

# MACHINATORES VITAE

Engineer and Architect Newsletter

## From the Chief Engineer Officer



**Randall J.F. Gardner, P.E.**  
**Rear Admiral, US Public Health Service**  
**Assistant Surgeon General**

**Spring 2015**

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Today we live in an era where information is just a click or drag away and we communicate almost instantaneously to most parts of the world. Depending on the circumstances this can make it easier or harder to do our jobs because just providing information is not enough. Collaboration is what makes us successful and helps to ensure that our engineering solutions are sound and sustainable.

This year has started out to be another incredible year for the PHS Commissioned Corps and our engineering response to public health. We now have a Surgeon General, Admiral Vivek Murthy, we have been recognized by the President for successful deployment operations in Africa, and we continue to address daily challenges at our duty stations where we serve to improve the public's health. Engineers are a vital part of many facets of the PHS Corps. I would like to say thank you to all of the engineers who have proudly represented our Government in their deployments and those that uphold our core values on their assignments and volunteer efforts on a daily basis.

I would also like to take a moment to acknowledge four engineers for their service to their duty stations. They are CAPT Dan Beck, Di-



rector of Readiness and Deployment Group (RedDog); CDR Angela Mtungwa, Director of Assignments and Career Management Branch; CAPT Scott Helgeson, Deputy Director, Division of Commissioned Corp Personnel and Readiness (DCCPR); and CAPT Eric Shih, Acting Director, Division of Systems Integration (DSI). These four officers lead the way, and what they do impacts every officer of our Corps.

Enjoy this edition of our Newsletter and thank you for supporting our Category.

Sincerely,  
 RADM Randall J.F. Gardner



**RADM Randall J.F. Gardner with US Surgeon General VADM Vivek H. Murthy**

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## 2015 EPAC Chair

CDR Jill R. Hammond, MPH



Welcome, my fellow USPHS and Civil Service Engineers! As an Engineer, you are at the forefront of Public Health, constructing facilities to provide health care to the underserved, ensuring access to safe and effective drugs and medical devices and promoting clean and healthy environments. Your contributions impact and improve our quality of life and I am truly proud to serve with you all!

I had considered a theme of Leadership through Engineering Excellence...Together for EPAC this year. We are privileged to have numerous examples of engineering excellence in officers past and present, from flag to junior officers, epitomizing exceptional leadership with the Commissioned Corps, SAME, and COA. RADM Gary Hartz eloquently stated during his keynote address at our recent Awards Breakfast, that excellent leaders possess qualities such as competency, capacity and character. Let us all strive to embody these characteristics with confidence, both personally and professionally.

I am grateful for your continuous support of the EPAC and Engineering category overall. As EPAC members and colleagues, we have an awesome opportunity to develop and expand our leadership capabilities by getting involved with the diverse and challenging work of our category. This year will be no exception, as we continue to support the Ebola response in West Africa, recruit engineers for positions with the FDA, IHS and EPA and aid our Chief Engineer with many important activities. Our eight subcommittees and liaisons are poised to lead these efforts with your collective participation.

I also want to welcome our new and returning EPAC members: CAPT David Harvey, CDR Mark Jackson, CDR Joshua Simms, CDR Jonathan Rash, LCDR Kurt Kesteloot, LCDR Jennifer Stevenson and Dr. Jim Harris. See [page 18](#) for profiles of our newest members.

I encourage you to visit the [EPAC website](#) to learn more about the EPAC. I welcome and appreciate your ideas and insights, to ensure that we continue contributing to the success of the Engineer Category. I am honored to serve as your EPAC Chair and look forward to a productive year ahead!

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## 2015 Engineer Category Awards Breakfast

LT Matthew Hunt



The U.S. Public Health Service (USPHS) Engineering Professional Category celebrated National Engineers Week by recognizing several outstanding engineers at its annual breakfast and awards ceremony on Thursday, February 26, 2015, at the National Institutes of Health (NIH) Cloister Building in Bethesda, Maryland. CDR Jill Hammond, 2015 EPAC Chair, served as Mistress of Ceremony. RADM Randall J.F. Gardner, Chief Engineer, provided opening remarks and graciously spoke about the accomplishments of engineers in improving public health. He also encouraged both junior and senior officers to continue our efforts to improve the engineering profession. RADM Gardner read a [letter by the Surgeon General](#), VADM Vivek H. Murphy, highlighting the many contributions of USPHS engineers in accomplishing our mission of protecting, promoting and advancing the health and safety of our Nation.

LT Shane Deckert and LTJG Michael Simpson briefly spoke about their experiences deploying to Liberia with the first PHS team for the USPHS Ebola Response. LT Deckert and LTJG Simpson will both present during Engineer Category Day at the upcoming USPHS Scientific and Training Symposium in Atlanta, GA on May 19, 2015.

LCDR Leo Gumapas presented on the Prevention through Active Community Engagement (PACE) program. LCDR Gumapas and LT John Pesce formed the PACE program and utilized the 2012 National Prevention Strategy, with the goal to provide actionable health information to empower individuals in promoting healthy living. The partnership also offers USPHS officers an opportunity to provide community outreach to schools

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both locally and nationally. The program has grown over the last few years, with a widespread, talented network of USPHS officers educating and motivating children to develop life-long healthy habits. LCDR Gumapas challenged his fellow engineers to get involved with PACE, as they are always seeking new ideas and volunteers. LCDR Gumapas also thanked our sponsor, the District of Columbia Commissioned Officer Association (DC COA) and encouraged officers to join and participate with COA and its events.

CDR Hammond introduced the keynote speaker, RADM Gary Hartz (Ret.), Director of the Office of Environmental Health and Engineering (OEHE) at the Indian Health Service (IHS) in Rockville, MD. RADM Hartz's keynote address emphasized important qualities of great leadership. He referenced General Colin Powell's book *"It Worked for Me: In Life and Leadership,"* describing his 13 rules of leadership. RADM Hartz also shared candid leadership examples from his career experience, beginning as an IHS field engineer to his current position as Director of OEHE and encouraged USPHS and civilian engineers to continue to lead by example.

RADM Gardner and CDR Hammond presented this year's awards to the following recipients:

CDR David Allen Engelstad, PE	PHS Engineer of the Year and NPS Engineer of the Year
CDR Joshua D. Simms	FDA Engineer of the Year (Commissioned Corps)
Steven Hertz, PE	FDA Engineer of the Year (Civil Service)
Christopher S. Pan, PhD, CPE	CDC Engineer of the Year
CDR Shari Windt, PE	IHS Engineer of the Year

CDR Engelstad was also a top ten finalist in the Federal Engineer of the Year (FEYA) Award sponsored by the National Society of Professional Engineers. The 2015 FEYA Ceremony was held later that day at the National Press Club in Washington, DC.

The Engineer Awards Breakfast Planning Committee was led by LTs Diana Wong and Matthew Hunt and was comprised of the following members: LTJG Ariell Lawrence, LT Shane Deckert, LT Phuong Vo, LCDR Leo Gumapas, LCDR Corey Cosgrove, LCDR Kurt Kesteloot and CAPT Jim Simpson. The Awards Breakfast was made possible in part by the generous support of the District of Columbia Commissioned Officer Association (DC COA). Links to additional photographs and videos from the event are also available on the EPAC and DC COA websites:

<http://www.usphsengineers.org/index.php/photos-videos>

<http://www.dccoa.org>



2015 Engineer Category Awardees with RADM Gardner (From Left to Right): RADM Gardner, CDR Engelstad, CDR Windt, CDR Simms, Dr. Pan, and Mr. Hertz.



## Responding to the Ebola Outbreak: Setting up the MMU

LT Shane C. Deckert, PE, MBA



We arrived at our station, deemed the “Monrovia Medical Unit (MMU)”, just hours after disembarking a plane and setting foot on the blazing-hot African landscape. Our mission was to set up a field hospital nestled between an unmaintained dirt road and the jungle-like terrain outside Roberts Airfield in Monrovia, Liberia to provide care to the brave medical staff of local Ebola Treatment Units who had in-turn contracted the deadly disease. The first step was to convert eight tents (two rows of four connected by a common hallway) into a facility that could effectively treat patients, while ensuring the safety of our responders. As the lead engineer of the MMU Team 1, I immediately conducted an engineering site inspection and started working on a list of mission-stoppage items that the team needed in order to open our doors. Time was of the essence.

Our to-do list was lengthy to say the least. We erected a snow fence barrier to separate the infected area from the safe zone. We needed to fix the rotting wood hospital floors that caved in days before accepting our first patient. We dug trenches to contain contaminated runoff water from the high-risk zone. We set up stairs to access the six-foot tall water storage tanks (in order to add chlorine, the life-blood of their team’s safety). We also built a muck boot drying rack to hold the super-chlorinated boots of medical staff who exited the “hot zone.”

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On the day when the first patient arrived, nerves were spiked and adrenaline was rushing. Everyone played back what they had done to prepare over and over in their minds. We knew that in this environment, anything could go wrong and pitfalls were inevitable. Soon, the two generators powering the hospital started failing. As the first one failed, the team looked to me for a solution. While running on a single generator with no redundancy, our priority was to surgically cut power in areas where it was not essential and maintain power where nurses and doctors were tending to patients and laboratory technicians were processing blood samples to determine life-saving doses of IV fluids... All while they were in full personal protective equipment, dressed to the "T".

This power shaving had to be done within minutes. It became evident that the remaining generator, now running at 140% capacity, would seize and be unable



to restart if we didn't find a way to reduce its load. Moments went by as I ran from tent to tent, carefully shutting down air conditioners and cutting power to non-essential outlets to drop the only running generator's load capacity below 100%. Then, miraculously, I heard my teammate (CDR Gregg Gnipp, HSO) who was monitoring the gener-

ator yell out, "we're below 100!" "Okay then," I said, "onto the next emergency."

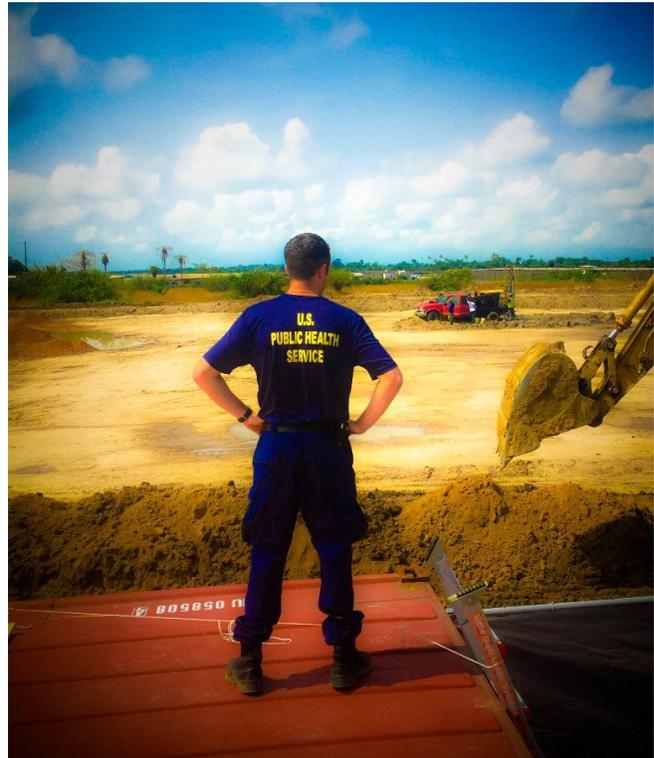
There was also the issue of our commute, which required the MMU team to travel 45 minutes on a hazardous two-lane road to and from work. At the start and end of a 13 hour day, we would ride a bus, seemingly piloted by an aspiring NASCAR driver, passing cars and speeding into oncoming traffic. All the while, we would see multiple accidents each way, every day. The next mission was to develop a temporary living quarters, as soon as possible, to eliminate the commute that was deemed the second highest daily risk that the MMU would encounter (the first being Ebola, of course!). We proceeded to take a two acre plot of untouched African land and arrange to have it leveled and built up with sleeping

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tents, showers, latrines and a laundry facility. I soon designed the layout of this new compound and began coordinating construction crews. Perched atop a connex box on the edge of the MMU, I oversaw the construction of our “tent city”. We managed to convert the site from a bushy, lizard infested forest to gated quarters for 69 members of the MMU team. We no longer measured the commute in minutes, but in steps to the entrance of the MMU... 53 last time I checked!

Obviously this effort would not have been possible without the tireless support of many dedicated officers. I would especially like to thank the "honorary engineers" of MMU Team 1: LT John Pesce, LT Michael Muni, LT Chris Snyder, LCDR Francis Bertuflo, and CDR Anthony Windom.



LT Deckert chairs the EPAC Deployment Preparedness Subcommittee and can be seen in the following video providing a virtual tour of the MMU:

<http://www.nbcnews.com/storyline/ebola-virus-outbreak/look-inside-us-ebola-facility-monrovia-n242676>

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## Train like an Admiral

Interview by CDR Juliette Toure

RADM Randall J.F. Gardner, the current Chief Engineer Officer of the USPHS, has always considered himself a “doer,” not a spectator in life. Throughout his childhood, he ran track, played team sports, and spent a lot of time outdoors doing seasonal sports. He had to give up some of these activities during engineering school and as he progressed in his PHS career, which began in the Junior Commissioned Officer Student Training and Extern Program (COSTEP) at the Food and Drug Administration. He recalled that when his kids were becoming more physically active around the age of eight or nine, he realized he needed to “step up his game,” not just to keep up with them but to also encourage them not to be spectators in life. In a recent interview, RADM Gardner shared some of his personal views on health and how he overcame challenges in making these lifestyle changes.



Photograph by CDR Kun Shen

***When your kids were about eight or nine, what lifestyle changes did you make? How did you start?***

Since I was a runner in high school, I thought I would be able to start running again. It was harder than expected. People have said it takes three to four weeks to see results, but for me, it was a longer journey. I was always an active person.

I didn't have to do much to be fit when I was younger. As I get older, it takes more effort to be fit. I began by increasing the amount of time at the gym, incorporating three one-hour sessions per week. It did not make a difference. I realized I needed to look at my diet because exercise alone was not enough and because of my family history of high cholesterol and blood pressure. I began to shift from walking to running. It took about a month to jog non-stop. I also tried working out at different times of the day and found that I do best when my workout is done early in the day. It was discouraging at times because I did not improve as quickly as I would have liked or perhaps expected to, but I appreciate being challenged.

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Over the course of two years, I was able to lose and maintain a weight 40 pounds less than at my heaviest. Another motivator was when others started to notice the change in me. I wasn't doing it for that reason, but recognition and even questions were helpful. Before losing the weight, people would say I had an "athletic build." I would wonder if it was a compliment and started to buy into that idea. I thought the BMI [Body Mass Index] was wrong, and I was just built that way. When you accept where you are – it makes it harder to do anything to change. Once I started losing weight and exercising more regularly, I realized that it was possible to reach my goals and more, including changing my BMI. I couldn't believe how many inches (36 down to 32) I could lose in my waist.



***How do you view "staying healthy"?***

I view "staying healthy" as a life journey, making a commitment to being active and maintaining a good diet, seven days per week. I stay active by doing things I enjoy like biking, fishing, skiing, and archery. As I get older, competing against others is no longer as strong of a motivator. When I was training and aspiring to be an Olympic-level runner in high school, winning was more important and crucial. Now, I prefer to do things I enjoy and choose activities based on the social environment. For example, I like to go on long hikes (like the Appalachian Trail) and go sport fishing, which are both fun and physically challenging. When I feel physically healthy, I am also more productive and, overall, a happier person. From a physical and mental aspect, I'm able to respond more effectively to challenging and stressful situations.

***It's great that you share a lot of your hobbies with your kids. Are there lifestyle habits that you hope your kids will adopt?***

Many of the activities I enjoy now are ones that I learned as a kid. I hope to reinforce in my children to try new things, to learn which activities they do and do not enjoy. I have also taught my kids certain hobbies so that they can decide whether they want to pursue them in the future.

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Some activities, like archery, can be harder to pick up as an adult or without someone else introducing you to the sport. For example, I learned bow-hunting as an adult. I was invited by colleagues to give it a try. I picked up a catalog and ordered a bow based roughly on my own dimensions. It was the worst thing I could have done – the bow I ordered wasn't what I needed. I spent a season reading and trying to make it work. I enjoyed shooting the bow but could not progress, so I went to a pro shop for help. I spent a few hours with a staff member, who gave me a few pointers that made a huge difference. I still wasn't as successful as I wanted to be, so when I got promoted, I decided to treat myself to a new bow.

I went to the pro shop again for advice. They outfitted me with the right bow (finally!). On my first trip out, my first three shots were at bull's eyes range at 20 yards. Since then, I've kept working at it and now help others. If you are looking to start a new activity, you might have a better learning experience and save yourself time and grief if you find someone who wants to share his/her passion with you. #1 tip for archery – don't buy a bow until you talk to knowledgeable people first.

One thing I'm happy about is that my kids understand that fitness is a life journey. My parents didn't really reinforce that or understand how it improves the quality of life. I was raised physically active, but our diet was pretty horrible. There are cultural and ethnic differences in perceptions of health, but we must all adapt. Why wait until the doctor tells you have diabetes and instead take steps to prevent it?

***Anything you'd like to say to PHS officers on fitness?***

I applaud people who achieve high levels of fitness, but I think it is just as great an accomplishment for those individuals who don't achieve the same levels but have tried their best. There are a lot people who are in the middle. They are equally good officers, no less important to the Corps.

When I look at the history of our Corps, I sometimes feel that we are searching for an identity, but for me, our identity is already there. Our physical attributes aren't going to redefine us as a Corps.

What defines us are our missions, public health training and experience, the pride of our service, and the unique qualifications we bring to the challenges of improving public health.



RADM Gardner with his son, Randall.  
Photograph by CDR Kun Shen



## PHS Engineers Attend SAME Golden Eagle Dinner

### LT Diana Wong, PhD, SAME Liaison

On Thursday March 12, 2015 in Alexandria, VA the Society of American Military Engineers (SAME), via its Academy of Fellows, hosted the Golden Eagles Dinner (GED). For the fourth year in a row, 'The Surgeon General's Own' played the National Anthem as the Military District of Washington Honor Guard presented the Colors. After a round of toasts to each of the uniformed services, dinner was served and the PHS ensemble provided wonderful music. The Engineer category's LCDR Bradley Cunningham and LT John Colburn played in the brass quintet.

Since 1996, the SAME has honored two outstanding Americans for contributions to the engineering profession and national security by presenting each of them with a "Golden Eagle Award." The award, like SAME itself, has a rich heritage. This year's recipients spoke about positive change in womens roles in the engineering field, and the impact that water has on national security. SAME awarded a Golden Eagle in 2008 for significant contributions to national security to Surgeon General Dr. Richard H. Carmona, M.D., M.P.H., F.A.C.S.



2015 GED PHS Engineer attendees (from left to right) were LT John Coburn, CAPT Nelson Mix, RADM Randall J. F. Gardner and LCDR Bradley Cunningham.



## Top 10 Reasons for Active SAME Membership

CAPT Nelson Mix, PE, CHMM, F. SAME

In college I was the President of our student chapter of American Society of Civil Engineers. After I graduated, I attended different professional groups' meetings, e.g. the Commissioned Officer Association and even the American Institute of Mining Engineers. (I was also stationed in Gallup, NM and there weren't a lot of professional groups that met.) At my next duty assignment, I helped a senior officer who edited a lot of different technical journals, to fulfill any need I had for associating with a professional organization. In 2001, I changed jobs and remember hearing RADM Bob Williams, F. SAME, (USPHS Ret.) and then Chief Engineer, mention SAME three different times during a conference call. I thought to myself, "*He keeps mentioning SAME, so SAME must be really important.*" I didn't realize at the time he wasn't allowed to just come out and say "*You all really need to get involved with this organization*".

Every professional organization has a mission, values, and strategic goals. As individuals, we have our own likes, interests, and time allocations. Our jobs require a certain level of performance and our management has desired outcomes for the workplace. Active membership in any organization is like a multivariable calculus problem without any boundary conditions. Active membership of an organizations factors in time, relevance, and fun. We choose how to spend our time and money based on what interests us.

SAME provided relevance to me after September 11, 2001, because of its National Security value, and my duties at the time. I became a member, and active with the local post readiness committee. Before I knew it, I was the National Readiness Chair, on the National Board of Direction, the DC Post President, and a Fellow. I have found SAME more relevant to my job (and enjoyable) than other organizations that are focused on research and selling publications. Below are my top 10 reasons, in no particular order, for being active with SAME.

- 1. *It's work without feeling like you are at work.*** You have to do what's best for you, and what you enjoy. You won't know what's best for you, until you try different things or take the advice from someone you trust. There are several big conferences to attend in your career such as the Commissioned Officer Foundation's Scientific Training and Symposium,

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the APHA annual conference, AMSUS's annual conference, AWWA's ACE, and The Continuing Challenge. The SAME Joint Engineering Training Conference (JETC) is one of the best. I encourage all engineers to try to attend JETC, at least once. It will enrich your career. If you enjoy it, it won't feel like work.

2. ***There is a 'Joint Service Esprit de Corps'.*** There is mutual respect and camaraderie amongst the uniformed services, and engineers. Professionals from the US Army Corps of Engineers, Naval Facilities Engineering Command, Air Force Civil Engineering, and US Coast Guard all recognize the skill set, leadership and service that PHS Engineer officers bring to the profession.
3. ***It not what you know, but who you know.*** SAME provides networking opportunities. SAME is great if seeking post retirement employment, business development, and contracting opportunities. SAME also provides service opportunities in the community, technical training, and social activities.
4. ***SAME is like AMSUS, but better (because it is for Engineers).*** Clinicians have AMSUS, and we engineers have our own joint military professional organization, specific to our category. SAME membership comes complete with a ribbon authorized for wear on your uniform. You can even purchase a mini-medal for wear on your Diner Dress Blue. SAME provides another excuse to wear the DDB, in addition to AMSUS and COA events once a year. On a more serious note, SAME has supported the EPAC with receptions during leadership training, providing buses for field trips, and contributing for the Engineer's Centennial.



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5. ***It's free advertising, without the elevator speech.*** SAME is not exclusive, but inclusive. SAME recognizes all seven uniformed services with all the service flags at national conferences, with all services toasted during formal dinners, and by playing all service marches during award ceremonies. Some SAME sustaining member companies have even included a PHS logo, with the other service logos, on their company coin when sponsoring a SAME conference. Our Chief Engineers have had the PHS and Engineering category represented at national SAME events consistently, for at least the past 15 years. SAME is truly an open and diverse organization. [The Military Engineer](#) magazine is a great place to showcase PHS engineering projects. SAME events are some of the few where you are not constantly reciting your elevator speech about the history of the PHS.
6. ***There's a 'wow' factor.*** At SAME conferences, post meetings, and on SAME boards of direction you can learn from retired flag officers, feel a sense of patriotism, see another side of engineering, and see others recognized. In SAME, senior executives, officers and private sector members take an interest in subsequent generations of engineers. SAME is unlike other professional organizations because there are so many opportunities to interact with, and watch, true leaders. I've been privileged to spend quality time with our past four Chief Engineers at SAME events, often at airports, on a plane, sharing a meal, or just in the hotel lobby.
7. ***There's another 'wow' factor.*** SAME puts on some cool activities. In addition to technical training with CEUs, there are networking events. I regret not attending the 2014 Mid-Atlantic Regional Conference Ice Breaker (skeet shooting). But, I did attend the SAME hosted tour of Cheyenne Mountain during the 2009 PHS Leadership Training. Plus, the gala events, golf outings, scholarship dinners, and holiday parties are fun and at nice venues.
8. ***You are already exuberating SAME Values.*** We have our Corps' four core values. The [SAME values](#) are Integrity, Patriotism, Public Service, National Security, Technical Competence, Excellence and Environmental Stewardship.

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9. ***It's cheap and there is a post near you.*** SAME is affordable ([a \\$60 one-time fee for Uniformed Services](#)) and has ~120 posts internationally and in the US. Most of the costs of membership are essentially subsidized by the private sector, to ensure price is not a 'show stopper' for government membership. To be active, you don't have to attend every monthly meeting. You can attend the technical ones related to your job, plus a few social ones on your own.

10. ***The old help their young.*** (Not "Second to None" or "We eat our young".) That's right, SAME shares a similar credence as PHS Engineers, in that "We take care of our own". SAME members, like PHS Engineers, participate in 'ritual backslapping' at gatherings, but really help students and 'young members'. SAME has K-12 outreach, construction camps, student chapters, college scholarships and a mentoring program. The designation of 'Fellow' identifies those who have committed to mentoring.

I continue to learn from SAME members. I recognize that not everyone will seek advice or embrace SAME, but SAME will always be ready to receive you. As mentioned above, you have to figure out what is best for you. Whether it be curiosity, encouragement from another, or your own reasons, give SAME a try. You will probably get more out of it, than what you put into it.

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## ***Around the Web: The Military Engineer***

See *The Military Engineer* for recent articles by PHS Engineers:

[Preserving the Blue Ridge Parkway](#), by CDR Nathan Epling, PE, BCEE, M.SAME  
*Maintaining one of the most beautiful roads in the world requires not only competent technical skills, but an appreciation for the safety of the visiting public and the preservation of the precious resources they travel miles to experience.*

[At the Forefront of Sustainability](#), by LCDR Leo Angelo Gumapas, PE, M.SAME  
*As the National Institutes of Health faces challenges in improving the energy efficiency of its operations, it has engaged U.S. Public Health Service environmental engineers to explore solutions from a pollution prevention perspective, to use strategies that lower utility consumption and reduce greenhouse gas emissions.*

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## Spotlight on the U.S. Army Public Health Command

CDR Jennifer L. Caparoso, PE



For the past six years, I was detailed to the U.S. Army Public Health Command Region – Europe (PHCR-Europe) in Landstuhl, Germany. As a PHS Engineer, the position offered a rare opportunity to travel internationally and experience life in the military firsthand. Although there are many unique challenges associated with working overseas, it was gratifying to be able to contribute to the health and safety of my fellow uniformed service members.

Early in my assignment, my work largely supported military personnel deployed to over two dozen exercise locations throughout Europe and Africa. We conducted occupational and environmental health site assessments (OEHSAs), which consist of comprehensive, all-hazard assessments to identify potential threats and exposure pathways at various types of facilities (billeting, dining areas, fitness and recreational centers, barber and beauty shops, etc.). OEHSAs document site conditions, guide data collection, and provide recommendations to mitigate risk. Water and soil samples are also collected to develop conceptual site models of complete or potential exposure pathways and to ensure that deployed personnel are not exposed to unacceptable contaminant levels.

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While we found some of the host nation locations to meet or exceed U.S. standards, there were many locations that were far below U.S. standards. It was always a delicate situation to inform host nation personnel that their facilities would need to be upgraded for use by U.S. personnel. Some host nations welcomed the chance to improve their facilities and it was amazing to see the improvements that could be made in a relatively short time based on our recommendations.

Another significant aspect of the job, was working at fixed Army installations in Belgium, Germany, Italy, and the Netherlands. There were four main program areas: Entomological Sciences, Drinking Water and Sanitation, Water Resources, and Waste Management. I predominantly supported drinking water compliance monitoring for Army, Navy and Air Force installations in Belgium, Germany, Greece, Italy, and the Netherlands. A distinctive aspect of the monitoring was the compliance standards. Each country had its own set of standards called Environmental Final Governing Standards (FGS). The FGS considered U.S. standards, but also took into account host nation standards. Most countries' FGS were similar and closely followed U.S. standards, but the Italian FGS substantially differed and always provided fodder for lively office discussion.

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## Meet an EPAC Member

The EPAC welcomes the newest voting members of 2015:



### **CDR Mark Jackson, MSEE**

CDR Jackson works as a Research Engineer in the Health Effects Laboratory Division (HELD) at the National Institute of Occupation Safety and Health (NIOSH) in Morgantown, WV. He serves as a subject matter expert and division level consultant for inhalation exposures to occupational agents and pulmonary function measurement of small rodents utilized in occupational health research. He is responsible for developing exposure systems with computerized feedback control to simulate workplace environ-

ments for small laboratory animal studies. He earned a Bachelor of Science degree in both Electrical and Computer Engineering, and a Masters of Science in Electrical Engineering from West Virginia University in Morgantown, WV.

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**CDR Joshua Simms, MS**

CDR Simms is originally from Ohio and graduated from the University of Toledo with a BS in Chemical Engineering and a MS in Engineering. In 2002, he joined the U.S. Public Health Service and worked for the Indian Health Service. He spent three years as a staff engineer at the Navajo Area Office of Environmental Health and Engineering, Division of Sanitation Facilities Construction (OEHE/SFC). CDR Simms then moved to Fort Defiance Indian Hospital (Navajo Area) where he



was as a supervisory field engineer (OEHE/SFC). Next, CDR Simms transferred to the Fort Yuma Indian Hospital (Phoenix Area). He had the unique opportunity of filling multiple vital roles while there. His main role was as the Facility Manager, but he also held collateral duties as the safety officer, acting administrative officer, and acting CEO. In February 2009, CDR Simms accepted a position as a regulatory operations officer with the Food and Drug Administration, Center for Devices and Radiological Health, Office of Compliance. CDR Simms moved into his current position as the Branch Chief for the Cardiology Devices Branch in the Division of Manufacturing and Quality (CDRH/OC/DMQ) in 2011. He has also been a member of RDF 5 since 2009.

**James R. Harris, PhD, PE**

Dr. Harris is Team Leader for the National Personal Protective Technology Laboratory, Morgantown Evaluation and Testing Team at the National Institute for Occupational Safety and Health (NIOSH). His past research has included developing engineering controls to prevent worker injury and death due to tractor overturns. More recently, he has been working in the manufacturing sector in the area of machine safety. Dr. Harris is a past member of the ANSI B11 Accredited Standards Committee on Safety Standards for Machines and the ANSI O1 Accredited Standards Committee on Safety Standards for Industrial Woodworking Machinery.

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**CDR Jonathan Rash, PE**

As the Chief of the Project Engineering and Management Branch of the Nashville Area Indian Health Service, CDR Rash oversees planning, design and construction of water, wastewater, and solid waste facilities for 25 different Indian communities in 11 states from Northern Maine to South Florida to East Texas. He is stationed in Manlius, NY, and supervises staff in offices in Maine, South Carolina, Alabama, and Louisiana. He is a registered Professional Engineer in the State of California. CDR Rash began his current position in November 2012. Prior to that, he served as District Engineer in Escondido, CA, for seven years, and as a Field Engineer in Yuma, AZ, and Parker, AZ, for

four years. Prior to joining the Indian Health Service, he served in the Peace Corps in Nepal from 1998 to 2000. CDR Rash previously served as Chairman of the Board of Directors for COA and as Vice-Chair of JOAG. He and his wife and son enjoy traveling and getting into all kinds of trouble together. He enjoys reading, film and music.

**LCDR Jennifer Stevenson, MBE**

LCDR Stevenson was born in Honolulu, Hawaii. While she was growing up, she moved many times, living mostly on the East and West coasts of the US as her father was in the U.S. Navy. LCDR Stevenson went on to study Biomedical Engineering at Vanderbilt University, earning a Bachelor of Engineering and later graduating from the Catholic University of America in Washington, DC with a Master of Biomedical Engineering. LCDR Stevenson started working for the Food and Drug Administration (FDA) in 2004 as a civil servant and joined the U.S. Public Health Service in November 2005. LCDR Stevenson currently works in the Office of Device Evaluation as a lead reviewer for general surgery devices. She is married to her husband, an Air Force officer, Lt Col Kendal Stevenson, who is currently stationed at the Pentagon. She enjoys running marathons with her husband and has two dogs, a Cocker Spaniel and a Shih Tzu.



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**CAPT David Harvey, PE, MPH**

CAPT Harvey is the Deputy Director of the Division of Sanitation Facilities Construction within the Indian Health Service (IHS) in Rockville, MD. In this role he is responsible for budget, policy and guidance development to ensure program funding, output measurement, accountability and transparency. CAPT Harvey's first assignment in the U.S. Public Health Service was as a facility manager at St. Elizabeth's Hospital in Washington, DC. Following this assignment in 2000, he transferred to Sparks, NV where he worked as a field engineer in the IHS Sanitation Facilities Construction Program. In 2006, CAPT Harvey transferred to Washington, DC to work with the Environmental Protection Agency, Water Security Division. He then transferred in 2008 to EPA's Drinking Water Protection Division where he coordinated the National Tribal Drinking Water Program. He is a registered Professional Engineer in the State of Maine. He holds a Bachelor of Science from the University of Maine, a Master of Science from the University of Connecticut both in Civil Engineering and a Master of Public Health degree from Johns Hopkins University School of Public Health.

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## New Engineer Officers

The EPAC would like to acknowledge the following engineer officers who were commissioned between October 2014 and March 2015. The EPAC welcomes each of you and hopes you will enjoy a long and prosperous career in the PHS.

Rank	Name	OPDIV	City	State
LT	Roxanne Adeuya	FDA	Herndon	VA
LT	Brian Beamer	CDC	Cincinnati	OH
LTJG	Stephen Browning	FDA	Silver Spring	MD
LT	Michael Gifford	FDA	Tampa	FL
LT	Teresa Kastner	FDA	Cincinnati	OH
LT	Reginald Taylor	DOD	Washington	DC



## Fair Winds and Following Seas

The EPAC would also like to recognize the engineer officers who have retired from the Commissioned Corps between March 2014 and March 2015. The EPAC sincerely appreciates your leadership and dedication to the mission of PHS engineers.

Rank	Name	OPDIV
CAPT	Samie Allen	FDA
CAPT	David Apanian	EPA
CAPT	Dana Baer	IHS
CAPT	Mary Dahl	IHS
CAPT	Danielle Devoney	EPA
RADM	Ronald Ferguson	IHS
CAPT	Jonathan Fogarty	IHS
CAPT	Robin Holden	IHS
CAPT	Darrell Laroche	NIH
CAPT	Robert Mcvicker	IHS
CDR	Cecil Means	IHS
CDR	Ernestine Meyers	IHS
CAPT	Dale Mossefin	IHS
CAPT	Jeffrey Murray	IHS
CDR	Chris Piacitelli	CDC
CAPT	Peter Pirillo	FDA
CDR	Ross Schroeder	IHS
CAPT	Keith Shortall	IHS
CAPT	Andrew Smith	EPA
CDR	Jack Sorum	IHS
CAPT	Glen Stonebraker	NIH
CAPT	Rao Surampalli	EPA
CAPT	Richard Wermers	IHS
CAPT	Colleen Yazzie	IHS



Dear Readers,

The *Machinatores Vitae* newsletter is a publication of the EPAC, but we need help in bringing you the information and stories that you want to read. Please consider submitting an article for an upcoming issue or let us know when you or a colleague have reached a milestone, been recognized for an accomplishment, or have an experience to share. If you are an accomplished writer, send something along that is already polished. If you don't feel like a Hemingway or Dickinson, just send enough detail so the writing team can take hold of it and build the story for you.

The writing staff can only see a bit of the big world that is public health engineering. There are numerous accomplishments even within our readership that remain unknown except in the relatively small circles around you. If you have not presented at a national meeting, the likelihood is that no one outside of your agency, or possibly even Office, ever heard about your pet project that you nearly exhausted yourself completing. Here is your chance to shine!

All ideas are welcomed. Remember that we do not have to solely focus on work going on within the PHS. Let us know if you hear of new technologies or applications, or just find an interesting story from the outside world. The rule of thumb is that if you as an engineer are interested in it, then others will be too!

Send your thoughts, suggestions, or a brief synopsis of a proposed article to the newsletter editors at [postings@usphsengineers.org](mailto:postings@usphsengineers.org).

Thank you,

EPAC Newsletter Team

The *Machinatores Vitae* is published twice annually and posted on the USPHS Engineer Professional Advisory Committee website. The deadline for submitting articles for the Fall 2015 edition is **August 31, 2015**.