTec is 'the dream team' of defense and engineering expertise that will give the (Nevada) test site a new mission…the government was attracted by NSTec's plans to develop the site as the testing ground for homeland security."

http://www.lvbusinesspress.com/articles/2006/06/19/news/news02.txt

PharmAthene and Siga Technologies Sign Definitive Merger Agreement to Establish Premier Biodefense Company

PharmAthene Press Release

June 9, 2006

"PharmAthene, Inc. and SIGA Technologies, Inc. announced today that they have signed a definitive agreement providing for the merger of PharmAthene and SIGA. The combined

Continued pg. 9

Vol. 3 No. 3 of the Chem-Bio Defense Quarterly Magazine is Now Available!

Vol. 3 No. 3 Chem-Bio Defense Quarterly Magazine In this issue of Chem-Bio Defense Quarterly magazine, you will find an interesting article about the obstacles overcome by JPM NBC CA to ensure smoke obscuration became a part of Operation Iraqi Freedom. Also, learn how warfighters at all levels hone their practical knowledge on a new training enhancement that describes key elements of combat or other mission scenarios within a virtual environment. This issue also features an article that describes the value of military wargames that model joint chemical, biological, radiological and nuclear events by describing some of the characteristics revealed through their use.

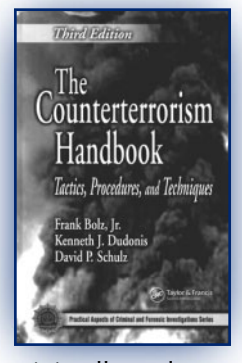
To view the electronic version, visit: http://www.jpeocbd.osd.mil/page_manager.asp?pg=4&sub=0

Would you like to receive the link to upcoming issues or have a hard copy version for your office or organization?
If so, complete the interactive form at http://www.jpeocbd.osd.mil/page_manager.asp?pg=0&sub=9.

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

Books

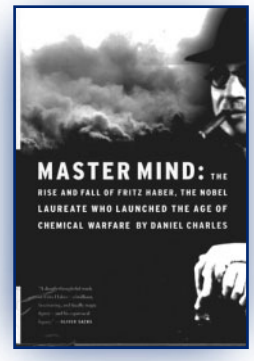
Bolz, Frank, Jr., Kenneth J. Dudonis and David P. Schultz. **The Counterterrorism Handbook: Tactics, Procedures and Techniques. Third edition.** Boca Raton, FL: CRC, 2005.



"The Counterterrorism Handbook is among the first serious efforts to lay out a comprehensive strategy of how to deal with a whole gamut of possible terrorist incidents in language that a first responder (policeman, fireman, medic, etc.) can understand. The book covers everything from bombings and hostage-taking to nuclear terrorism and what needs to be done before, during, and after an event. The handbook combines what needs to be minimally understood about counterterrorism by Washington-level policymaker while at the same time helping first responders who are planning to cope with what must at least initially seem like an overwhelming attack." *(Foreword by Dr. Robert Kupperman and Stephanie Lanz).*

CB-030037
CRC Press
Taylor & Francis Group
6000 Broken Sound Parkway N.W. Suite 300
Boca Raton, FL 33487-2742

Charles, Daniel. **Mastermind: The Rise and Fall of Fritz Haber, The Nobel Laureate Who Launched the Age of Chemical Warfare.** New York: HarperCollins, 2005.

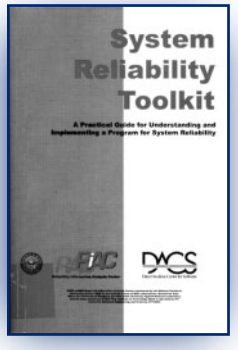


"Fritz Haber—a Nobel Laureate in chemistry, a friend of Albert Einstein, a German Jew and World War I hero—may be the most important scientist you have never heard of. The Haber-Bosch process, which he invented at the turn of the twentieth century, revolutionized agriculture by converting nitrogen to fertilizer in quantities massive enough to feed the world. The invention has become an essential pillar for life on earth; some two billion people on our planet could not survive without it. Yet this same process supplied the German military with explosives during World War I, and Haber orchestrated Germany's use of an entirely new weapon—poison gas. Eventually, Haber's efforts led to Zyklon B, the gas later used to kill millions—including Haber's own relatives—in Nazi concentration camps." *(publisher's advertisement)*

CB-193929
Special Markets Department
HarperCollins Publishers Inc.
10 East 53rd Street
New York, NY 10022
Phone: 212.246.2058

RIAC. **System Reliability Toolkit—A Practical Guide for Understanding and Implementing a Program for System Reliability.** Utica, NY: Reliability Information Analysis Center, 2005.

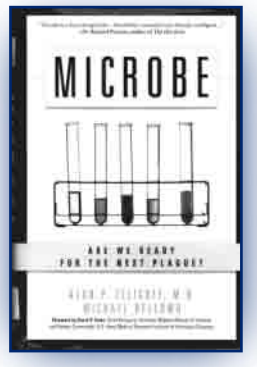
"The 'System Reliability Toolkit' represents a distinct departure from previous editions of the RIAC Toolkit series. It represents our first major collaboration with a sister IAC, the Data and Analysis Center for Software (DACS), whose charter includes software acquisition and development practices and processes. The DACS published the 'DACS Software Reliability Sourcebook' in 2001 to address the increasing need to focus on software reliability in order to ensure reliable systems. This new Toolkit continues to concentrate on reliability activities that have payoff, but now extends its coverage to more distinctly address the contributions of software and human factors to overall system reliability. Having expanded its content by 70% over its 'Reliability Toolkit: Commercial Practices Edition' predecessor, the 'System Reliability Toolkit' represents a significant revision to our previous work. It includes numerous new and modified topics that have been added to better represent every aspect of system reliability over its life cycle." *(publisher's abstract)*



CB-032417
Reliability Information Analysis Center
6000 Flanagan Rd.
Suite 3
Utica, NY 13502-1348
Phone: 315.351.4200
Fax: 315.351.4209
http://theRIAC.org

Zelicoff, Alan P. and Michael Bellomo. **Microbe: Are We Ready for the Next Plague?** New York: American Management Association, 2005.

This work offers a unique look at the world of emerging infectious diseases from a largely American perspective. Chapters especially noteworthy for students of CB defense are "…West Nile Virus," "…Smallpox," "…Anthrax," "…Curing What Ails the Public Health System," and "DNA-Based Vaccines."



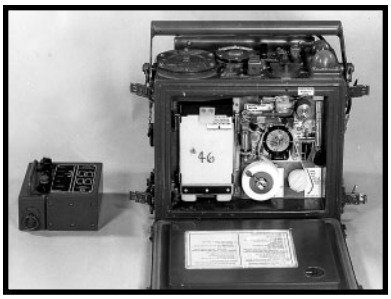
Includes numerous figures, a glossary and an index.

CB-027475
Amacom
A division of American Management Association
1601 Broadway
New York, NY 10019
Phone: 212.903.8316
Fax: 212.903.8083
www.amacombooks.org

History of Detectors *cont.*

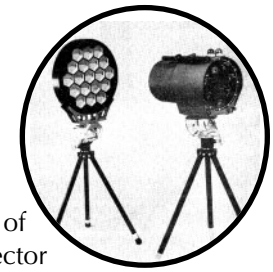
perform preliminary processing of soil samples. The M34 was replaced by the M34A1 CBR Agent Sampling Kit in 1999.[5]

M7 Automatic Field V-G Agent Alarm



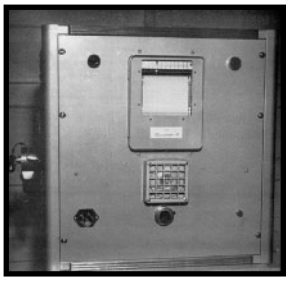
The Army's dissatisfaction with the M6 Automatic Field Alarm led to the development of a field alarm that was smaller and detected both G-agent and V-agent. The M7 (E41R3) Automatic Field V-G Agent Alarm was standardized limited procurement in 1961 and standard in 1965. The alarm was described as the size of a portable typewriter and came in an insulated fiberglass case weighing 17 pounds. It was battery powered and included a vehicle fender-mounting bracket. The detector used the M6 Alarm system of treated wet tape that discolored when nerve agent was present. An integral heating unit kept the interior of the unit from freezing. Servicing of the alarm was required every 12 hours. The Army procured over 400 M7 Alarms under the limited procurement action, while the Navy procured over 40. Although additional versions of the alarm were developed, further work was halted in 1964 in favor of the M8 Alarm. The M7 Alarm was obsoleted in 1968.[6]

E49 Remote Sensing Alarm



Army interest in the E49 Active Long-Path Infrared (LOPAIR) Field Alarm took priority in the early 1960s. The alarm was an area-scanning detector to give advance warning of nerve agents. It consisted of an emitter/detector infrared unit, a separate cube corner reflector, and a remote alarm headset. Infrared radiation was transmitted through the atmosphere to the reflector unit about 400 yards away and then back to the detector. The presence of nerve agents would be detected in less than three seconds. The total system weighed 77 pounds. Testing of the developmental item resulted in too much interference from airborne dust particles. The E49 Alarm was never standardized and the program terminated in 1966. Instead, the Army switched to the concept of passive infrared detection by the end of the decade.[7]

E59 Plant Alarm



During the 1960s, the Army worked on a better installation nerve agent alarm for production and storage facilities. The E59 Plant Alarm attempted to meet that need and replace the earlier M5 Installation Alarm. The alarm was designed to detect G-agents and with the E60 converter, could also detect V-agents. It was more sensitive than the M8 Alarm and less expensive to operate than the M5 Alarm, although each alarm cost about $12,000. Also much smaller than the M5 Alarm, it was only 23-inches by 22-inches by 15-inches, and weighed 115 pounds. The detection process was the Schoenemann reaction that detected fluorescence by a photomultiplier tube. Less than 50 E59 Alarms were assembled by Edgewood Arsenal and used at various sites where nerve agent was present to include demilitarization sites. Although somewhat successful in their use, the E59 Alarm was never standardized.[8]

M8 Automatic Chemical Agent Alarm

For the U.S. Army, the 1967 Arab-Israeli War demonstrated the important need for an automatic field alarm system for the detection of nerve agent vapor. In 1968, the Army standardized the M8 (E61) Portable Automatic Chemical Agent Alarm. The four-year development program was one of the most significant accomplishments in chemical defense and corrected a major deficiency that had left U.S. soldiers vulnerable to a surprise nerve agent attack. The M8 Alarm included the M43 detector unit and the M42 alarm unit. Additional alarms could be connected. The two units together weighed about ten pounds. The detector used an electrochemical point sampling system that continuously monitored the atmosphere and sounded an audible or visible warning of even very low concentrations of nerve agents. Actual detection occurred when air was passed through an oxime solution surrounding a silver analytical electrode and a platinum reference electrode. Presence of an agent caused a reaction in the solution, which increased the potential between the electrodes. The change in potential, when amplified, triggered the alarm signal. The unit could detect almost all known chemical agents. In 1971, the M8 alarm was reconfigured into ten different configurations for various vehicles and for field and installation use. The versions were numbered M8 (manpack), M10 (fixed emplacement), M11 (truck), M12 (truck), M13 (truck), M14 (armored vehicles), M15 (armored vehicles), M16 (truck), M17 (truck) and M18 (truck). This different numbering system was halted in 1981 and all the alarms were redesignated simply the M8 Alarm. The M8 Alarm was obsoleted in 1996.[9]

Biological Agent Detectors

Early Concepts of Biological Agent Field Alarms

Early work on automatic biological agent field alarms during the 1960s resulted in the development of several concepts:

Continued pg. 12

In the News *cont.*

company…will operate under the "PharmAthene" name…"
http://www.pharmathene.com/pdf/news060906.pdf

HHS Announces $1.2 Billion in Funding to States for Bioterrorism Preparedness

HHS News Release
June 7, 2006
"HHS Secretary Mike Leavitt today announced that the department has made available another $1.2 billion to the states, territories and four metropolitan areas to help strengthen their capacity to respond to terrorism and other public health emergencies."
http://www.hhs.gov/news/press/2006pres/20060607.html

Research Grant Could Help Fight Terrorism

Rachel Melcer
St. Louis Post-Dispatch
June 7, 2006
"DNA Polymerase Technology Inc. said Wednesday that it is receiving a two-year, $300,000 federal grant to develop a means for detecting harmful biological agents in soil."
http://www.stltoday.com/

Sandia Tool Speeds Up Environmental Cleanup, Reopening of Contaminated Facilities

Sandia National Laboratories Press Release
June 7, 2006
"Sandia's Building Restoration Operations Optimization Model (BROOM) software system was developed to help decision makers — to speed up reoccupation and return to service of contaminated buildings and facilities."
http://www.sandia.gov/news/resources/releases/2006/broom-commercial.html

TEMS *cont.*

matches, but also for related words or concepts. (This is called "word expansion.") This is possible due to the search engine's built-in "semantic network," comprising approximately 285,000 word meanings and over 2.5 million expansion links between words, compiled from published electronic dictionaries and other lexical sources. The engine can also analyze query terms as a pattern, which tolerates spelling differences in either the body of the text or the queries. This is particularly useful in environments where documents have scanning and Optical Character Reader (OCR) errors.

Because of these features, users do not have to build and maintain complex knowledge bases of their own to establish relationships between topics, nor do they have to formulate complex queries to find information that may be worded differently in the searched documents. In addition to its unprecedented accuracy, the search engine is extremely easy to use—a user may enter queries in plain English without any special operators, complex nesting of statements, or rigid syntax.

TEMS is updated nightly to reflect new IAC holdings; hence, IAC users have access to the newest, most current information regarding emerging technologies. The importance of immediate access to IAC holdings for registered users cannot be overstated; IAC users can now *immediately* access reports needed for research. Instead of waiting to receive a document via mail to determine its relevance, users can now determine that instantly, and utilize the information straight-away.

TEMS will improve the productivity of researchers, engineers, and program managers in the Defense community by collecting, analyzing, synthesizing, and disseminating STI worldwide and in much shorter times than in the past. Most importantly, TEMS now provides support to the DoD community by enabling fast, real-time access to IAC document libraries by users who need this unique information to fulfill their missions.

ECBC Works With Department of Education to Develop Homeland Security and Emergency Preparedness Curriculum

by Jennifer Gaskill, ECBC

The Edgewood Chemical Biological Center (ECBC) is working with the Harford County Public Schools to develop a new curriculum in Homeland Security and Emergency Preparedness. ECBC, in conjunction with EAI Corporation in Abingdon, Maryland hosted a two-day workshop in July to familiarize teachers and administrators with the issues and information related to terrorism and emergency response. Participants were introduced to critical incident response concepts and toured several research laboratories and engineering facilities.

ECBC was selected to serve on the Harford County Program Advisory Committee for the development of this first-in-the-nation high school curriculum in Homeland Security and Emergency Preparedness, a program that will be piloted at Joppatowne High School. ECBC helped conduct a needs assessment, establish the Homeland Security Sciences Program Sequence and identified courses of instruction that would be taught under this sequence. ECBC also helped obtain program approval and secure funding for this pioneering effort. Because of its involvement in this program, ECBC was also selected to serve on a Maryland State Department of Education advisory council and was invited to participate at the national level working with the Department of Education.

Once students complete the required coursework, they will be able to fill critical positions within the Harford County area to include ECBC and Aberdeen Proving Grounds as well as supporting contractor infrastructure.

Teachers and administrators receive training from ECBC chemical and biological defense experts on different aspects of terrorism and emergency response. Photo by Mike Matejevich

U.S. Army MRICD Intern Attends Prestigious International Conference

by Dr. Douglas Cerasoli and Cindy Kronman

Among the Oak Ridge Institute of Science and Education (ORISE) Program interns working at the U.S. Army Medical Research Institute of Chemical Defense is a promising University of Maryland graduate student, David Yeung. Yeung is conducting his dissertation research at the institute, investigating ways to engineer bioscavenger pretreatments against exposure to chemical warfare agents, and has authored two peer-reviewed scientific journal articles on his work. Recently, Yeung was among 60 top young researchers from U.S. academic and government laboratories selected to attend The Lindau Conference, in Lindau, Germany. This year the meeting was held June 25-30, 2006.

Since 1951, the conference has provided approximately 200 graduate students and young researchers, chosen from an international pool of over 11,000 nominees, to meet both formally and informally with Nobel laureates in chemistry, physics, and physiology/medicine. U.S. participants are selected by the U.S. Department of Energy (DOE), the National Science Foundation (NSF), the National Institutes of Health (NIH), the U.S. Army, and Oak Ridge Associated Universities (ORAU). The students gathered in Washington, D.C., on June 23 for an orientation meeting at DOE's headquarters before embarking on their travel to Lindau.

For Yeung, the most noteworthy experience of the trip was to see that the laureates are real people who are truly passionate about the work that they do, and that they are in many ways no different from the students sitting in the audience. The conference was a unique environment that enabled Yeung to interact with other American and foreign graduate students from a wide variety of scientific backgrounds.

Says Yeung, "The trip as a whole really opened my eyes to what advantages we have in the U.S.—funding, opportunities, and choices in research topics. The whole experience gave me a new perspective on American science, which I will hold onto as I continue my career. I truly feel lucky to have had this once-in-a-life-time experience."

In addition to the valuable scientific interactions, the participants enjoyed the picturesque island city of Lindau, which is located at the eastern end of Lake Constance, just north of the Swiss Alps. Situated at the common border of Austria, Germany, and Switzerland, this medieval city is rich in central European culture and history.

Your one-stop shop for CBRN Defense scientific, technical, and operational information resources

History of Detectors *cont.*

- The Ratio Alarm observed fluctuation of particle size distribution in the atmosphere. A high false alarm rate was its primary problem.

- The Partichrome Alarm detected airborne bacteria through visual staining of collected samples on an oil-coated optical tape.

- The Protein Pyrolysis Alarm detected airborne protein through reduction to ammonia by pyrolysis. An ion chamber measured the decrease in current when finely divided ammonium chloride passed through it.

None of the experimental items completed development during the decade.[10]

NBC Reconnaissance

M2A1 Base Chemical Laboratory

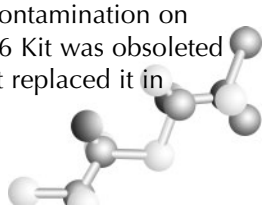
During the 1960s, the M2 Base Chemical Laboratory was upgraded to include the detection of nerve agents and radioactive materials, and the collection of biological warfare samples. The result was the M2A1 Base Chemical Laboratory, standardized in 1963. The M2A1 was obsoleted in 1986.[11]

THE 1970's

Chemical Agent Detectors

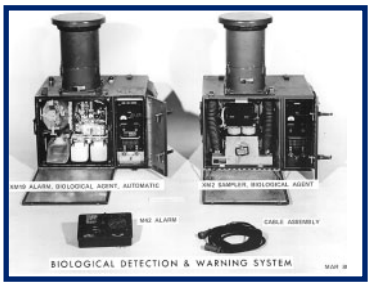
M256 Chemical Agent Detector Kit

During the 1970s, the Army continued to improve the basic detector kit and standardized the M256 Chemical Agent Detector Kit in 1977. The M256 Kit could detect chemical agents in the air and liquid chemical agent contamination on surfaces. The primary use was to notify troops as to when they could unmask after a chemical attack. The kit included a plastic carrying case, 12 sampler-detectors, and M8 Detector Paper. Each kit weighed just over a pound. To detect chemical agents in the air, a plastic sampler/detector was removed from its package and the various ampoules crushed between the fingers. The reagents then flowed through preformed channels to the appropriate test spot on the sampler/detector. The resulting reaction provided a distinctive color that varied by agent. The test took about 15 minutes to complete. The M8 Paper was used to detect liquid contamination on surfaces. The M256 Kit was obsoleted when the M256A1 Kit replaced it in 1986.[12]



Biological Agent Detectors

Biological Detection and Warning System



The Biological Detection and Warning System (BDWS) started development in 1974 to meet the growing critical need for a field biological agent detection system. The BDWS consisted of the XM19 Chemiluminescence Biological Agent Automatic Alarm, the XM2 Biological Agent Sampler, and a M42 Alarm. The XM19 Alarm detected airborne biological material and gave an alarm when it satisfied predetermined criteria. Actual detection involved a moving adhesive tape, a wash station, and a reagent reaction station where the light-emitting reaction was converted into an electrical signal. The XM2 Biological Agent Sampler collected and concentrated biological agent aerosols manually or automatically when the XM19 Alarm activated. The sampler then kept the samples viable until they could be examined in a medical laboratory. The XM19 Detector weighed about 145 pounds and the XM2 Sampler about 140 pounds. The BDWS continued in development until 1983 when the program was canceled after the XM19 Alarm failed technical and user testing.

The BDWS would have been forgotten if it was not for Operation Desert Shield/Storm in 1990-1991. In response to an emergency requirement for a biological detector, the XM2 Sampler was retrieved from "off the shelf," refurbished, tested, and prepared for deployment to Saudi Arabia by January 1991. To complement the XM2 Sampler, the Army added disposable Sensitive Membrane Antigen Rapid Test (SMART) Biological Agent Detector Tickets, developed for laboratory use for clinical tests. The SMART Tickets used the wet collection fluid to give a positive/negative indication of the presence of a specific biological agent within 10-20 minutes. Positive results were indicated by a red or pink dot. Over 80,000 SMART Tickets were rushed into production at the rate of 30,000 per month to support the XM2 Sampler. By the middle of March 1991, 11 XM2 Samplers were

Continued pg. 13

History of Detectors *cont.*

deployed to the frontlines with over 20,000 SMART Tickets. This combination was described as *"an extremely successful and reliable"* detection system. Although the XM2 Sampler filled a critical deficiency during Desert Storm, the unit was never standardized.[13]

Notes

[1] AMCTC Item 7793, 9 Apr 70; TM 750-5-15, *Chemical Weapons and Defense Equipment*, February 1967, 99-101.

[2] AMCTC Item 3598, 23 Jun 65; AMCTC Item 7793, 9 Apr 70; TM 750-5-15, 102-103.

[3] AMCTC Item 1647, 1 Nov 63; TM 750-5-15, 108.

[4] TM 750-5-15, 109; *U.S. Army Edgewood Arsenal, Edgewood Arsenal Items Under Development*, July 1963.

[5] TM 750-5-15, August 1972, 167; "NBC Defense Equipment," *CB Quarterly*, No. 18, July 1999, 18.

[6] CCTC Item 3934, 26 Dec 61; AMCTC Item 3399, 22 Apr 65; AMCTC Item 6598, 27 Nov 68; Chemical Corps, *Summary of Major Events and Problems*, FY1961-62, 128.

[7] *Edgewood Arsenal Items Under Development*, July 1963; David L. Tanenbaum, *Passive LOPAIR*, Edgewood Arsenal Technical Memorandum EATM 321-7, April 1969, 7, 33; Edgewood Arsenal, *Commodity Master Plan for LOPAIR, E49 Area Scanning Chemical Agent Alarm System*, 1 Nov 63, 6-7; Frank Shanty, *Quarterly Summary of Progress Detection & Warning Laboratory*, EATM 231-1, March 1966, 47.

[8] Kenneth J. Milloff, *Agent Response Characteristics of the E59 Plant Alarm with E60 Converter*, EATR 4171, April 1969, 7; Memorandum, COL Steven S. Crowell, to AMSMU-QA-MR, subj: Use of E59 Alarm in Leak Testing, 18 Jan 1973.

[9] AMCTC Item 6598, 27 Nov 68; TM 750-5-15, 1972, 147-148.

[10] Chemical Corps, *Summary of Major Events and Problems*, FY1960, 118 and FY61-62, 129.

[11] AMCTC Item 1643, 7 Oct 63; TM 750-5-15, 1967, 105.

[12] MSR Item 09776017, 25 Jul 77; MSR Item 01865002, 16 Jan 86.

[13] James W. Rice, *Data Book on Developmental, Nondevelopmental, and Product-Improved Items/Systems of Chemical Materiel*, EO-SR-77004, March 1977, 2.1-2.6; Information Paper, XM2 Biological Agent Sampling System, 12 Mar 91.

User Survey

You can help us fine tune our CBIAC products and services by visiting our Web site and completing our interactive Survey form. It takes less than a minute and can help the CBIAC to better meet the needs of the CBRN Defense and Homeland Security communities. The survey can be found online at

http://www.cbiac.apgea.army.mil/about/survey.php

Many thanks for your comments and support!

Chemical and Biological Defense CBIAC Information Analysis Center

The focal point for DoD Chemical, Biological, Radiological, and Nuclear (CBRN) Defense scientific and technical information

Calendar of Events

Do you have a Chemical and/or Biological Defense or Homeland Security course or event to add to our Calendar? Submit the pertinent information via email to **cbiac@battelle.org**. *The CBIAC reserves the right to reject submissions. For a more extensive list of events, visit our Website at* **http://www.cbiac.apgea.army.mil/**.

October 1-3
NBC Defense
Rome, Italy
http://www.cbrnevents.co.uk/do/ecco.py/view?listid=36&listcatid=163&template=introduction

October 2-5
2006 Homeland Defense Symposium
Colorado Springs, CO
http://www.nhdf.org/HDSymposium/HomelandDefenseSymposium.php

October 3-6
Chi's Process R&D Summit
Philadelphia, PA
http://www.processsummit.com/

October 4-5
USNI 2006 Joint Warfare Atlantic Conference & Exposition
Virginia Beach, VA
http://www.usni.org/seminars/jointwarfare/program.htm

October 9-11
AUSA Annual Meeting & Symposium
Washington, DC
http://www.ausa.org/www/AM2006.nsf/Home?OpenForm

October 10-12
All Hazards Forum (AHF)
Baltimore, MD
http://www.convplus.com/ahf.htm

October 11-12
Preparing for Pandemic Influenza
Arlington, VA
http://www.homelanddefensejournal.com/hdl/conf_influenza.htm

October 11-12
Chi's Targeted Nanodelivery
Baltimore, MD
http://www.healthtech.com/2006/nno/index.asp

October 15-18
49th Annual Biological Safety Conference
Boston, MA
http://www.absa.org/

October 16-20
COURSE: Field Management of Chemical and Biological Casualties
Aberdeen Proving Ground, MD
https://ccc.apgea.army.mil/courses/in_house/brochureFCBC.htm

October 17-19
AFCEA InfoTech 2006 Conference and Exhibition
Dayton, OH
http://www.afcea.org/calendar/eventdetails.asp?offset=20&EventID=356

October 20-22
Vital Signs
Syracuse, NY
http://www.vitalsignsconference.com/

October 22-25
MILCOM 2006
Washington, DC
http://www.afcea.org/calendar/eventdetails.asp?offset=20&EventID=341

October 25-26
Tourism and Major Event Security Conference
Stansted, UK
http://www.newsecurityprogramme.org/

October 23-27
Discovery on Target 2006
Boston, MA
http://www.discoveryontarget.com/

October 24-26
Federal Information Assurance Conference (FIAC) 2006
Washington, DC
http://www.us-cert.gov/federal/gfirst.html

October 25-27
National Conference on Environmental Sampling and Detection for Bio-Threats
New York, NY
http://www.sampling-conference.com/

October 26-29
HOTZONE
Houston, TX
http://www.hotzone.org/hotzone/main.htm

October 29 -November 3
COURSE: Medical Management of Chemical and Biological Casualties
Ft. Detrick and Aberdeen Proving Ground, MD
https://ccc.apgea.army.mil/courses/in_house/BrochureMCBC.htm

November 6-9
Aircraft Survivability 2006
Monterey, CA
http://www.ndia.org/Template.cfm?Section=7940&Template=/ContentManagement/ContentDisplay.cfm&ContentID=12330

Calendar *cont.*

November 7-11
FireRescue
Las Vegas, NV
http://www.firerescueexpo.com/

November 9-10
Detection Technologies 2006
San Diego, CA
http://www.knowledgefoundation.com

November 13-15
Scientific Conference on Chemical & Biological Defense Research
Hunt Valley, MD
http://www.cbdefense.com/

November 13-16
HazMat Explo10
Las Vegas, NV
http://www.hazmatexplo.org/radiological.htm

November 19-22
Texas EMS Conference 2006
Dallas, TX
http://www.texasemsconference.com/

November 27-30
25th Army Science Conference
Orlando, FL
http://www.asc2006.com/

November 27 - December 1
5th Singapore International Symposium on Protection Against Toxic Substances (SISPAT)
Singapore
http://www.sispat.com/

December 3-6
SRA 2006 Annual Meeting: Risk Analysis in a Dynamic World: Making a Difference
Baltimore, MD
http://www.sra.org/events_2006_meeting.php

December 3-6
U.S. EPA Region III Emergency Preparedness and Prevention & Hazmat Spills Conference
King of Prussia, PA
http://www.2006conference.org/

December 8-10
Joint Senior Leader's Course (JSLC)
Fort Leonard Wood, MO
http://www.wood.army.mil/usacmls/usacmlsflash/flashindex.aspx

December 7-11
International China Biopharmaceutical Symposium (ICBPS)
Beijing, China
http://www.icbps.com/

2007

January 8-12
2007 Chemical and Biological Information Systems (CBIS) Conference & Exhibition
Austin, TX
http://www.ndia.org/Template.cfm?Section=7320&Template=/ContentManagement/ContentDisplay.cfm&ContentID=14415

February 5-9
COURSE: Field Management of Chemical and Biological Casualties
Aberdeen Proving Ground, MD
https://ccc.apgea.army.mil/courses/in_house/brochureFCBC.htm

February 10-15
2007 NEMA Mid-Year Conference
Alexandria, VA
http://www.nemaweb.org/

February 19-23
2007 Local, State & Federal Public Health Preparedness Conference
Washington, DC
http://www.naccho.org/conferences/phprep06/index.cfm

February 25 - March 1
PITTCON®2007
Chicago, IL
http://www.appcluster05.com/app/homepage.cfm?appname=376&moduleid=858

February 26-28
18th Annual Special Operations / Low Intensity Conflict Symposium & Exhibition
Arlington, VA
http://www.ndia.org/Template.cfm?Section=7880&Template=/ContentManagement/ContentDisplay.cfm&ContentID=12340

DoD IACs: Focused Scientific and Technical Information Resources

Advanced Materials, Manufacturing & Testing Information Analysis Center

Materials, manufacturing, and testing are fundamental science and engineering disciplines critical to the advancement of technology. AMMTIAC retains more than fifty years of information and data related to these technology areas and serves as an important resource to the Defense science and technology community.

Mission and Scope

AMMTIAC's mission is to provide materials, manufacturing, and testing support to the DoD research, development, sustainment, and operational communities, as well as to industry and academia. Collectively, these three core areas of technology represent the skill base needed to develop solutions to critical design and operational issues. The following are examples of specific technologies within the scope of AMMTIAC.

Materials
- Material properties
- Material selection
- Material failure

Manufacturing
- Automated manufacturing & assembly
- Rapid prototyping
- Intelligent manufacturing
- Additive manufacturing
- Surface finishing

Testing
- Accelerated testing
- Nondestructive testing/evaluation
- Health monitoring
- Human factors
- Probability of detection

History

On December 21, 2005, AMMTIAC was established to carry on the basic missions of three former IACs. This new IAC was borne out of a merging of AMPTIAC, MTIAC, and NTIAC, and enables the collaboration of three very important communities: materials, manufacturing, and testing.

For over a half century, the Department of Defense has sponsored a series of IACs to provide support to the materials, manufacturing, and nondestructive testing research, engineering, and acquisition communities. In recognition of the general expansion of modern information services and broad convergence of the IAC user base, the DoD chose to merge AMPTIAC, MTIAC, and NTIAC into a single multi-service entity, AMMTIAC, which provides full Scientific, Technical, and Operational Support Information (STOSI) solutions and services to an even broader DoD and industry user community. The scope of AMMTIAC is even greater than the sum of its predecessor parts, expanding opportunities to provide cradle-to-grave solutions to the DoD science and technology community. The three former IACs each had a heritage of their own.

Preceding AMPTIAC, for example, there were thirteen materials IACs dating back to 1955. Similarly, MTIAC and NTIAC have rich and lengthy histories. The STOSI related to these former IACs, which was generated during their periods of operation, has been captured, catalogued and stored for future use. This has ensured that over fifty years of valuable technical information has been preserved; a knowledge-base upon which the new IAC has been formulated and founded. AMMTIAC's integrated library database contains approximately 300,000 documents related to materials, manufacturing and testing from government, academia, and industry. The library consists of technical reports, journals, conference papers, reference books, handbooks, and databooks.

AMMTIAC Support Services

Basic Inquiry
Up to four hours of free technical or library service
Literature Searches
Material Property Data
Analysis

Funded Inquiry
For extensive inquiries, work is performed on a cost recovery basis
Literature Search & Summary
Technology Review & Analysis
Data Compilation & Analysis

Technical Area Task
Long term projects focused on delivering in-depth solutions
Materials
Manufacturing
Testing & Inspection

Publications

AMMTIAC provides the greater DoD community with the niche publication entitled the *AMMTIAC Quarterly*. This publication addresses a variety of technical subjects covering the latest advancements in science and technology related to materials, manufacturing and testing, and also provides information of interest to the acquisition, manufacturing, and sustainment communities. Issues include articles synopsizing current efforts and programs from the service laboratories, technical and tutorial pieces, technology overviews, and important announcements. *Technology Solutions* is a special feature in each issue of the *Quarterly*. It focuses on educating program managers, scientists, and engineers on topics outside of their scope of expertise. Additionally, this educational resource helps to outfit those with the knowledge and technical savvy to approach a variety of challenges, ultimately providing a resource for technology solutions. The digital version of the *AMMTIAC Quarterly* is made available on the AMMTIAC website and its posting is announced through the *AMMTIAC eNews*.

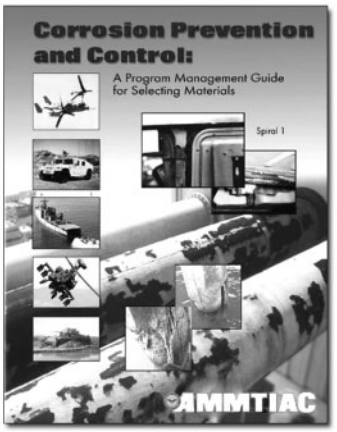
AMMTIAC Quarterly

AMMTIAC offers a comprehensive product catalog with publications covering all areas of materials, manufacturing and testing. The products include state-of-the-art reports (SOARs), critical reviews and technology assessments (CRTAs), handbooks, databooks, and databases. AMMTIAC also develops custom-tailored products.

AMMTIAC operates and maintains the National Materials Information System (NAMIS), which is an important resource for those in need of instant access to high quality materials and processes information. NAMIS is a secure access website containing nine subject matter databases that employ search engines used to locate STOSI contained in PDF files. It is available to authorized users and maintained through user fees. AMMTIAC is currently working on several NAMIS upgrades including a virtual library containing nearly 10,000 documents related to corrosion. Future upgrades will also include modules that cater directly to the manufacturing and testing communities.

Technical Support and Success Stories

AMMTIAC supports a number of technical efforts using a professional staff that consists of scientists and engineers with expertise comprehensively covering the scope of the center. A summary of these support services is shown on the left. Among several other ongoing projects, including some focused on manufacturing and testing, AMMTIAC is supporting the DoD's effort to combat the pervasive problem of corrosion. As part of this support, AMMTIAC is completing the second edition of an extensive corrosion handbook. The first edition of this book was developed under one of AMMTIAC's predecessor IACs. The second edition, which will be published this Fall, expands some of the content and includes a material selection process for corrosion prevention and control. AMMTIAC is also surveying corrosion-related maintenance and repair activities at various DoD depots and logistics centers to collect valuable in-service corrosion data. This data will help the Services assess corrosion prone components and areas on military assets and develop lessons learned for future engineering and design. As a final example of support, AMMTIAC is collecting, scanning, and digitizing thousands of corrosion documents. This effort is key, not only to preserve important corrosion research and testing information, but also to make it more accessible to scientists, designers, and engineers.



For additional information, products and services, please contact AMMTIAC.
Advanced Materials, Manufacturing, and Testing Information Analysis Center
201 Mill St., Rome NY, 13440
Phone: 315.339.7117
Fax: 315.339.7107
Email: ammtiac@alionscience.com
URL: http://ammtiac.alionscience.com

CHDS *cont.*

and case studies. They work through problems and scenarios that enable them to strengthen working relationships across regions, agencies, and jurisdictional lines, and to develop innovative policies.

Mobile Education Team (MET) Seminar

MET seminars are intensive, half-day seminars designed for state governors, their homeland security teams and for major urban area leaders. They focus exclusively on enhancing the capacity of top government officials to address new homeland security challenges. Topics discussed in an interactive roundtable format include: Local/State/Federal Responsibilities; Coordination and Prevention; Intelligence Collection, Assessment, Dissemination and Information Sharing and Critical Infrastructure Protection.

Online Courses

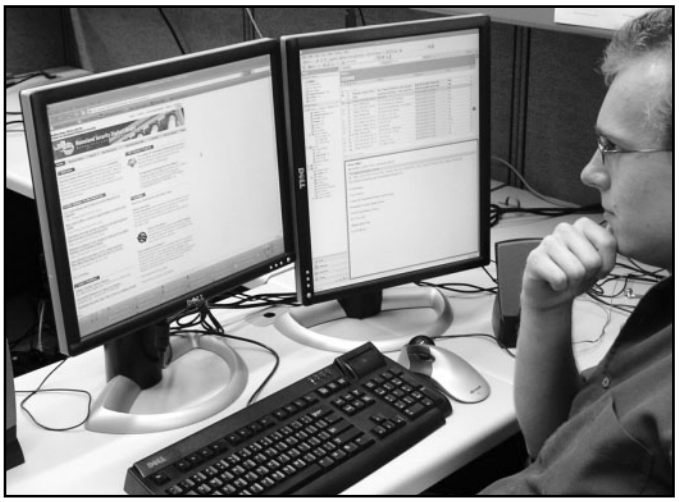
Non-credit versions of CHDS Master's degree courses are available online. The courses are designed for homeland defense and security professionals who wish to enhance their understanding of key homeland security concepts and require the flexibility of self-paced instruction. NPS does not provide credit for the courses. Participants are encouraged to inquire with their professional associations regarding continuing education units/credits.

University and Agency Partnership Initiative

The partnership initiative increases the number and diversity of students receiving homeland security education by accelerating the establishment of high-quality academic programs nationwide. It provides an opportunity for all those engaged in thinking about and teaching homeland security to collaborate and to create an intellectual multiplier effect that furthers the study of homeland security. CHDS makes available through the partnership its curriculum, distance learning technology, Homeland Security Digital Library, and all other resources. In return, partners share their curriculum and specialized expertise this CHDS and other partners. This provides a cost-effective way to educate thousands of students nationwide by reducing the expense and difficulty of universities and agencies having to "reinvent the wheel" and build their own curricula and programs from scratch.

INFORMATION RESOURCES

Homeland Security Digital Library



The Homeland Security Digital Library (HSDL) is the nation's premier collection of homeland security policy and strategy related documents. It supports local, state and federal analysis and decision-making needs and assists academics of all disciplines in homeland defense and security-related research. It provides quick access to important U.S. policy documents, presidential directives, national strategy

Continued pg. 19

Naval Postgraduate School Mission:
"To provide relevant and unique advanced education and research programs that increase the combat effectiveness of United States and Allied armed forces and enhance the security of the United States."

As the Navy's corporate university, the Naval Postgraduate School (NPS) is:
1. Essential to Navy and DoD for ensuring combat effectiveness
2. Integral to joint and combined professional military education
3. Linked to the Unified Combatant Commanders and their requirements
4. Vital to other national security organizations, agencies & nations for national security
5. The nation's national security research university

CHDS *cont.*

documents as well as specialized resources such as theses and reports from national universities, organizations as well as local and state agencies. The resources are reviewed and selected by a team of homeland security researchers and organized in a unique homeland security taxonomy. HSDL content includes state-of-the-art multi-media offerings and other valuable assets identified by CHDS master's degree participants and instructors.

Homeland Security Affairs Journal

www.hsaj.org

Homeland Security Affairs is the online journal of CHDS and is the nation's preeminent peer-reviewed journal, providing a forum to propose and debate strategies, policies, and organizational arrangements to strengthen U.S. homeland security. CHDS instructors, participants, alumni, and partners represent the leading subject matter experts and practitioners in the field of homeland security. E-published quarterly, it captures the best of their collective work, as well as that of scholars and practitioners throughout the nation. These articles constitute not only the "smart practices" but also the evolution of homeland security as an emerging academic and professional discipline.

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CHDS AT A GLANCE

About the Center for Homeland Defense and Security (CHDS) – www.chds.us

- Part of Naval Postgraduate School (NPS) in Monterey, CA since 2002.
- Conducts programs to assist current and future homeland security leaders to develop policies, strategies, programs and organizational elements to defeat terrorism.
- Through graduate-level coursework, seminars, and research, HS leaders gain analytic expertise to counter terrorism and bridge gaps in interagency and civil-military cooperation.
- Programs developed with and sponsored by DHS Office of Grants and Training

Fully Accredited HS Master's Degree Curriculum (first class graduated in June 2004)

- 18-month program for local and state HS leaders with a mix of federal and military.
- Requires participants to be in-residence just 2 weeks each quarter; remainder of coursework completed via distance learning.
- 96 students enrolled from diverse HS disciplines, 125 graduates – classes graduating every six months.
- Master's degree students complete research papers and a thesis on actual policy development issues confronting their state, city, or sponsoring organization; research papers are already being implemented by government agencies around the country.

Homeland Security Executive Education Seminars

- Series of four one-week seminars designed to bridge the gap between the 18 month Master's Degree Program and the half-day MET Seminar.
- Participants consider complex issues and case studies, and scenarios that enable them to strengthen working relationships across local-state-federal jurisdictional lines.

Mobile Education Team (MET) Seminars for Governors, Mayors and other HS Leaders

- Over 75 major urban areas and state Governors and Cabinets have received seminars.
- The half-day seminar focuses on specific challenges each state or urban area faces.
- Topics are discussed in interactive roundtable format utilizing mock scenarios.
- Executive Education topical seminars also offered on priority topics such as Intelligence.

University and Agency Partnership Initiative

- CHDS makes available through the partnership its curriculum, distance learning technology, Homeland Security Digital Library, and all other resources. In return, partners share curriculum and specialized expertise with CHDS and other partners.
- Produces multiplier effect by partnering with other Universities in standing up their own programs. Dramatically increases number and diversity of students with access to quality HS education. Takes advantage of DHS investment at CHDS (rather than others "re-inventing the wheel").

Homeland Security Online Courses – www.chds.us

- Non-credit, online versions of the NPS CHDS Master's degree courses are available to homeland defense and security professionals who wish to enhance their understanding of key homeland security concepts and require the flexibility of self-paced instruction.

Homeland Security Digital Library – www.hsdl.org

- The nation's premier collection of HS policy and strategy related documents. The website is a one-stop shop for local, state, and federal analysis and decision-making needs and assists academics of all disciplines in HS and defense research.

Homeland Security Affairs Journal – www.hsaj.org

- Academic, online journal published quarterly.
- Articles propose and debate strategies, policies, and organizational arrangements to strengthen HS.

A New Look for the CBIAC Website!

The CBIAC launched its new Website on June 26, 2006. Incorporating the best of the old Website, our new Homepage is organized to provide timely access to the CBIAC products and services.

What's new?

- A more concise organization of content
- Interactive Product Catalog utilizing "Shopping Cart" technology
- Website and Product Catalog Search capabilities
- Sidebars with links to access related materials for each category of products or services

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