

Mitchell E. Fadem, Ph.D.

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Academic Credentials:

BA Kent State University, Kent, Ohio, USA (Music\Chemistry)

MA University of Vienna, Vienna, Austria, Vienna Academy for Music and Performing Arts, Vienna, Austria (Music Performance)

PhD Columbia Pacific University, San Rafael, California, USA (Chemistry) Dissertation – “Thermal-chemical decomposition of PCBs”

Post Doctoral Biochemistry research and study, 30 hrs, Kent State University, USA

Certified HAZMAT Instructor and Incident Commander

Biological Safety Professional

Certified Environmental Specialist

**Two years of general medical training and advanced medical science education at the Ohio College of Podiatric Medicine, Cleveland, Ohio, USA

Present Position:

Lt Col, US Air Force Reserve (as an inactive reservist only)

Biomedical Toxicologist

Defense Threat Reduction Agency

Kirtland Air Force Base, NM

Scientific Consultant to the following organizations:

Serpentoxin Laboratories - Advisory Board Member

This is a non-profit research organization centered on the research and development of biological (natural) toxins from snakes and other venomous reptiles for use in medical science. Dr. Fadem assists in the preparation of grant applications and acts as a scientific consultant to the laboratory director.

URS – Scientific Consultant in the preparation of proposals for the biological threat and cooperative threat reductions programs for the US Department of Defense.

Sandia National Laboratories, New Mexico – Scientific Consultant to the Chemical and Biological Defense Technologies Group in the area of WMD decontamination technologies.

Recent Active Duty Positions:

Chemist/Toxicologist

Biomedical Sciences Officer

Subject Matter Expert to HQ ISAF Medical Advisor

Sr. Health Care LNO to Ministry of Public Health

Sr. HAZMAT LNO to Ministry of Mines

Sr. CBRN LNO to IJC

DCOS-Stability, HQ ISAF, Kabul

Deployed to Afghanistan – MAR2010 – NOV2010

Pandemic Influenza Planner

US Army Northern Command HQ, G-3/5

Fort Sam Houston, TX

Joint Intelligence Operations Center

Threat Agent Specialist

US Pacific Command

Pearl Harbor, HI

US Air Force District of Washington
Division Chief, Special Missions, AFDW/A5Q
C-CBRN (Counter-Chem/Bio/Rad/Nuke)
Andrews Air Force Base, Maryland

Recent Positions:

Threat Agent Specialist/SME, Lovelace Respiratory Research Institute, Albuquerque, New Mexico -
Worked on an Advisory & Assistance Services temporary contract for the Defense Threat Reduction Agency, Chem/Bio Analysis Center as a Subject Matter Expert in CB decontamination and biological toxins under the Tauri Group. Took a military leave of absence without pay for active duty tour in Afghanistan JAN 2010. Was informed DEC 2010 that the company no longer had funding to support me and was officially taken off of the books as a full time permanent employee.

Positions Held:

Senior Scientist, US Air Force, Chem/Bio Passive Defense
Air Force Nuclear Weapons & Counterproliferation Agency
US Air Force, Kirtland Air Force Base, New Mexico

Returned at the end of the Summer 2007 from a deployment to Afghanistan, received Joint Service Commendation Medal while there working for the Combined Security Transition Command. Details of commendation included command and control of a CBRN incident. Continued on active duty orders for three more months with the Defense Threat Reduction Agency, Kirtland Air Force Base, Albuquerque, New Mexico to design a training course on pandemic influenza.

President/CEO

'Doctoxin Ltd.' (Feb 05 to Feb 07)

Prior to my deployment I had a consulting company that worked under contract to various organizations (government and industry) to provide independent research on topics related to CBW, industrial hygiene and safety, environmental issues, infectious diseases, toxins and toxicology. I am also the editor of an online interactive scientific journal called '**globaltoxin.org**'. My duties for the journal include review journal submissions, assign articles to editorial staff and promote the journal internationally. The journal is based in Ljubljana. I was also a visiting scientist in the molecular biology department at the Clinical Investigation Facility of David Grant Medical Center, Travis Air Force Base, Fairfield, California.

Technical Team Leader (Jan 04 – Feb 05)

Battelle, (Contractor for Det 1/AFOTEC, Kirtland AFB)

Leading a team of contract research scientists providing subject matter experts, program/project management, test design and implementation of test plans for operational assessments of technologies for joint services chemical and biological defense programs.

This is a list of projects that I served on as the technical director:

JOINT PORTABLE DECONTAMINATION SYSTEM (JPDS)
JOINT PLATFORM INTERIOR DECONTAMINATION (JPID)
JOINT SERVICE AIRCREW MASK (JSAM)
JOINT SERVICE PERSONNEL DECONTAMINATION SYSTEM (JSPDS)
JOINT SERVICE SENSITIVE EQUIPMENT DECONTAMINATION (JSSSED)
JOINT SERVICE TRANSPORTABLE DECONTAMINATION SYSTEM (JSTDS)
JOINT SERVICES BIOLOGICAL DETECTION SYSTEM (JSBDS)
JOINT SERVICES LIGHT NBC RECOGNITION SYSTEM (JSLNBCRS)
ARTEMIS – STANDOFF CHEMICAL DETECTION SYSTEM

Sr. Scientist – Chem/Bio Defense Programs (Jul 02 – Dec 03)

SAIC - Science Applications International Corporation (Contractor for Det 1/AFOTEC, Kirtland AFB)
Air Force Operational Test and Evaluation Center, Kirtland Air Force Base, Albuquerque, New Mexico
Subject matter expert for chemical and biological defense programs that were being operationally tested prior to full rate production for the Joint Program Office of Chemical and Biological Defense.

List of projects that I worked as either Subject Matter Expert (SME) or as Principle Investigator (PI).

JOINT BIOLOGICAL AGENT IDENTIFICATION AND DIAGNOSTIC SYSTEM (JBAIDS) – PI
CHEMICAL BIOLOGICAL AEROSOL WARNING SYSTEM (CBAWS) – SME
CONTAMINATION AVOIDANCE at SEAPORTS of DEBARCATION (CASPOD) – SME
JOINT BIOLOGICAL POINT DETECTION SYSTEM (JBPDS) - SME

Positions held during my tenure at Kent State University (1992-2002)

Director <<CETAAR>>

Center for Emerging Technologies in Aerial Application Research

Kent State University Trumbull Campus, Warren, Ohio

Directed the Environmental Technology, Laboratory Technology, and Environmental Safety Management programs, wrote courses, supervised faculty and staff and taught courses. In addition, directed the Center for Emerging Technologies in Aerial Application Research which was involved in research projects for the US military, DOE and gained an international reputation working with scientists in Russian, Argentina, Israel, Turkey and Uzbekistan.

Established a BSL-2+ laboratory facility at the university with full cell culture and microbiological capabilities. Worked with anthrax simulants testing various BW decontamination materials to establish thresholds for use. Primary materials tested were Sandia National Laboratory experimental material **DF-100 and a product developed in Germany called **GD-5**.

Toxicologist – Environmental Health and Safety Department

MetroHealth Medical Center, Cleveland, Ohio

Worked with all medical laboratory sections for toxic exposure to hazardous materials, coordination all laboratory safety activities and government inspections. Pioneered bioaerosols monitoring in hospitals and established an emergency response team special facility at the hospital to handle large scale industrial accidents as well as CBW incidents.

Academic Program Director \ Biotech & Environmental Technology

Kent State University Trumbull Campus, Warren, Ohio

Developed the curriculum for all programs and taught most courses. Received Dean's Award for Outstanding Administrator and Advisory Boards' Award for Outstanding Faculty during tenure.

Visiting Scientist, US Dept. of Agriculture, Plum Island Animal Disease Center

Directed a small research team to investigate the spread of hoof-and-mouth disease (FMD) and Swine vesicular disease (SVD) and how to prevent this through the use of novel decontamination materials. A new protocol was developed to test disinfectants against viruses that was adopted by the USDA and USEPA. Worked in the PIADC BSL-3+ facility.

Visiting Scientist, Research Institute of Aerobiology

State Research Center for Virology and Biotechnology, Vector, Koltsovo, Novosibirsk, Russia

Assisted in the development of a new device for the detection of viruses in blood in 'real time' using a method which employs NUAEF – non-uniform alternating electrical fields to record and measure various cellular changes with special digital imaging software.

Visiting Full Professor, Faculty of Physics

National University of Uzbekistan, Voozgorodok, Uzbekistan

Presented a series of lectures over the course of several months on toxicology and hazardous materials handling to include detection, isolation, and decontamination. Taught university faculty how to teach Hazmat courses and set up a small hazardous materials testing laboratory for the university. This was done through a special grant from USAID.

Visiting Senior Lecturer, Faculty of Biochemical and Pharmaceutical Sciences

National University of Rosario, Argentina

Presented lectures on toxicology and biotransformation.

Other positions held from 1971 to 1992:

Laboratory Director/Vice President, Business Health Management, Cleveland, Ohio

Supervised all laboratories including environmental and clinical labs

Laboratory Director, Electro-Analytical Laboratories, Mentor, Ohio

Supervised all laboratory activities for environmental and industrial hygiene samples.

Senior Industrial Hygienist, State of Ohio Industrial Commission

Clinical Toxicologist, Diamond Shamrock Health Sciences, Cleveland, Ohio

Assistant 1st Clarinet, CAPAB Orchestra and Cape Town Symphony Orchestra, Cape Performing Arts Board, Cape Town, Republic of South Africa

2nd Clarinet, Badiner Stadts Orkester, Badin, Austria

Military: Lieutenant Colonel, US Air Force Reserve, assigned to the Defense Nuclear Weapons School, Kirtland Air Force Base, New Mexico

Currently I am attached as a reservist to the Air Force Reserve Management Group, Detachment 15 managing medical professionals as an Individual Mobilization Augmentees – Category B (IMA CAT B)

An IMA – CAT B is an Air Force Reserve position in which the reservist is attached to an active duty unit. The reservist is obligated to complete 24 Individual Duty Training segments and one Annual Tour. The total time is approximately 24 days per years.

US Air Force Decorations include:

Bronze Star Medal
Joint Service Commendation Medal
Air Force Commendation Medal
Air Force Outstanding Unit Award with Valor (2 awards)
Afghanistan Campaign Medal (2 awards)
Air Force Expeditionary Forces Medal (2 awards)
Air Force Short Tour Ribbon
NATO Meritorious Service Medal
NATO Expeditionary Forces Medal
Ohio Military Reserve Medal of Valor

Past Military Reserve Positions:

Medical Laboratory Officer and Toxicologist
IMA to the Director of Research and Development, 60th MDSS
Clinical Investigation Facility, David Grant Medical Center
Travis Air Force Base

Medical Lab Officer, Medical Intel Officer, and Officer in Charge of Laboratory Services for the 349th Medical Squadron, Travis AFB

**This includes functioning as the Team Leader for the FFBAT, Biological Augmentation Team to test and identify suspect Biological Weapons material with the use of a RAPID – Ruggedized Advanced Pathogen Identification Device which uses ‘real-time’ polymerase chain reaction (PCR) technology.

Former member of the Ohio Military Reserve, which is a reserve component of the Ohio National Guard. Battalion Commander - 54 MP Battalion, 5th MP Brigade
Recipient of the State of Ohio **Medal of Valor** for risking my life entering the “HOT ZONE” three times to evaluate toxic airborne contaminants after a chemical plant exploded. Coordinated the evacuation of 6000 people without any injuries. This is the highest award in the state. Battalion was disbanded after 6 months of command due to the downsizing of the military after the Gulf War. Transferred to the US Army Reserve in 1997 and then to the US Air Force Reserve in 1999 with a voluntary reduction in rank to remain in military service.

Other military experience:

Chief Scientist, Detachment 1
Air Force Operational Test and Evaluation Center
Kirtland Air Force Base, New Mexico

Medical Laboratory Officer, FFBAT (43T3F and 43T3A)
704th Medical Squadron, Kirtland AFB

In charge of all laboratory operations including blood bank, FFBAT – Forward Fielded Biological Augmentation Team, 43T3F – Toxicologist, 43T3A – Biomedical Laboratory Operations
Spent ‘Short’ Tour at Ramstein Air Force Base, Germany in 2003 during Operation Iraqi Freedom, Duties included identification of unknown biological materials using ‘real-time’ PCR (polymerase chain reaction instrumentation).

Flight Toxicologist, 910 Airlift Wing, US Air Force Reserve
Youngstown/Warren Air Reserve Station, Vienna, Ohio

Duties at 910 AW included: Coordinate all activities related to wide area CBW decontamination, Point of Contact for all new technologies related to oil spill dispersion and CBW detection/decontamination, Perform environmental assessments (sampling and analysis) of soil, air, and water in areas that were treated with pesticides during aerial spray activities.

Environmental Science Officer – 490 Civil Affairs Battalion, US Army Reserve
CBW & Hazmat Operations Officer – HHD, 5th MP Brigade, Ohio Military Reserve
Also served in the capacity as the Brigade G5 (Chief of Civil Affairs) until my transfer to US Army Res.

Analytical Instrumentation Experience:

GC – FID, TDC, PID, ECD, ELCD, MSD, MS, HPLC – Variable UV, RI, and Fluorescence
AA, ICP, IR, TLC, UV/VIS, MIRAN-IR
Drager color indicators, sound level meters,
Anderson bioaerosol sampler, Stereo-microscope,
Phase Contrast and Polarized Light Microscopes
Fluorescence Microscopy and image analyzing microscopy
Ruggedized Advanced Pathogen Identification Device (RAPID)
Chemical Biological Aerosol Warning System (CBAWS)

Foreign Language Skills:

Russian, German, Spanish, Slovenian, and Dutch/Afrikaans (read, write, and speak).

Research Activities:

From 1996 to 2006 I traveled to Russia to work on the development of a “real-time” aerosol virus sampling and identification device with the Aerobiology Institute at the State Research Center for Virology and Biotechnology (VECTOR), Koltsovo, Novosibirsk, Russia. My most recent trip there was in 2006 to continue research efforts in the area of environmental aerosol characterization, aerosol vaccine & bio-particle infectious disease detection. The technology that I have been collaborating with my Russian colleagues on has had some positive results to be able to identify adverse drug interactions in blood.

Prior to my work with AFOTEC I had been assisting researchers from US Air Force working on a system for the decontamination of environmental contamination and CBRN warfare agents by aerial application.

Spent time with the US Air Force, US Coast Guard, EPA, National Oceanographic Association, and representatives of the petro-chemical industry on new techniques and technologies for cleaning up large scale oil spills. This was a special project to test the aerial application of new materials for oil dispersion using large aircraft like a C130 applying various spray technologies and new materials to reduce the environmental impact of large scale oil spills.

June 2006 I traveled to China to participate in ‘Asiattox IV’ an international conference on toxicology and spoke at the Chinese National Laboratories for Biomacromolecules, Pathogens and Biosecurity connected to the Chinese Academy of Sciences and their Institute of Military Medicine.

July 2006 I presented a paper at a biophysics conference in Novosibirsk, Russia and visited with several medical and scientific research centers in Novosibirsk and Irkutsk promoting ‘global toxin review’.

August 2006 was invited to Siberian Limnological Institute, Irkutsk, Russia for discussions about research collaboration.

September 2006 attended the EUROTOX 2006 International Conference on Toxicology held in Cavtat, Croatia.

October 2006 working with environmental engineering firm in Slovenia on toxic waste issues.

November 2006 speaking at natural toxins in medicine symposium in Thailand.

December 2006 plenary session speaker at the 2nd Annual Conference on Natural Toxins held in Cairo, Egypt.

April to October 2010 headed up an investigation of school girls poisoning incidents in Afgha

Other information related to training and certifications:

Fundamentals of Systems Acquisition Management, Defense Acquisition University
Ruggedized Advanced Pathogen Identification Device, US Air Force
Infection Control and Epidemiology, US Air Force
Aerial Application of Pesticides, US Air Force
CBRNE Emergency Medical Preparedness and Response, US Air Force
Explosive Ordnance Reconnaissance Course, US Air Force
Advanced Records Management, US Air Force
Information Protection, Force Protection and Operation Security, US Air Force
First Responder Radiological Course, Defense Nuclear Weapons School
HAZMAT Instructor Training, Kent State University
Full Member, American Biological Safety Association