NAVAL MEDICAL RESEARCH AND DEVELOPMENT
NEWS
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Navy-wide Academic Research Competition Held in San Diego

By MC1 Anastasia Puscian, NMCSD Public Affairs

Naval Medical Center San Diego (NMCSD) hosted the 25th annual Navy-wide Academic Research Competition (ARC) May 14. ARC winners from the National Naval Medical Center, NMCSD and Naval Medical Center Portsmouth competed in the top two Navy-wide academic research categories: Approved Clinical Investigation Program (CIP) Research Resident and CIP Research Staff.

"This is one [research] of the three main aspects that we are so proud of at this command; this is just a piece of what we do. Every day I am so amazed in the things that you do and are involved in besides your clinical practice. You are all winners in my eyes," said NMCSD Commander, Rear Adm. Christine M. Bruzek-Kohler.

The goal of ARCs is to stimulate research and clinical investigation that is relevant to military medicine and provide a forum for Navy medicine staff and residents to present their research. It also provides an environment to improve patient care through the advancement of Navy medicine.

"Research gives us the opportunity to advance the healing arts through careful observation, critical evaluation and scholarly study of the challenges we face around the world today," said Deputy Surgeon General, Rear Adm. Thomas R. Cullison, keynote speaker for the event. "Navy medicine has their fair share of critics who ask us hard questions on what we do. Those critics

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On April 16, 2010, Capt. Frederick O'Brien shared the Robert A. Phillips Resident Research Award in a competition at the National Naval Medical Center and in May he went on to win the Navy CIP competition at Naval Medical Center San Diego. Capt. O'Brien is a fourth year orthopedic surgical resident in the Integrated Department of Orthopedic Surgery at NNMC and WRAMC and is spending his research year in the Department of Regenerative Medicine at the Naval Medical Research Center. He is the third resident working with Regenerative Medicine to have won this award in the last four years and is the latest example of a collaborative research effort that focuses not only on advancing the care of patients, but also on fostering future surgical scientists. Under the direct supervision of Dr. Thomas Davis, Dr. O'Brien and his colleagues have isolated progenitor cells from wounded warriors that demonstrate a proclivity for bone formation in those patients that develop. This key finding may set the way to develop prognostic assays and new therapeutic strategies to treat this difficult disease process.

Dr. Douglas Tadaki
Regenerative Medicine Department Head

In this issue:

Army Capt. Frederick P. O'Brien wins the first place award for Approved Clinical Investigation Program Research Resident during the 25th annual Academic Research Competition hosted by Naval Medical Center San Diego. The award was presented by Head of Clinical Investigation Department, Capt. Peter E. Linz (left), and Commander, NMCSD, Rear Adm. Christine M. Bruzek-Kohler (right).

Commanding Officer's Message

Greetings,

The Naval Service has a long history of maintaining a forward naval presence in areas of vital interest to the United States. For Navy Medicine, that includes our overseas research and development laboratories - Naval Medical Research Unit No. Three (NAMRU-3, Cairo, Egypt), NAMRU-2 (which will be temporarily relocated to Pearl Harbor, Hawaii in June) and the Naval Medical Research Center Detachment (NMRCD, Lima, Peru). These sentinel labs have been an invaluable extension of the DoD's infectious disease research and public health preparedness network. Navy Medicine's OCONUS labs are uniting distant regions of the world like never before - and having a major impact on how we do business with our major stakeholders and customers. Much of our OCONUS efforts go to support research that adds to our understanding of health and disease, expands our knowledge in so many areas and allows us to test new and exciting technologies. Sometimes these efforts may not have immediate application - the medical benefits may emerge years later. One of the substantial outcomes of their work is to foster and sustain cooperative relationships with our global partners. In this issue of the newsletter, some of the significant work our OCONUS labs are doing is highlighted: the NAMRU-3 CAP accreditation, which will allow us to be more responsive to CENTCOM, AFRICOM and the U.S. Embassy community in Cairo; NAMRU-3 hosting international workshops for DoD and DoS; capacity building in Peru as NMRCD works with the Peruvian scientific community to build a sound Institutional Review Board process; the flexibility of NAMRU-2, with a history of being in strategic places around the world - Guam, Taipei, Manila, Jakarta, Hawaii - and adapting to moves while continuing great research for the Navy and Marine Corps focus on malaria, dengue fever and enteric diseases. Our Navy Medicine OCONUS laboratories are "national treasures" that benefit all Americans and our host country partners. Look for great things to come out of them; more later!

To all the corpsmen within the Navy Medicine Research and Development Enterprise - thank you for all you do and have a happy 112th birthday!!!

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

Basic Integrated Public Health Training Course Held in Cairo

By Darnell Gardner, Naval Medical Research Unit No. 3, Cairo

The Naval Medical Research Unit No. 3 (NAMRU-3) conducted its third basic integrated public health training course for over 50 participants from Egypt, Mauritania, Yemen, Jordan, Libya, Djibouti, Morocco, Pakistan and Afghanistan April 11-22 in Cairo. The workshop was sponsored by the U.S. Department of State – Bioengagement Program and focused on basic-level biosurety, biosafety, epidemiology, entomology, infection control, clinical bacteriology, molecular diagnostics, serology, and laboratory control and assurance methods. Each country's ministry of health and agriculture submitted a list of applicants and NAMRU-3's selection committee utilized a competitive application process to select participants most qualified for the course.

Participants attended large group lectures in the morning followed by small group lectures and activities in the afternoon. Epidemiology participants remained at the workshop site and laboratory participants visited NAMRU-3 for laboratory sessions according to their specialty (serology, entomology, molecular diagnostics, and bacteriology). Each week concluded with an outbreak investigation case study allowing participants to practice their skills and enhance team building.

On the final day, participants were awarded a certificate of completion by Capt. Tony Oyofo and Dr. Moustafa Mansour, as well as being provided a CD of training materials. Attendees provided valuable feedback on the training course through individual module evaluations along with an overall logistics evaluation. Results from post-tests taken on the last day of the course were comparatively higher than the pretest taken on the first day.

The U.S. State Department continues to fund events of this nature with the goal of making the world healthier through education and training. By bringing diverse groups of researchers and scientists together, partnerships can be forged resulting in collaborative efforts to manage disease outbreaks in their respective countries.

Capacity Building for Peruvian Institutional Review Boards

By Lt. Jeremy Westcott, NMRCD Administrative Officer

The Naval Medical Research Center Detachment (NMRCD) Peru has been involved in capacity building in research ethics for the region since 2005. Over 20 events have been organized for the regional Institutional Review Boards (IRBs) and the scientific community, with more than 1,200 attendees throughout the last 5 years.

In 2006, Peru approved the first Regulation for Clinical Trials, which required training for IRB members, registration of IRBs and registration of sites. With training being a requirement, the events held jointly by NMRCD served a dual purpose - capacity building and compliance with national regulations. With the support of an NIH Fogarty Grant, the Peruvian IRB Network, founded in 2004, currently brings together 31 IRBs operating throughout Peru. Twenty-six of the IRBs are registered with the Peruvian National Institute of Health to review and approve clinical trials. The NMRCD IRB is one of the 26 IRBs.

A workshop held at NMRCD Lima April 13 and 14 was aimed exclusively at IRB community members and was the first of its kind in Peru. A total of 22 members from 18 Peruvian IRBs attended the workshop; two of the IRBs sent their members from the provinces to Lima. Of these members, 77 percent had never attended an IRB training event, and the topics were well received. The workshop was designed for lay people, with detailed explanations of scientific issues. It included presentations, case-by-case discussions and review of the international and national regulations. Review checklists in Spanish were provided as an additional tool to help with the review of protocol and consent forms. Topics included the role of the IRB community member, the informed consent process, privacy and confidentiality, vulnerable populations and clinical trial regulations. The speakers were selected members of the Peruvian IRB network, including the NMRCD IRB Chair, Maj. Scott Gamble.

Attendees completed an anonymous satisfaction survey, and some of the most frequent comments were the need for more training and focused discussion on selected topics in research ethics. The Research Administration team at NMRCD will continue to be involved in these training efforts.

Dr. Salomón W. Zavala Sarrio discusses conflicts of interest with Peruvian Institutional Review Board community members. Photo provided by NMRCD.

Navy-Wide Academic Research Competition Held in San Diego

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we should relish, because they force us to answer questions in a way you are all doing in this research competition, to answer the questions that matter to us."

Army Capt. (Dr.) Frederick P. O'Brien, assigned to National Naval Medical Center, won first place in the Approved CIP Research Resident-Level for his research on Heterotopic Ossification Formation in Complex Orthopedic Combat Wounds: Quantification and Characterization of Mesenchymal Stem/Progenitor Cell Activity In Traumatized Muscle.

Capt. (Dr.) David J. Tanzer, assigned to NMCSD, won first place in CIP Research Staff-Level for his research on Comparison of Wavefront Guided PRK and Lasik.

Dr. Wayman W. Cheatham, Special Assistant to the Surgeon General for Clinical Research and Director, Clinical Investigation Programs, Bureau of Medicine and Surgery; Capt. Paul Pearigen, Commanding Officer, Naval Hospital Camp Pendleton; and Capt. Greg Utz, Commanding Officer, Naval Health Research Center San Diego, made up the judging panel and after deliberation, selected the winners at the end of the competition.

The Army and Navy are the only Armed Services to hold Academic Research Competitions.

For more information on NMCSD, visit: http://www.med.navy.mil/sites/nmcsd/Pages/default.aspx.

Corpsmen Celebrate their 112th Birthday

By HM2 Timothy Velasco, Biological Defense Research Directorate

June 17 marks the 112th Corpsman Birthday! On this day, we remember the sacrifices and strengths of every corpsman and their tremendous contribution to the Navy mission. Whether on the battlefields or from the bench in a laboratory, Navy corpsmen have always been an influence throughout our nation's history. Corpsmen have been the healers of the wounded, the seekers of illnesses and the forerunners of innovative science to protect military members.

At the Naval Medical Research Center, Navy laboratory technicians spend countless field hours training and testing new technologies, methods and reagents to better detect and identify biological warfare agents. With this information, these corpsmen can better prepare and teach other corpsmen aboard ships and other facilities around the world how to detect biological warfare agents. Corpsmen understand that waiting for signs and symptoms of disease is often too late and early detection is the best way to save the lives of our war fighters.

HM1 Hector Cano and HM2 Reginald Bienaime conduct monthly proficiency testing through many different platforms to ensure the skills of the corpsman are maintained and sharpened. Their recent efforts are concentrated in testing and improving a new piece of equipment to better assist the Naval fleet with bio-warfare agents. With their hard work, there is no doubt the safety of crewmembers aboard all Naval ships is secured.

HM2 Timothy Velasco and HM2 Tashia Blue have extended their knowledge of the lab field not only within our country but to personnel around the globe. HM2 Velasco went to Baku, Azerbaijan to facilitate the Polymerase Chain Reaction and Cryopreservation training of fourteen Azeri doctors and laboratory technicians. HM2 Blue is on her way to lend a helping hand in a lab in Morocco for a Marine exercise.

We remember the sacrifices and strengths of every corpsman and their tremendous contribution to the Navy mission; all of which require our gratitude and praise. So if you see a corpsman June 17, give him or her a pat on the back for dedication to the mission.

HM2 Rachel Acker checks blood agar plates for bacteria.

HM3 John Gorey and HN Edward Sablan at the front desk.

HM3 Cassidy Harter enters data into a computer.

HM2 Eric Metzger prepares to draw a patient's blood.

San Antonio's New Labs Near Completion

By Mr. Randal K. LeBlanc and Capt. Vincent DeInnocentiis

The trucks are arriving! The staff of the Naval Medical Research Unit San Antonio (NAMRU-SA) is now receiving equipment and associated supplies from the Naval Medical Research Center, Silver Spring, Md. and the Naval Institute of Dental and Biomedical Research, Great Lakes, Il. This equipment will be moved into the 140,000 square foot Battlefield Health and Trauma Research Institute (BHT) along with the staff of NAMRU-SA's Command Suite, Combat Casualty Care and Dental Research Departments beginning July 12, 2010.

BHT construction is 96 percent complete, so we are almost there! Personnel and equipment continue to arrive in San Antonio and are temporarily housed on Brooks City-Base until the BHT is ready for occupancy. Research efforts are ongoing and will be transitioned into the BHT as the equipment is installed, calibrated and accounted for and the spaces are given the thumbs-up for operation.

The 181,000 square foot Tri-service Research Laboratory (TSRL) construction is moving along very well. TSRL construction is 35 percent complete. Two of the twelve anechoic chambers used for radiofrequency and microwave research are being installed as the building is being constructed. NAMRU-SA's Directed Energy Bioeffects Department is on schedule for move-in sometime in April 2011.

As the staff of NAMRU-SA waits for their new homes to be completed, the command keeps growing as personnel continues to arrive in San Antonio. The anticipation is high for all to finally occupy our new laboratories and begin a new chapter for Navy Medical Research in San Antonio, Texas.

Cairo Research Director Receives Distinguished Alumni Award

By Darnell Gardner, Naval Medical Research Unit No. 3, Cairo

The American University in Cairo (AUC) recognized the outstanding achievements of Dr. Moustafa Mansour, Research Science Director, U.S. Naval Medical Research Unit No. 3 (NAMRU-3) by presenting him the Distinguished Alumni Award April 17 in Cairo.

The award, presented by Mr. David Arnold, AUC President, is a testament to an individual who best exemplifies the ethics, precepts and academic standards of the university. Criteria for giving this award to Dr. Moustafa were his achievements in scientific research and his distinguished service to local institutions and international organizations. Board members also considered the level of commitment he bestowed towards academic development and execution in his country.

Dr. Moustafa received his B.S. in Chemistry and M.S. in Physical Sciences from the American University in Cairo. He then joined Vanderbilt University Medical School in Nashville, Tenn., where he obtained his Ph.D. in Nutritional Biochemistry. Following a post-doctoral year at Vanderbilt, he returned to Egypt and joined NAMRU-3 as Head of the Biochemistry Department. Since then, he has served as Head of the Basic Sciences Division, Special Assistant to the Commanding Officer for Host Country Affairs, Deputy Director of the Research Sciences Directorate, and NAMRU-3 Research Science Director, responsible for direction and coordination of research conducted by the lab's four major science programs. He also serves as the coordinator/reporting official for the Global Emerging Infections System at NAMRU-3 and coordinates NAMRU-3 activities as a World Health Organization Collaborating Center for Emerging/Reemerging Infections.

When asked about his most memorable contributions, Dr. Moustafa remarked, "I felt honored to be the key facilitator in the establishment of the NAMRU-3 sponsored AUC Biotechnology Graduate Program. Students conducting internships at NAMRU-3 receive first-hand tutelage from our subject matter experts while preparing their theses." He went on to say how pleased he was to hear that Nobel Laureate Ahmed Zewail, after a visit to NAMRU-3 and then AUC, was impressed by the work done at NAMRU-3 and its reach around the globe.

Receipt of this award places Dr. Moustafa among the ranks of other distinguished recipients such as First Lady of Egypt Mrs. Suzanne Mubarak and Queen Rania of Jordan.

Dr Moustafa Mansour (left) receives the AUC Distinguished Alumni Award for 2010 from President David Arnold (right) during the AUC Annual Alumni Gala Dinner. Photo provided by NAMRU-3.

NAMRU-2 in Transition

Despite 40 years of productive scientific collaboration with our Indonesian counterparts, the Government of Indonesia has terminated our international agreement on the presence of the Naval Medical Research Unit No. 2 (NAMRU-2) in Indonesia. Consequently, NAMRU-2 is on track to cease operations in Indonesia and turn over all its spaces to the Indonesian Ministry of Health by the end of May and to have all its remaining U.S. staff depart Indonesia by early June.

In spite of the closure of NAMRU-2 Jakarta, NAMRU-2 research, surveillance and response, and capacity building operations will continue in Phnom Penh, where NAMRU-2 has a field site with two U.S. staff (that can be increased to four); in Singapore, where NAMRU-2 has a research liaison officer, and in Laos and Malaysia, where NAMRU-2 has significant projects with host national collaborators. While the Bureau of Medicine and Surgery, the Pacific Fleet, and the Pacific Command investigate an alternative Southeast Asia site for NAMRU-2, the NAMRU-2 command element and U.S. science staff billets will be relocated to Pearl Harbor on an interim basis.

Navy Researcher Joins Search for Remains of POWs/MIAs

Lt. (Dr.) Seth Y. Flagg, an Undersea Medical Officer with the Naval Medical Research Center's Operational and Undersea Medicine Directorate, recently volunteered to augment the Joint POW/MIA Accounting Command's (JPAC) 10-3LA MIA recovery mission to the Laos People's Democratic Republic.

Flagg served as the mission surgeon providing medical support for the JPAC personnel and humanitarian medical care to more than 400 local villagers ranging in age from 3 months to 73 years. Due to the remote nature of the recovery sites and limited access to health care in general, a wide range of diseases were treated, including parasitic infections, tuberculosis and one case of leprosy. When not providing medical care, Flagg assisted in excavation operations and screening recovery site soil.

Mission 10-3LA consisted of four recovery teams assigned to two provinces (Xiangkhoang and Houaphanh) searching for six individuals missing from the Vietnam War. Each recovery team comprised 10 to 14 members directed by a team leader and a forensic anthropologist. The anthropologist directs the recovery site excavation by sectioning the site into grids to be excavated one at a time. All disturbed soil is meticulously screened by hand using one-quarter-inch mesh screens. Osseous remains and personal artifacts were recovered from multiple sites and transported to the Central Identification Laboratory (CIL) for processing. Upon completion, cases are forwarded to the Mortuary Affairs Office for personal attention to notifying surviving next-of-kin. All are gratefully considered heroes who made the ultimate sacrifice for their country and our freedom.

Activated October 1, 2003, JPAC's mission is to achieve the fullest possible accounting of all missing Americans from past conflicts. The laboratory portion of JPAC, the CIL, is the largest forensic anthropology laboratory in the world. The main goal of each investigative mission is to acquire information sufficient to connect a site with an unaccounted-for individual.

Lt. Seth Y. Flagg examines a local villager from the Xiangkhoang province, Laos People's Democratic Republic. Medical personnel deployed with the Joint POW/MIA Accounting Command administer wellness assessments and educate local villagers on proper health care regimens in addition to providing medical support to recovery team members. Photo by U.S. Marine Corps Sgt. Rebekah Ide.

Joint Biomedical Administrative Facility Groundbreaking Ceremony at Ft. Detrick

Military and civilian dignitaries break ground on the new joint biomedical administrative facility, April 29, 2010, Ft Detrick, Md. Capt. Montcalm-Smith represented Naval Medical Research Center. Photo provided by Ft. Detrick PAO.

It was a windy day when shovels hit the dirt at Ft. Detrick in Frederick, Md. to begin construction of a new administrative "green" building to support the Navy and Army efforts to consolidate another part of the military biomedical research efforts.

Naval Medical Research Center staff will join members of the Army's Chemical Biological Medical System in the new Joint Biomedical Research, Development and Acquisition Management Center scheduled to open in late 2011. Capt. Elizabeth A. Montcalm-Smith, Program Manager at the NMRC Advanced Medical Development Program, represented the Navy.

Ft. Detrick's primary missions include biomedical research and development, medical logistics and materiel management, and global DoD telecommunications.

Navy's Cairo Lab Accredited by College of American Pathologists

By Lt. Cmdr. David Rockabrand and Darnell Gardner, NAMRU-3, Cairo

The Navy Medicine research facility in Cairo is the first overseas Department of Defense research laboratory to receive the College of American Pathologists (CAP) Laboratory Accreditation. The Naval Medical Research Unit No. 3 (NAMRU-3) CAP-certified Diagnostics Laboratory will be an asset for the U.S. Central Command (CENTCOM), U.S. African Command (AFRICOM) and the U.S. Embassy community in Cairo.

"The goal of the CAP Laboratory Accreditation Program is to improve patient safety by advancing the quality of pathology and laboratory services through education, standard setting, and ensuring laboratories meet or exceed regulatory requirements. Our CAP certified laboratory will serve as the premier training ground for future technicians of NAMRU-3 and laboratorians throughout the Eastern Mediterranean Region," said Lt. Cmdr. David Rockabrand, the NAMRU-3 Laboratory Coordinator. "The expertise we have gained from the accrediting experience and ongoing quality processes will be demonstrated in the laboratory training and capacity building activities we perform in the entire NAMRU-3 [area of responsibility]."

In August 2009, following the spirit of teamwork exemplified through much of the U.S. Navy, Cmdr. Denise L. Peet, currently stationed at Naval Hospital-Sigonella, joined the NAMRU-3 Diagnostics Laboratory team as the Medical Director. Peet directed the preparations for CAP accreditation. At NAMRU-3 Rockabrand and Lt. Brent L. House, Assistant Laboratory Coordinator, guided the efforts locally. "Many people don't appreciate the incredible amount of paperwork and documentation that is required to run an accredited diagnostics laboratory," House commented. "During the final two months of preparation, we relied heavily on our Quality Assurance / Quality Control (QA/QC) Manager to ensure all the pieces of the puzzle were in place." The QA/QC Manager, Ms. Vita Tibbs, is a Reserve Chief Hospital Corpsman with many years of experience working in CAP-accredited laboratories, particularly in blood banking.

Regular proficiency testing is a critical part of NAMRU-3's CAP accreditation that ensures the lab test results reported by NAMRU-3 are as reliable as those reported by CAP-accredited medical centers back in the U.S. Shipping patient samples to the U.S. from CENTCOM has been a challenge, said Rockabrand. He added, "Now we can do the testing on site and also offer more laboratory capability to those we serve. The results we get here have to match what is seen in the same specimens stateside, in an accredited hospital laboratory."

"This is a significant accomplishment for NAMRU-3," said Dr. Stephen Walz, the Director for Field Laboratory Operations at the Naval Medical Research Center in Silver Spring, Md. "While the laboratory capabilities of NAMRU-3 have always been of the highest quality, with this CAP accreditation, NAMRU-3 can now, for the first time, officially report laboratory results that can be used by physicians in theater to guide medical care."

According to the CAP website, the College of American Pathologists is a medical society serving more than 17,000 physician members and the laboratory community throughout the world. It is the world's largest association composed exclusively of pathologists and is widely considered the leader in laboratory quality assurance. The CAP is an advocate for high-quality and cost-effective medical care. The members of CAP represent board-certified pathologists and pathologists in training worldwide. More than 6,000 laboratories are accredited by the CAP, and approximately 23,000 laboratories are enrolled in the College's proficiency testing program.

NAMRU-3 conducts infectious disease research, including the evaluation of vaccines, therapeutic agents, diagnostic assays and vector control measures, and carries out public health activities aimed toward improved disease surveillance and outbreak response assistance. NAMRU-3 is playing an important role in the global response to avian influenza and pandemic influenza and is active in monitoring infectious disease trends among DoD personnel deployed to operational bases in Turkey, Afghanistan and Iraq.

Research personnel in the Naval Medical Research Unit No. 3's Diagnostics Laboratory at work. Photo by Rafi Bakhchanian

Defense Department Nuclear, Chemical and Biological Defense Expert Visits NMRC

The Honorable Andrew C. Weber, Assistant to the Secretary of Defense for Nuclear, Chemical and Biological Defense Programs, visited the Naval Medical Research Center, met with research and administrative personnel, and toured the laboratory facilities April 22 (Earth Day).

Weber is the principal advisor to the Secretary of Defense, Deputy Secretary of Defense and Under Secretary of Defense for Acquisition, Technology and Logistics on all matters concerning the formulation of policy and plans for nuclear, chemical, and biological defense programs. Most of Weber's 24 years of public service has been dedicated to reducing the threat of weapons of mass destruction. He is a graduate of Cornell University and has a Master of Science in Foreign Service degree from Georgetown University.

Mr. Andrew Weber tours laboratory facilities and meets with staff at NMRC. Pictured from left to right: Dr. Alfred Mateczun, Mr. Weber, HM1 Brian Knetsch, Lt. Mario Guerrero, and HM1 Judith Gigremosa.

Navy Researchers Participate in "Career Day" at Research Week 2010

Two NMRC researchers spoke at the Uniformed Services University career day event during USU Research Week, May 10-12, in Bethesda, Md. Dr. Kimberly Bishop-Lilly and Dr. John Pesce, both graduates of USU, are now working in the NMRC Biological Defense Research Directorate (BDRD). Their talks focused on their respective professional paths and they provided advice for the next stages of the graduate students' careers. Dr. Bishop-Lilly is the Deputy Head, BDRD Genomics Department; Dr. Pesce is the Deputy Head, BDRD Vaccine and Medical Countermeasures Department.

BDRD serves as a national resource providing testing and analysis for the presence of anthrax and other potential biological hazards. Its portable laboratory, the only one of its kind devoted to detecting biological agents, was deployed to the Pentagon following the crash of American Airlines flight 77 on September 11, 2001 and to New York City to assist with biodetection. After the anthrax attacks in October 2001, BDRD analyzed more than 16,000 samples from the Capitol. They detected the presence of anthrax at Hart Senate Office Building, the Supreme Court, and several area mail processing facilities. The laboratory was also present at the Winter Olympics in Salt Lake City in 2002.

The theme of Research Week was "Celebrating Excellence in Research" and reflected the complementary roles that nursing, public heath, behavioral science, basic science and medicine play in health promotion. The event highlighted USU's special role in civilian, public health and military research across the health sciences.

USU has a worldwide reputation as a center of excellence for military and public health professions education and research. Their programs are unique, related directly to force health protection, tropical diseases, disaster medicine, military and public health medical readiness and adaptation to extreme environments.

Dr. Kimberly Bishop-Lilly

Dr. John Pesce

Tenth Annual Wilderness Challenge Scheduled for October 2010

By Santina Maiolatesi, Program Manager, U.S. Military Malaria Vaccine Program

Registration for the 2010 Wilderness Challenge is open and filling up fast! CDR Cindy Tamminga, the NMRC team organizer for this year's event, hopes to "recruit a strong team that will enjoy the beautiful scenery and have fun." The tenth anniversary Wilderness Challenge will take place October 7-9 in the heart of the Appalachian Mountains in West Virginia. Teams participating in this year's challenge will compete in an 8-kilometer mountain run, a 14-mile mountain bike race, a 14-mile forced hike through the mountains, a 13-mile whitewater raft race on the Gauley River and a 7-mile kayak race on the New River.

The Challenge is open to all branches of the military. Teams must consist of four active duty military, one of which must be female. NMRC has sent teams for the past four years, and in 2009 two teams included NMRC and WRAIR participants.

"The MWR Wilderness Challenge continues to bring together the best athletes in the armed forces and puts them to the test. The competition gets tougher and tougher every year," said Michael Bond, the event coordinator. Bond encourages teams to register early to reserve their space. The team format is designed to foster camaraderie, competition and team spirit among all five branches of the Armed Services. More than 300 military people representing teams from around the world are expected to compete.

One of the NMRC/WRAIR teams in the 2009 Wilderness Challenge raft race.

NAMRU-3 Hosts U.S.-Pakistan Biological Engagement Workshop

By Darnell Gardner, Naval Medical Research Unit No. 3, Cairo

Delegates from the United States and Pakistan convened for the first U.S.-Pakistan Biological Engagement Workshop in Cairo, Egypt, May 3 to discuss the overall objective of the Cooperative Threat Reduction Program, which is to prevent weapons of mass destruction (WMD) and related materials, expertise and delivery systems from reaching any state or non-state actor that might use WMD against the United States or its allies. The U.S. delegation consisted of representatives of the Department of Defense (DoD), Department of State (DoS) Biosecurity Engagement Program, U.S. Agency for International Development, U.S. Department of Health and Human Services and U.S. Department of Energy. The Director General, Disarmament for the Government of Pakistan led the Pakistani delegation with representation from the Ministries of Defense, Health, Higher Education and Agriculture.

During the meetings, attendees were divided into project-specific groups where they revised and/or refined proposals to meet both U.S. and Pakistani mission objectives. In addition to providing conference support, NAMRU-3 also provided subject matter experts who ensured the dialogue progressed productively during breakout sessions.

DoD's Cooperative Biological Engagement Program is keen to partner with NAMRU-3 as an implementer of the coordinated biosafety/security plan produced at this conference. DoS and DoD will continue to work in unison to ensure the implementation of the full spectrum of actions outlined in the National Security Council Bioengagement Strategy for Pakistan.

Explaining lab procedures to U.S. and Pakistani conference attendees.

Who We Are: Navy Labs Outside the Continental United States

By Dr. Stephen Walz, Director for Field Laboratory Operations

The Naval Medical Research Unit Three (NAMRU-3), Cairo, with a major field site in Accra, Ghana; Naval Medical Research Center Detachment (NMRCD), Lima, with a field laboratory in Iquitos, Peru; and Naval Medical Research Unit Two (NAMRU-2), Pacific, with a field site in Phnom Penh, Cambodia, are invaluable extensions of the Department of Defense's infectious disease research and public health preparedness network. Their research efforts extend around the world and include climates ranging from tropical rain forests to coastal and inland deserts, which are ideally suited to study the widest range of infectious disease threats. Researchers actively engage foreign national militaries, public and private health and research agencies, non-governmental organizations and academia to address infectious disease threats.

NAMRU-3, the largest and oldest of the Navy's labs outside the continental United States (OCONUS), was established in 1942 when the U.S. Typhus Commission placed a research laboratory staffed by American scientists and technicians in Cairo. NAMRU-3 was formally established as a Navy lab in 1946. Historically, NAMRU-3 limited its activities to Egypt and neighboring countries, but in recent years has expanded activities in the Middle East, sub-Saharan Africa, Eastern Europe and Central Asia. Current studies focus on influenza-like illness, acute febrile illness, diarrheal diseases, hemorrhagic fevers, HIV and other bloodborne pathogens, meningitis and infection control. NAMRU-3 is a regional leader in influenza surveillance.

NMRCD, established in 1983, is the youngest OCONUS lab. It is located on the grounds of Centro Medico Naval, the Peruvian equivalent of our National Naval Medical Center. In addition to its work in Peru, NMRCD has collaborations in nearly all the nations of South and Central America. With DoD Global Emerging Infections and Response System support, NMRCD developed an electronic disease surveillance system that has transformed public health surveillance and response in the Peruvian Navy. NMRCD also collaborates with the Peruvian Ministry of Health in the surveillance and response to emerging infectious threats, established a field public health laboratory in Pisco, Peru following the 2007 earthquake, and played a major role in tracking the 2009-2010 H1N1 epidemic in Peru.

Originally established on Guam in 1945, NAMRU-2 was disestablished after World War II and re-established in Taipei in 1955 to study endemic and epidemic diseases of Taiwan and the Far East. In 1970 NAMRU-2 established a Detachment in Jakarta to collaborate with the Indonesian Ministry of Health. Adapting to changing political climates, the command migrated from Taipei to Manila in 1979 and then to Jakarta in 1991. Pandemic influenza surveillance and response has dominated NAMRU-2's recent activities. The lab has played a critical role in evaluating new anti-malarial drugs, determined the immune responses to malaria and dengue to guide vaccine development, and conducted large-scale efficacy trials of typhoid and cholera vaccines. NAMRU-2 has also responded to natural disasters (tsunami in Banda Aceh and earthquake in Central Java) with medical and public health support.

Research scientists working in one of Navy Medicine's labs in Southeast Asia.

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