

Seventy Years of Naval Aeromedical Research Excellence Moves to Ohio



NAMRL Building 1811, acceleration facility (1950s-2005) and NAMRL headquarters from 2005-2011.

Naval Air Station (NAS) Pensacola has been home to aeromedical research in the naval services since 1939. While the aeromedical research laboratory stood under several names in its history, Naval Aerospace Medical Research Laboratory (NAMRL) is the name most widely recognized. NAMRL was at the

forefront of many of Naval Aviation's formative scientific endeavors, from setting the standards for naval aviator selection to playing an integral part in the space race alongside NASA.

Early contributions to the space program under the guidance of long-time research director Dr. Ashton Graybiel included roles in the development of the first space suit and the transdermal scopolamine patch. In addition, NAMRL investigators conducted critical investigations into space survivability and radiation exposure. The first primate to survive space flight, Miss Baker, was a NAMRL squirrel monkey. However, NAMRL's primary focus has always been on Fleet aeromedical issues.

For example, to facilitate safe, portable and effective hypoxia familiarization for pilots and aircrew, NAMRL scientists designed the Reduced Oxygen Breathing Device (ROBD). The ROBD has not only significantly changed the way Naval aircrews train, but other U.S. and international services and civilian aviation agencies have also adopted its use. Another milestone invention

was a novel acoustic dampening material designed to address the ever-present problem of intense noise in the aviation environment. Both of these inventions garnered the prestigious Federal Laboratory Consortium Award for Technology Transfer.

More recent highlights include two award-winning projects, one involving an intranasally administered countermeasure for motion sickness, the other an oral countermeasure for fatigue, both of which received the Surgeon General's Research and Development Procedural Advancement Award. As a testament to its continued excellence in research, in June 2011 NAMRL was awarded the Meritorious Unit Commendation for consistently demonstrating meritorious achievements above and beyond mission requirements.

September 2011 marks the end of an era. NAMRL's official disestablishment at NAS Pensacola will mark the completion of its BRAC-directed relocation to Wright-Patterson Air Force Base (AFB), Ohio
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Commanding Officer's Message



In 2005, BRAC directed the establishment of a Center of Excellence for Aeromedical Research, Training and Education at Wright-Paterson AFB in Dayton, Ohio. The Naval Aerospace Medical Research Laboratory (NAMRL) at NAS Pensacola has been in the long process of relocating personnel and equipment to Ohio to become a core component of the new Naval Medical Research Unit-Dayton.

This month NAMRL will close after more than 70 years of operations. A long and distinguished legacy of aeromedical research began in 1939 with the establishment of an aviation medicine research unit at NAS Pensacola. In the 1940s the lab focused on experiments leading to the famous "Thousand Aviator Study" that followed pilots through several decades of their careers. During that decade, successful studies formed the basis for aviation medical and psychological tests and standards still used today. The lab became a world leader in acceleration and motion-based research, achieving landmark studies related to spatial orientation, balance and motion sickness.

Over the years, a strong relationship developed with NASA highlighted by the first primates launched into space and successfully recovered, research that allowed NASA to determine rocket acceleration limits for manned space flights. The lab was also instrumental in the development of the first space suit. Every NASA mission from the Gemini program to Skylab carried a NAMRL research project. More current research led to OSHA radiation exposure limits; analysis of unmanned aerial vehicle operators; and the development of a device to induce hypoxia more safely and inexpensively than a hypobaric chamber, allowing aviators to train as they fly. The list of accomplishments and achievements goes on and on.

To all who have worked at NAMRL, past and present -- Thank you for a job well done!!

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

Seventy Years of Naval Aeromedical Research Excellence Moves to Ohio

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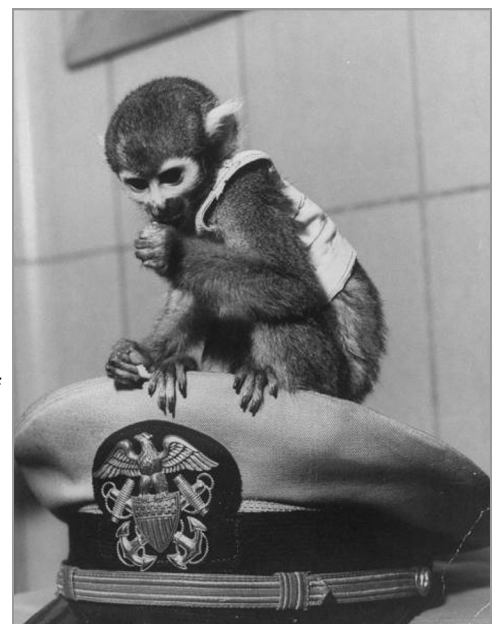
– a move from the "Cradle of Naval Aviation" to the "Birthplace of Aviation." Combining with the former Environmental Health Effects Laboratory, NAMRL's mission and legacy will continue as part of Navy

Medicine's newest research command, Naval Medical Research Unit – Dayton ([NAMRU-Dayton](#)), a constituent of the new DoD Aeromedical Joint Center of Excellence at Wright-Patterson AFB.

This new center provides NAMRU-Dayton investigators with unique research devices in state-of-the-art laboratories to address a wide range of operational requirements. The new command is fast becoming a cornerstone of the new DoD Center of Excellence at Wright-Patterson AFB and Navy Medicine's premier aeromedical and environmental health research laboratory. This next page in NAMRL's history is the beginning of new possibilities, new research and a new investment by Navy Medicine in the protection of our warfighters.



NAMRL headquarters building in 1953, which was damaged by Hurricane Ivan and razed in 2005.



Miss Baker in 1959.

Navy's Cairo Laboratory Co-Hosts Training in Amman, Jordan

By Darnell Gardner, NAMRU-3 Public Affairs

U.S. Naval Medical Research Unit No.3 (NAMRU-3), Cairo, Egypt, and the Jordanian Ministry of Health and Central Public Health Laboratory co-hosted the Laboratory Quality Management System (LQMS) Training Course in Amman, Jordan, July 11–21.

LQMS training is an intensive course developed by the U.S. Centers for Disease Control and Prevention, the World Health Organization (WHO), and the Clinical and Laboratory Standards Institute to deliver the essentials for quality management of both public health and clinical laboratories. This training was sponsored by the U.S. Department of State and the Defense Threat Reduction Agency (DTRA).

Laboratory managers from Egypt, Jordan, Yemen, South Sudan, Iraq, Pakistan and Afghanistan received instruction on laboratory management and were also able to establish personal contacts with regional colleagues and build on opportunities for future collaborations.

Dr. Gregory Wani Dumo Yugu, Director of Public Health Laboratories in South Sudan, said, "The fate of our newly established country is of concern to all of us. Our scientists need to create a quality health attitude among our gov-



Participants in the Laboratory Quality Management Systems workshop, Amman, Jordan.

ernment and its people, and this type of attitude means priority will be given to create a quality health strategy."

When asked how he felt about his involvement in the training, he replied, "Being a part of this workshop is magical! We hope to learn how to set up a quality laboratory management program. We will be engaging with our colleagues to learn their best practices, and also

look forward to a growing relationship with NAMRU-3."

From a laboratory management perspective, modules covered organization, safety and quality control/assurance. The laboratory support modules focused on facilities and equipment management, purchasing and inventory, and sample management. Administratively, attendees were presented scenarios pertain-

ing to external quality assessments and audits, norms and accreditation, personnel, documents and records, process improvement, and information management.

"After this workshop, we will be able to provide guidance on how to improve our health care system in general and in the region," said Dr. Aktham Haddadin, General Director of Laboratories in Jordan.

Lt. Col. Steve Sabia, an observer from DTRA's Cooperative Biological Engagement Program, expressed his enthusiasm at being associated with such an important training experience. He went on to explain that conferences of this nature offer a unique opportunity for laboratorians to be trained in the WHO standard program and also establish a regional network of potential collaborators.

Dr. May El Sherif, NAMRU-3 scientist and lead coordinator for the workshop, said, "Nothing is more rewarding or worthwhile than witnessing the extent of enthusiasm and contribution by participants, the congenial atmosphere between presenters and trainees, and the appreciation expressed by everyone. It is a true pleasure and honor to have been a part of this event!"



Workshop attendees from Pakistan form a separate focus group to compare LQMS standards with their own.

Navy Scientists Participate at Aerospace Medical Association Meeting

From NAMRU-Dayton Public Affairs

The Aerospace Medical Association (AsMA) held its 82nd Annual Meeting in Anchorage, Alaska in May, bringing together clinicians and researchers from around the world to present and discuss the latest advancements in aerospace medicine. The Naval Medical Research Unit-Dayton ([NAMRU-Dayton](#)) and Naval Aerospace Medical Research Laboratory (NAMRL) represented the Navy's cutting-edge aeromedical work, showcasing six presentations. The work included a review of pharmacological countermeasures for motion sickness, new insight into the effects of hypoxia on cognitive function, using pupillometry as an investigative tool in the aeromedical sciences, exploring the relationship between resilience and health status, the potential for monitoring in-cockpit hypoxia with modern sensors, and the use of DHEA (dehydroepiandrosterone) supplementation as a protective agent in high-stress military operations.

These presentations were well received, and NAMRU-Dayton/NAMRL scientists were among those being

recognized by their peers. This year's Michael G. Lillienthal Leadership Award went to Dr. Richard Arnold, former NAMRL Scientific Director and currently Aeromedical Research Director at NAMRU-Dayton, in recognition of his significant contribution to the field of aerospace experimental psychology through excellence in leadership over the past year. Lt. Cmdr. Hong Gao was named as the runner-up among 175 contestants in this year's Space Medicine Association Jeff Myers Young Investigator Award for her work investigating the use of pupillometry as a potent physiologic marker in several aerospace research applications. Lastly, Capt. Keith Syring, commanding offi-

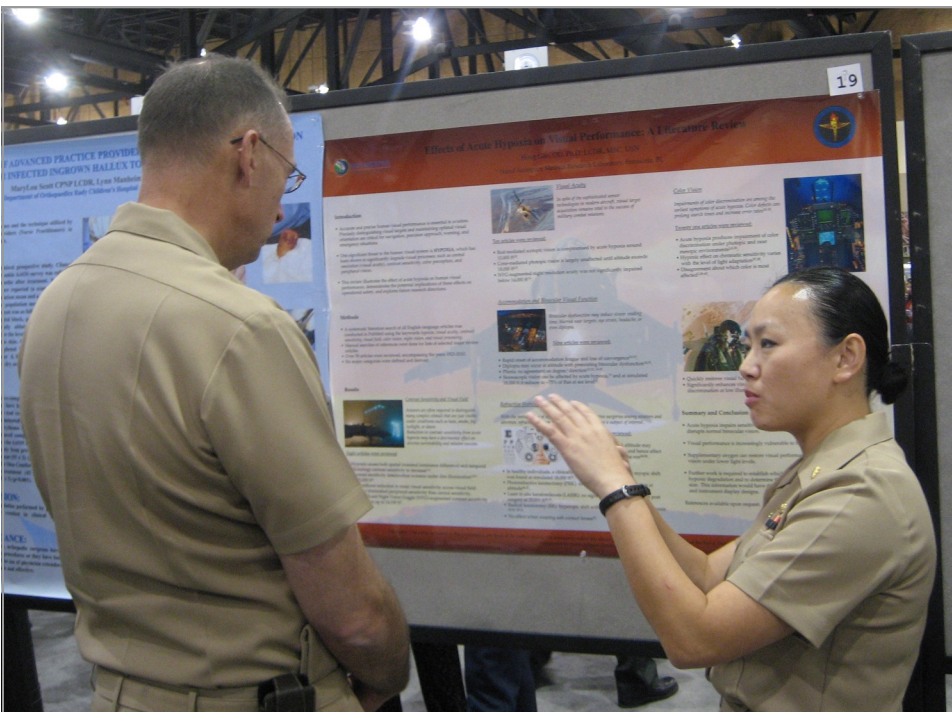
cer, NAMRU-Dayton, was awarded the Aerospace Physiology Community "Special Recognition Award" for his significant contributions and excellence in service to the aerospace physiology community for over 20 years. Syring was recognized for his consistent outstanding performance and exemplary leadership during his tenure as an aerospace physiologist and his contributions in the field of aerospace physiology, survival training and aviation life support systems.

Each year, AsMA hosts the U.S. Navy Aerospace Medicine Leaders Group and the United States Navy Luncheon. These events are designed to address and develop a strategic plan for the next year and to open a dialog among the Navy aeromedical communities. NAMRU-Dayton Executive Officer Cmdr. Rita Simmons and Lt. Cmdr. Gao were among the group of Naval Aerospace medicine community leaders to attend the meetings. Active involvement in the aeromedical strategic leadership highlights the mission focus to serve the fleet and broader aviation communities.

NAMRU-Dayton and NAMRL continue to demonstrate a high standard of leadership and research scholarship, even during the height of the BRAC transition to Wright-Patterson Air Force Base.



Dr. Richard Arnold (left), NAMRU-Dayton aeromedical research director, receives the Michael G. Lillienthal Leadership Award at the 2011 U.S. Navy Luncheon and Meeting at the Aerospace Medical Association 82nd Annual Meeting.



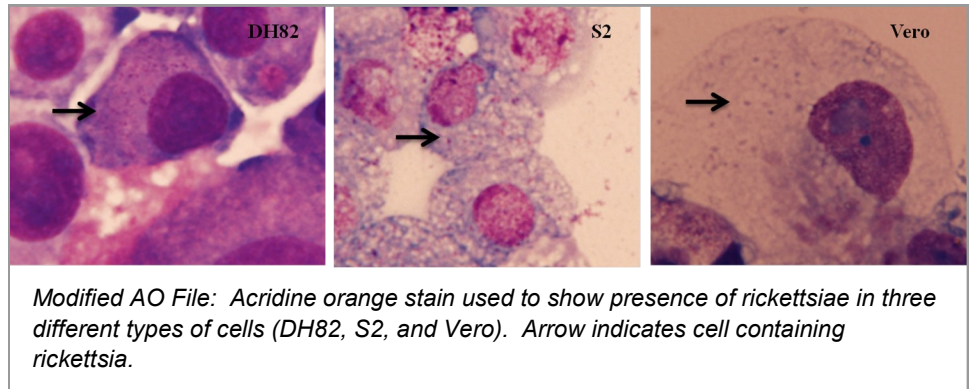
Lt. Cmdr. Gao (right) discussing her pupillometry research at AsMA.

Rickettsial Research – Fighting the Bite of Fleas, Lice, Mites and Ticks

By Dr. Alison Luce Fedrow, NMRC

The bacteria that are responsible for rickettsial diseases are transmitted by fleas, lice, mites and ticks and are capable of debilitating deployed military personnel. Symptoms associated with rickettsial infections are flu-like and can range from mild to lethal. Biomedical research that contributes to the prevention, diagnostic effort and vaccine development is an important component of Navy Medicine. To date, no vaccine for the protection against rickettsial infections is available.

Epidemic typhus, scrub typhus, spotted fevers and ehrlichioses affected the military during World Wars I and II and the Korean and Vietnam conflicts. Current research efforts are underway to determine the prevalence of these diseases among troops serving in Operation Enduring Freedom and Operation Iraqi Freedom.



Modified AO File: Acridine orange stain used to show presence of rickettsiae in three different types of cells (DH82, S2, and Vero). Arrow indicates cell containing rickettsia.

Since 1984, more than fourteen new types of rickettsial species have been discovered. In 2002, bacteria named *Candidatus Rickettsia andeanae* was identified during an investigation of a febrile (fever) outbreak in the area around the town of Sapillica in northwestern Peru. The bacteria were detected in two different species of ticks that were collected from two domestic horses. The DNA from the *Candidatus Rickettsia andeanae* was compared to the DNA of other known

rickettsial species and was found to be similar, but not identical to any known rickettsial species. Consequently, *Candidatus R. andeanae* was determined to be a novel rickettsial agent, with the potential to cause disease in humans. In 2010, *Candidatus R. andeanae* was detected in a tick collected by researchers from Old Dominion University, Norfolk, Virginia, near the Portsmouth River.

One of the challenges faced by our
(Continued on page 10)

NMRC Works on Rickettsial Solutions with Private Industry

By Roxanne Charles, NMRC Office of Legal and Technology Services

Researchers have found that many fevers of unknown origin throughout the world fall into a subgroup of *Rickettsial* diseases. These include Q Fever, Scrub Typhus, Murine Typhus and Rocky Mountain Spotted Fever. Rickettsial infections, which can seriously impact operational readiness, are carried by ticks, fleas and mites and vary widely in severity from mild illnesses to fatal attacks.

As an example, Scrub Typhus, which historically affected populations from Afghanistan and further east, is now spreading to the Middle East and even South America. There is a need for rapid, sensitive “real-time” identification and diagnostic tools to detect infection and a need for FDA-approved vaccines to protect our warfighters and civilian populations.

In Silver Spring, Md. the Naval Medical Research Center’s (NMRC) Viral

Diseases Department has developed new and innovative effective rickettsial diagnostic tests and potential vaccine solutions ready for commercial development. NMRC’s legal and technology transfer team, which connects researchers to private industry, has crafted multiple collaboration and licensing agreements with U.S. and international businesses to commercialize NMRC’s inventions. Currently, private industry has expressed keen interest in NMRC’s new generation of nucleic acid- and antibody-based assays to rapidly detect infection.

We encourage companies interested in commercializing vaccines or diagnostic devices in this area to contact us. Whether you’re interested in collaborations involving Navy Medicine’s unique research facilities in the U.S. and overseas or licensing Navy inventions, the NMRC Office of Legal and Technology Services can work with our researchers and interested companies to navigate the commercialization process. Whether

it’s to facilitate collaboration or develop a licensing agreement, you can contact us for an initial discussion at http://www.med.navy.mil/sites/nmrc/Pages/ott_ttf.htm.

Examples of intellectual property available for licensing:

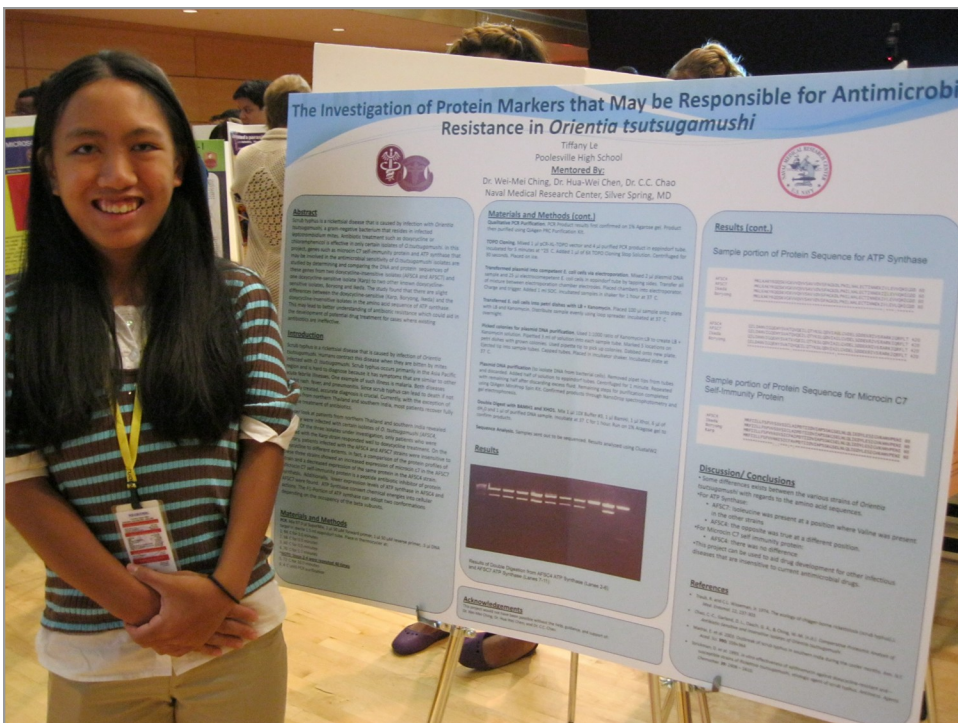
- Recombinant antigens for diagnosis and prevention of spotted fever rickettsiae
- Recombinant antigens for diagnosis and prevention of murine typhus
- Production of recombinant protein pap31 for the diagnosis and prevention of Bartonella bacilliformis infection
- Orientia tsutsugamushi truncated recombinant outer membrane protein (r47 and r57) vaccines
- Diagnostics and therapeutics for scrub typhus and HIV infections
- Truncated recombinant major outer membrane protein antigen (r56) of Orientia tsutsugamushi strains Karp, Kata and Gilliam.

STEM Education Efforts at NMRC Conclude on a High Note

The Science, Technology, Engineering and Mathematics (STEM) efforts were successful this year at the Naval Medical Research Center (NMRC). August 19, interns from the Naval Research and Engineering Internship Program (NREIP) and Science and Engineering Apprenticeship Program (SEAP) presented their research on topics related to traumatic brain injury and antimicrobial resistance in *Orientia tsustsugamushi*, among others.

SEAP student Tiffany Le's research focused on whether or not certain genes are responsible for antimicrobial resistance in *Orientia tsustsugamushi*. Her research was a continuation of last year's research, which involved her studying the antimicrobial resistance on three genes during her time as a SEAP intern. This year, she added another four genes to her investigative list.

"I love research! Not only that, I



Tiffany Le, a SEAP intern and rising senior at Poolesville High School, stands next to her poster on antimicrobial resistance in *Orientia tsustsugamushi*.



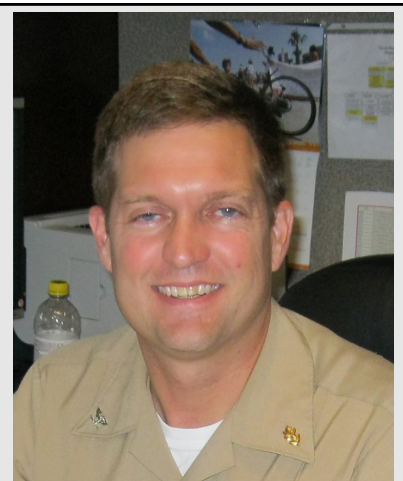
Students standing next to their posters.

have formed many lasting friendships and plan on returning next year." said Le. Her love of research has already helped her determine her plans to come back next year to intern at NMRC. Because of the SEAP and NREIP programs, Le has been afforded the opportunity to work under the mentorship of scientists such as Dr. Wei-Mei Ching, Dr. C.C. Chao and Dr. Hua-Wei Chen. Now that the summer internship is complete, Le is eager to enter her project in several science competitions this upcoming school year. Let's hope that she continues to score big as she pursues a future in STEM!

NMRC Welcomes Capt. John Sanders

Capt. John Sanders came on board at the Naval Medical Research Center August 22. Sanders is the executive officer of NMRC, relieving Capt. Eileen Villasante, who is now the head of the Malaria department. Before taking this role as executive officer, Sanders served as the Commanding Officer of Naval Medical Research Unit-6 (NAMRU-6) in Peru. Having a long connection with research and development in the Navy, he is honored to have been selected as executive officer of NMRC. Sanders' aim is to continue to support the goals and the vision established by the commanding officer, Capt. Richard Haberberger, in the Naval Medical Research and Development enterprise.

Sanders said, "NMRC is a complex machine and every day I am learning things that I didn't know I didn't know." He is pleased to be here and ready to support the commanding officer and the scientists throughout the enterprise.



Submarine Lab Bids Farewell to Scientist after Four Decades

By Michele Schultz, Naval Submarine Medical Research Laboratory

When Joseph Russotti first stepped foot on to Naval Submarine Base New London (SUBASE) in 1967 as a research scientist for the Naval Submarine Medical Research Laboratory (NSMRL), it was on a temporary work assignment. Now 44 years, two patents, seven letter reports, 22 presentations and 43 technical reports later, he's taking some time off for himself.

For more than four decades, Russotti has worked as a research scientist at NSMRL. His friends and co-workers celebrated his retirement with a surprise luncheon in his honor July 28.

"Let me say first that our Submarine Medical Research Center is the greatest facility to conduct science to protect our warfighters," said Russotti during his luncheon.

"We have the unique ability to walk down to the waterfront and ask the operators, the people who use the hardware, exactly what they encounter in daily use. It's our job to document with hard data those issues we see as mission critical.

"Research costs money. Far-sighted research that foresees potential problems takes federal support. We have had that support and recognition," said Russotti.



Capt. Paul Kelleher, NSMRL commanding officer, presents Joseph Russotti a NSMRL plaque in appreciation for the hard work, dedication and research he has accomplished throughout the years.

Russotti has played an important role in helping the Submarine Force. He was instrumental in developing the sound-canceling headphones used on the Virginia Class submarines. As an audio measurement expert, he last worked on a project to help improve sonar audio to allow servicemen to hear more realistic sound. With one patent under his belt and one pending, mission accomplished. Russotti's first patent came in October 2006 for a Noise Rejecting Electronic Stethoscope and Piezoelectric Polymer Contact Microphone and Ergonomic Features to Emulate Traditional Stethoscopes. It was designed for use in military environments with intense noise. Russotti currently has

another patent pending: Passive Ping Ranging.

NSMRL's Technical Director, Jerry Lamb, asked Russotti what his proudest accomplishment has been during his 44 year tenure.

"My greatest personal satisfaction is having developed with Bose the first extended fidelity noise cancelling headset that we put on all Virginia Class submarines," he said.

"Besides being loved by fleet operators, once Bose heard the audible results, they added our custom Navy mods into their commercial Series X Aviation headset," added Russotti.

During the luncheon, Russotti received gifts from members of NSMRL. One gift in particular was a red brick that once was part of the structure of B141 (which is currently undergoing major renovations), the same building in which Russotti spent the majority of his 44 years.

The brick had an engraved emblem that simply said, "JOE thanks for keeping me standing."



Joseph Russotti with NSMRL Bldg 141 Brick from the original construction in 1943.

You've Got Mail! Millennium Cohort Enrolling Invited Service Members

The Millennium Cohort Study is currently enrolling invited personnel and expects to add 50,000 service members to reach a goal of over 200,000 participants by early 2012. If you receive a mail or email request to participate in this study, please take the time to complete the survey! The results of this study have the potential to shape military policy, training, health care and benefits for years to come. On August 2, over 200,000 emails were sent to all invited service members.

The Millennium Cohort Study, conducted by researchers at the [Naval](#)

[Health Research Center](#), is the largest prospective health study in the military with more than 150,000 participants at present. Deployment of more than 50 percent of Millennium Cohort participants in support of the wars in Iraq and Afghanistan enables investigators to prospectively evaluate detailed data from before, during and after these deployments. Current areas of research include post-traumatic stress disorder, depression, alcohol misuse, respiratory illnesses, sleep and chronic diseases. The Millennium Cohort Study is poised to provide critical information toward

understanding the long-term health of military members, thus contributing to force health protection, a DoD priority.

"Participants are specially selected through a process which randomly selects equal numbers of participants from all service branches throughout the military to represent their fellow service members. Invited participants should feel confident they are contributing to an effort of profound military and public health importance. For example, study findings were recently briefed to a Veteran's Administration Advisory Committee on Disability Compensation and to the Office of the Secretary of Defense," said Dr. Crum-Cianflone, the study's principal investigator. "As such, participants' responses will serve to help the DoD better understand the needs of military service members."

Crum-Cianflone added, "Participants can be assured their responses are confidentially maintained and not shared with commands. Rather, results of the study are presented in aggregate and are aimed to inform overall military policies and procedures."

The Millennium Cohort Study team is currently working on a number of research efforts to study military, veteran and public health concerns possibly related to military service. Key findings to date from the Millennium Cohort Study have included identifying combat experience, rather than deployment itself, as an important predictor of screening positive for mental disorders like post-traumatic stress disorder (PTSD) and depression. It has also identified predictors for post-deployment mental health outcomes that may be useful for the development of preventive interventions. The study team is also examining alcohol and tobacco use, diabetes, respiratory illnesses and many other health outcomes among service members.

For more information on research findings from the Millennium Cohort, please visit our website at <http://www.millenniumcohort.org/publications.php>. For more information on the Millennium Cohort Study, visit www.millenniumcohort.org.



Photo courtesy of www.navy.mil.



O (Happy) Day!

When the Walter Reed Army Institute of Research (WRAIR) and Naval Medical Research Center (NMRC) came together in 1999, Organization Day, best known as O-Day, became an event that military, civilians and contractors all look forward to each year. O-Day is planned by the Army and Navy Morale, Welfare and Recreation Committee, led by NMRC's Dorothy Moore and WRAIR's Capt. Matthew LoPresti. The day consists of good food and activities for everyone.

This year's O-Day took place August 12. The weather was in agreement with the day's activities, with over 750 people in attendance. LoPresti felt there was an "outstanding turnout this year!" Kids and adults alike enjoyed water games, the traditional tug-o-war match between Army and Navy, volleyball, face painting, moon bounce, cotton candy and much more. A clown gave all her attention to keeping the kids happy. She was seen walking around on stilts at times. NMRC commanding officer Capt. Richard Haberberger was able to knock WRAIR's commander, Col. Ralph Erickson, off his seat and into the dunk tank.

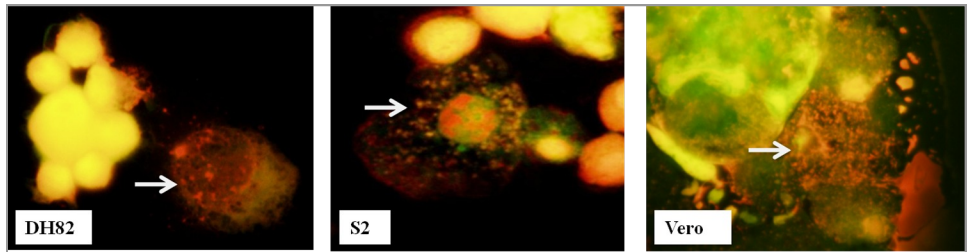
The day's event brought smiles to many faces young and old. Moore said, "The event was very successful and it went smoothly. The people behind the scenes, the front office did a great job in getting the word out about O-Day and those who volunteered were a great help."



Rickettsial Research – Fighting the Bite of Fleas, Lice, Mites and Ticks

(Continued from page 5)

research team at the [Naval Medical Research Center](#) was finding suitable cells to grow the bacteria, which could then be used for future experiments. The *Candidatus R. andeanae* from the tick collected by Old Dominion University was used to infect three different types of cells in our laboratory. Infections were confirmed using a technique called quantitative polymerase chain reaction. Additionally, transmission electron microscopy and different cell-staining techniques were used to produce images of the *Candidatus R. andeanae* that could be used to determine the size and the location



Modified Diff-Quik File: Diff-Quick staining of rickettsiae in three different types of cells (DH82, S2, Vero). Arrow indicates cell containing rickettsia.

of the bacteria within each type of cell. Since November 2010, these infections have been continuously maintained in the laboratory. This first successful cultivation of *Candidatus*

R. andeanae in three distinct cell lines represents a major step towards better characterizing and understanding the potential virulence of this emerging rickettsial species.

Greetings from the NMRC Ombudsman!

I hope everyone had a wonderful, relaxing summer, and both kids and parents alike are eager to get back to school. Regardless of whether your child is starting kindergarten or college, it is important to make sure you and your student are prepared for school to avoid any unnecessary stress that comes with the start of a new school year. Maybe these tips can help in getting started:

- **Encourage Independence.** Any level of independence boosts confidence, from making their lunch the night before to scheduling an appointment with their counselor to talk about college options. Having a say in decisions promotes self-esteem and allows this skill set to grow.
- **Make Getting Ready Fun.** Can you remember the excitement of the first day of school, new clothes; fresh supplies? Go shopping together if possible. Most schools have checklists posted on their website; some stores have lists available, too. Make preparation during the weeks and days before the first day of school into events.
- **Establish a Routine.** Set a regular time for homework and study; this creates a habit. Agree on removing possible distractions: no television, phone calls or texting during this time.
- **Show an Interest.** Encourage your child to talk about the day's activities, social events and the other children in class. Ask about the walk or bus ride to and from school.
- **Listen and Observe.** Watch for symptoms that your child may be a bullying victim. Be aware of signs such as withdrawal, a drop in grades, physical signs or needing extra money or supplies.
- **Educate Yourself.** Find out about special programs or activities (academic and athletic) that are available to help increase your child's learning and social potential. Get involved: ask questions about classes, choices and requirements.
- **Ask for Help.** No one has all the answers. Get help if needed. Work with the administrators, teachers and other parents to ensure your child receives all the attention needed to be successful.

Have a great and successful school year!

All Service Members, Civilians and Contractors Invited to Participate in "Sexual Assault Prevention and Response" Survey: Combating sexual assault is an all-hands issue and top priority. In an effort to determine the scope of sexual assault in the Navy, Secretary Ray Mabus has tasked the Department of the Navy Sexual Assault Prevention and Response Office to conduct a department-wide sexual assault survey assessing the functionality and effectiveness of the Sexual Assault Prevention and Response Program. This anonymous online survey will be available through September 30, 2011. Go to <http://www.donsapro.navy.mil/survey.html> to participate.

If you need more information on these or any other resources, please contact me at angela.prouty@med.navy.mil or 217-722-4981.

Angela Prouty
Ombudsman, NMRC

New Insectary at the National University of San Marcos in Lima

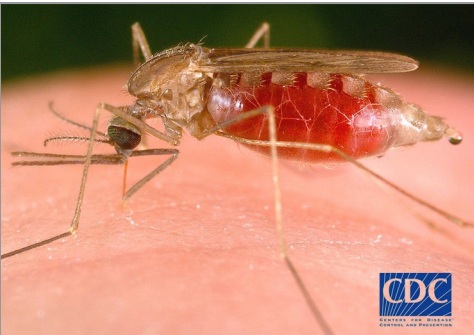
By Lt. Jeremy H. Westcott, NAMRU-6 Public Affairs

On July 15, Naval Medical Research Unit No. 6 (NAMRU-6) Commanding Officer Capt. Dave Service, along with Entomology Department staff members Lt. Roxanne Burrus, Victor Zorilla, and Carmen Flores, attended the opening of a new insectary on the grounds of the National University of San Marcos

and NAMRU-6, the insectary will be used to study two medically important mosquitoes: the *Aedes aegypti* and *Anopheles spp.*, which transmit tropical diseases such as dengue, yellow fever and malaria. The facility will be used to test mosquitoes captured in the Lima metropolitan area for infection in an effort to describe and prevent public health threats from these pathogens.



Capt. Dave Service (left), NAMRU-6 commanding officer, and Biologist Roberto Fernandez (right) (Entomology Department, NAMRU-6).



Anopheles mosquito. Photo courtesy of the CDC.

in Lima, Peru. The new facility was opened in conjunction with a ceremony to mark the 40th anniversary of the Daniel A. Carrion Institute of Tropical Medicine at San Marcos.

“The facility that Lt. Burrus and the NAMRU-6 staff helped establish will be instrumental in research involving the *Aedes aegypti* mosquito responsible for transmitting dengue fever,” said Capt. Service. “This is important because dengue is a debilitating tropical disease with both military and public health significance.”

A joint project between the univer-

sity and NAMRU-6, the insectary will be used to study two medically important mosquitoes: the *Aedes aegypti* and *Anopheles spp.*, which transmit tropical diseases such as dengue, yellow fever and malaria. The facility will be used to test mosquitoes captured in the Lima metropolitan area for infection in an effort to describe and prevent public health threats from these pathogens.

The opening of the insectary is yet another example of NAMRU-6’s continued efforts to enhance public health capacity in its host nation and in Latin America in general. Entomology is a fledgling field in Peru. There are currently no advanced degree entomology programs within the country. The new insectary will provide a platform for future collaborative studies between

NAMRU-6, the Peruvian Ministry of Health, and San Marcos University as well as a potential site for advanced education programs in entomology. In addition, NAMRU-6 and San Marcos University will work collaboratively on mitigation strategies, including testing of insecticides and measuring insect resistance to existing

insecticides. Future plans include opening more insectaries in Iquitos, Sullana, and Puerto Maldonado in conjunction with the Peruvian Ministry of Health.



Aedes aegypti mosquito. Photo courtesy of the CDC.

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