



NMR&D News

Navy Medicine Research
and Development

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Strengthening Relationships with a Regional Security Partner in Asia

By LCDR Gary Brice
NAMRU-2, Singapore

Perhaps nothing can summarize current U.S. strategy better than the Navy's new recruiting slogan: "A Global Force for Good." As forward-deployed U.S. military units work side by side with peoples of other countries to increase security capacity or work to rescue survivors and provide life sustaining supplies and care in the aftermath of a disaster, exposure of military personnel to endemic and emerging infectious diseases and biological threats poses additional dangers. These Force Health Protection issues are not unique to U.S. troops; they are constant threats to all military forces.

Recently, LCDR Gary Brice from the NAMRU-2 Detachment in Singapore led a delegation from the Singapore Armed Forces (SAF) Force Medical Protection Command to visit several Department of Defense research and development institutions and operational commands. The SAF has been a strong supporter of U.S. military engagement in Southeast Asia and a reliable partner, supporting coalition forces and reconstruction efforts in Iraq and Afghanistan. The Singapore Navy has dispatched forces under Combined Task Force 151 to deter piracy attacks in the Gulf of Aden. The people participating in these operations are part of a growing list of over 2,000 service mem-



The SAF delegation meeting with NMRC and WRAIR HQ. From left to right: LTC Amy Korman, Dr. Stephen Walz, Dr. Ayi Teck Choon (SAF), Dr. Jeffery Cutter (SAF), LCDR Gary Brice, COL Kent Kester (WRAIR CO), Dr. Huo-Shu Houng, CAPT Richard Haberberger (NMRC CO), MAJ Vernon Lee (SAF), COL Kang Wee Lee (SAF), Ms. Christine Gao (SAF) and CDR Trupti Brahmhatt.

bers who have been deployed by SAF to overseas missions, including Humanitarian and Disaster Relief missions, and peace-supporting operations sanctioned by the United Nations. The object of the visit was to discuss biological agent detection capabilities, operational concepts of deployable medical platforms and influenza surveillance collaboration opportunities with the Armed Forces Health Surveillance Center (AFHSC).

Installations visited by the SAF delegation included U.S. Army Area Medical Laboratory, U.S. Army Medical Research Institute of Infectious Diseases, Navy Environmental and Preventive Medicine Unit 2, AFHSC, and the Naval Medical Research Center/Walter Reed Army Institute of Research. The SAF delegation was headed by COL Kang Wee Lee, Commander, Force Medical Protection Command and Chief Naval Medical Officer.



CAPT Richard Haberberger and COL Kent Kester extend formal greetings to COL Kang Wee Lee, Commander Force Medical Protection Command and Chief Naval Medical Officer, Singapore Armed Forces. Photos by Dave Miles.

Commanding Officer's Message

Researchers, Support Staff and Stakeholders of Navy Medical Research, Development, Testing and Evaluation (NMRDT&E):

Navy Medical Research and Development (NMR&D) continues to garner the attention and accolades of our Navy leadership, DoD and professional societies and organizations that we work with for the research and epidemiological studies we do in support of Navy and Marine Corps warfighters and our healthcare population.

We are not just medical researchers but home builders as well. Our NMRC staff participated in a Habitat for Humanity home building project last October, facilitating and providing four families with new homes in the D.C. area.

Also, be sure to read the article in this edition on our "cutting edge" work in the Joint Non-Lethal Weapons Program at NAMRU-SA. The Chief of Naval Operations, Admiral Gary Roughead, met with our NAMRU-3 staff in Cairo and praised them for their significant contributions to our Navy and our nation.

Congratulations to CAPT (ret) Dale Ehrlich, DC, USN, who was awarded the Association of Military Surgeons of the United States Carl A. Schlack Award in recognition of sustained contributions to dental education and research in his desire to support the warfighter at the Naval Institute for Dental and Biomedical Research.

The Navy Medicine Research and Development Enterprise made an impressive fifty-four presentations at the American Society of Tropical Medicine and Hygiene in Washington, D.C. November 18-22, 2009. Lest we forget, the Navy Medicine R&D Enterprise is saving lives each and every day!

Since this is the last issue before the holidays, I want to thank everyone for all you do for our Navy and our nation. Since this is also a time for us to gather with family and friends, sometimes over long distances, I would ask that you keep safety in mind. Please enjoy your holidays, but drive safely and don't drink and drive. You are our most precious asset and our Navy depends on your contributions to our mission. God bless and have a happy holiday season enjoying family and friends.

Commanding Officer sends,
Richard L. Haberberger, Jr.
CAPT, MSC, USN



Joint Non-Lethal Weapons Program at Brooks City-Base, Texas

By Nancy Koreen

Since its founding in 1918, Brooks Field, which later became Brooks Air Force Base and then Brooks City-Base, has been a hub of military research and innovation. Now occupying 1,246 acres of western Texas, Brooks City-Base in San Antonio houses a host of military and non-military bioscience, academic, environmental and technical research organizations. Among these, the U.S. Air Force and the U.S. Navy conduct human effects research at Brooks on behalf of the Joint Non-Lethal Weapons Program (JNLWP), contributing to the study and understanding of the human effects and effectiveness of non-lethal weapons systems.

Human effects research is essential to the development of any new non-lethal weapon. Through

experimentation and modeling, human effects research aims to determine the desired and unintended effects of a weapon system across its operating envelope.

The human effects research at Brooks is critical to providing warfighters with non-lethal escalation-of-force options. "We conduct research on the forefront of science, which helps



*The Active Denial System
Official DoD photo*

the United States monitor directed-energy weapon development worldwide," said Dr. Gordon Hengst, Integration Manager at the Air Force Research Laboratory (AFRL) Directed Energy Bio-effects Division at Brooks. "Our insight helps reduce the risk of technological uncertainty so our fighting forces won't be surprised with unintentional effects of a new weapon as they enter into a conflict."

The JNLWP sponsors a variety of human effects research efforts at Brooks related to the bio-effects of directed-energy technologies. Within the AFRL Directed Energy Bio-effects Division, the Radio-Frequency Radiation Branch researches the bio-effects associated with the Active Denial System and other radio-frequency sources. The Optical Radiation Branch studies the bio-

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NMRC's BD Directorate Preparing for Move to Fort Detrick

By CDR Trupti Brahmhatt
and Mr. Jerry Morris

The Biological Defense Research Directorate (BDRD), a science directorate of the Naval Medical Research Center (NMRC), conducts research, development, testing and evaluation in the field of biodefense to enhance the health, safety and readiness of Navy and Marine Corps personnel in peacetime and contingency operations. Under the BRAC mandate, BDRD is to move to Fort Detrick, Maryland by September 15, 2011.

After exploring a set of options, it was decided that a new facility will be built within the National Interagency Biodefense Campus (NIBC) on the grounds of Fort Detrick for the Navy's biodefense program. The facility is designed to be over 36,000 square feet with state-of-the-art laboratory and

administrative spaces. The five primary areas of BDRD—immunodiagnostics, molecular diagnostics, medical countermeasures development, genomics research and military deployment/operations—along with research administration have provided invaluable and extensive input in designing the new building. In anticipation of the move, BDRD has fulfilled the requirements for NMRC to become a partner in the National Interagency Consortium for Biological Research (NICBR).

Along with the opportunities of close collaboration afforded by the move, BDRD faces many challenges stemming from the BRAC mandate and is working hard to ensure continuity of operations.

The project, under contract management by the Baltimore District of the Army Corp of Engineers, has been awarded to a design/build team.

Current design plans are approaching the 65 percent level with detailed laboratory layout, equipment placement and work flow being developed by the architectural and engineering firm's lab planners, designers and engineers in concert with the BDRD staff. The site's civil plans have been approved and mobilization on the construction site has commenced for preparation of foundation work. The building is slated to be completed by June 2011; after a period of building testing and certification, the equipment and staff will commence moving in July/August 2011.



Artist's rendition of the new facility

Chief of Naval Operations (CNO) Visits with NAMRU-3 Staff

By LT Gina Mathis
NAMRU-3 Director for Administration

ADM Gary Roughead visited Egypt on November 10-12 as part of an official counterpart visit to strengthen maritime partnerships. The CNO began his tour of Egypt by participating in the U.S. Embassy country team briefing. As part of that briefing, CAPT Kenneth Earhart, Commanding Officer, U.S. Naval Medical Research Unit No. 3 (NAMRU-3), provided a brief overview of the command's contribution to force health protection and health security cooperation in the region.

Following the meeting, the CNO met with Sailors and Marines at the U.S. Embassy in Cairo. ADM Roughead spoke about his visit and conveyed his condolences to NAMRU-3's Army staff regarding the tragic shooting at Fort Hood, Texas. The CNO's visit to Egypt concluded with a tightly packed Veteran's Day schedule in Alexandria.

NAMRU-3 has been in Cairo since 1946 and collaborates with Egypt's Ministries of Health, Defense and Environment to improve disease surveillance, laboratory capacity, clinical research and public health in Africa, the Middle East, Europe and Central Asia.

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Pictured from left to right - First Row: CAPT Turner (XO), CDR Peet (TAD, USNH Signonella), CAPT Earhart (CO), ADM Roughead (CNO), CAPT Oyoyo, LT Mathis (DFA), CDR Young. Second Row: LCDR Sebeny, SSG Barnes, SPC Perkins, LTJG Leconte. Third Row: LCDR Rockabrand, LT House, HM2 Ferguson, LCDR Bruton. Photo by Robert Greenan, U.S. Embassy Staff Photographer



NMRC/WRAIR Joint Services Color Guard: Committed to Excellence

By HM2 Tashia Blue
and SSG Maria Kurtzweil

The Naval Medical Research Center (NMRC) and Walter Reed Army Institute of Research (WRAIR) Joint Services Color Guard is committed to excellence in presenting the National Flag and Colors in a respectful, military manner. We provide distinguished representation of the United States of America and the Department of Defense in military ceremonies, parades and other local events. We consider it an honor and privilege to serve citizens of the United States of



HM2 Velasco, HM2 Manuel, HM2 Blue,
and HM2 Petzinger
Photo by Philip A. Collins

America and military service members. Since early history, flags and banners have been used by armies in battle. The flag had several meanings: to identify units, for signalling and to be a common point of reference for the movements of the soldiers in the unit, enabling them to keep formation. The flag was also a symbol of the unit. The loss of a unit's flag was not only shameful, but losing this central point of reference could make the unit break up. To protect the flag, a detachment of soldiers was assigned to guard it.

The Color Guard renders honors when the national anthem is played or sung when passing in review during a parade. In these cases, the unit and departmental flags salute by dipping (leaning the flag forward).

The Joint Services Color Guard has participated in ceremonies at the Women's War Memorial Center, Arlington National Cemetery, the Naval Memorial Center in Washington, D.C., and the Pentagon in Arlington, Virginia. We proudly presented our Flag and Colors at the NMRC Change of Command Ceremony as well as at the

Change of Command Ceremony at the U.S. Army Medical Research and Materiel Command in Frederick, Maryland. We have carried our Nation's Colors for local community events such as the Labor Day Parade in Kensington, Maryland and the annual Community Day Out at the Gwendolyn Coffield Center in Silver Spring, Maryland. Also, our team has the privilege of presenting the Colors in support of the Washington Nationals, Philadelphia Phillies and Baltimore Orioles baseball teams.

Along with 19 Army members, we currently have three Navy members: HM2 Tashia Blue, HM2 Timothy Velasco, and HM2 Stephen Petzinger. (HM2 Karla Manuel, included in the photo taken at the NMRC Change of Command Ceremony, is now serving in Guam.) If the mission allows, our team would be happy to carry our Nation's Colors at your next event. Simply contact HM2 Tashia Blue at 301-319-3152 or tashia.blue@med.navy.mil or SSG Maria Kurtzweil at 301-319-7172 or maria.kurtzweil@amedd.army.mil. Thank you for your support.

Joint Non-Lethal Weapons Program at Brooks City-Base, Texas

Continued from page 2
effects associated with lasers, including non-lethal optical distracters. Finally, the Human Effects Center of Excellence (HECOE), within the Bio-behavioral Systems Branch, oversees and analyzes human effects and risk characterization research for non-lethal weapons systems. HECOE also supports the development of tools to predict responses based on non-lethal weapon doses and maintains a non-lethal weapons human effects knowledge base.

In addition, the Naval Medical Research Unit-San Antonio (NAMRU-

SA) supports the JNLWP by conducting human electro-muscular incapacitation (HEMI) bio-effects research. NAMRU-SA has supported the JNLWP's HEMI bio-effects program for the past five years by researching the biological effects of HEMI devices to better understand the risks associated with electro-muscular incapacitation, according to Randal LeBlanc, director of research support at NAMRU-SA.

With JNLWP support, the Air Force and Navy scientists and researchers at Brooks City-Base will continue to provide human effects data to aid in the

development of non-lethal weapons that give warfighters crucial escalation-of-force options.

Quick Facts:

- Congressional District: 23rd
- District Population: approximately 650,000
- Total Employees at Brooks Working on NLW Efforts: approximately 18
- JNLWP-Sponsored FY10 Budget: est. \$2.2 million
- Research at Brooks: Tang, which astronauts drank in space during the Gemini missions, was tested at Brooks.

NAMRL Researchers Win "Best in Research" Award at AMSUS Meeting

BRAVO ZULU to NAMRL for winning the "Best in Research" Award at the 14-16 November 2009 Annual Meeting of the Association of Military Surgeons of the United States (AMSUS) in St. Louis, Missouri. The "Best in Research" Award was for the entry by CDR Rita Simmons et al. entitled, "The efficacy of low-dose intranasal scopolamine for motion sickness." NAMRL staff also had four poster presentations, and NAMRL's CDR Barry Adams was asked to speak on combat stress and mitigation.

NMRC Volunteers Hammer Down with DC Habitat for Humanity

By LT Seth Y. Flagg
Undersea Medical Officer, NMRC

On September 23 a volunteer team of enthusiastic Naval Medical Research Center military personnel spent the day working with DC Habitat for Humanity building homes in Northeast Washington, D.C. Founded in 1988, DC Habitat is a nonprofit organization that strives to eliminate poverty housing and homelessness in the nation's capital by building affordable energy- and resource-efficient homes for people in need. DC Habitat has succeeded in completing over 100 homes and renovating 75 low-income cooperative units in the District of Columbia.

Upon arriving at the building site, NMRC volunteers were briefed on safety and divided into construction teams. Each team was led by an AmeriCorps Habitat staff member. The AmeriCorps staff members, who are full-time volunteers, organized the efforts of the team and provided on-the-spot construction training for

NMRC volunteers. The construction projects tackled by the NMRC team spanned four houses in various stages of construction and included exterior siding, wall framing, trim work, shelving, painting and organization/staging of building supplies.

During the day, NMRC volunteers worked with gusto and enjoyed the chance to get to know fellow members of the command in a less formal setting while performing valuable community service. The volunteers learned new home construction techniques from the patient and skilled AmeriCorps Habitat staff. There were many smiles, shared laughs, lots of perspiration and only a few splinters.

Participants shared a group lunch while NMRC Commanding Officer CAPT Richard L. Haberberger, Jr. visited the site to show support for the service project. After lunch, participants returned to work on the various construction projects for the afternoon. At the end of the day, the Habitat site coordinator expressed his thanks for our efforts and invited us to

come back in the future. During the van ride back to NMRC, the volunteers admitted to being tired, discussed the inevitability of sore muscles and reflected that they were tired but proud that their sweat and hard work helped build homes for families in need. It's fair to say that in addition to those homes, a genuine "esprit de corps" was built among this generous group of volunteers.

The Habitat for Humanity volunteer team included Navy personnel CDR David Blazes, CDR Charmagne Beckett, CDR Richard Mahon, CDR Kyle Petersen, CDR Cindy Tamminga, LCDR Anne McKeague, LT Seth Flagg (the event coordinator), LT Mario Guerro, LT Kevin Marrs, HM1 Judith Gigremosa, HM1 Joel Tisuela, HM1 Erwin Valencia, and HM2 Stephen Petzinger. SPC Alexis McCurdy and SPC Deborah Rush, both Army personnel assigned to NMRC, also took part. For more information about Habitat for Humanity and how to volunteer, please visit <http://www.habitat.org/>

Greetings and Happy Holidays from the NMRC Ombudsman!

I would like to congratulate Navy Medicine Research and Development on a very successful year in new discoveries, outreach to our communities and enormous amounts of growth as they improve the lives of our Sailors and their families. During this holiday season, I want us to remember in particular all of our Sailors who are currently out on deployments working to complete their missions. Let us wish them a happy and safe holiday.

December Highlights: Regardless of where we are or what we are doing, the holidays can intensify stresses that we are already experiencing in our daily lives and even bring on new ones. Check out Military OneSource for a very interesting series on easy ways to deal with stress. These podcasts can be downloaded to your MP3 player or played on the computer. <http://www.militaryonesource.com/MOS/Tools/Podcasts/StressPodcasts.aspx>

Also, because one of the biggest stressors we often deal with around the holidays is money, here are some tips to keeping a handle on your finances:

1. Be a smart shopper. Clip coupons from newspaper, online, your mailbox, and the grocery store/commissary and then use them wisely.
2. Make a list and stick to it. Eat before grocery shopping to avoid unnecessary spending.
3. Limit the use of credit cards. Use cash, you tend to be more careful in what you buy.
4. Buy generic. Brand names usually cost much more.
5. Maintain your vehicle. Routine maintenance gives you a safer vehicle, better fuel efficiency and is cheaper than repair costs.
6. Car pool/use public transportation. Reduces wear and tear on your vehicle and reduces fuel cost at the pump.

7. Pack your lunch. You can eat healthy and save money at the same time.
8. Review your insurance policy. Some companies give you a break if you have more than one insurance product with them.
9. Check your Credit Score. Increased credit score may save you money by lowering interest rates, insurance premiums and even your cell phone bill.
10. Use MWR and FFSC offices. Get reduced price tickets to parks, entertainment and shows. Look online for free or inexpensive things to do in your community.

If you need help finding all the great resources the military has to offer or just need someone to talk to, please feel free to contact me at 217-722-4981 or angela.prouty@med.navy.mil.

Happy Holidays,
Angela Prouty
Ombudsman, NMRC

News from the Laboratories - Naval Health Research Center

Navy Influenza Experts Consult During WHO Meeting in Geneva

By CDR Patrick Blair
Director, NHRC Department of
Respiratory Diseases



Since the novel influenza A/H1N1 (A/H1N1n) virus was first isolated and characterized in respiratory samples from a 10-year-old

U.S. Navy dependent in San Diego in April 2009, the 21st century's first influenza pandemic has afflicted human populations across the globe. Six months into the pandemic, human cases have been recorded in 199 countries and territories resulting in more than 6,000 deaths (WHO Pandemic (H1N1) 2009 update 73). While the majority of illnesses have been self-limited mild-to-moderate uncomplicated disease, severe complications and fatalities have stricken a surprisingly large number of previously healthy young adults, raising fears that A/H1N1n could disproportionately hamper men and women in uniform.

In response to rising world concerns, the World Health Organization (WHO) convened a meeting of 125 experts in public health, laboratory sci-

ence and clinical care at their headquarters in Geneva, Switzerland November 16-20, 2009. The goal of *The WHO Public Health Research Agenda for Influenza* was to strengthen public health guidance and research and clinical actions essential to limit the impact of pandemic, zoonotic and seasonal influenza. Organizers facilitated discussion, coordination and interaction among researchers, donors/fund-

ing agencies and public health professionals worldwide by focusing participants on five vital streams directed at countering the impact of seasonal and pandemic influenza. Participants included CDR Matthew Lim, a Navy infectious disease and internal medicine clinician seconded to the WHO, and virologist CDR Patrick Blair. Drs. Lim and Blair worked with a small group to define the research and clinical objectives that the WHO will endorse over the next 1-5 years to optimize influenza recognition and treatments.

While no one can predict whether the current pandemic will worsen in the coming months, what is clear is that the threat will be met through the formation of global public health, clinical and laboratory partnerships. Towards that end, Department of Defense laboratories and military treatment facilities will serve an important role.



CDRs Blair and Lim facilitate the H1N1 discussions in Geneva

Congratulations, CDR Riddle!



CDR Mark Riddle of NMRC's Enteric Diseases Department was presented the American College of Gastroenterology Governor's Award for Excellence in Clinical Research by ACG President Eamonn Quigley in San Diego, California at their Annual Conference. CDR Riddle's presentation, "Post-infectious Functional Gastrointestinal Disorders in the U.S. Military," was determined to be the top abstract submitted to the

conference in the area of functional gastrointestinal disorders and highlighted the underrecognized chronic gastrointestinal problems that are the result of acute enteric infections in U.S. military personnel.

Season's Greetings and Safe Holidays...

We would like to extend a warm Season's Greetings to our currently deployed personnel: LCDR Franca Jones, LCDR Jeffrey Hayworth, LT Marcus Taylor and LT Patricia Keilberg. Have a wonderful and safe Holiday, Shipmates!

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