

## Groundbreaking Ceremony Held for New Museum Building at Fort Detrick-Forest Glen in Silver Spring, Maryland

A groundbreaking ceremony for the National Museum of Health and Medicine was held on May 21, 2010, on the site of its new building at Fort Detrick-Forest Glen in Silver Spring, Maryland. Construction is underway with completion due in summer 2011.

The brief ceremony was led by three speakers, including Dr. Florabel Mullick, Director, Armed Forces Institute

of Pathology; the Museum's director Dr. Adrienne Noe; and Colonel Judith Robinson, Commander, US Army Garrison, Fort Detrick of Frederick, Maryland. Representing the project management team from the U.S. Army Corps of Engineers, Baltimore District was Major Hugh Darville, Deputy District Engineer. David Costello, owner of Costello Construction Management of Colum-

bia, Maryland, also participated in the program. In attendance were Museum staff and volunteers, commanders and directors of tenant agencies at the Forest Glen Annex, as well as personnel from the various organizations and agencies central to the building project.

The groundbreaking ceremony was held on the 148<sup>th</sup> anniversary of the founding of the Army Medical Museum, which was remarked upon by Dr. Noe:

"One hundred forty-eight years ago to this day the Army Medical Museum was founded—not merely to examine anatomical specimens and medical instruments for teaching, but to assemble and study objects to improve the care of the wounded and sick in novel ways. That persistent role sets us apart from every museum and research institution in the land.

"The museum has had a long history . . . but it's not just a museum," said COL "Groundbreaking," to page 4

*(left to right) Maj. Hugh Darville, Deputy District Engineer, Baltimore District, U.S. Army Corps of Engineers; Col. Judith D. Robinson, Commander, U.S. Army Garrison, Fort Detrick; Dr. Florabel Garcia Mullick, Director, Armed Forces Institute of Pathology; Dr. Adrienne Noe, Director, National Museum of Health and Medicine; and David Costello, President, Costello Construction; prepare to break ground May 21. Photo by Dave Rolls, Visual Information, U.S. Army Garrison Fort Detrick*



MIS10-033

## Paul Fagette of Temple University, Historian of Biomedical Engineering, Named Museum Visiting Scholar; Continuing Work on Kolff Artificial Kidney Project

An effort to further understand the importance of early developments in biomedical engineering is being led by the National Museum of Health and Medicine and its new visiting scholar Paul Fagette of Temple University. Fagette and a team of undergraduate mechanical engineering students are working to reverse-engineer a third-generation artificial kidney invented by Dr. Willem Kolff, the father of artificial organs, using

an example in the collections of the Museum in Washington, D.C. Fagette was named a visiting scholar in April 2010.

Fagette, who is also the historian for the Biomedical Engineering Society, said a project like this will help students cultivate a deeper understanding of biomedical engineering and its applications.

"Certainly from a historic perspective, which is part of my mission, it is about getting engineering students to

understand the past and to understand the basis of, in this case, where artificial organs began," Fagette said. "But for an engineering student, much of what they do is theoretical or it's virtual or it's based on more narrowly defined problem-solving processes. So to go back and understand in a reverse engineering sense how somebody conceived of, built and manipulated phenomena in order

"Paul Fagette," to page 4

# Museum Hosts Fifth Annual National Hairball Awareness Day Event

Visitors to the National Museum of Health and Medicine were treated to a special presentation and exhibit April 27 as the Museum celebrated National Hairball Awareness Day.

The annual event, now in its fifth year, featured a selection of human and animal hairballs (trichobezoars). Andrea Schierkolk, Museum Public Programs Manager, discussed how hairballs form in the stomach and the myths and realities behind these medical curiosities.

“Bezoar” is a Persian word that means

“protection from poison,” because bezoars were believed to be a universal antidote against poisoning. Bezoars from wild goats, antelopes, and other cud-chewing animals of Persia were introduced to Europe in the 11<sup>th</sup> century where they were popular in medicinal remedies until the 18<sup>th</sup> century. In China, ground-up cow bezoars have been used as medicine for more than 2,000 years, particularly to treat diseases of the mouth.

The Museum has three human hairballs. Many of the museum’s veterinary

specimens were collected in the late 1800s by U.S. Army surgeons and are part of the museum’s comparative anatomy collection. At that time, Army Surgeons working in remote outposts who had infrequent opportunities to collect pathological materials for the Museum instead contributed natural history specimens in order to promote the Museum’s mission to become a general pathology museum with examples of “all forms of injury and disease.”



Left: Andrea Schierkolk, public programs manager for the National Museum of Health and Medicine in Washington, D.C., watches as a Museum visitor examines a horse hairball during National Hairball Awareness Day 2010.

Above: A case of human and animal hairballs were on display at the National Museum of Health and Medicine in Washington, D.C., in celebration of National Hairball Awareness Day 2010.

## NMHM celebrates volunteers

Tour Program Manager Gwen Nelmes and Andrea Schierkolk, Museum Public Program Manager, recently accompanied the Museum’s volunteer docents on a tour of the Stabler-Leadbeater Apothecary Museum in Alexandria, Va., to thank them for their commitment to NMHM’s tour programs.

While touring the Apothecary, which is one of the oldest pharmacies in the nation, the six docents had the opportunity to see tools that were used in the 18<sup>th</sup> century, along with preserved herbs and remedies.

Docent Andi Sacks received the first annual Peter Cluckey Award for serving the most volunteer hours (142.5 hours) in 2009-2010. Regina Hunt, who received a pin on the trip for her 20 years of service with the American Red Cross, came in second with 94.5 hours served.

Hunt said she enjoyed the trip to the Apothecary. She added that she loves being an NMHM docent.

“I love being able to bring people into

the Museum and teach them something about medicine and the functions of the human body,” Hunt said.

Nelmes said the Museum is deeply grateful for all of the hard work—and many hours—its docents put in.

“Our museum docents are vital for the programs and tours we offer,” she said. “We wouldn’t be able to share our amazing resources and history with the community without their extreme dedication and knowledge. We can’t thank them enough!”

If you are interested in becoming a Museum volunteer, please contact Gwen Nelmes, Tour Program Manager, phone (202) 782-2456, e-mail [gwen.nelmes@](mailto:gwen.nelmes@afip.osd.mil)

[afip.osd.mil](mailto:afip.osd.mil), for more information.

Andrea Schierkolk, Museum Public Program Manager, and Gwen Nelmes, Museum Tour Program Manager, pose with NMHM’s volunteer docents in front of the Stabler-Leadbeater Apothecary Museum in Alexandria, Va.



# NMHM Celebrates Pest Week in July

In an effort to raise awareness about vector borne-infectious diseases, the Museum recently hosted two programs that centered on Yellow Fever and Lyme disease.

The two events were held the week of July 11, which was dubbed Pest Week at the Museum. The first talk, "Yellow Fever — The Scourge Revealed," was given by CAPT Stanton E. Cope, Medical Service Corps, U.S. Navy, and Director of the Armed Forces Pest Management Board. It included information regarding the history of the disease and its impact on the U.S. and world; experiments done in Cuba by the Walter Reed Commission using human volunteers; and more. Even though there is a vaccine to ward off the disease, Yellow Fever can still be contracted in tropical parts of Africa and in parts of South America, according to the Centers for Disease Control and Prevention. Cope also displayed books, papers and other items, including a reprint signed and corrected by Major Walter Reed, from his award-winning collection on Yellow Fever.

The second program, "Lyme Disease in Your Community," was led by Registered Nurse Marilyn Algire and SGT Jason Patterson, both of the Preventive Medicine Department at Walter Reed Army Medical Center. The talk focused on raising awareness about Lyme disease, which is contracted through the bite of a deer tick, including recognizing symptoms of the disease and ways it can be prevented. It also featured information on the proper way to remove a deer tick.

The events were presented in conjunction with the poster presentation, "Solving the Puzzle: Lyme Disease, West Nile Virus & You," from the Peabody Museum of Natural History at Yale University. The presentation is on display at the Museum until the end of August.

## Do you Tweet? Are you on Facebook?

Social networking sites such as Twitter and Facebook are changing the way organizations communicate with their audiences. The Museum's social media activities complement traditional outreach methods such as this newsletter and the Museum's main Web site. We hope you will follow us on Twitter (<http://www.twitter.com/Medical-Museum>.) And become a Fan of the Museum's Facebook Page at <http://www.facebook.com/MedicalMuseum>. Please let your friends, colleagues and networks know about these new ways to stay in touch with the Museum, its programs and collections. Check us out online and let us know you are listening!

## Monthly E-News Helps You Stay in Touch!

Want to be the first to know what's new at the Museum? Be the first to register for special programs? Then sign up for our monthly e-newsletter! Each month, this short but informative email will let you know about exhibits coming or going, news about the Museum and tips about upcoming programs. Occasionally, we'll send special program announcements to subscribers, too. It's easy to subscribe: email [nmhminfo@afip.osd.mil](mailto:nmhminfo@afip.osd.mil) with your request.



CAPT Stanton E. Cope, Medical Service Corps, U.S. Navy, and Director of the Armed Forces Pest Management Board, speaks about Yellow Fever and Major Walter Reed during his talk, "Yellow Fever — The Scourge Revealed."



SGT Jason Patterson of the Preventive Medicine Department at Walter Reed Army Medical Center demonstrates the proper way to remove a deer tick during the talk, "Lyme Disease in Your Community."



Registered Nurse Marilyn Algire of the Preventive Medicine Department at Walter Reed Army Medical Center speaks about when Lyme disease is most prevalent during the talk, "Lyme Disease in Your Community."

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MIS10-039

“Paul Fagette,” from page 1

to deliver treatment, is a great learning experience because then what you would hope is that students would internalize that process and that they, in turn, could go on and make that same sort of contribution down the road.”

After successfully working with the medical museum’s staff and collections in 2008 and 2009 to build a replica of its Kolff-Brigham Drum, a second-generation artificial kidney device, Fagette and a new crop of students recently visited the Museum to begin preliminary work on the new reverse-engineering project. The original Kolff-Brigham device, used to treat soldiers during the Korean War, is on display at the Museum. NMHM is a Department of Defense museum and an element of the Armed Forces Institute of Pathology.

Fagette, an historian and adjunct assistant professor at Temple University, along with a team of Temple students and faculty in the Department of Mechanical Engineering will build a full-scale working model of the Baxter Travenol Twin Coil dialysis device, which first appeared in 1956. The machine was considered to be a more clinically-applicable dialysis treatment machine compared to Kolff’s two previous designs, and Baxter Travenol accepted the design and marketed it from 1956 until the late 1970s. It was the most utilized dialysis treatment device for acute renal failure in the world, Fagette said.

“The third one is the last dialysis device that Kolff ever worked on,” he said. “So there’s a trilogy, and I wanted to— as I call the project— complete the loop.”

Kolff, who died in 2009, was one of the world’s leading pioneers in artificial organs research. He was involved in the development of the total artificial heart, the membrane oxygenator, the heart-lung machine, the intra-aortic balloon pump, the artificial arm and the artificial eye, and began the first blood bank in Europe. His medical inventions formed the basis for modern biomedical technology and have saved or extended countless lives. Kolff was awarded 13 honorary doctorates and received 127 awards for his lifetime achievements.

NMHM has one of the original third-generation Twin Coil

devices and has made it available for research and study. Recently, however, Museum staff discovered that the artifact was missing some of its original parts, after the device had been repurposed to serve a different function. Fagette said this will make the project more challenging for students as they work to hunt down some of those original parts and reconstruct the Museum’s machine before building their working replica.

The engineering team, which will consist of eight undergraduate students, will be led by Fagette and Shiram Pillakkam, Ph.D., a specialist in fluid dynamics with extensive experience in materials and machining technology.

The Temple team will be assisted by a senior biomedical engineering design team from The College of New Jersey. Three students, led by Dr. Connie Hall, coordinator of the college’s Biomedical Engineering Program and Fagette’s wife, will focus on the electrical aspects of the project.

The Museum’s visiting scholar program, now in its third year, enables very close collaboration between its staff and professional scholars, scientists and others who work together to address both academic advances and Museum activities.

“Our visiting scholar program extends the capacity of the Museum to make its collections useful in new arenas,” said Adrienne Noe, Ph.D., Museum Director. “Dr. Fagette’s work takes our collections and research missions onto the international stage and multiplies the value of the historical collections several fold. An object once collected as historic documentation now becomes an active tool for teaching and an obvious antecedent for future design solutions to biomedical engineering challenges. Working directly with the BMES places us squarely in an arena of active research and education, all while honoring the creativity and problem solving of the past.”

The final reverse-engineering project will be formally presented in 2011 to the Willem Kolff Foundation during an artificial organs symposium in Leiden, the Netherlands. The symposium honors the 100<sup>th</sup> anniversary of Kolff’s birth in Leiden. The Kolff-Brigham Drum was presented to the Willem Kolff Foundation in 2009 while Kolff’s first artificial kidney device, the rotating drum, was donated to Chicago’s Museum of Science and Industry.

James Curley of the Museum’s Historical Collections Division said he is looking forward to working with Fagette and the student/faculty teams on the new project.

“It does capture the spirit of Kolff and the spirit of discovery and design, inquiry and education,” he said. “We’re elated to be engaged in another design and educational project with Dr. Fagette.”

*Left: National Museum of Health and Medicine visiting scholar Paul Fagette shows students the Museum’s Baxter Travenol Twin Coil dialysis device. Students will build a replica of the device using photos and measurements of the Museum artifact.*

“Groundbreaking,” from page 1

Robinson of Fort Detrick. “It’s about groundbreaking research that takes the past and brings it into the future.”

“We are creating a new home, and a beautiful one, for one of our most visionary museums,” said Dr. Mullick of the AFIP.

The USACE Baltimore District awarded a design/build contract to Costello Construction of Columbia, Maryland in December 2009.



## Staff On The Go

- **Archie Fobbs**, Collections Manager of the Neuroanatomical Collections, and **Andrea Schierkolk**, Public Programs Manager, participated in Bladensburg High School's Brain Awareness Day program in May. The event featured hands-on activity stations featuring brain anatomy; the effects of alcohol on the brain; and the effects of fear and the brain. Other collaborators included Georgetown University, the Catholic University of America, the National Institute of Child Health and Development and Patriot Robotics.
- **Steve Hill**, Exhibits Manager, and **Elizabeth Eubanks** attended the annual meeting of the American Association of Museums in Los Angeles, Calif., from May 23 – 26. The theme was "Museums without Borders."

## Remembrances

**Enid B. Rosen**, of Baltimore, Maryland, a long-time docent and Museum volunteer, passed away on Tuesday, July 6, 2010. Enid had been a docent at the Museum for nearly 20 years, where she faithfully shared her knowledge and experiences with many school children and visitors and enthusiastically supported the Museum's Brain Awareness Week programs.



## Upcoming Programs



MIS10-041

### **Teddy Bear Clinic: Saturday, September 18, 2010, 10 a.m.–12 p.m.**

Bring your favorite stuffed friend and explore the Museum's Teddy Bear Clinic with activities and crafts designed to highlight the body, physical fitness and healthy habits. Recommended for grades Pre-K – 2.

### **Special SciFest Program! "Manya: A Living History of Marie Curie": Thursday, October 21, 2010, 7:00 p.m.**

This one-woman drama by storyteller Susan Marie Frontczak exposes the struggles and triumphs of Marie Curie—an academically impassioned, vehemently private, fervently Polish scientist, mother, and teacher and discoverer of radium and radioactivity. From the political oppression of her childhood, to scientific emergence and fame to the tragedy that forced her into single motherhood as well as further world prominence, this is a life that challenges our assumptions about what one person can achieve and the responsibilities of science.



MIS10-042

## National Museum of Health and Medicine

The museum is an element of the Armed Forces Institute of Pathology on the campus of Walter Reed Army Medical Center in Washington, DC

6900 Georgia Avenue, NW, Bldg 54, Washington, D.C. 20307

[www.nmhm.washingtondc.museum](http://www.nmhm.washingtondc.museum)

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[nmhinfo@afip.osd.mil](mailto:nmhinfo@afip.osd.mil)

202-782-2200, Fax: 202-782-3573

Open daily from 10 a.m.– 5:30 p.m.

Closed December 25.

Museum Director—Adrienne Noe, Ph.D.

Deputy Director (Communications)—Tim Clarke

Public Affairs Specialist—Melissa Brachfeld

Graphics—Fran Card

# Will you be at the ScienceFest 2010? We will!

## Human Anatomy! Forensic Identification! Military Medicine!

These and more will be part of the Museum's exhibits at the USA Science and Engineering Festival on October 23 and 24, 2010, on the National Mall. The Museum, along with more than 500 science & engineering organizations from all over the country will offer hands-on activities to inspire the next generation of scientists and engineers.

But that's not all! Follow the Museum on Facebook to learn more about exciting pre-SciFest programming at NMHM, including two evening performances and a series of lunchtime lectures.

Learn about USA Science and Engineering Festival at [www.usasciencefestival.org](http://www.usasciencefestival.org) and see you in Washington in October!



 National Museum of  
Health and Medicine

**DEPARTMENT OF THE ARMY  
ARMED FORCES INSTITUTE OF PATHOLOGY  
WASHINGTON, D.C. 20306-6000**

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**NATIONAL MUSEUM OF HEALTH AND MEDICINE**