



# Environmentally Speaking

University of Georgia  
Environmental Safety Division

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## Meet Renée Perro, Environmental Safety Specialist by Amy Andrews



The Environmental Safety Division would like to welcome Renée Perro, the environ-

mental health specialist for the University of Georgia. Renée was hired in June, 2002 to perform environmental health duties at the University. Her responsibilities include performing food service inspections, septic tank installation evaluations, water testing, pool inspections, disease outbreak investigations, and West Nile surveillance efforts.

Renée has extensive experience in the environmental science field and is very familiar with the University. She has worked as both research assistant and laboratory supervisor in laboratories on campus and has been

employed as the University of Georgia's assistant biosafety officer. After receiving her bachelor's degree in environmental health science at UGA, Renée became an environmental health specialist with the Clarke County Health Department, honing the same skills she performs in her current position.

Renée is a Long Island, New York native who became interested in public health after reading C. J. Peters' book, *Virus Hunter*, which chronicles the author's investigation of "hot" viruses around the world. After discovering that UGA had an environmental health science program, she came to Athens for a visit and the rest is history. According to Renée, the best part about her job is the variety of responsibilities and opportunities. Every day guarantees a new experience. She enjoys problem solving and daily interaction with people from all walks of life. For Renée, the most exciting individual task in public health (and thankfully, one which does not often

happen!) is researching disease outbreaks.

Renée is available to answer your questions and can be contacted via e-mail at [rperro@esd.uga.edu](mailto:rperro@esd.uga.edu) or 542-7497.



**Renée Perro (right) and Maria Kuhn consult current procedures for destruction and containment of biological agents while preparing for federal select agent registration.**

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### Ken Scott Receives Distinguished Service Award

Ken Scott received the Distinguished Service Award at the University System of Georgia Facilities Officers annual conference and banquet held at Kennesaw State University on October 29, 2002.

The annual Facilities Officers Conference brings together peers in the business, environmental, physical plant, and architectural fields at the 34 public universities in Georgia for networking and educational sessions. The award was presented by Mark Demyanek, Director of the

Environmental Affairs Office for the Board of Regents. Demyanek credited Scott with facilitating cooperative relationships both within the University of Georgia and between UGA and other system schools. He also recognized Scott for implementing several innovative and proactive programs such as the chemical tracking system and the hazardous materials response team. Scott has been at the helm of the Environmental Safety Division since its formation in 1999.

## A Day in the Life of a Bio/Chemical Weaponry Expert by Dena Roth

Ever wonder what it would be like to go to a job every day and work with weapons of mass destruction?

Recently I had the opportunity to attend a military course entitled “Medical Management of Chemical and Biological Casualties” (MCBC), where I got a glimpse of what that is like. The MCBC has been taught for years; prior to September 11, 2001, civilians had little trouble getting into the class that seldom had more than 25 participants. Following September 11, classes filled up immediately with medical military personnel given preference, as has always been the case. Class sizes now average around 65 participants. This class is taught at the U.S. Army Medical Research Institute of Infectious Diseases (USAMRIID) at Ft. Detrick, Maryland, and the U.S. Army Medical Research Institute of Chemical Defense (USAMRICD), at Aberdeen Proving Ground, Maryland. USAMRIID and USAMRICD represent the sole military installations devoted to biological and chemical agent research; although run by the Army, all branches of the military perform research at the two installations.

**“Whether or not gas will be employed in the future is a matter of conjecture, but the effect is so deadly to the unprepared that we can never afford to neglect the question.”**

*General John J. Pershing,  
Commander of U.S. Forces  
in Europe during WWI.*

Biological and chemical warfare is not a part of recent history only. The first known biological warfare agent was the bubonic plague used in 1346 at Kaffa where dead bodies infected with the bacterium *Y. pestis* were catapulted over the walls in an attempt to spread plague among the enemy. In 1000 BC,

the Chinese used arsenic smoke to kill their enemies. During WWI, it is estimated that one-third of the five million casualties resulted from chemical agents such as mustard gas.

During WWI, Fritz Haber of Germany developed an effective delivery system for chlorine gas. Hitler did not use this method in WWII. It is believed that his decision was based on the fact that he had been gassed during WWI. The most well known use of a biological agent was the recent terrorist use of *B. anthracis*, or anthrax, here in the United States, in October 2002.

Both biological and chemical agents have been outlawed for use as weapons. In 1969, President Nixon dismantled the U.S. offensive biological weapons program. In 1972, the Biological Weapons Convention, which was signed by 130 nations, stated that biological agents would never be developed and used for anything other than peaceful purposes.

In 1997, the United Nations Chemical Weapons Convention was established. It was signed by 174 nations and outright banned a whole class of weapons.

So what are they doing at USAMRIID and USAMRICD? Both programs are defense-oriented and are devoted to the development of vaccines, antidotes, diagnostic tests, detection instruments, protective equipment; the investigation of suspicious events; and research and development of new protective capabilities

such as an injectable biological scavenger for nerve agents and topical protective skin lotions.

After receiving a review of the known biological and chemical warfare agents, which included transmission, toxicology, epidemiology effects, treatment, and diagnosis, we partici-



**Dena Roth, emergency operations coordinator, in MOPP4 military protective equipment**

pated in a field medical training exercise wearing military protective equipment called MOPP4. For those of you familiar with OSHA personal protective equipment (PPE) levels A-D, the concept is the same but any resemblance ends there. I had always thought OSHA PPE was cumbersome and very uncomfortable. MOPP4 is all that and more: it causes claustrophobia, limits visibility, and covers the wearer in activated carbon powder. OSHA PPE is always described as an astronaut in a moon suit; in MOPP4, picture the creature from the black lagoon. After donning carbon-impregnated trousers and jacket, over-boots, cotton gloves, butyl gloves, a respirator with a cartridge, and a butyl hood in addition to the standard fatigues, imagine fighting a war or trying to provide medical attention to a soldier similarly clad. That was the gist of the field exercise.

The laboratory exercise gave the participants a hands-on opportunity to observe a non-human primate, in our case, a macaque, in an induced cholinergic crisis. The signs of the simulated nerve agent can be observed,

**A Day in the Life of a Bio/Chemical Weaponry Expert by Dena Roth, continued**

then vital support and therapy is provided to reverse the crisis. I am not a medical professional, so I observed and served as the note taker . . . a job none of the medical professionals were the least bit interested in performing. This exercise is a rare opportunity for medical professionals to see a human-type model of a nerve agent victim. In the history of this exercise, no animal has ever been lost.

The most deadly agent is botox. The most feared agent is smallpox. However, not all biological or chemical agents are designed to kill; many are designed to incapacitate.

The researchers at USAMRIID and USARICD work every day in unique one-of-a-kind laboratories developing ways to counteract and neutralize biological and chemical weapons. In the words of General John J. Pershing, Commander of U.S. Forces in Europe during WWI, "Whether or not gas will be employed in the future is a matter of conjecture, but the effect is so deadly to the unprepared that we can never afford to neglect the question."

<b>Why terrorists use biological agents:</b>
Inexpensive to obtain
Inexpensive to produce
Ease of delivery
Ease of dissemination over large areas
Difficult to detect
Large number of casualties possible
Even the threat of the use of biological weapons causes fear and panic
Terrorists can easily escape
<b>Why terrorists use chemical agents:</b>
Enhanced destruction and panic
Different psychological effects than bio agents
Weapons of opportunity
Less difficult and costly than nuclear
Readily combined with conventional explosives
Covert dissemination

<b>Biological and chemical warfare agents:</b>	
<u>Biological</u>	<u>Chemical</u>
Anthrax	<u>Pulmonary Agents:</u>
Tularemia	Chlorine
Brucellosis	Mustard Gas
Clandus	Phosgene
Melioidosis	NOx
Q-Fever	Perfluorisobutylene
Plague	<u>Poison agents</u>
Smallpox	Cyanide
Botulinum Toxin	<u>Vesicants</u>
Mycotoxin	Mustard Gas
Staphylococcal Toxin	Lewisite
Ricin	Phosgene
Viral Hemorrhagic Fever	<u>Nerve Agents</u>
Venezuelan Equine Encephalitis	Sarin
	Tabun
	Soman
	CF
	VX
<b>Differences between the agents:</b>	
<u>Biological</u>	<u>Chemical</u>
Natural	Man-made
Non-volatile	Volatile
Replicating	Non-replicating
Non-dermal (skin) active	Many dermal (skin) active
Legitimate medical uses	No use other than weapons
Odorless and tasteless	Odor or taste when contaminated

## Safety Videos Available

The Environmental Safety Division has a library of safety videos which can be borrowed free of charge by University employees. Call us at (706) 542-0113 or place a checkmark by the videos you wish to borrow and return this completed page to us. Videos can be borrowed for up to two weeks or longer, if necessary; they can also be reserved for upcoming training classes you might be conducting. For a description of each video, including its length, go to our website:

[www.esd.uga.edu/info/pub/vlibrary.pdf](http://www.esd.uga.edu/info/pub/vlibrary.pdf)



**Art Safety:**

(A1) \_\_\_ Health Hazards and the Visual Arts

**Chemical and Laboratory Safety:**

- (CL2) \_\_\_ Chemical Storage Hazards
- (CL3) \_\_\_ Chemical Hazards
- (CL4) \_\_\_ A Place for Everything: Chemical Storage in the Laboratory
- (CL5) \_\_\_ Practicing Safe Science
- (CL6) \_\_\_ The Keys to Laboratory Safety
- (CL7) \_\_\_ Introduction to Reactive and Explosive Materials
- (CL8) \_\_\_ Radionuclide Hazards
- (CL9) \_\_\_ Science—Live to Tell About It
- (CL10) \_\_\_ Glassware Washing Hazards
- (CL11) \_\_\_ Centrifugation Hazards
- (CL12) \_\_\_ Fume Hood Test and Training
- (CL13) \_\_\_ Safety Showers and Eyewashes
- (CL14) \_\_\_ All Washed Up
- (CL15) \_\_\_ Safe Handling of Laboratory Glassware
- (CL16) \_\_\_ Whose Job Is It Anyway?
- (CL17) \_\_\_ Laboratory Fume Hood Safety
- (CL18) \_\_\_ Assessing Risks of Toxic Chemicals
- (CL19) \_\_\_ Flammables and Explosives
- (CL20) \_\_\_ Mammalian Cell Culture Hazards
- (CL21) \_\_\_ X-Ray Diffraction Hazards
- (CL22) \_\_\_ Controlling Your Risks—HIV in the Research Laboratory
- (CL23) \_\_\_ Working Safely with HIV in the Laboratory
- (CL24) \_\_\_ Preventing Contamination
- (CL25) \_\_\_ Get Your Checklist Ready—A Guide to Lab Safety Inspections

- (CL26) \_\_\_ Laboratory Safety: Potential Hazards II
- (CL27) \_\_\_ Ether Removal at Mercer University; Reactives/Explosives, AETC
- (CL28) \_\_\_ Hazardous Materials
- (CL29) \_\_\_ Lab Safety
- (CL30) \_\_\_ Chemical Lecture & Demonstrations
- (CL31) \_\_\_ It Only Takes a Second
- (CL32) \_\_\_ Confined Spaces—Silent Killer
- (CL33) \_\_\_ Virtual EPA Inspection of a College or University
- (CL34) \_\_\_ Environmental Health: The Invisible Profession

**Driver Safety:**

- (DS1) \_\_\_ Just Another Saturday Night
- (DS2) \_\_\_ Breaking the Accident Chain of Events
- (DS3) \_\_\_ Night Driving

**Emergency Procedures:**

- (EP1) \_\_\_ Tornado—Nature’s Fury 2000
- (EP2) \_\_\_ Chernobyl—Legacy of a Meltdown
- (EP3) \_\_\_ Emergency Response
- (EP4) \_\_\_ Preparing for a Crisis on Campus
- (EP5) \_\_\_ An Orientation to Community Disaster Exercises

(EP6) \_\_\_ Bioterrorism and Mass Casualty Presentation; UGA; 10/31/01

**Fire Safety:**

- (FS1) \_\_\_ Fire Safety in the Laboratory
- (FS2) \_\_\_ Fire Escape—Getting Out Alive
- (FS3) \_\_\_ How Fast It Burned!
- (FS4) \_\_\_ Ready to Respond

**Gas Cylinders:**

- (GC1) \_\_\_ Gas Cylinders—Welding, Cutting, and Brazing
- (GC2) \_\_\_ Compressed Gases Can Be Dangerous; An Explosion Case History
- (GC3) \_\_\_ Handling Compressed Gas Cylinders
- (GC4) \_\_\_ Gas Cylinders—Overview

**Right to Know/Hazard Communication:**

- (RTK1) \_\_\_ Cracking the Code
- (RTK2) \_\_\_ Material Safety Data Sheets
- (RTK3) \_\_\_ MSDS—Roadmap to Safety; Read that Label
- (RTK4) \_\_\_ Your Right to Know
- (RTK5) \_\_\_ Right to Know: Administrator’s and Trainer’s Guide
- (RTK6) \_\_\_ Your Right to Know; MSDS—Roadmap to Safety

Name _____	
Date Requested _____	Department _____
Room No. _____	Building _____
Mailing address (if off-campus) _____	
Phone _____	E-mail _____

## UGA/ACC Hazmat Response Agreement Signed by Dena Roth

Prior to September 11, 2001, the University of Georgia made the decision to commit the money and personnel needed to create a hazmat team. The team, which came to be known as the Hazard Assessment Response Team, or HART, is the University's proactive approach to a hazardous materials release on campus—whether biological, chemical, or radiological.

Approximately a year into gearing up the team and shortly after the tragedy of September 11, the Unified Government of Athens-Clarke County approached the Environmental Safety Division of the University of Georgia to

propose a joint team of

HART and the

Athens-Clarke

County Fire

Department that

would respond

to the Athens-

Clarke community

as well as the University.

Life changed for

every American after September 11, 2001, and the goal of Athens-Clarke County was to improve response capability quickly. The answer was partnering with the University's response team



as that group was already a year into formation.

UGA saw this as a way to make an important contribution to the community of which the University is a big part. To formalize the agreement, a memorandum of understanding, which is covered by the Georgia Mutual Aid Act, was written allowing HART to respond with Athens-Clarke County and vice-versa. Although mutual aid agreements are very common between local jurisdictions, it is believed that this arrangement is unique between higher education and a local government. There is currently no other agreement such as this in the state of Georgia.

This agreement offers the advantage of allowing both teams the use of each other's equipment, expertise and manpower. Once fully formed, the teams will perform drill exercises together, share equipment and respond anywhere in Clarke County on a 24 hours/7 days a week basis.



## Kudos

- The division recently provided environmental safety services to Georgia Southern University. Ken Scott commends Wes Kolar, Heath Hardison, and Bruce Hild for their efforts in the laboratory inspections at GSU. Dena Roth thanked Brian Adams and Mike Foster for doing a superlative job helping with hazardous waste disposal at Georgia Southern. Thirty-eight hundred containers of materials were consolidated into seven pour-ups over a three day period.
- Kudos to Bill Fox and the entire Vehicle Transportation and Maintenance staff from Dena Roth for their proactive spill drills.
- Thanks are extended to the Georgia State Defense Force who agreed to lend their services at football games to help safeguard the life sciences and veterinary medicine buildings, and wherever else they were needed. A well-trained security defense force is a welcomed source of assistance.
- Kendall Kavanaugh, of Training and Development, gave Dennis Widner kudos for his radiation safety training classes held at T&D.
- Mercer University has viewed our radiation safety website and gives it a noteworthy response.
- Congratulations to retiring UGA employees Ron Etheridge, Lamar Houston, and Parshall Bush, all former members of the Chemical and Laboratory Safety Committee (CLSC). We thank them for their work with the CLSC and for their assistance over the years to the Environmental Safety Division.

## Responsible Management of Hazardous Waste Training Online!

The Environmental Safety Division has prepared the "Responsible Management of Hazardous Waste" training module in a slide presentation, with questions to be answered at segment intervals, online:

<http://www.esd.uga.edu/hazmat/training>.

At the beginning of the training, there is a link provided to download the "Responsible Management of Hazardous Waste" manual for use as a reference guide. A manual is required in all labs or areas where hazardous waste is collected. The manual link is:

<http://www.esd.uga.edu/hazmat/manual.htm>.

All University employees working in laboratories and other locations that

generate hazardous waste are required by federal regulation to take the course and be refreshed every 12 months. Now that the module is online, this training and refreshing process can be accomplished without leaving your workplace.

Upon completion of the training, a notification will be sent automatically to the Hazardous Materials Program. You will be prompted to print out a certificate of training to retain at your workplace. This training certificate must be maintained for three years. Should you have any questions, comments or require assistance, please do not hesitate to contact Judy Harper, 369-5706, or via e-mail at [jharper@esd.uga.edu](mailto:jharper@esd.uga.edu).

## To Contact Us

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