



The Institute of Environmental & Human Health



Admiral Elmo R. Zumwalt, Jr. National Program for Countermeasures to Biological and Chemical Threats

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**Texas Tech University & Texas Tech University Health Sciences
Center**

www.tiehh.ttu.edu



TIEHH Overview

TIEHH is a multidisciplinary program that studies the toxic effects of contaminants on the health of people and the environment.



- **Six buildings at Reese Technology Center.**
- **~150,000 ft² of space, including offices, world-class laboratories, and housing for specialized equipment including high performance computing.**
- **Currently ~50 MS and PhD graduate students in Environmental Toxicology.**
- **Core and adjunct faculty from both TTU and TTUHSC, as well as institutions around the U.S. Current projects involve over 200 faculty, staff, students and research collaborators on TIEHH payroll.**

Admiral Elmo Russell Zumwalt, Jr., USN



Commander U.S. Naval Forces, Vietnam and Chief of the Naval Advisory Group, U. S. Military Assistance Command, Vietnam, 1 October 1968 - 15 May 1970. Chief of Naval Operations 1 July 1970 - 1 July 1974.

***Zumwalt Program* began in January 1999 through discussions between ADM Zumwalt and key administrators at TTU and TTUHSC.**

Discussions focused upon growing and realistic threats our nation faced, and will face, from the use of biological and chemical weapons by domestic and foreign enemies of the United States.



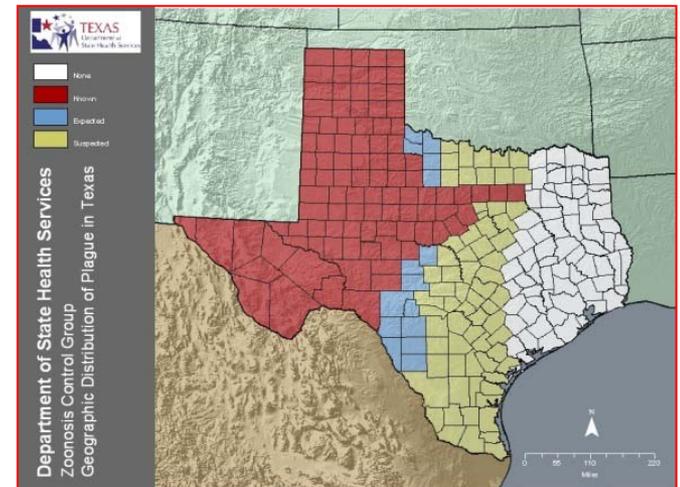
Zumwalt Program



Founding member of National Consortium of Biological Defense Researchers (sponsored by U.S. Army Soldier Biological Chemical Command).

Total program research funding since established (FY01-FY10) of \$26.8 million.

Currently nine active research projects, involving more than 50 scientists representing six departments from the Texas Tech University System.





Mission of the Zumwalt Program

Research focus within the *Zumwalt Program* is upon investigating and promulgating approaches, methods and technologies to counter the emerging biological and chemical weapon agent threats posed to the military Force and American homeland.



The individual

“Far forward deployed”

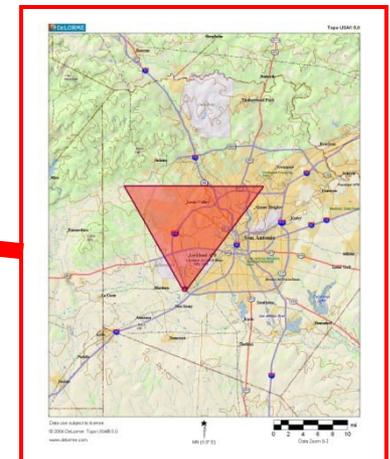
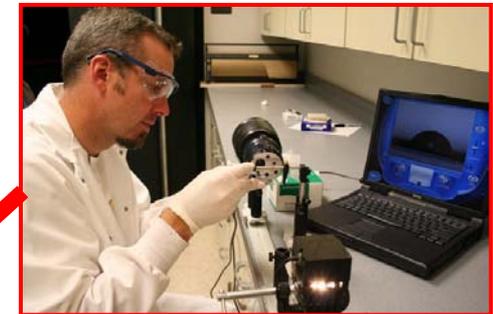


In-garrison & Support



Research Focus Areas

- I. Modeling, Simulation and Visualization**
- II. Agent Detection, Remediation and Therapeutic Intervention Strategies**
- III. Sensors and Personal Protective Devices**
- IV. Environmental Protection Strategies**

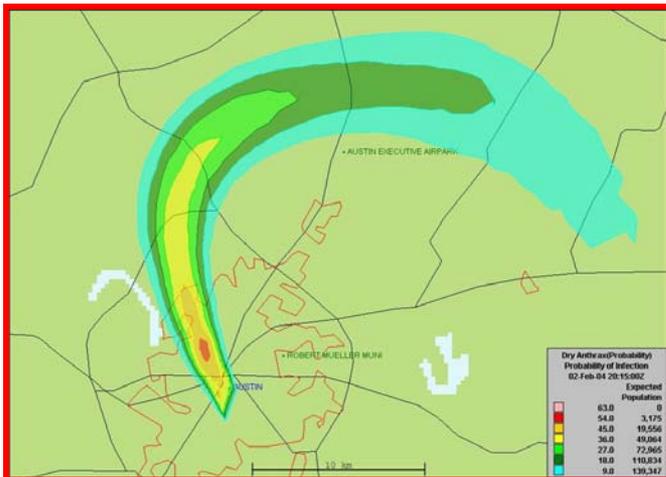




How We Function



Zumwalt Program has oversight and administers various U.S. Army Research, Development and Engineering Command (RDECOM)-funded research projects.



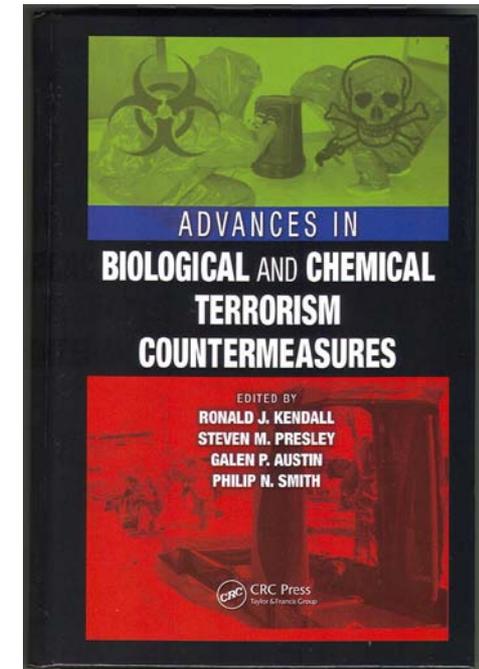
All research executed with full Quality Assurance / Quality Control support.

Zumwalt Program Accomplishments



Program scientists have leveraged successes:

- **\$4,870,000 in additional research funding (18 projects).**
- **>80 published abstracts and peer-reviewed scientific articles.**
- **> 490 technical reports.**
- **~115 professional scientific presentations in 13 states & 5 foreign countries.**
- **Submitted ~33 related research grant proposals, totaling ~\$56.1 million.**
- **Three U.S. patents issued.**
- **Written a comprehensive textbook entitled *Advances in Biological and Chemical Terrorism Countermeasures*, published by Taylor & Francis CRC Press.**



New Initiatives Resulting from Zumwalt Program



- **Enhanced sensitivity and specificity of biological and chemical agent sensors.**
- **Adaptation of biological and chemical agent sensor technologies to more adequately support homeland security needs.**
- **Non-woven materials technology research to improve safety of military forces and first responders in diverse environments.**
- **Novel approaches to military medical force protection.**
- **Biological and chemical environmental threat recognition, prediction and mitigation technologies.**
- **Detection, prevention and remediation of pre- and post-harvest biological terrorism against livestock production agriculture.**
- **Curricula and educational resources for resident and non-resident training of elected government officials and emergency response personnel for response to biological and chemical terror incidents.**



Thank You for Your Attention

You are invited to visit the Institute

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or

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