

The Scientist Officer



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Retirement of CAPT Margaret Riggs

By CDR Andrea McCollum, LCDR Matthew Steele, and LCDR Ashleigh Murriel

CAPT Margaret (Margo) Riggs retired from the U.S. Public Health Service (USPHS) Commissioned Corps on April 1, 2022, after 17 years as a Public Health Service Officer and prior service in the U.S. Army. CAPT Riggs obtained both a PhD in Pathobiology / Immunology and an MPH in Epidemiology from the University of Florida in 2002, followed by a Postdoctoral Fellowship at the National Institutes of Health. She joined the National Institute for Occupational Safety and Health at the Centers for Disease Control and Prevention (CDC) as an Epidemic Intelligence Service Officer in 2005. CAPT Riggs worked in support of state public health initiatives as an In-Residence Officer in Kentucky and later in support of the Career Epidemiology Field Officer Program at CDC. From 2015 to 2019, she was stationed in Lusaka, Zambia, overseeing the Field Epidemiology Training Program for CDC, and she most recently held a position for CDC as a Healthy Communities Director in Kentucky. She earned 45 PHS awards, including one Meritorious Service Medal, two Commendation Medals, and nine Outstanding Unit Citations.



CAPT Margaret Riggs

CAPT Riggs deployed for multiple responses, including Hurricane Katrina (2005), Unaccompanied Children Response (2014), the Ebola Treatment Unit Training Center (2014–2015), and COVID-19 response in Navajo Nation (2020); and was a member of a Tier 1 Deployment Team (RDF-3) from 2009–2015. She was recognized as Responder of the Year for both SciPAC and the USPHS Commissioned Corps in 2011. She was a member of multiple SciPAC and Commissioned Officers Association committees and was a founding member of the Prevention through Active Community Engagement workgroups in Atlanta and Zambia.

CAPT Riggs received the Retiring Scientist Outstanding Service Award for her outstanding and honorable service to the Scientist Category and the USPHS Commissioned Corps in February 2021. She was asked a series of questions regarding her career and advice she may be able to offer other Public Health Service Officers.

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1. What advice do you have for new Calls to Active Duty? Be accountable, be a leader and role model in everything you do to influence positive change while keeping in mind the long view for why you joined — *In Officio Salutis*. Take care of yourself and each other and appreciate your family for their support — these are the things that matter most. Take leave, don't work ridiculous hours, embrace your mistakes, don't let dysfunction and bad experiences frustrate you, keep your grit and enjoy the ride!
2. Tell us about the best (or your favorite) career decision you made as an Officer. My best and favorite career decision was seeking and volunteering for opportunities in special career assignments. I was able to teach field epidemiology in Afghanistan, serve as the acting Territorial Epidemiologist in the U.S. Virgin Islands, respond to the Haiti earthquake, train responders for the West Africa Ebola Virus Disease outbreak, and help establish the Zambia National Public Health Institute. They were very challenging assignments in different ways, yet gave me life-changing experiences and afforded me the opportunity to make lifelong friends and to make a difference in the lives of those I served, hopefully leaving things a little better than when I arrived.
3. What have you liked most about being an Officer? I have most liked the privilege of being in uniform and serving my country again after first serving as an enlisted soldier in the Army. I valued being called upon by the states and jurisdictions to which I was assigned to lead emergency response efforts because of their confidence in my training and leadership gained through my experience as an Officer.
4. What has motivated you to work hard? Helping the people I'm serving. Whether it's in the midst of a natural disaster, during outbreaks or the COVID-19 pandemic, or preventing chronic disease — educating and helping people with support from my husband has been my biggest motivator to work hard.
5. What are you most looking forward to in retirement? I'm most looking forward to staying closer to home to spend time with friends and family, going hiking in the Appalachian Mountains, and enjoying dog sports with my furry four-legged kids!

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CAPT Riggs on her first USPHS deployment to the Hurricane Katrina response in New Orleans, 2005



CAPT Riggs on deployment for the Haiti earthquake response, 2010



CAPT Riggs and Lemon (Belgian Malinois) at a dock diving competition



CAPT Riggs as a member of a USPHS team representing the Commissioned Officers Association at the 100th anniversary event of the Tomb of the Unknown Soldier, 2021

Neurological Changes and Consequences of Chronic Stress

By LCDR Gina Masessa

Chronic stress has become a prevalent topic in what seems to be an ever increasingly stressful world that does not hesitate to pile on more stress to already overburdened humans. In psychology, we discuss the importance of self-care in professional circles, with our patients, and during collegial discussions. However, we rarely practice these principles ourselves (or have time to do so for that matter). Self-care has become a code word for “add something else to your schedule, but it’s for your own good so make sure you do it.” As a busy professional myself, I know firsthand that when forced to choose between work/family demands and my own self-care, the latter falls off the radar. But what is the consequence of this? Can enduring stress for long periods of time (i.e., chronic stress) build up and have lasting impacts on our future selves? Science would unequivocally say that it does.

To examine the impact, let us first talk about the human operating system (i.e., the brain). As you already know, there are different brain regions that correspond to different human functions. The hippocampus, amygdala, and frontal cortex are the brain regions involved in memory processing and emotional regulation. Interestingly, in studies of the hippocampus region, London taxi drivers tend to have much larger than normal hippocampi, speculatively due to their ability and need to remember the complicated streets of London for daily function in their profession. This makes the hippocampus vastly important in our own respective lines of work due to the multitasking and memory recall demands. Chronic stress has been associated with a reduced volume of the hippocampus, suggesting a neurotoxic effect. Similarly, chronic stress has been shown to impact the volume of both the amygdala (region responsible for emotions) and frontal cortex (memory, attention, and judgment).



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Chronic stress produces the hormone cortisol in the body. This hormone can easily cross the blood-brain barrier where it can then access and influence the brain. In this way, cortisol can in a sense become a puppeteer of brain functioning, impairing areas such as attention, memory, and emotional processing. Repeated exposure to glucocorticoids, such as cortisol, is linked to decreased neurogenesis in the hippocampus, which is one region that continues to grow and expand long into adulthood (and which we want to keep functioning for as long as possible). This is like the wear and tear on our brain that we want to avoid as much as possible because, as you already know, a life lived comes with unintentional exposure to trauma that will have its own effects on the brain. It behooves us to exercise control over what we can mitigate to prevent a neuronic “short circuit” in our most beloved organ.

Genetic dispositions are something we frequently hear about when it comes to brain and body changes. This is applicable in the area of chronic stress as well, in that exposure to stressors early in life can increase our vulnerability to stress when we reach adulthood. However, genetic dispositions or vulnerabilities do not dictate inevitability. This means there are things we can do to counteract the stress we are feeling, create more mental resilience, and decrease the amount and impact of consequential brain changes we experience. So, how can we do this? We can start by implementing our own protocol to give our brain a helping hand. Find ways to relax the body and brain, thereby reducing stress levels, and work them into your day. Does yoga work for you? Find a kids’ yoga program and do it with your children instead of trying to find the private time that you may not realistically get. Enjoy deep breathing exercises? Arrive to work five minutes early and do them in your car before going into the lion’s den we sometimes call work. Want to work better nutrition into your body to affect your mental health but have no time to cook every day? Work in a blendable fruit/veggie/protein smoothie to your daily routine to get at least one dose of vitamins and minerals during the day. The point is you do not have to take a lot of time for self-care to be able to care for yourself. It does not have to be a chore to counteract the neurological effects of chronic stress, it just has to be **intentional**. Start now and ask yourself, what will you do today for five minutes to help boost your brain? Your brain needs you.

Adopt-a-Highway Cleaning Event Returns After Two Year Pause Due to COVID-19

By LCDR Oliver Ou

On a sweet June morning, a group of USPHS Officers came out and cleared litter along the one-mile stretch of New Hampshire Avenue in front of the FDA Headquarters (White Oak campus). They started early to beat the summer heat. After two hours of hard work, the group filled up two large litter bags that weighed over 60 pounds in total.

One volunteer commented, “I have been taking part in the cleaning event for several years now. Looking around at the clean roadsides is so satisfying, and I am glad we came out today because we haven’t done this for the past two years due to COVID-19, and the litter is accumulating.”

The cleaning event is part of the Maryland Adopt-a-Highway (AAH) initiative. The initiative lets community groups show their state pride and keep the roadways litter free. The goal is to have litter removed from roadways before it clogs storm drains or reaches local streams and our water supply. Removing the litter also enhances the experience of driving for residents and visitors. More importantly, it helps maintain a healthy and safe environment because every piece of litter that ends up in our waterways can pollute our water supply and the natural environment.

After the event, volunteers gathered in the FDA Visitor Parking lot to relax and enjoy some refreshments. It was a great morning full of interesting conversations, laughter, and camaraderie!



The AAH Cleaning Crew (from left to right): LCDR Jennie Eng (Health Services Officer), LCDR Oliver Ou (Scientist Officer), LCDR Samuel Motto (Health Services Officer), LCDR Abbas Bandukwala (Engineer Officer), LCDR Briana Rider (Pharmacist Officer), and CAPT Isatu Bah (Nurse Officer) .



Volunteers weighing the litter that they have collected (from left to right): LCDR Samuel Motto (Health Services Officer), LCDR Oliver Ou (Scientist Officer), and LCDR Briana Rider (Pharmacist Officer).

Back Together Again! DC Region Scientists Fall Social

By LCDR Adi Rosario



On October 16, 2022, an in-person social hosted by LCDR Adi Rosario (Office of the Secretary), was held at Windridge in Darnestown, MD. Scientist Officers CDR Lana Rossiter (FDA), her spouse Clint, LCDR Jonathan Leshin (FDA), and LT Lacreisha Ejike-King (FDA) with daughter Brooklyn, were joined by HSO Officer CDR Tacheka Monique Bailey (FDA). CAPT James Kenney (FDA) was so excited for the event, he arrived a day early! The group enjoyed a beautiful Sunday with tasty charcuterie platters. It was a truly meaningful event finally coming back together and sharing in each other's good company. We hope to see more familiar faces at upcoming socials!



From L to R: CDR Lana Rossiter, LCDR Adi Rosario, LT Lacreisha Ejike-King, and LCDR Jonathan Leshin.



CAPT James Kenney

SciPAC Fist Bump



Congratulations to CDR Tegan Boehmer on co-authoring 6 high-impact publications (5 MMWR, 1 JAMA Network Open) in quarter 1 of 2022. As Lead of the CDC COVID-19 Response Healthcare Data Section, CDR Boehmer led efforts to acquire novel healthcare data sources, conduct epidemiologic analyses, and disseminate findings to guide the U.S. COVID-19 response. She was a lead author on three studies in early 2022 that: 1) reported lower use of monoclonal antibody treatment among U.S. racial and ethnic minority groups, emphasizing the need to address inequities in COVID-19 treatments; 2) described disease severity of SARS-CoV-2 Omicron variant infections and hospitalizations in the United States; 3) demonstrated that risk for cardiac complications was higher after SARS-CoV-2 infection than after mRNA COVID-19 vaccination for both males and females across all age groups, providing strong evidence for continued use of recommended vaccines.

Congrats again, CDR Boehmer, on your scientific achievements!

SciPAC Fist Bump



We recognize and congratulate Administration for Strategic Preparedness and Response (ASPR) Senior Program Management Officer/Liaison Officer to U.S. Indo-Pacific Command CDR Eduardo Cua, for his selection to serve a 120-day temporary assignment as the ASPR Behavioral Health Lead. This key position coordinates and manages the overall behavioral health activities, projects, and operations carried out by ASPR, including the Division of Community Mitigation and Recovery. CDR Cua has dedicated several years of service to ASPR, first as a Regional Emergency Coordinator in Region 9 (CA, NV, AZ, HI, Guam, American Samoa, Commonwealth of the Mariana Islands, Republic of Palau, Federated States of Micronesia, and the Marshall Islands) and currently as the HHS/ ASPR Liaison Officer-Senior Advisor to US Indo-Pacific Command. CDR Cua brings his outstanding experience in Clinical Psychology and Emergency Management to this key role within ASPR and with ASPR's partners, as well as to the communities he serves.

Congrats again, CDR Cua, on your selection!

SciPAC Fist Bump



Congratulations to LCDR Francis Annor for his recent first-author publication in *The Lancet Global Health* examining changes in prevalence of violence among children in Kenya. Following the 2010 implementation of the Violence Against Children and Youth Survey (VACS) in Kenya, the government of Kenya and stakeholders implemented several prevention and response strategies to reduce violence. In 2019, Kenya repeated the VACS. LCDR Annor and colleagues demonstrated significant decline in all forms of violence among children, as well as risk factors for violence, in 2019 when compared to 2010. Any lifetime violence was reduced from 82.5% to 58.3% for females and 83.0% to 56.6% for males. LCDR Annor and colleagues noted that a continued prioritization of violence prevention and response measures could result in further decline of violence and its negative consequences among Kenyan children and youth.

Congrats again, LCDR Annor, on your publication!

SciPAC Fist Bump



We recognize CDC Epidemic Intelligence Service Officer LT Nang Thu Thu Kyaw for her outstanding work in responding to the mpox outbreak in New York City (NYC). LT Kyaw contributed directly to NYC mpox outbreak emergency response by serving as the first point of contact for consultation calls from providers. LT Kyaw helped providers with determining the likelihood a patient had mpox and with information about testing the patient. LT Kyaw also provided guidance on isolation and infection control precautions to providers and patients, which led to identifying contacts who may have required post-exposure prophylaxis to reduce further transmission of mpox infection in the community.

Congrats again, LT Kyaw, on your contributions to the mpox outbreak response!

SciPAC Fist Bump



We recognize LT Kerui Xu for enhancing USPHS visibility through five Asian Pacific American Officers Committee (APAOC) community outreach activities in September and October 2022: the Chinese Culture and Community Service Center (CCACC) Health Fair, the Korean Community Health Fair, and three presentations on the 988 Suicide & Crisis Lifeline. These events took place in the DC-Maryland-Virginia (DMV) Region and attracted >550 attendees in total from the local Asian American and Pacific Islander (AAPI) communities. As the DMV Regional Co-Lead of the APAOC Community Engagement Workgroup, LT Xu engaged with local AAPI communities, initiatives, and programs, and provided oversight and guidance for APAOC presenters and volunteers participating in local and regional outreach events. For the CCACC Health Fair (>300 attendees), LT Xu recruited 10 dedicated PHS officers to provide health screenings, consultation services, and disseminate health information to promote the Surgeon General's Priorities.

Congrats LT Kerui Xu for your successful efforts building relationships with USPHS, APAOC, and the DMV AAPI community!

SciPAC Fist Bump

Remember to nominate yourself or another Scientist officer for a SciPAC Fist Bump! Whether you welcomed a new family member, delivered an impactful talk or service, or completed a deployment, we want to hear about it!

[You can find the Fist Bump Submission Form here](#)

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