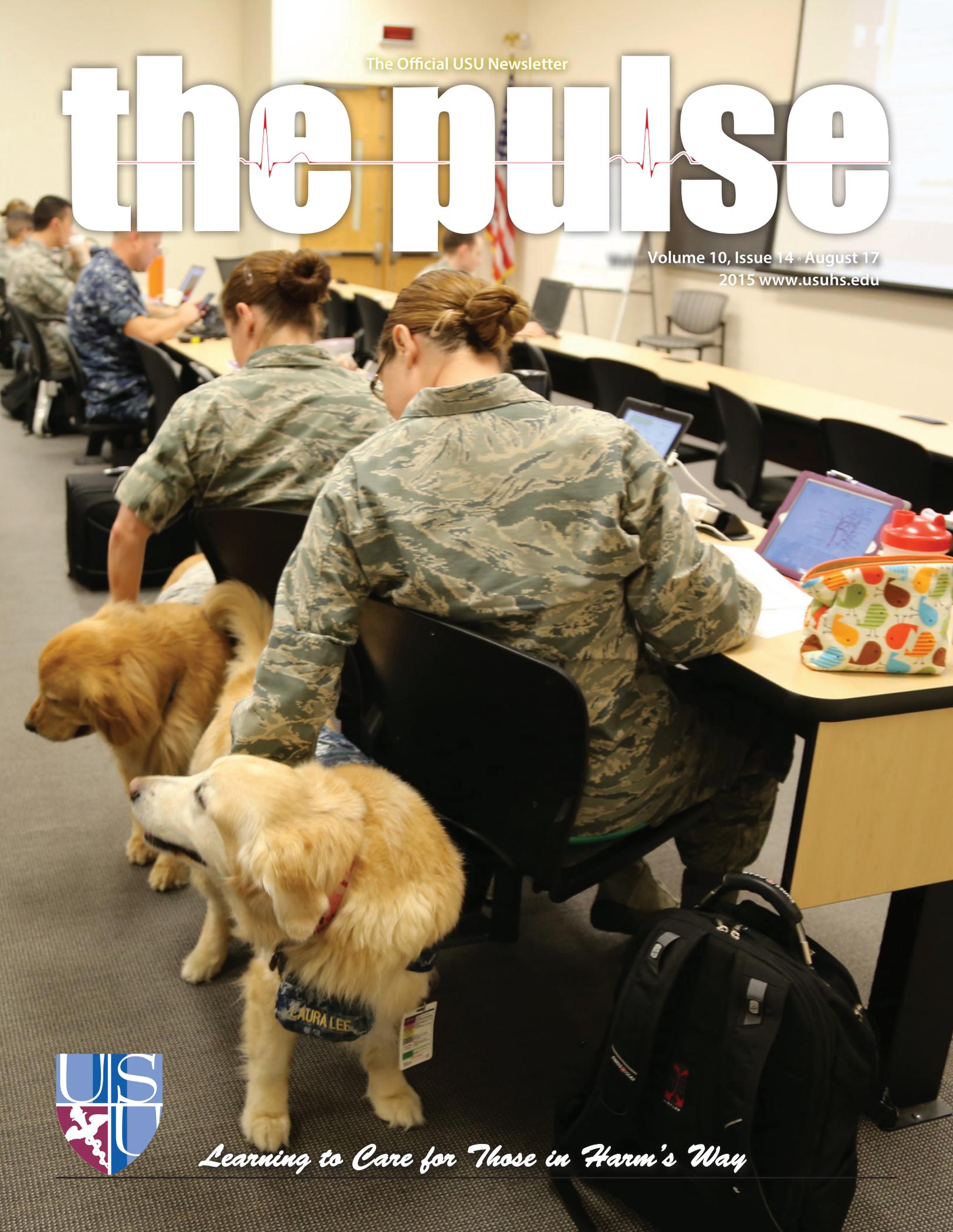


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Learning to Care for Those in Harm's Way

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**On the cover**

Therapy dogs Goldie and Laura Lee visit USU Graduate School of Nursing students during a class. The dogs visit USU students, staff and faculty weekly to help alleviate classroom or work stress. See story, page 4. (Photo by Alexis Christman)

USU and NHLBI Launch Collaborative Health Initiative Research Program

by Sharon Holland

Research on the causes, prevention, mitigation and treatment of heart, lung, and blood diseases, and sleep disorders – all of which affect the readiness of the uniformed services and the health of military families – is the impetus for a new partnership between the Uniformed Services University of the Health Sciences (USU) and the National Heart, Lung, and Blood Institute (NHLBI), National Institutes of Health.

The Collaborative Health Initiative Research Program, or CHIRP, is headed by Director and principal investigator Harvey B. Pollard, M.D., Ph.D., chair of USU's Department of Anatomy, Physiology and Genetics, and Deputy Director David Scott, M.D., professor and vice chair for Research, USU Department of Medicine, with representatives from the NHLBI and other USU members serving on the Executive Steering Committee.

CHIRP will initially support pilot research proposals that focus on diseases and disorders of particular relevance to the U.S. military health system—trauma, sepsis, transfusion emergency care, and health promotion—and key concerns of the NHLBI such as asthma, chronic obstructive pulmonary disease (COPD), sickle cell disease, and various cardiovascular conditions that affect all Americans, including those in the military.

To examine these research priorities, CHIRP may integrate clinical epidemiology databases with whole genome sequencing

and possibly other “-omics”, such as proteomics or metabolomics. This may help researchers identify better predictors of disease onset and outcomes, as well as assess treatment responses. Projects will be supported by multiple research cores at USU, including Sequencing and other –Omics, Data Storage, Data Commons, and Informatics Cores.

Because service members and their families have access to universal health care without economic barriers, this initiative also presents an opportunity to examine diseases of importance to under-represented populations without the complication introduced by disparate access to care.

“CHIRP is an exciting opportunity for the NHLBI and USU to combine our strengths—including systems biology, large cohort studies, and clinical outcomes database experience—to advance priority health questions with an eye toward precision medicine,” said NHLBI Director Gary H. Gibbons, M.D. “Precision medicine offers an approach to disease prevention and treatment that considers the unique genes and environment of each patient with the ultimate goal of delivering the right treatment, at the right time, to the right patient.”

“President Obama has recognized the enormous potential that precision medicine offers to cure or ameliorate diseases which have thwarted our best efforts up until now,” said USU President Charles L. Rice M.D. “USU is pleased to play our part in answering the President’s challenge through this important initiative.”

Highlighting the importance of immunization

By Eric D. Ritter

Every August, Uniformed Services University (USU) welcomes a new class to the campus. When the students initially arrive, they are given an orientation for their role and expectations while at USU. Part of the orientation for medical students is immunization updates.

According to Navy Capt. (Dr.) Mark Stephens, chair of USU's Department of Family Medicine, every August the University makes every effort to make sure everyone—especially those new arrivals are aware of the immunizations that are needed and why they are needed.

“Throughout the month, there is a concentrated effort here at USU with the Department of Family Medicine and the University Family Health Center to ensure

all of our new arrivals are in compliance with recommendations from the appropriate authorities such as ACIP (Advisory Committee on Immunization Practices) and the DoD,” Stephens said.

Stephens added that USU isn't just keeping new students aware of immunizations, they are open to assisting anyone with access to care at the clinic.

“It's really a neat set-up with what we have here,” he said. “We see everything from newborns all the way to geriatric patients, and offer them the recommended vaccinations.”

According to the Centers for Disease Control and Prevention (CDC), the importance of proper immunizations is one of the

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USU alumna appointed Coast Guard chief medical officer

Courtesy article

Public Health Service (PHS) Capt. (Dr.) Erica G. Schwartz, a USU alumna, was recently selected by the Commandant, U.S. Coast Guard (USCG), and appointed by the Secretary of Health and Human Services, to serve as the Director, of Health, Safety and Work-Life, and Chief Medical Officer (CMO) of the USCG. Schwartz will officially relieve Rear Adm. Maura K. Dollymore upon her retirement on November 1, 2015, and will receive promotion to Rear Admiral (upper half) at that time.

According to the appointment announcement by USCG Commandant ADM Paul Zunkuft, a joint PHS and Coast Guard selection panel considered eligible applicants serving in the regular PHS corps in the grade of O-6 through O-8. The panel recommended three top candidates for further consideration.

"After careful review of each record, I selected Capt. Erica G. Schwartz for this assignment," said Zunkuft. "Her executive skills in leadership, management, and health services make her ideally suited as our next CMO and I welcome her as a member of our senior leadership team. I know that she is personally committed to the well-being of our people, ensuring our medical system provides the foundation for effective mission execution, and building effective partnerships for our medical support needs."

The Director of Health, Safety, and Work-Life is responsible for the Coast Guard's health care system of 42 clinics and 150 sick bays as well as operational and off-duty mishap prevention, response and investigation. The director also oversees the Coast Guard's child care programs and food services delivery programs, ashore and afloat, and the Coast Guard's Ombudsman, Substance Abuse, Health Promotion and Sexual Assault Prevention and Response programs.

Schwartz is trained and board certified in preventive medicine (occupational medicine). She graduated with a Bachelor of Science degree from Brown University

in 1994 and received her Doctor of Medicine degree from Brown University School of Medicine in 1998. She completed her occupational medicine residency with a Master of Public Health degree with a dual concentration in Health Services Administration and Occupational and Environmental Medicine at the Uniformed Services University of the Health Sciences in 2001. Schwartz also has a Juris Doctorate from the University of Maryland and is admitted to the District of Columbia Bar.

Preceding her transfer to the Public Health Service and Coast Guard in 2005, she served as a Navy occupational medicine physician. Her assignments included serving as the chief of the Occupational Medicine Clinic and the Immunization Clinic and serving as the Preventive Medicine Department head at the Naval Medical Clinic in Annapolis, Md. She also served as an occupational medicine physician and clinical epidemiologist at the Navy and Marine Corps Public Health Center (formerly known as the Navy Environmental Health Center) in Portsmouth, Va.

Schwartz served as the Chief of Health Services and the Coast Guard's Preventive Medicine Chief in the Operational Medicine and Medical Readiness Division at Coast Guard Headquarters in Washington, DC. She instituted critical interagency and intra-agency programs including Navy Safe Harbor, disease surveillance, deployment health, adenovirus vaccination, serology screening, febrile respiratory illness and the chemical, biological and radiologic medical countermeasures programs.

As an expert in health care policy, she wrote the first-ever force health protection policies to include the Pandemic Influenza Force Health Protection policy, the Anthrax and Smallpox Vaccination policies, the Quarantinable Communicable Disease policy, the Periodic Health Assessment policy, and the Human Immunodeficiency Virus policy. Additionally, she developed force health protection guidance for numerous contingency operations to include Hurricanes Katrina and



Public Health Service Capt. (Dr.) Erica G. Schwartz, a USU alumna, was recently selected by the Commandant, USCG, and appointed by the Secretary of Health and Human Services, to serve as the Director, of Health, Safety and Work-Life, and Chief Medical Officer of the U.S. Coast Guard. See story on page 3 (Courtesy Photo)

Rita, the 2009 H1N1 pandemic, Operation Unified Response (2010 Haiti earthquake), the Deepwater Horizon Operation, and the most recent Ebola outbreak in West Africa. Schwartz served as the Coast Guard's principal expert on pandemic influenza – hand-picked as the medical consultant for the DHS Pandemic Influenza Principal Federal Official. She also deployed as the Medical Unit Leader for the Deepwater Horizon Unified Area Command. Most recently, she served as one of the Ebola Crisis Action Team leaders, responsible for ensuring Coast Guard personnel had clear and actionable force health protection guidance for this emerging and fatal disease threat.

Schwartz's awards and decorations include the Meritorious Service Medal and Coast Guard and Navy Commendation Medals. She was recognized by the Assistant Secretary of Defense for Health Affairs by being honored as one of the Military Health System Female Physicians of the Year.

Canines bring comfort to USU campus

by Alexis Christman

Laura Lee and Goldie, the two therapy dogs working to make a difference with students, staff and faculty at the Uniformed Services University of the Health Sciences (USU), have really left a (paw) print on the campus.

For nearly six years, Laura Lee, a nine-year-old Golden Retriever, has been visiting the University while also serving at Walter Reed National Military Medical Center. Goldie, also a Golden Retriever, has been at USU and Walter Reed for only a year, but already the dynamic duo have done much in the way of combating student test stress and the everyday workplace stress of faculty and staff just by visiting the campus every Thursday.

"It's become quite a habit now for everyone here. I think in my building alone they keep better track of how many Thursdays I've missed a year than I ever could and it's completely due to the dogs," said Air Force Maj. Regina Owen, assistant professor in the Graduate School of Nursing (GSN).

Owen is a psychiatric nurse practitioner who first learned about the impact of incorporating the dogs in her work when, after bringing Laura Lee into the room with a patient, she observed that they would open up more. She said the experience with dogs offers patients a sense of security that allows them to fully relax and feel better about engaging in therapy.

"My interest is more on an academic type of setting, on the students and their overall safety and comfort within the learning environment so that they can really focus on class and the here and now and put their concerns away," she said. Owen continued, saying that she would be interested in really doing some research on the effects the dogs have but for now "I'm just happy to see what these dogs are able to bring to the campus community."

Both Laura Lee and Goldie were donated by the Southwestern Guide Dog Association after failing at their initial training assignments but were heavily recommended to be therapy dogs due to their nurturing character behaviors and personalities. Dogs who don't quite meet the standards for their originally-intended careers such as mobility assistance, guidance,

hearing, seizure/alert, etc., are selected to change into fields where they can still help in the best way possible.

Laura Lee first started visiting with the GSN students at 7 a.m. primarily on big test days when students' stress levels are usually at their highest. After entering the room and being told to "go to work," she would meander down several rows of students, stopping and sitting with them first before exploring the rest of the room. "She has a really good sense of intuition about her," said Owen. "She can find students who may need more help on those days than others."

Goldie quickly made a name for himself as the energetic jokester. Laura Lee is older and patient, taking her time with people, and with getting around, according to Owen. Goldie is the first to bound away toward anyone and everyone, but they balance one another in this way and their handler, Patricia Barry (Miss Patty), coordinator of the facility dog program at Walter Reed Bethesda, says Goldie's spitfire energy has brought energy and life back into his partner, Laura Lee.

"That's what is so great about having two dogs. They have two different personalities so they can cater to the different needs of students and faculty," Owen said.

A lot of people are apprehensive at first towards the role of the dogs wondering if they are therapy, service or personal dogs, so Owen is regularly telling people, "They are therapy dogs. It's okay to sit with them, pet them, or hug them because it's what they're really here for. They may not be your typical 'working dog' but they do plenty of work in the sense of providing therapy to offices, students and staff.

We get tons of feedback all the time from students saying things like 'you relieved my test anxiety!' or 'you made my week!'" she said.

The faculty and staff look forward to Thursdays just as much as the students do now, hiding treats in their offices all over the building for the dogs to come and find.

"Thursday is a little bit like their vacation day, I think. They are still working but they get to be spoiled by all their fans and visit with friends," Owen said. Even the Dean of the GSN, Dr. Carol Romano, who is allergic to the dogs, sees the impact and positive results and wants them to keep coming back, according to Owen.

"Goldie and Laura Lee are important members of our GSN family. These and other therapy dogs provide a valued service in touching the lives of our patients, our students and our faculty in a special way," Romano said.

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Air Force Maj. Regina Owen, assistant professor in the Graduate School of Nursing (GSN) with therapy dogs Goldie, (seated beside Owen), and Laura Lee (seated on ground). (Photo by Alexis Christman)

Providers learn importance of tropical medicine

by MC3 Laura Bailey

Providers from throughout the Military Health System participated in the Military Tropical Medicine (MTM) class at the Uniformed Services University of the Health Sciences (USU), July 9 through Aug. 3, 2015.

The post-graduate course typically grants approximately 125 hours of continuing medical education credits. As a tri-service course, it combined the Army and Navy courses in 2001 and serves physicians, physician assistants and nurse practitioners. Over the past several years, USU has also had medical officers from foreign countries in Africa, Asia and Latin America in attendance.

The MTM course is organized by the Navy Medicine Professional Development Center (NMPDC) and is taught at USU every July. Course topics include didactic lectures, laboratory exercises, simulated patients and case based discussions.

Additionally, select students visit foreign countries to learn and experience tropical medicine first-hand in an overseas setting through USU and a partnership of the Armed Forces Health Surveillance Center (AFHSC), Division of GEIS Operations (GEIS).

MTM students spend four to eight weeks at a Department of Defense overseas medical research laboratory or other overseas setting working closely with a clinical or research mentor. Activities typically include hands-on experience, often in remote locations, in areas of clinical tropical medicine, entomology, public health or research related to malaria, dengue, diarrhea, HIV, rickettsia and other diseases.

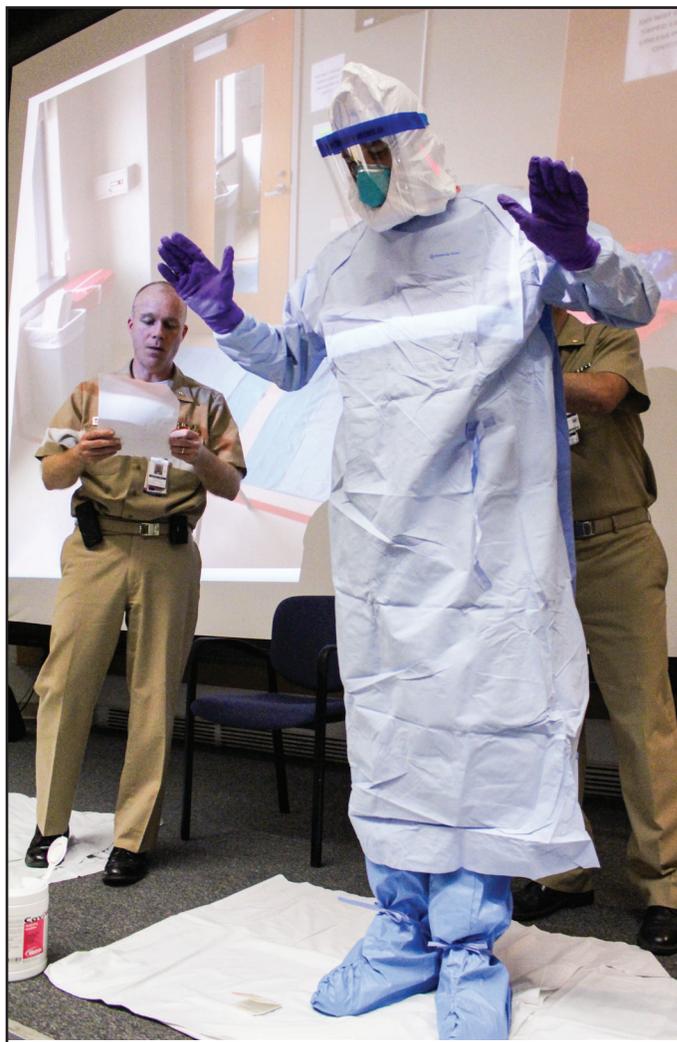
“Tropical infections no longer occur only in the tropics, with dengue virus, West Nile virus and chikungunya virus all being seen in the U.S. within the past couple years,” said Navy Capt. (Dr.) David Blazes, associate professor in the Department of Preventive Medicine and Biostatistics, F. Edward Hebert School of medicine and director for the MTM course.

“In today’s world where the world’s population is connected by no more than

an airline flight, we must all be prepared to recognize, treat and control infectious diseases no matter where they arise.”

“Additionally, our military personnel are forward deployed in numerous tropical regions throughout Africa, Southeast and Southwest Asia and the Middle East,” said Blazes. “They are increasingly at risk for diseases such as malaria, dengue and leishmania.”

“I think the course is excellent for anyone who is going to be going out with an operational force,” said Navy Lt. Cmdr. (Dr.) Wesley D. Boose, chief resident at the Occupational Medicine Residency in the department of preventive medicine and biometrics at USU. “For one, it teaches you how to treat the individual patient, but the class also gives you a lot of information on preventive medicine for the larger public health. It is extraordinary that we get to travel to other countries to work with the local health officials in order to see first-hand the diseases studied in



Navy Capt. (Dr.) David Blazes (left), associate professor in the department of Preventive Medicine and Biostatistics (PMB) at the F. Edward Hebert School of Medicine and the director of Military Tropical Medicine (MTM) at the Uniformed Services University of the Health Sciences (USU) demonstrates how to don personal protective equipment during the annual MTM course at USU. (Photo by MC3 Laura Bailey)

class. It’s really exciting to be a part of it and I would encourage anyone to jump at the opportunity to attend MTM.”

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Owen added, “Even within my profession, I am a firm believer in any alternative therapeutic modality that has a positive impact on patients. The students are able

to get recharged, have a moment to relax and let go and I think the dogs allow that to happen. They allow for a good day of focus without anxiety and it makes me happy to see what they can do,” remarked Owen.

Anthropology course offers value to USU faculty

by Alexis Christman

A collection of bones from the Uniformed Services University of the Health Sciences' Anatomical Teaching Lab were among those used recently by forensic pathology fellows and technicians, dental students, forensic educators and others to analyze skeletal remains for the National Museum of Health and Medicine's (NMHM) 28th annual Forensic Anthropology Course held at USU June 22-25.

The yearly offering, formerly the Armed Forces Institute of Pathology course, was presented to military and civilian participants by course directors Brian F. Spatola, anatomical collections manager, and Franklin E. Damann, anatomical collections curator, at NMHM. Among the faculty members for the course were anthropology or pathology instructors from USU, NMHM, the University of Maryland, the Washington, DC, Chief Medical Examiner's office, along with specialists from the Federal Bureau of Investigation, the National Transportation Safety Board, and Armed Forces Medical Examiner's office, including Dr. Elizabeth "Lee" Rouse (SoM '90), who presented a lecture on a pathologist's role and relationship in forensic anthropology.

Forensic anthropology applies the science of physical or biological anthropology to the legal process. Physical or biological anthropologists who specialize in forensics primarily focus their studies on the human skeleton. The analysis of skeletal, badly decomposed, or otherwise unidentified human remains is important in both legal and humanitarian contexts.

During the course, attendees focused on detection and recovery of remains, the analysis and identification of human remains from war crimes, genocide, and homicide and other atrocities. Hands-on lab sessions were incorporated into the

class to help participants learn more about skeletal analysis. Besides those from USU used for comparison of normal human bone, skeletal artifacts used in the class were provided by NMHM, the Smithsonian's National Museum of Natural History and a number of medical institutes from throughout the world.

"A major focus of this course is to demonstrate that anthropology has much more value than what many of those attending have been exposed to," said Spatola. "Participants will see specimens of common conditions, but they will also see things they will not see again. We teach the participants that forensic anthropologists are often capable of serving additional key functions depending on their background and training. They can manage the identification process, establish disaster victim identification procedures and provide trauma analysis in support of the medical examiner. Anthropologists have adapted to broader roles in a medical examiner's office

that some pathologists may not be aware of."

Dr. Edward Jones, an instructor of gross anatomy, neuroscience and histology at USU, sponsored the course at the University and felt it was a valuable offering. "One of my roles at the University is to serve as an anatomist, and the way forensic anthropology looks at osteology has made me a better anatomist and, hopefully, a better educator of our students. We have several pathologists here at USU, WRNMMC, and the Joint Pathology Center; this course can serve as a valuable local source for CMEs for this group in the future. This was one of the best coordinated federal government efforts in hosting a course and it should serve as a model for future courses. It is my hope that we can further coordinate with our DoD and academic partner, the National Museum of Health and Medicine, in future academic and educational endeavors," he said.



USU's Department of Anatomy, Physiology and Genetics hosted the recent National Museum of Health and Medicine's Forensic Anthropology Course, June 22-25. (Photo by Alexis Christman)

USU graduate students named as 2015-16 HJF Fellowship award recipients

Courtesy of the Henry M. Jackson Foundation for the Advancement of Military Medicine

The Henry M. Jackson Foundation for the Advancement of Military Medicine, Inc. has selected three promising Uniformed Services University of the Health Sciences (USU) doctoral students to receive Fellowships for the 2015-16 academic year. This Fellowship program, established in 1988, provides each fellow a stipend and travel support.

Jennifer Bakalar, a sixth-year doctoral student in the Medical and Clinical Psychology Program, will be awarded an HJF Fellowship in Medical Sciences. She is conducting her dissertation research in the laboratory of Dr. Marian Tanofsky-Kraff, studying the psychosocial factors that contribute to excess weight gain in active-duty personnel. In particular, Bakalar is gathering data on pre-service stressors and early adverse life events in an effort to determine if there is an association between these events and the subsequent development of eating disturbance and overweight status. Given that unhealthy weight-gain impacts the health, well-being and readiness of military personnel, these findings are intended to inform appropriate prevention and treatment interventions, ideally attenuating the impact of pre-military adversity on service members' physical and psychological read-

iness for service, with benefits to both military and civilian populations.

Stephanie Servetas is a sixth-year doctoral student in the Emerging and Infectious Diseases Graduate Program and a recipient of an HJF Fellowship in Medical Sciences. Stephanie is conducting her thesis research in the laboratory of Dr. D. Scott Merrell, studying the gastric pathogen *Helicobacter pylori*. This bacterium persistently infects over 50 percent of the world's population and is generally asymptomatic, perhaps even providing a protective role against the development of some diseases such as asthma. However, *H. pylori* is also capable of causing severe diseases including peptic ulcers and gastric cancers.

Her thesis work focuses on characterizing the expression of several *H. pylori* outer membrane proteins in an effort to identify a link between specific bacterial strains and their capacity for causing persistent infection and symptomatic disease. She has identified a specific membrane protein that is required for disease development in an animal model of infection. Further characterization of outer membrane proteins may help develop tools for better clinical management of the infection, identifying patients most in need of therapy, and those

that should not be treated with antibiotics to benefit from potential positive aspects of *H. pylori* colonization.

Eric Laing is a sixth-year doctoral student in the Emerging and Infectious Diseases Graduate Program and a recipient of the Val G. Hemming Fellowship. Working in the laboratory of Dr. Christopher Broder, Laing is investigating why bats, which are the natural host to many viruses of significant human concern (Hendra/Nipah, Ebola/Marburg viruses, SARS, rabies), do not develop symptomatic disease.

His thesis focuses on bat's innate immune response, hypothesizing that a cellular process involved in protein homeostasis may serve as an antiviral defense mechanism in bats. He has shown that infection by the Australian bat lyssavirus induces this antiviral autophagy response more strongly in bat cells compared to human cells, and that drug-based induction of autophagy correlates with a reduction in viral titer in human cells. These findings suggest that autophagy of some viral component in the host cell may limit production of progeny virus, suggesting possible therapeutic approaches for human infection with these emerging viruses.

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top 10 public health accomplishments of the 20th century which has reduced and, in some cases, eliminated infectious diseases around the world.

Most vaccines are made with weakened or modified versions of a bacteria or virus responsible for the disease. When the vaccine is administered, the body's immune system reacts just as it would when a new full-blown infection occurs. Antibodies are produced against the vaccine material. These antibodies remain in the body and are ready to react if an actual infectious organism attacks. Essentially, the vaccine tricks the body into thinking it is under assault, and the immune system makes weapons that will provide a defense in the event of a real infection.

Stephens added that one of the biggest challenges of properly vaccinating the public is education—especially with the anti-vaccination movement which follows be-

liefs that have been debunked by the medical community.

"We have had to have a number of conversations with our patients in order to dispel any anxieties between vaccines and autism," he said. "I'm a big believer in 'shared decision making' where I present my patients with my best understanding of the current literature in regards to immunizations. Then I listen to the patient's questions and concerns. We have a conversation about what will work best for their individual situation and make a decision accordingly. Almost always, patients are very reasonable and understand the benefits of vaccination after those discussions."

Stephens has also seen a remarkable improvement in the vaccination tracking system over the past few years.

"We've done a lot better job with our electronic health system as far as tracking. That is a way better system than the old yellow vaccine cards which often got lost."

He also added that it is important to keep up to date on new vaccine data, because information can change based on factors such as new disease threats, changes in pathogen strains and so forth.

"I've seen a lot change in the immunization program," he continued. "Immunizations for pneumonia and HPV (Human Papillomavirus) are just a couple of examples where recommendations have recently changed."

The CDC recommends patients regularly discuss immunizations with their physician. Another misconception patients may have is that they may think each immunization is good for life. However, several require intermittent boosters in order to maintain their effectiveness against disease.

Stephens did stress his message about vaccines.

"Vaccines are good," he exclaimed. "We are open for business. Come in and get vaccinated!"

Final Frame



Second-year students at the F. Edward Hébert School of Medicine practice life-saving medical procedures in simulated combat environments at USU during the Advanced Combat Medical Experience. (photo by MC3 Laura Bailey)