



MACHINATORES VITAE

Engineer Community Newsletter

From the Chief Engineer Officer



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

Fall 2015

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Get Ready, Change is Coming!

If these words make you anxious, don't let that feeling bother you. Most people are anxious about change. The key for me is to see change as an opportunity. If I am quick to respond to change, I feel that I have a better chance to adjust to the circumstances and to be a contributor. If I am dragged along by change, it feels exhausting and negative. When I think about our Service, I often think about the military families that often move, deploy, uproot and reestablish themselves many times while on active duty. Sometimes these changes have a negative impact on the family members, but many times it produces resiliency in those individuals and families to change. As we move forward with our new APFT, personnel system changes, changes in assignments, and changing policies and practices of our Corps, remember to build upon your personal resiliency. How we react individually to change also impacts those around us. This sort of reminds me of

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when my parents would say “if you don't have anything positive to say then” ...well you know the rest. My impression is the public has voiced the need for a well-trained cadre of public health professionals to protect, promote, and advance the health and safety of our Nation. Let's embrace change and work to improve upon it as we develop our ability to do our daily work and stay ready to respond to the needs of our country.

Thank you to the EPAC Newsletter Team!

Sincerely,
RADM Randall J.F. Gardner

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.

EPAC	Point of Contact	Agency	e-mail
Chair	CDR Jill Hammond	FDA	Jill.Hammond@fda.hhs.gov
Subcommittees			
Rules (Chair-Elect)	LCDR Kimberly Piermatteo	FDA	Kimberly.Piermatteo@fda.hhs.gov
Awards	LCDR Jitendra Virani	FDA	jitendra.virani@fda.hhs.gov
Career Development	CDR Jonathan Rash	IHS	Jonathan.Rash@ihs.gov
Deployment Preparedness	LT Shane Deckert	IHS	Shane.Deckert@ihs.gov
Information	LCDR James Kohler	EPA	Kohler.James@epa.gov
Mentoring	CDR Duane Hammond	CDC	ahz0@cdc.gov
Public Health Engineering Practices	CDR Tanya Davis	IHS	Tanya.Davis@ihs.gov
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Executive Secretary	LCDR Samantha Spindel	FDA	Samantha.Spindel@fda.gov

Engineer Professional Advisory Committee (EPAC) Website: <http://www.usphsengineers.org/>

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2015 EPAC Chair

CDR Jill Hammond



Are we *already* there? 2015 is quickly coming to an end and yet it feels like we are just getting started! It has been a great year for the EPAC, all thanks to you, my fellow USPHS and Civil Service Engineers! We have exemplified Leadership through Engineering Excellence...Together and I am grateful for your contributions to our professional category.

Some of our noteworthy achievements this year include celebrating the accomplishments of our profession during Engineers Week, providing critical infrastructure during the Ebola response in West Africa, and piloting a recruitment process to convert Civil Service Engineers into the Commissioned Corps. We also had record attendance for Category Day at the USPHS Scientific & Training Symposium in Atlanta. Our monthly meetings have offered engaging presentations on many diverse topics, with more to come!

Fall and winter is an exciting time of year, full of transitions, as we close the Fiscal Year and prepare for COERs, Promotions, and Readiness. The EPAC will transition as well, as we embark upon recruiting new leadership and members to continue our great work into the new year. You have been an integral part of our success and I thank our Chief Engineer, RADM Gardner, Subcommittee chairs and members, and entire Category for your diligent service and for the awesome privilege to serve as your EPAC Chair. We have much more to do and I trust that with your continued commitment, our best is yet to come!!!

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Opportunities Beyond: Reflections by CDR David Engelstad, P.E., 2015 USPHS Engineer of the Year

As we all know, engineering is a great profession, but it also provides opportunities beyond our normal 7 to 5 work day that add significant impact to an already fulfilling career. I have had the privilege of practicing my engineering profession in one of the crown jewels of the National Park Service, Yosemite National Park (YNP) in the majestic Sierra Nevada mountains of central California. For the past seven years, I have had numerous challenging and exciting projects assigned to me at Yosemite—including rebuilding a more robust and sustainable utility infrastructure after a devastating 1997 flood, building a traffic management system/intelligent transportation system to help manage visitor impact on the park's precious resources, constructing a park wide communication data network system to bring YNP's numerous communication needs into the 21st century, and designing/constructing innovative water and wastewater systems to serve and provide learning opportunities to a new generation of potential engineers and scientists at a state of the art LEED environmental educational center.

Even though these engineering projects have presented once in a life time opportunity, the accomplishments I'm most proud of lie outside my normal assigned work duties. Two of these include working on a sister park proposal be-



Mr. Monde, David and Laiser – sister park visit

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tween YNP and Ngorongoro Conservation Area (NCA) in Tanzania, East Africa and being invited as the keynote speaker for a regional Society of Women Engineers conference.

The chain of events that unfolded with the opportunity to promote a sister park relationship with NCA started in 2010 when my wife, Jill, and I met a young gentleman working for one of Yosemite's partner businesses - Laiser Olotumi, a Maasi warrior from the small village of Naiobi within NCA.

Friendship with Laiser grew into a personal safari to his native home, support and mentorship of a start-up solar lighting business in Tanzania, and empowerment of girls in Naiobi through sponsored education (maybe the next great engineers). Ultimately, involvement in the sister park proposal provided us an opportunity to host the visiting NCA dignitary, Robert Monde, during an international celebration event. This was a culmination of years of vested interest in friendship, partnership, and collaboration beyond normal professional duties. Opportunity knocks and I'm thankful that my wife and I opened the door to



Sponsored girls from Naiobi – future engineers?



Laiser and David within Ngorongoro Conservation Area

some exciting experiences and challenges that involve the continent of Africa! As the Tanzanian proverb says "Little by little, a little becomes a lot."

The opportunity to be the co-keynote speaker at the Society of Women Engineers (SWE) regional conference in Stockton, California memorably presented itself through a fellow professional engineer, Dena Traina.

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My keynote presentation highlighted all the Yosemite projects related to sustainable design/construction, the National Park Service's vast archiving of engineering history, and the informational wealth from ongoing climate change studies/data collection. These prepare more robust engineering design for future infrastructure impacts. The most exciting portion of my presentation, however, was to highlight that over half of Yosemite's engineers are women, and in my opinion, excel in many aspects of the engineering profession beyond their male peers. I left this conference excited about the vast talents, inspiration and insight these accomplished women engineers bring to our profession and how important a role SWE plays in supporting these women's professional careers in a male dominated environment (balancing work and home demands, pay equity, career progression, etc.). As some wise person once said, "The beauty of the world lies in the diversity of its people."

Working within Yosemite has allowed me to network with some very energetic people, bustling with ideas beyond my own, and has energized me to become a better local and global citizen. Because of the talents we develop as engineers, these opportunities are within each one of us to invigorate, build personal satisfaction and esteem, and create a better world to live in. In the words of Rear Admiral Grace Hopper, "A ship in port is safe, but that is not what ships are for. Sail out to sea and do new things."



Jill and David with solar lighting for Tanzania

I remind myself of a quote from Paulo Coelho before retiring each night--"What is Success? It is being able to go to bed each night with your soul at peace." May you find fulfillment in the numerous opportunities you make happen during and beyond your "7 to 5" story.

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2015 SAME Engineering and Construction Camp

CAPT Kenneth Sun, P.E.

Each year, the Society of American Military Engineers (SAME) collaborates with the Military Services to sponsor a series of Engineering and Construction camps for high school students who are considering an education in engineering and attending one of the service academies. These camps occur throughout the summer in various locations across the country and they provide students with the opportunity to try their hand at tackling engineering problems. I attended the camp held June 24th to July 1st at the U.S. Air Force Academy's Field Engineering Research Lab (FERL), in Colorado Springs, CO.

Students were organized into "Flights," which consisted of 12 high-achieving high school sophomores and juniors, two mentors and a Flight Commander. My role was to be a mentor. There were eight Flights that competed in engineering problem solving and construction activities. Flight Commanders were service academy cadets and university engineering students. Mentors were a mix of officers from the Air Force, Army, Navy and Coast Guard, as well as civilian SAME members that volunteered for this activity. Most officer mentors were O-3 or lower.



CDR David Gwisdalla conducting Ebola Treatment Facility layout exercise at 2015 SAME Engineering and Construction camp.

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The team accompanied the campers 24/7. The typical day started with breakfast at 0700 and ended at 2200, with engineering and construction activities lasting until 2100. The accommodations consisted of 10 cot bunkhouses with shared shower and toilet facilities for 96 campers, 16 mentors, 8 Flight Commanders, and logistics staff. Meals were provided and were on par with typical college campus cafeteria food. Dress was casual attire and ODU for specified off-site public visibility activities and the graduation ceremony.

Flights were scored on how well they completed the exercise challenges. The winning Flights typically had a good project manager that utilized the best ideas of all team members and effectively delegated tasks to work within the time constraints of each activity.

Activities included:

- 16-foot concrete beam construction
- Dog house construction
- Water balloon launcher
- Water filter construction
- Balsa wood beam construction
- Wind generator construction
- Lawn sprinkler system design and construction
- Stacking a pile of rocks to the greatest height
- Talent show
- Volley ball tournament

This year, LT Kelly Hoeksema, LTJG Michael Simpson, and LT Shane Deckert developed a USPHS-led engineering exercise where campers designed the layout of an Ebola treatment facility. CDR David Gwisdalla led the exercise, which was based on experiences of USPHS officers who set up the Monrovia Medical Unit in Liberia.

This was an extremely rewarding experience that I highly recommend to those interested in helping to foster the next generation of engineers. For me, the best parts were:

- Interacting with other uniformed services
- Getting to know the other mentors, flight commanders and campers
- Learning how other services use their engineers
- Providing visibility to the USPHS (it took a few days for campers to start recognizing me as a USPHS officer and asking questions about the USPHS)
- Learning about USAFA and ROTC scholarship options
- Spending 7 days, 24 hours a day with smart teenagers (also the most challenging part of the week)

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This annual SAME event is highly recommended as a USPHS support activity. Emails are sent out to SAME members to solicit volunteers three months before the camp in July. Interested mentor volunteers may also contact kurtubb79@gmail.com.



CDR Gwisdalla poses with a happy camper



Headlines from *The Military Engineer*

Links to recent articles by fellow PHS Engineers:

[*Grassroots Public Health*](#) by RADM Randall J.F. Gardner, P.E., USPHS — From the nation's capital to the Canadian border and Alaska villages, U.S. Public Health Service engineers are advancing health and safety through research and development, sanitation facilities and water and utility system construction, pollution prevention and environmental stewardship.

[*Ensuring Biosecurity - Combating Ebola at Home and Abroad*](#) by LT Diana Wong, Ph.D., M.SAME, USPHS — On the ground in West Africa and at home in the United States, Commissioned Corps officers of the U.S. Public Health Service worked to contain, and defeat, the worst Ebola outbreak in history.

Upcoming Events

AMSUS Annual Continuing Education Meeting

December 1-4, 2015 — San Antonio, Texas

<http://amsusmeetings.org/meetings/>

USPHS Scientific and Training Symposium

May 16-19, 2016 — Oklahoma City, Oklahoma

<http://symposium.phscof.org/>

SAME Joint Engineer Training Conference & Expo (JETC)

May 24-26, 2016 — Phoenix, Arizona

<http://same.org/index.php/events/calendar-of-events/2016-events>

Recent Events

Links to recent presentations by engineer officers:

[**2015 Engineer Category Day Presentations**](#)

[**2015 SAME JETC Presentations**](#)

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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
LT	Jeffrey Meng	FDA	Detroit	MI
LTJG	Bright Avusuglo-Ahia	IHS	Spokane	WA
LTJG	Genna Slape	IHS	Albuquerque	NM
LTJG	Derek Hancey	IHS	Portland	OR
LT	Vikram Munikoti	FDA	Washington	DC
LT	Gary Riley	EPA	San Francisco	CA

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	Robert Biddle	IHS
CAPT	Michael Chard	IHS
CDR	Pierre Costello	IHS
CAPT	Gary Earnest	CDC
CAPT	Michael Gressel	CDC
CDR	Debra Hassinan	IHS
CAPT	Charles Hayden	CDC
LCDR	Eric Lindman	IHS
CAPT	Mutahar Shamsi	FDA
CDR	Rodney Weber	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.

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 **Spring 2016** edition is **February 29, 2016**.

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