

United States Public Health Service

MACHINATORES VITAE

Engineer Community Newsletter

From the Chief Engineer Officer



Edward M. Dieser, P.E.
Rear Admiral, U.S. Public Health Service
Assistant Surgeon General

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USPHS Engineers, for my first article to you, I would like to share my speech from the Engineer Change of Command that occurred on 22 February 2018. I am humbled by this opportunity to serve you and advance our public health mission, as well as the engineering profession.

I hope you will join me in receiving change as an opportunity to improve the USPHS Commissioned Corps (Corps), to leverage our capabilities, and to meet the challenges of the future, with confidence and a positive attitude to succeed.

22 February 2018

Today is a great day to be in Our Corps!

Is our Corps at a crossroads, a critical moment in its history? Without a doubt, our Corps is changing. It always will. Leaders retire. New, young officers are called to active duty. And the cycle continues.

Though more than that, our Corps has been in a perpetual state of change for over a decade; pushing forward as a uniformed service

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under Admiral Carmona [17th Surgeon General of the United States], and shifting with the Affordable Care Act. And through it all, we demonstrated our capability and value.

Our Corps, and our Engineers, provided steadfast public health service to communities all across America. We exhibited bravery and expertise in the face of Ebola, caring and resilience during pandemic influenza and the Haiti earthquake, and resolve during any number of responses including the 2017 hurricane season. Still we face new changes and challenges already in 2018. Change is inevitable. As Admiral Lushniak [Former Acting Surgeon General] frequently said, "If you dislike change, you are going to dislike irrelevance even more." His words are more fitting today than ever.

So where do we go? I believe we need to focus on the future, and seize it as an opportunity.

We need to focus on establishing new partnerships and collaborations in the next five years to better engage our engineering problem-solving capacities. We need partnerships with FEMA, EPA, and DOD, for example – consistent with the guidance from our department – to be more response capable.

We need to focus on working with Corps leadership to ensure that we are successfully recruiting and commissioning new engineering officers; and effectively retaining and training them as they progress through their careers.

We need to focus on developing our junior officers into confident, diversely talented leaders, ready to meet the challenges and changes in the next decade – after many of us have since retired. We need to focus on a developing an engineering category, and a Corps that can readily deploy, effectively perform an expeditionary set of skills during response operations, and easily sustain itself because of our effective partnerships.

And we need to focus on the next generations of engineers; involving ourselves today in STEM programs in our grade schools, middle schools, and high schools; to keep our next generations, and our future officers, pursuing degrees in engineering, science, and medicine.

Surgeon General Adams' motto is "Better Health through Better Partnerships." Investing in partnerships with schools and educators will ensure a brighter future for health, our Nation, and our Corps – regardless of the challenges or changes that we will face. One thing that hasn't changed, is that the future depends on US. I am asking you to partner with me to face the challenges and secure a brighter future. To be ready to seize the opportunities when they appear.

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Borrowing from President John F. Kennedy:
 Ask not what engineering can do for you, rather what you can do for engineering. Ask not what your Corps can do for you, rather what you can do for our Corps.

And while today is a great day to be in Our Corps, the future is ours to make greater!

RADM Edward M. Dieser, P.E.

If you have any questions or comments related to the Engineering Category or EPAC activities, feel free to contact any of the following EPAC members.

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Awards (Chair)	LCDR Abbas Bandukwala	FDA	Abbas.Bandukwala@fda.hhs.gov
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EPAC Website			https://dcp.psc.gov/osg/engineer/



2018 EPAC Chair Update

CAPT David E. Harvey, PE, MPH



Calling All Captains

The Engineer Category currently has 104 USPHS Commissioned Corps Officers holding the rank of O-6, representing over 25% of Engineer Category Corps Officers. The experience and perspective of these Corps Officers are critically needed to help guide and focus the work of the Engineer Professional Advisory Committee (EPAC). If you have not heard, the Department of Health and Human Services (HHS) FY 2019 Budget described a pending analysis on the Corps that could range from "*phasing out unnecessary Corps functions to reinventing the Corps into a smaller, more targeted cadre focused on providing the most vital public health services and emergency response.*" Regardless of the out-

come of the analysis it is clear we should not take the existence of the Corps for granted. The need to advance and highlight the work of the Corps is more important than ever and EPAC is ready to meet this challenge. However, we need your help to ensure that EPAC Subcommittee work is focused on issues beneficial to the category and the Corps. Assistance in any Subcommittee is needed and welcome, however there are two specific initiatives that could specifically use senior level input:

(1) Articulating Engineer Category Impact

The argument that the Corps has been through these times before should not dampen the need for all Category members to look for better ways to ensure the role of engineering and public health are understood and appreciated. A key objective of any Professional Advisory Committee is the ability to describe the public health impacts of their Category. The 140 Engineer Category Corps Officers that work at the Indian Health Service (IHS) in the Sanitation Facilities Construction Program are filling a vital public health role helping to ensure rural Tribal Communities have access to safe drinking water and waste disposal methods for over 400,000 American Indian and Alaska Native homes. While the impact of

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these Corps Engineer Officers are quantifiable and described in IHS reports, EPAC does not currently have communication tools that describe the overall impacts of the Engineer Category on public health and why the Corps is in a uniquely qualified position to support this work. EPAC is beginning work in this important area and insight and guidance from O-6 officers are needed.

(2) Defining Engineer Category Deployment Roles

To some, the Corps' focus on emergency response might feel like a distraction from our daily work. My view is that being called to assist in response to a disaster is the utmost honor and a privilege of serving in the Corps. However, some may also feel, as I do, that the logistical roles engineers have routinely filled during these deployments do not fully utilize our education and technical skills for the greatest impact. The EPAC is working with the Chief Engineer to change this by developing communications for Corps and HHS leaders that describe the deployment roles engineers can fill, define specific skill sets needed to fill these roles, and identify training needs to ensure technical mission readiness. The EPAC also needs O-6 officers to assist in the development of these products.

Previous EPAC participants: it is time to reengage! Newcomers: now is the time to step up! The Commissioned Corps is sailing through stormy waters with potentially higher seas ahead. Attention on deck, all O-6s – front and center, your services are needed to help ensure the viability of the Corps! Please feel free to reach out to me directly or to any EPAC Subcommittee Chair to offer assistance.

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RADM Randall J.F. Gardner, PE (USPHS Ret.) to add “F. SAME” to Title



Engineers Pictured (L to R): *RADM Randall J.F. Gardner, PE, F. SAME (USPHS Ret.); CAPT Nelson Mix, PE, CHMM, F. SAME; CDR Varsha Salvalia; LT Michael Simpson, EIT.*

On March 9, 2018, *RADM Randall J.F. Gardner, PE (USPHS Ret.)* joined the 2018 Class of Fellows, by induction into the Society of American Military Engineer's (SAME) Academy of Fellows. SAME's Academy of Fellows Investiture Ceremony occurs on the same day as the Golden Eagles Dinner (GED), each year in the Washington, DC area. RADM Gardner was nominated, then endorsed by his Post President and two other SAME Fellows, and then his nomination package went before a board. Fellows must meet certain requirements, which include at least 10 years of active continuous contributions to SAME

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and the engineering profession. Invested Fellows accept a charge to mentor future leaders, while actively supporting SAME's mission. Congratulations to RADM Gardner for joining only three other PHS officers designated as "Fellow of SAME" or "F.SAME" – RADM Robert C. Williams, PE, DEE, F. SAME (Ret.), RADM Sven V. Rodenbeck, ScD, PE, F.SAME (Ret.) and CAPT Nelson Mix, PE, CHMM, F. SAME.

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'Patriots' Recognized at SAMEs' Golden Eagles Dinner



PHS Musical Ensemble Pictured (L to R): LCDR James Coburn (Engineer, FDA); CAPT Scott Colburn (Nurse, FDA); CDR Brad Cunningham (Engineer, FDA); LCDR Griff Miller (Engineer, EPA); CDR Megan Mattingly (Nurse, NIH).

On March 7, 2018, USPHS Engineers and other officers attended the SAME Golden Eagles Dinner. SAME Executive Director, *Brigadier General Joe Schroedel, PE, F. SAME (USA Ret.)* broke protocol to recognize the U.S. Public Health Service Musical Ensemble, which has volunteered its time and talents at the Golden Eagles Dinner for the past eight years. Unlike traditional military musicians, these men and women are not paid to perform, but work full time at the Food and Drug Administration, National Institutes of Health, and the Environmental Protection Agency—and three of the five are Engineers. He also acknowledged that one PHS musician, LCDR Griff Miller,

even drove from Philadelphia. BG Schroedel repeatedly referred to them as "patriots" and spoke about the officers' deployments to disasters and hurricanes. After this recognition, the PHS Ensemble performed one final song for the evening, a jazz rendition of "[Amazing Grace](#)," to set the tone for the presentation of the Golden Eagle awards. They received a standing ovation from the hundreds in attendance.

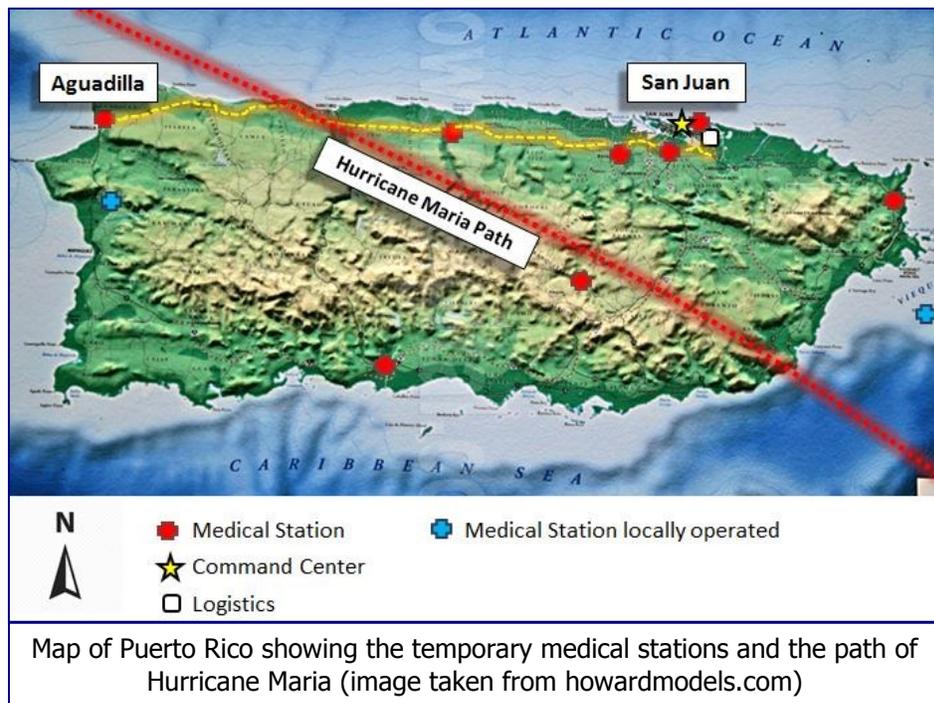
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Collaboration in the Wake of Adversity

LT Garrett Chun

It's 0715 and the Puerto Rican sun has begun to peek out of the morning clouds. The temperature is rising and I'm already beginning to perspire, more from the permeating humidity than the growing heat. I stuff an MRE in my pack as I quickly exit the warehouse and jump into a box truck. My partner takes the wheel and starts the engine while I take shotgun and turn the radio to FM 97.3. It's an eclectic mix of 80's rock, 90's hop, and millennial pop, splashed with local commercials, some in English, but mostly in Spanish. I've been in Puerto Rico for only a week and already feel like this is *my* station. In a way the station reminds me of my team, an assorted blend of civilians, retirees, and Active Duty personnel, from all sorts of professions and from all corners of America coming together to provide support and aid to this island in the aftermath of Hurricane Maria. Within a few minutes, the truck air brakes sound ready, my partner signals to the convoy leader "good-to-go," and then we are off. We are part of a four-truck convoy and today's task is going to make for a very long day.



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I have been assigned to Emergency Support Function (ESF) #8, Public Health and Medical, as part of Logistics (LOGS) located in the heart of San Juan. This is my first deployment and I'm excited to contribute what I can and absorb anything I can learn. For the past week LOGS has been supplying eight temporary medical stations dispersed throughout the island with medical/pharmaceutical supplies and general provisions. The core objective is to provide temporary public health and medical services to the general population and allow the local healthcare facilities some needed time to recover. Today is unique because we will be breaking down a full medical station in conjunction with the reopening of a local hospital.

After what seems like forever, we get out of the city traffic and transition onto a two lane highway. The lack of functional traffic control is quickly apparent as we muscle our way through each log-jammed intersection. Whereas power and water are generally available in the capitol city, such amenities are luxurious rarities in the outskirts, as evident by the downed power poles that frequent the road side. Three hours later, we arrive at our destination: Aguadilla. Immediately after the hurricane, this temporary medical station treated as



The Aguadilla medical station with the local hospital in the background

many as 300 patients a day. Comprised of four massive tents, a generator, an HVAC unit, a water treatment system, twin shower stalls, and a graywater holding tank, it is designed with the help of LOGS support to be self-sufficient in any environment. Astonishingly, everything packs into 72 totes/bins and two extra-large cardboard containers, all of which will then fit in the four box trucks. It's a colossal task to take down and we aren't leaving until it is completed.

This particular medical station is staffed by a 20-person medical unit from the Army Reserve 353rd Command, which decided that the physical components of the station will be given to the local government to help support a more rural and isolated part of the island. The 353rd will be assisting in the take down since they will also be responsible for reassembling and staffing the station at its new location. They are a good bunch and the majority of them are local to the island. Throughout the day we integrate and disperse into smaller groups to take down the tents, pack up the incidentals, and load the trucks. The work

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is hard, dirty and long with a momentary break for pizza. Around 1900 we finish loading the last of the trucks and are ready to start the long drive back to San Juan. To the dismay of everybody, the orders say no stopping for dinner so the drivers won't get groggy. MREs have never been high on my culinary scorecard, but that night I distinctly wished I had another one for the return trip.

At the time of this writing, it has been nearly two months since I left Puerto Rico, but it still feels like yesterday. I fondly recall the camaraderie and friendships forged through collaboration and our cumulative ability to affect positive change. *From late September to November, ESF-8 provided healthcare and medical services to nearly an entire island population of 3.5 million.* That day stood out to me, yet it was just one of many filled with unforgettable experiences and memories. My hope is that this article will inspire others to answer a call to the next humanitarian crisis. You will likely be doing something outside of your norms, but you will fill a need and you most certainly will make a difference.

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LT Michael Simpson Recognized by SAME's Washington, DC Post

LT Michael Simpson was in the spotlight at two major events hosted by the Society of American Military Engineers (SAME) - Washington DC Post. *CAPT Nelson Mix, PE, CHMM, F. SAME* presented both of the awards to LT Simpson along with the DC Post President, *Ms. Susan Merrigan, F. SAME, F. SMPS, CPSM.*

2017 Holiday Party – Service Recognition – Chief Engineer *RADM Randall Gardner, PE* chose LT Simpson to represent the USPHS on December 14, 2017 at the Army Navy Club in Washington, DC. The event's purpose was to recognize superior contributions by a junior officer or enlisted member stationed near the Washington, DC area.

2018 Awards Lunch – The DC Post recognized LT Simpson with the *Outstanding Contributions by Young Military Member* award at the National Press Club in Washington, DC on January 21, 2018. Uniformed members of the SAME DC Post who are 39 years old or younger are eligible for this award. Post awardees then compete against each other to be the lone recipient of the SAME's *Sverdrup Medal*, at the annual Joint Engineering and Training Conference

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(JETC), starting May 22, 2018 in Kansas City.

The two major criteria for this award are:

- Outstanding contributions to engineering, design, construction, research & development, or planning for the past three years; and
- Demonstrated leadership in managing projects or organizations.



LT Michael Simpson, center, with other recognized service members at the 2017 DC Post Holiday Party

LT Simpson's citation reflected numerous significant contributions, including over 75 inspections, investigations, and sampling events, involving FDA-regulated medical devices, biologics, pharmaceuticals and foods in domestic and foreign locations. LT Simpson also performed logistical support for the FDA during National Special Security Events; the

2017 Inauguration and 2015 African Leaders Summit. In addition to LT Simpson's work with the FDA, he has performed three deployments with USPHS for missions such as the Monrovia Medical Unit in Liberia during the Ebola epidemic, logistical support during the Papal visit, and Hurricane Maria relief in Puerto Rico. LT Simpson has mentored over 40 newly commissioned USPHS Engineers since 2013 and has assisted with streamlining workflows within the category.

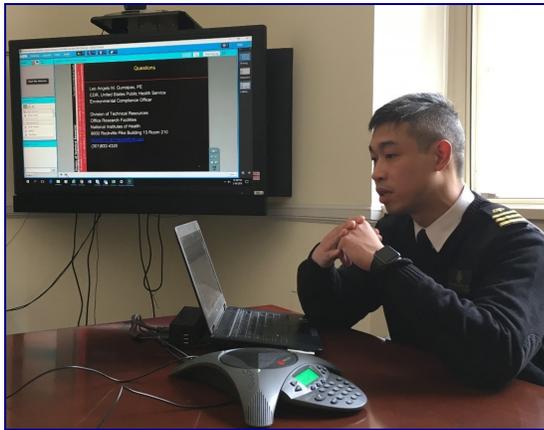
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Professional Networking at the EPA

On Monday March 19, 2018 two USPHS engineers visited the U.S. Environmental Protection Agency (EPA) in Washington, DC. *CDR Leo Gumapas, PE* (National Institutes of Health) and *LCDR Steven Tidwell, PE* (U.S. Food and Drug Administration) each discussed how their own duties intersected with the work done by the EPA's Office of Water.

CDR Gumapas – Environmental Compliance Officer, Division of Technical Resources, Office Research Facilities – discussed proactively mitigating legionella risks in cooling towers at the National Institutes of Health Bethesda Campus Central Utility Plant through implementing the American National Standards Institute

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CDR Leo Gumapas, PE at the EPA on March 19, 2018, discussing an ANSI/ASHRAE standard and legionellosis.

(ANSI)/American Society of Heating, Refrigerating, and Air-Condition Engineers (ASHRAE) 188-2015 standard. The Center for Disease Control and Prevention estimates 8,000 to 18,000 people are hospitalized annually from legionella.

While meeting with the Office of Ground Water and Drinking Water, nearly 20 people attended his presentation. Participants represented diverse EPA programs that pertain to drinking water rule-making, indoor air, facilities management, antimicrobial pesticides, and research and development.

LCDR Tidwell – Engineer, Field Engineering and Data Analysis Team, Shellfish and Aquaculture Policy Branch, Center for Food Safety and Applied Nutrition – discussed pollution concerns and possible impacts on the harvesting of shellfish and food safety. At the round table discussion, information was exchanged on how the different agencies’ programs worked together to ensure public health. Participants included representatives from the EPA Office of Science and Technology and disciplines such as economics, analytical chemistry, environmental engineering, environmental science, and public health.



LCDR Steven Tidwell, PE at the EPA on March 19, 2018 discussing shellfish safety. Also pictured, CDR Samantha Fontenelle, MPH (Health Service Officer, EPA’s Office of Water, Office of Science and Technology).

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New Engineer Officers

The EPAC would like to acknowledge the following engineers who have recently become Commissioned Officers. The EPAC welcomes each of you and hopes you will enjoy a long and prosperous career in the PHS.

Rank	Name	OPDIV	City	State
LTJG	Adam Cooke	FDA	Raleigh	NC
LT	Matthew Haith	IHS	Seattle	WA
LTJG	Morgan Lee	FDA	Silver Spring	MD
LTJG	Christopher Barnes	IHS	Lawton	OK
LT	William Chang	FDA	East Brunswick	NJ
LT	Viplav Patel	FDA	Jefferson	AR
LT	Yvesna Blaise	FDA	Parsippany	NJ
LT	Wenchi Hsu	FDA	Silver Spring	MD
LT	Charles Chiang	FDA	Silver Spring	MD
LT	Timothy Beck	CDC	Pittsburgh	PA
LTJG	Harrison Carroll	PSC	Salt Lake City	UT
LT	Andrew Lean	IHS	Anchorage	AK
LT	Drew Katherine	FDA	Silver Spring	MD
LT	James Jang	NIH	Bethesda	MD
LTJG	Colin Tack	FDA	Silver Spring	MD
LT	Steve Rhieu	FDA	Silver Spring	MD
LT	David Sullivan	FDA	Silver Spring	MD
LT	Christopher Velasco	IHS	Phoenix	AZ
LT	Bryan Wimer	CDC	Morgantown	WV
LT	Armin Oormazdi	NIH	Bethesda	MD
LT	Jaison Eapen	FDA	Jamaica	NY

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Fair Winds and Following Seas

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

Rank	Name	OPDIV
CAPT	Frank Behan	EPA
CAPT	James Simpson	FDA
CAPT	Kenneth Fisher	EPA
CAPT	Daniel Williams	IHS
CAPT	James White	IHS
CDR	Matthew Rasmusson	IHS
RADM	Randall Gardner	IHS
CAPT	Jimmy Magnuson	IHS

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Dear Readers,

Machinatores Vitae (Engineering for Life) 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 the 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 coordinator, LCDR Jason Petersen at Jason.Petersen@ihs.gov.

Thank you,

The Newsletter Team
EPAC Information Subcommittee

Machinatores Vitae is published twice annually and posted on the USPHS Engineer Professional Advisory Committee website. The deadline for submitting articles for the **Fall 2018** edition is **August 31, 2018**.