

# THE ENGINEERING EDGE

EDGEWOOD CHEMICAL BIOLOGICAL CENTER

Volume 7, Issue 6

June 2015



**ECBC and Partners Unveil New System for Large-Scale Chemical Agent Testing PAGE 4**



**NATIONAL SAFETY MONTH**

**ECBC LABORATORY CERTIFICATION PROGRAM PAGE 6**

**BE PREPARED BEFORE YOU HAVE TO BE PAGE 7**

**ADM TEAM NAMED FINALIST FOR ECBC EXCELLENCE IN SAFETY AWARD PAGE 8**

To access the electronic version of this newsletter, visit:  
<http://www.ecbc.army.mil/news/ENG/>



APPROVED FOR PUBLIC RELEASE



## INSIDE THIS MONTH'S ISSUE:

pg.3 | Welcome Brittany Sullivan to the Engineering Front Office

pg.3 | Microsoft Office 2013 Tips and Tricks: Outlook 2013

pg.5 | ECBC and Partners Unveil New System for Large-Scale Chemical Agent Testing

pg.6 | ECBC Laboratory Certification Program: A Distinct Benefit for Both Test Facilities and Customers

pg.7 | Be Prepared Before You Have to Be

pg.8 | ADM Team Named Finalist for ECBC Excellence in Safety Award

pg.8 | ECBC Cyclists Participate in Bike to Work Day

This newsletter was published through the Balanced Scorecard. Hard copies are located in the Engineering Front Office, E3330, E3331, E3510, E3516, E3549 lobby A and C, E4301, E5102, E5165, and in Rock Island near the Deputy's office.

For article suggestions, questions or comments, contact **Ed Bowen** at [edward.c.bowen8.civ@mail.mil](mailto:edward.c.bowen8.civ@mail.mil).

## Thank You for Your Service!

ECBC Engineering thanks recent retirees for their contributions and service to the Center. ⚙️

Name	Branch/Division	Years of Service
William Argiropoulos	Detection Engineering Branch, Detection and Decontamination Engineering Division	29 years, 8 months
Mike Brown	Strategic Planning and Business Operations Branch, Strategic Planning and Business Management Division	38 years, 1 month
Michael Dezearn	Decontamination Sciences Branch, Detection and Decontamination Engineering Division	31 years
Trina Dowell	Office of the Director, Business Management and Systems Engineering	29 years, 10 months
Paul Grasso	Matrixed to Department of Homeland Security Chemical Security Analysis Center	41 years
Daryl Jones	Protection Factor Toxic Chamber Branch, Engineering Test Division	31 years, 3 months
Erin Kennedy	Joint Service Physical Protection Engineering Branch, Protection Engineering Division	10 years, 9 months
Randy Laye	Deputy Director, Engineering	33 years, 3 months
Stephen Marshall	Test Reliability and Evaluation Branch, Engineering Test Division	33 years
Susan Norris	Protection Factor Toxic Chamber Branch, Engineering Test Division	40 years, 5 months
Daniel Nowak	Matrixed to the Research and Technology Directorate Technology Evaluation Branch	45 years
Nan Ramsey	Associate Director and Rock Island Site Manager	30 years
Terry Thurman	Matrixed to the Joint Project Manager for Nuclear, Biological and Chemical Contamination Avoidance (JPM-NBC CA)	42 years, 4 months
Mark Ward	Environmental and Field Testing Branch, Engineering Test Division	41 years
Mary Weiss	Joint Service Physical Protection Engineering Branch, Protection Engineering Division	30 years, 5 months

## Ask a Tech Tip: Practicing Chemical Safety at Home

**Mike Kauzlarich**, of the Pyrotechnics and Explosives Branch, reveals how the techniques and lessons learned in labs can help solve your household problems. Submit a question to him at [usarmy.APG.ecbc.mbx.engineering-directorate@mail.mil](mailto:usarmy.APG.ecbc.mbx.engineering-directorate@mail.mil).

June is National Safety Month, and I'd like to take a moment to talk about chemical safety around the home. As mentioned in previous tips, chemical safety isn't just necessary for the workplace—you should integrate the same safety culture at home as you do here at work. Those with children at home need to be especially careful. It is easy to store your day-to-day household cleaners under the kitchen sink and not give it a second thought, but a curious child could get into serious trouble if he or she has access to chemicals. Demonstrate by example! Store chemicals properly and explain to your children why you are storing it that way. Use personal protective equipment at home as well. Do you have safety glasses at home? How about gloves? Is everyone at home comfortable with and unafraid to dial 911? Take some time this month to look around your home with an eye for chemical safety! ⚙️

## Welcome Brittany Sullivan to the Engineering Front Office

Please welcome Brittany Sullivan to the Engineering Front Office! Sullivan serves as an executive administrative consultant for Engineering Director Mike Abaie.

She assists Abaie by managing his calendar, scheduling appointments with staff and stakeholders, booking conference rooms, preparing meeting packets, and compiling and disseminating notes from leadership meetings. She is also supporting the Engineering Executive Officer with travel arrangements using the Defense Travel System, and compiling travel books.

Sullivan is a consultant with Booz Allen Hamilton. Prior to joining the Engineering Directorate, Sullivan spent four years at the Joint Program Executive Office for Chemical and Biological Defense, supporting the Director of Science Concepts and



Zada Stallings (left) and Brittany Sullivan  
Credit: ECBC Public Affairs

Technology, the Deputy Chief of Staff of Medical Acquisition (MED-ACQ), and the Joint Project Manager for Radiological and Nuclear Defense. She previously worked with Abaie when he was the Joint Project Manager for Medical Countermeasures Advanced Development, while she served as the administrative assistant to a Source Selection Evaluation Board and worked with MED-ACQ to consolidate the three medical JPMs.

Sullivan and Zada Stallings work collaboratively to make sure the Engineering Front Office runs efficiently. Stallings primarily supports Deputy Director Bill Klein and Associate Director Ron Pojunas. She manages their calendars, reviews incoming and outgoing correspondence, and compiles and disseminates notes from monthly safety meetings. Stallings also

manages timecards and is the Assistant to the Certifying Official for the Chemical Personnel Reliability Program. Together, Stallings and Sullivan ensure the smooth operation of the front office in support of the entire Engineering Directorate.

"I love the atmosphere here in Engineering, and look forward to meeting many members of the workforce," said Sullivan. ⚙️

## Microsoft Office 2013 Tips and Tricks: Outlook 2013

For the next few months, we will teach you some tips and tricks for navigating Microsoft Office 2013!

Here are some of the more common tools and commands for Microsoft Outlook 2013 (email):

To...	Click...	And then look in the...
Send automatic replies when you're out of the office	<b>File</b>	Under <b>Account Information</b> , click Automatic Replies > <b>Send automatic replies</b> , and then choose your options (this feature requires a Microsoft Exchange Server account).
Manage email messages by assigning rules	<b>Home</b>	In <b>Mail</b> view, click <b>Move</b> > <b>Rules</b> .
Insert a symbol or special character	<b>Insert</b>	From a new mail message, click <b>Symbols</b> > <b>Symbol</b> .
Add holidays to your calendar	<b>File</b>	Click <b>Options</b> > <b>Calendar</b> . Under <b>Calendar options</b> , click <b>Add Holidays</b> .
Share a calendar	<b>Home</b>	From the <b>Calendar</b> view, in the <b>Share</b> group, click E-mail <b>Calendar</b> > <b>Share Calendar</b> (this feature requires a Microsoft Exchange Server account), or <b>Publish Online</b> .

For more tips and tricks, download the Microsoft Office Quick Start Guides at <https://support.office.com> ⚙️



To access the electronic version, visit: <http://www.ecbc.army.mil/news/ENG/>





## ECBC and Partners Unveil New System for Large-Scale Chemical Agent Testing



Rep. Dutch Ruppersberger cuts the NTADTS ribbon with ECBC Director Joseph Corriveau (left), ECBC Engineering Director Michael Abaie and Joint Project Manager for Nuclear, Biological and Chemical Contamination Avoidance Col. Alfred Abramson (right). Credit: ECBC Public Affairs



Alex Pappas (center) explains the Primary Containment Module (PCM) during the tour. The PCM contains decontamination nozzles that are fully adjustable to completely decon the chamber. Credit: JPEO-CBD Public Affairs



Tom Hughes (third from right) explains the Test Chamber Module, which features two large glove boxes. Credit: JPEO-CBD Public Affairs

A new capability for material, component and large-scale, system-level chemical agent testing was unveiled during a ribbon-cutting ceremony on May 27 at the U.S. Army Edgewood Chemical Biological Center (ECBC).

The Non-Traditional Agent Defense Test System (NTADTS) is designed to provide a safe and specialized testing capability for diverse chemical defense items in support of the Warfighters and nation. The capability provides operationally relevant testing across all commodity areas, including protection, decontamination and contamination avoidance.

Using custom-designed temperature and humidity controls, the NTADTS can simulate almost all operational conditions from the Arctic to the Persian Gulf. Also, current environmentally conditioned test chambers are limited to testing equipment at the component level, rather than actual immersion of the entire device in an aerosol cloud. The NTADTS large chamber allows the entire system under test to become fully immersed in a chemical atmosphere—the operationally relevant conditions necessary prior to fielding.

“Today is a great day for the Army, the chem-bio defense enterprise and the nation,” said ECBC Director Joseph Corriveau, Ph.D. “We have been working toward this day for more than a decade, and today we finally open the Non-Traditional Agent Defense Test System. This facility expands our capabilities to ensure that the safest and best equipment gets into the hands of the Warfighter.

“There is no facility anywhere in the world that allows us to test entire systems against non-traditional threats. Testing and analysis that once had to be done one piece at a time under a hood can now be done as entire functioning systems in environmentally controlled conditions, providing more operationally relevant data.”

The ceremony capped off a multi-year effort to design and construct the system while ensuring it met both military and industry requirements for safe testing and operations. Several leaders from across the chemical-biological defense community attended the event, including U.S. Representative C.A. “Dutch” Ruppersberger of Maryland’s 2nd District; Dr. C. David Brown, Deputy Assistant Secretary of Defense for Developmental Test and Evaluation; Jyuji Hewitt, Deputy Director, U.S. Army Research, Development

### NTADTS Facts and Figures

- Laboratory revitalization began in October 2011
- Primary Containment Module: 8’ x 8’ x 13’ environmentally controlled test chamber for solid, liquid and vapor testing
- Test Chamber Module: Two 10.5’ x 4’ x 7’ glove boxes for test fixture testing across all commodity areas
- Aerosol Test Facility: 1000L chamber for toxicology and detector testing under environmental conditions
- Joint asset between the ECBC Engineering and Research and Technology Directorates

and Engineering Command; John Fischer, Director of Chemical and Biological Defense, Department of Homeland Security; Carmen Spencer, Joint Program Executive Officer for Chemical and Biological Defense; Conrad Whyne, Program Executive Officer, Assembled Chemical Weapons Alternatives; and retired Maj. Gen. Stephen Reeves, former Joint Program Executive Officer for Chemical and Biological Defense.

“The last time I was (at ECBC),” Ruppersberger told the gathering at the ceremony, “It was to welcome home the team responsible for destroying a large

chemical weapon stockpile in Syria.

In a civilized society, the world cannot stand by and watch. The threats are real. Systems like the NTADTS will ensure our Armed Forces have what they need to do their missions every day.”

Collaboration across the chemical-biological enterprise was recognized as key to bringing this world-class capability online. ECBC scientists and engineers collaborated with partners from government and industry to make the NTADTS a reality. While engineers designed and built the system and its precursors, the Defense Threat Reduction Agency (DTRA) funded the basic research required to make the facility work—agent characterization, toxicology, decontamination technology, materials compatibility. Along the way, new processes were developed, existing processes were improved upon, and state-of-the art safety features were installed.

Design and construction of the system was managed by the Joint Program Executive Office for Chemical and Biological Defense (JPEO-CBD) Joint Project Manager for Nuclear, Biological and Chemical Contamination Avoidance (JPM-NBC CA), led by Col. Alfred Abramson. “This was a team effort—a collaborative effort—that will serve to get us to the next-generation

chemical detector. In an environment of reduced budgets, we must collaborate across the chem-bio enterprise to deliver new capabilities to the Warfighter,” Abramson said.

“As the Director of the Edgewood Chemical Biological Center, I am delighted that this capability now resides here at the Center,” said Corriveau. “But, I would be remiss if I did not acknowledge that this facility would not exist without an incredible amount of collaborative effort—from DTRA’s funding of the basic science that made this facility possible, to the JPEO’s shepherding of the program through the acquisition process, to all of the partners who played a role in bringing this day to fruition. Today is a win for all of us.”

Components of the new facility include the Primary Containment Module (PCM), a large environmentally controlled test chamber, and the Test Chamber Module (TCM), a large, double glove box chamber to house test fixtures. The Aerosol Test Facility (ATF), a chamber specifically designed to handle aerosol toxicological and detector testing, rounds out the system’s capabilities.

The NTADTS test chambers have the inherent flexibility to address the rapidly changing threat environment the Warfighter

faces on the battlefield. It can be used for both science and technology (S&T) and test and evaluation (T&E) work in support of contamination avoidance, individual protection, collective protection and decontamination commodity areas. The system also features a control room, surety laboratory, agent storage facility, and ingress and egress rooms.

In addition to supporting ECBC’s Warfighter mission, the NTADTS also allows ECBC to continue to serve federal agencies, including the Department of Homeland Security, the intelligence community, and its international partners.

“As awareness and understanding of non-traditional agents has grown, so has the need to perform tests under these conditions, which includes developing the infrastructure necessary to support that testing,” said Michael Abaie, ECBC Director of Engineering. “This system is a national asset, and we welcome our partners from across the T&E enterprise to come here and put it to work for our Warfighters.”

The system will be fully operational in fall 2015. ⚙️

 SUPPORT

## ECBC Laboratory Certification Program: A Distinct Benefit for Both Test Facilities and Customers

The protection and safety of the nation's Warfighters depend largely on the quality of chemical and biological defense equipment they use to perform their missions. Before the government accepts new equipment or makes a decision on shelf-life extension of fielded equipment, the equipment is rigorously tested and inspected by a laboratory to determine if it meets the military's strict requirements. Laboratory certification provides a level of confidence to the customer and the Warfighter that the laboratory properly tested their equipment to validate it met their operational and safety needs. For U.S. Army TACOM Life Cycle Management Command (LCMC)-managed chemical and biological defense equipment, certification is typically a contract requirement, so labs cannot provide testing service without certification.

In 2004, ECBC established the Laboratory Performance Certification Program as a unique service to its customers. Operated out of ECBC's Rock Island Arsenal location, it is a product-specific program to review laboratories for compliance with production or shelf-life extension testing requirements, as well as ensure quality control and laboratory management expectations are met. Through this program, ECBC audits and certifies various government and industry test facilities that are relied upon by TACOM LCMC, the Joint Program Executive Office for Chemical and Biological Defense (JPEO-CBD) Enterprise Fielding and Surveillance, Joint Project Manager

for Protection, and the Department of Defense (DoD) Shelf-Life Program.

"In the chem-bio test community, it means something for a lab to be certified by ECBC," said Hung Pham, Chief of the ECBC Sustainment Support Division, who oversees the ECBC Laboratory Certification Program. "Through our audit, we help labs overcome any test issues and improve their processes. Ultimately, we want them to become even better at serving the customer."

ECBC's program provides distinct advantages and benefits, including:

- Provides an independent, qualified assessment for ECBC customers and facility managers
- Ensures compliance to contracts, test plans and requirements
- Mitigates calibration and training issues prior to testing
- Provides objective evidence of continuous process improvement
- Facilitates feedback from subject-matter experts
- Increases laboratory's recognition and visibility to customers



The ECBC Qualification Procedure Team conducts laboratory audits annually. The team is comprised of experts from ECBC's Engineering Directorate and Directorate of Program Integration. Combined, the audit team has 50+ years of laboratory experience and has conducted more than 250 audits.



Adrian Henry (left) and Marvin Wink are members of the ECBC Laboratory Performance Certification Team. Photo courtesy of ECBC-Rock Island

The team performs the audit in three phases:

**Phase I: Pre-Site Actions:** Notifying the lab of the upcoming audit, sending an audit checklist, and requesting documentation of all test plans and requirements

**Phase II: On-Site Audit:** Meeting with the laboratory, performing a physical audit of the facility, recording observations, and discussing feedback and suggestions for improvement as necessary

**Phase III: Follow-Up:** Ensuring any nonconformance issues and required actions are sufficiently addressed, then officially certifying the facility

The team looks forward to expanding the program to more laboratories for our customers, including those located outside the U.S. "Last year we issued our first certification to laboratories in Europe in support of the DoD Shelf-Life Program," said Adrian Henry, ECBC Laboratory Certification Program Team Lead. "Our customers are looking to develop testing capability in the Asia-Pacific region as the DoD rebalances to that region. Developing this capability will aide in reducing hazmat disposal cost and testing cycle time, and increase user satisfaction and safety."

"Our end goal," said Henry, "is to make ECBC's Laboratory Certification Program a household name in our industry." 

## WORKFORCE RESOURCES

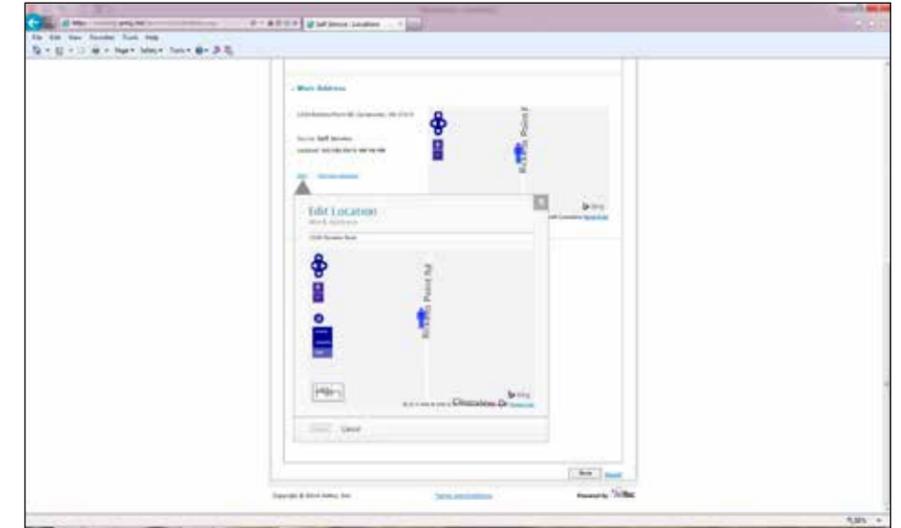
### Be Prepared Before You Have to Be

In April 2015, Baltimore, Maryland, saw ruin in the city with mass riots, resulting in lost business, homes and property. Simultaneously on the other side of the world, Nepal suffered a devastating earthquake, claiming thousands of lives along with the total destruction of homes, businesses and any other structure within the vicinity of the shockwave.

Emergencies happen. We cannot stop an earthquake or even the rage of a mob, but what we can do is be as prepared as possible in an emergency situation.

To start, every home and business should have an **emergency supply kit**. It may seem obvious to have certain items, such as a **first aid kit** or a **flashlight handy**—but it is important to ensure that all items are current. Make a checklist and go through the kit every six months.

Some items to consider: **Water!** The National Safety Council recommends having a supply of one gallon per person, for at least three days. Also keep a three-day stock of **nonperishable foods**, plus a can opener. Choose foods that can be eaten with little to no preparation. **Batteries** will be an absolute necessity for that flash light, battery powered radio, and any other electronics. Your first aid kit should include over-the-counter pain relievers, bandages and any specific medications required by family members, such as insulin or EpiPens. A basic **tool kit** may be helpful, as will sanitation items such as **trash bags, sanitizer and toilet paper**. Include **duct tape** and **plastic sheeting** in case repairs are needed for broken doors or windows. Finally, a **whistle** may come in handy to help rescuers locate you.



Registering for AtHoc is simple and only takes a few minutes.

Also consider a vehicle emergency kit. Flash floods and blizzards can catch you off guard while driving—make sure to have items in your car in case you become stranded, such as **snacks, water, a blanket, first aid kit, tool kit, flash light, batteries** and a **cell phone charger** for your car, plus **jumper cables, a spare tire** and a **jack**. During the winter months, also add a **snow shovel** and **brush or ice scraper**.

Personal preparation is vital, but what about when an emergency occurs while at work? ECBC has emergency operations plans to make sure the workforce is prepared to continue necessary operation while ensuring the safety of personnel. The **Continuity of Operation Plan (COOP)** considers all types of emergencies, explores all possible options for the Center, and is nested with RDECOM's plans as well as the Garrison's emergency plans.

Accountability is key. Please ask your supervisor how the reporting chain works in the event of emergency. Also, take a few moments to register for the **AtHoc**

**program**. This installation-wide program stores your contact information and pushes all emergency alerts via email, phone call and text. All computer users should have received notification on how to sign up in early March. If you have not signed up yet, simply click on the small purple globe in the bottom right tool bar of your computer screen and follow the prompts for completing your profile.

Calm can turn to chaos in minutes, and it is essential that you take the time to be prepared—at home, on the road and at work—before you find yourself unprepared in a dangerous situation. 

## AWARD

# ADM Team Named Finalist for ECBC Excellence in Safety Award



Team members (from left) Greg Thompson, John Sparks, Corey Piepenburg, Harold Wylie prepare the UAV for flight operations. Photo courtesy of ECBC Advanced Design and Manufacturing Division

**S**afety is paramount to ECBC's daily operations, as well as its ability to meet its mission and the expectations of the Army and other customers and stakeholders. Every year, the Center recognizes the workforce's commitment to safety with the annual ECBC Excellence in Safety Award.

This year, a team from the Advanced Design and Manufacturing Division (ADM) is a finalist for the award for adapting an unmanned aerial vehicle (UAV) to keep pilots, ground crews and bystanders safe during operations.

The group earned their nomination for co-developing a vertical takeoff and landing UAV in support of the Defense Threat Reduction Agency's Human Capabilities Projection/Robotics Focused Innovative Technology (FIT). Team members include Griff Asplundh, Alena Bortkiewicz, Mark Colgan, Kyle Ford, Corey Piepenburg, William Spangler, John Sparks, Greg Thompson and Harold Wylie.

During the development of the vehicle, the team considered several opportunities to address the safety of the operators, as well as bystanders viewing the operations of the aircraft.

ECBC's first standard operating procedure (SOP) for UAVs was drafted by the team, in coordination and with input from the Army Research Laboratory and The Johns Hopkins University Applied Physics Laboratory, which both test UAVs. This SOP ensures all personnel involved with the UAV operations know the procedures and best practices necessary to operate the UAV correctly and, more importantly, safely.

ADM has designed several engineering controls for the UAV to maintain a safe operating environment. Propeller stoppers

protect operators while the aircraft is on the ground by physically preventing the propellers from rotating. Bystander protection nets create a barrier between the UAV and all observers. ADM even programmed the electrical circuits to provide additional safety features for operators working on the UAV while it is on the ground.

Throughout this project, the team has made the safety of the pilots, ground crew and bystanders a top priority. The SOP and safety equipment will be transferred to the Warfighter at the completion of this project so that they may be able to operate the UAV in the safest manner possible.

"Without safety, our UAV could never take flight," said the team.

The ECBC Excellence in Safety Award is presented annually to a team, office or individual that has made a significant contribution to the prevention of incidents and injuries; implemented safety management system initiatives; or taken other action to promote and improve a culture where safety is a core value. The recipient of the 2015 Excellence in Safety Award is the Field Deployable Hydrolysis System team. The team received the top honor for implementing safety management system initiatives that prevented incidents and injuries during the two-year technology development effort that culminated with the safe destruction of 600 metric tons of Syria's declared chemical agent stockpile. The award was presented by Center Director Dr. Joseph Corriveau on June 2. 🌀

# ECBC Cyclists Participate in Bike to Work Day

**E**CBC earned a trophy from Bike Maryland, in collaboration with the Harford County Government, for having the most cyclists participate in this year's Bike to Work Day, held on May 22. There were approximately 40 cyclists representing several Commands from the Edgewood Area of Aberdeen Proving Ground (APG-EA), with the largest delegation coming from the ECBC workforce.

APG-EA, and ECBC in particular, have a strong cycling base. A group of ECBC riders meets year-round, every work day at lunch time. All are invited, including beginners! By joining the group, not only will your health benefit, but it is also a great way to get to know ECBC colleagues who share an interest and enthusiasm for cycling. For more information, contact Mike Kauzlarich in the Pyrotechnics and Explosives Branch. 🌀

