



U.S. ARMY COMBAT CAPABILITIES DEVELOPMENT COMMAND CHEMICAL BIOLOGICAL CENTER

Overview

Eugene L. Vickers

Diversity, Equity, Inclusion (DEI) Officer

U.S. Army DEVCOM Officer of The Director



AGENDA



- **Introduction**
- **Who We Are**
- **Mission and Vision**
- **History**
- **DEVCOM Leadership**
- **Capabilities**
- **STEM Outreach**
- **Opportunities at DEVCOM CBC**



INTRODUCTION



- **Eugene Vickers, Sr.**
 - Diversity, Equity, Inclusion (DEI) Officer
 - B.S. Chemistry, Tuskegee Institute '82
 - M.S. Chemistry, Drexel University '96
 - MBA Loyola University Maryland '02
 - Worked with U.S. Army 38 years Civilian, 3 years Military/Solider
 - Worked with USDA 2 years



ABOUT DEVCOM CHEMICAL BIOLOGICAL CENTER



Who We Are:

More than 1,300 civilian, military and contractor employees who provide innovative and cost-effective chemical and biological defense technology solutions through our scientific and engineering expertise, coupled with our unique facilities and collaborations

What We Do:

Research, development and engineering combined with testing, training and field operations to create new, effective chemical biological defense solutions



OUR MISSION & VISION



MISSION: Provide innovative chemical, biological, radiological, nuclear and explosive (CBRNE) defense capabilities to enable the Joint Warfighters' dominance on the battlefield and interagency defense of the homeland.

VISION: Be the premier provider of innovative CBRNE solutions for the Army, DOD, the Nation, and our allies.



READYING NOW FOR WHAT COMES NEXT



Providing forensic, elimination and enhanced detection solutions to soldiers in theater



Extraordinary capability against traditional and emerging chemical and biological threats

Developing innovative and rapid engineering to provide sensor suite upgrades to the NBCRV



Unique personnel infrastructure of distinguished scientists and engineers to research and analyze emerging threats and technological advances

Using sensors to detect threats and improve multi-domain situational understanding in multi-domain operations



Merging intelligence assessments with the Center's world-renowned scientific expertise



HISTORY OF SOLUTIONS



EVOLUTION OF SUPPORTING THE WARFIGHTER



1918



1945



1959



1992



2009



2045



THE HISTORY OF CB WARFARE



1899

Hague convention bans the use of "asphyxiating or deleterious gases" launched in projectiles

1917

Pres. Wilson designates Gunpowder Neck, MD as the first U.S. chemical shell filling plant

1969

Pres. Nixon issues statement ending all U.S. offensive biological weapons programs

1980-1988

Iraq uses various gases against Iran and the Kurdish people

2014

The Center successfully destroys more than 600 tons of Syria's chemical weapon stockpile aboard the U.S. ship MV Cape Ray



WWI

WWII

Korean War

Vietnam War

Gulf War

2001
9/11

War in Iraq

War in Afghanistan

Cold War



1915

First large-scale wartime use of chlorine gas occurs in Belgium

1937-1945

Japan uses various types of gases in China in over 2,000 attacks

1995

Terrorists execute Sarin attack on the Tokyo subway killing 12 and injuring more than a thousand

1997

Chemical Weapons Convention treaty enters into force



DEVCOM CHEMICAL BIOLOGICAL CENTER LEADERSHIP



Director



Eric Moore, Ph.D.

Military Deputy
COL Scott McIntosh



Research & Technology Director Frederick Cox, Ph.D.



- Threat Agent Sciences
- Protection
- Biosciences
- Physical Sciences

Engineering Director Michael Bailey



- JPEO support
- Product Engineering
- Acquisition Logistics
- Advanced Design and Manufacturing
- Engineering Test
- Special Projects
- Engineering Support
- Sustainment Engineering
- Sustainment Support

Operational Applications Director Paul Tanenbaum, Ph.D.



- Biological Testing (DPG)
- Chemical and Biological Integration
- Chemical and Biological Operations



Senior Research Scientist,
BioEngineering
Peter Emanuel, Ph.D.



Senior Research Scientist,
Chemistry
Patricia McDaniel, Ph.D.



DEVCOM CHEMICAL BIOLOGICAL CENTER WORKFORCE

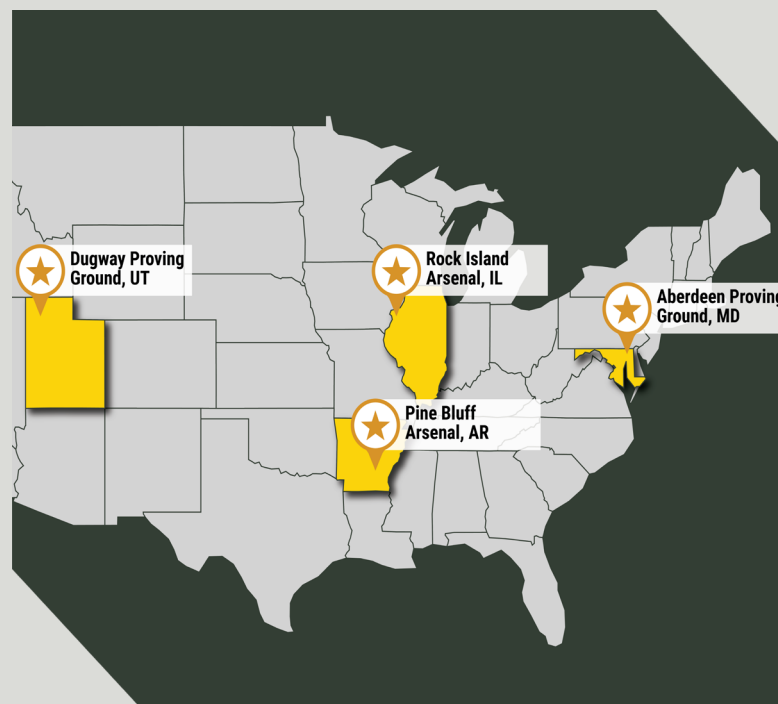


**TOTAL DEVCOM CBC
WORKFORCE***

1,362

*As of 27 April 2022

WHERE WE ARE





CORE CAPABILITIES



Testing



Sample Analysis, Agent
Handling & Surety



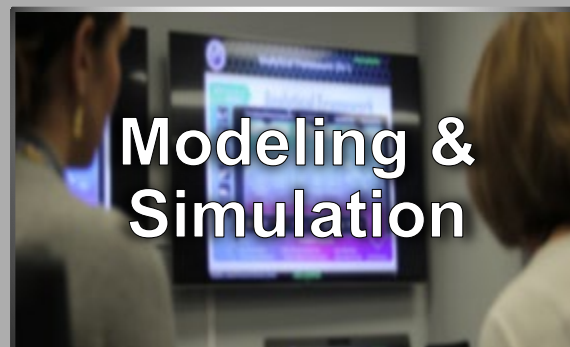
Chemical Biological Systems
Engineering



Operations



CORE COMPETENCIES





UNIQUE INFRASTRUCTURE



**1.7 M SQUARE FEET
OF LABORATORY AND
CHAMBER SPACE**

**BSL-2 AND BSL-3
LABORATORIES
CAPABLE OF HANDLING
EXPLOSIVE/TOXIC MATERIAL**

**MAJORITY OF THE
NATION'S CHEMICAL
SURETY HOODS**



MEETING SOLDIER NEEDS



DETECTION

PROTECTION

OBSCURATION

DECONTAMINATION





OPERATIONAL CAPABILITIES



- ✓ Oversees chemical weapon and munitions destruction
- ✓ Experts in particle detection including radiological particles
- ✓ Supports Chemical, Biological, Radiological and Nuclear programs including CENTAUR, EMBD, JBIDS and JEAD
- ✓ Provide large scale open testing
- ✓ Support forensic science
 - ✓ OPCW



NOVEL APPROACHES TO CBRN DEFENSE



HOW DEVCOM IS RESEARCHING EMERGING CBRN THREATS TO UNDERSTAND THEIR EFFECTS



**Synthetic Biology
Research**



**Cellular
Toxicology**



**Threat Agent
Science**



DEMONSTRATING EMERGING CAPABILITIES



JWA



**JOINT WARFIGHTER
ASSESSMENT**

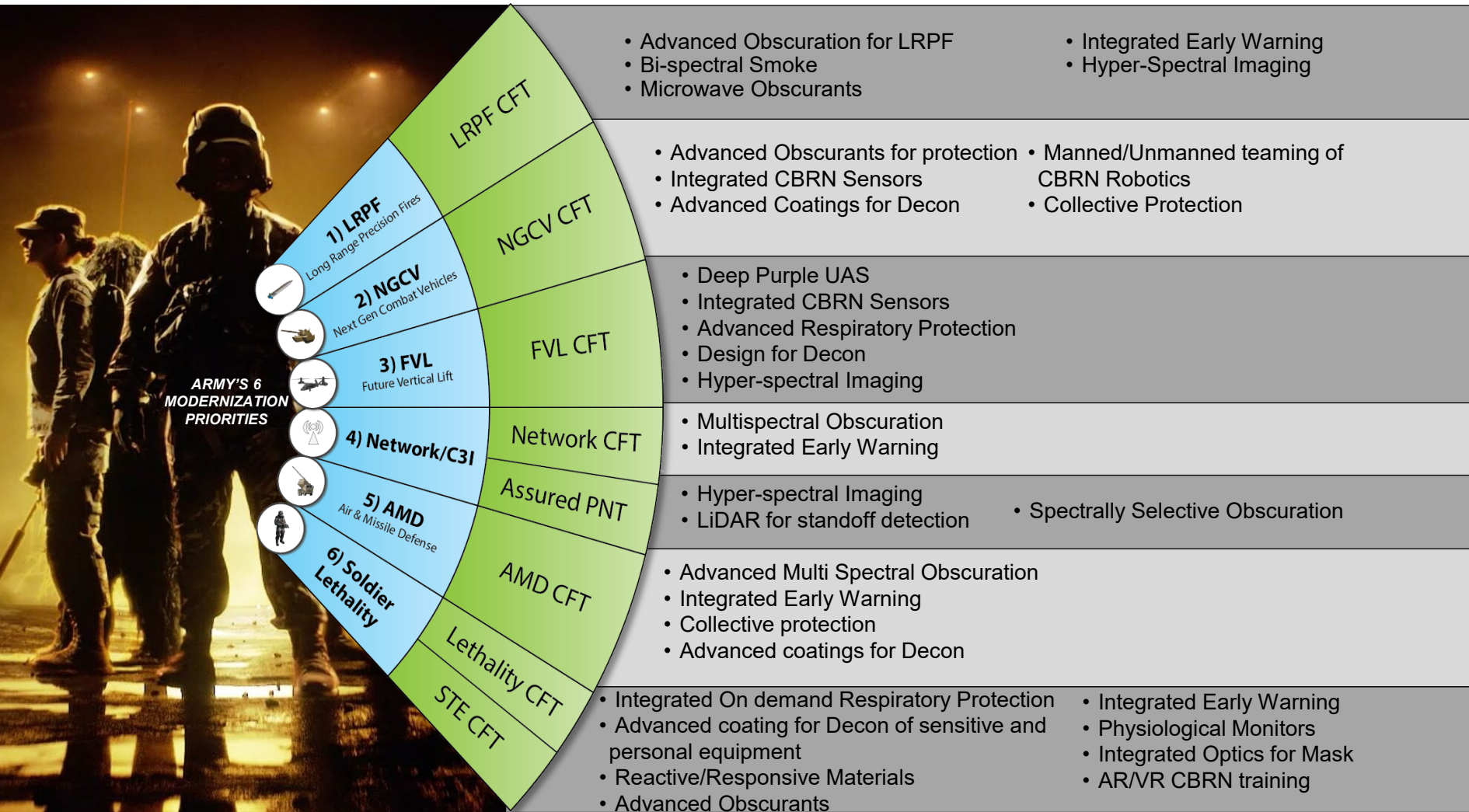
CBOA



**CHEMICAL BIOLOGICAL
OPERATIONAL ANALYSIS**



DEVCOM CHEMICAL BIOLOGICAL CENTER RECOMMENDED AREAS OF EFFORT FOR CFT SUPPORT





SOLUTIONS REQUIRE COLLABORATION



SMALL BUSINESS

ACADEMIA



DOD & FEDERAL PARTNERS

LOCAL GOVERNMENTS

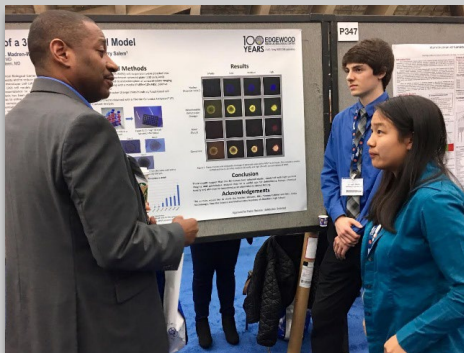


INTERNATIONAL

- ✓ Cooperative Research And Development Agreement (CRADA)
- ✓ Educational Partnership Agreements (EPA)
- ✓ Technology Support Agreement (TSA)
- ✓ Patent License Agreement (PLA)
- ✓ Army Small Business Innovation Research (SBIR)
- ✓ Chemical Biological Defense (CBD) SBIR
- ✓ Army Small Business Technology Transfer (STTR)
- ✓ DEVCOM CBC Broad Agency Announcement (BAA)
- ✓ Rapid Innovation Fund BAA
- ✓ Memorandum of Understanding (MOU)
- ✓ Memorandum of Agreement (MOA)
- ✓ Material Transfer Agreement (MTA)
- ✓ Non-DoD Interagency Agreement (IAA)



STEM OUTREACH



STEM CONTINUUM

K - 12

Classroom Activities

Mentoring / Advising

STEM Nights

Career and Science Fairs

SEAP

STEM Camps and Enrichment

STEM Competitions

COLLEGE

ISIP

CQL

SMART

MSRDC

Post Doc

GRADUATE SCHOOL



Questions ???



CONTACT INFORMATION



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CONTACT US



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