

The Official USU Newsletter

the pulse

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Submissions

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Photo by Ken Frager

On the cover

Representatives from Gold Star Wives, Gold Star Mothers participated in the Ceremonial Laying of the Wreath during the Second Annual Military Health System Remembrance Ceremony at Arlington National Cemetery. Story on page 5.



USU professor named 2010 Putnam Scholar

by Staff Sgt. Matthew Rosine



Courtesy Photo

Janice Hanson, Ph.D.

The American Academy on Communication in Healthcare recently named a USU faculty member as the recipient of its 2010 Putnam Scholars Program Award.

Janice Hanson, Ph.D., in the Division of Pediatrics, Family Medicine, and Department of Medicine, is the second recipient of the scholarship.

The scholarship is named after the AACH's co-founder, Samuel Morse Putnam, M.D. Putnam was highly committed and an advocate for education and research in physician-patient communication.

"It was my great pleasure to count Sam Putnam as a friend and colleague for more than 25 years," said AACH president, Norman Jensen, MD, MS. "I know Sam would be humbly pleased and highly joyful to know that Dr. Hanson is the recipient (of this year's award) and would lovingly attend to the progress of her work."

Hanson will use the scholarship to complete a project to equip USU

faculty to better educate and evaluate the communication skills of medical students at the University. She is using a method known as the Essential Elements of Communication to study the development of the communications skills between patients and physicians in medical education. This method has been used to create consistent and coordinated teaching effort across its curriculum.

Hanson's interest in healthcare communication began while she was working on her doctoral dissertation. While completing an internship in pediatrics, she realized the importance of providing supportive communication to parents after explaining a child's test result to her distraught father.

The USU will receive and administer the AACH grant for Hanson's proposed study of the medical student's communications skills through their four years of medical school training at the University. Hanson hopes to complete the project in time for the University's discussion of curriculum reform.

Along with the scholarship, the AACH will provide a mentor for Hanson who can help assist her project as needed. The Putnam Scholar Program also funds mentor visits and attendance at the AACH Research and Teaching forum scheduled for October 2010.

"I am delighted that I have been selected as a Putnam Scholar. I appreciate the work of the AACH and I am looking forward to working with one of their senior scholars on my project," said Hanson. "I am especially pleased at the timing of this scholars program as it may assist in the work of the assessment committee for curriculum reform, of which I am a member."



Education Day

Friday, June 25, 2010 • 8:00 a.m. to 4:30 p.m.

Building E, Lecture Room F

Dr. Ann Jerse named 2010 Wu Award recipient

by Sharon Willis



Photo by MC1 Chad Hallford

Dr. Ann Jerse

Ann E. Jerse, Ph.D., Professor of Microbiology and Immunology at USU, was selected as the recipient of the 2010 Henry C. Wu Award for Excellence in Basic Research.

Dr. Jerse was nominated for the Award based on her 2007 publication in the *Journal of Infectious Diseases* (Vol 196, Issue 12, pp. 1804-12, 2007), "Regulation of the MtrC-MtrD-MtrE efflux-pump system modulates the *in vivo* fitness of *Neisseria gonorrhoeae*" (D.M. Warner, J.P. Foister, W.M. Shafer and A. E. Jerse).

Dr. Jerse has become the world's foremost researcher in the use of animal models to study *N. gonorrhoeae*. She pioneered and developed the murine system for the study of gonorrhea; it currently remains the only *in vivo* model available for study of this important human pathogen. It is also the only model (animal or human) available for the study of gonorrhea in females; male volunteers have been used to study the early steps of gonococcal infection in men. Such studies in women are considered unethical because of the potential for this microbe to cause pelvic inflammatory disease.

In this paradigm-shifting study, Dr. Jerse and her colleagues showed that acquisition of specific antibiotic

resistance mutations in pathogenic *N. gonorrhoeae* result in increased *in vivo* fitness of this agent within the murine female genital tract. These influential observations provide significant insights into the evolutionary fitness and role of efflux system in virulence of the pathogenic *N. gonorrhoeae*, as well as other efflux system-encoding bacteria that cause human disease.

In the infectious diseases field, physicians absolutely depend on the utilization of antibiotics to treat every known bacterial infection. However, the usefulness of antibiotic therapy as a whole has been declining for decades as virtually all bacterial pathogens have developed antibiotic resistance to many first- and second-line antibiotic therapies. Thus, a greater understanding of mechanisms of antibiotic resistance and the overall evolutionary process that drives acquisition of antibiotic resistance as a whole is crucial to developing novel therapies.

In general, acquisition of antibiotic resistance is accompanied by a biological cost that is usually measured as a reduced *in vitro* growth rate of resistant bacteria. Therefore, bacteria experience evolutionary pressure between growth and survival in the face of antibiotic treatment. Consequently, a generally held concept is that antibiotic resistance will not be maintained in the absence of selective pressure (e.g., indiscriminate antibiotic use).

However, Dr. Jerse's work shows that this long-held belief is clearly incorrect. Gonorrhea ranks second in incidence among all CDC reportable infections, and an estimated 67 million cases occur annually worldwide. The Mtr system encodes a multi-drug efflux pump that is similar to those found in numerous other pathogens, and mutations in the regulatory circuit that control the pump result in strains of *N. gonorrhoeae* that show increased antibiotic resistance. Importantly, strains carrying these mutations are readily isolated from

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Henry C. Wu Award for Excellence in Basic Science Research



Courtesy Photo

Dr. Henry C. Wu

The Henry C. Wu Award for Excellence in Basic Science Research is named for Henry Wu, Ph.D., who was Professor and Chair of the USU Department of Microbiology.

Dr. Wu came to USU in 1980 from the University of Connecticut School of Medicine in Farmington, Ct. He brought with him an internationally recognized research program in bacterial lipoprotein biosynthesis, and an unquenchable enthusiasm for science that was a major factor in the recruitment of many other faculty to the University. Dr. Wu provided advice and encouragement to all of his colleagues and was an unwavering supporter of doctoral programs in the basic sciences.

Dr. Wu died in 1996. The Award was established in his memory in 2003. Past winners of the Wu Award include Drs. Ignacio Provencio, Michael Daly, Anthony Maurelli, Teresa Dunn, Chou-Zen Giam, Christopher Broder and Alison O'Brien.

USU Brigade writing women into history

by Staff MC1 Chad Hallford

March is Women's History Month: "Writing Women Back into History." And for the first time in USU's history, seven of the leadership positions within the University brigade chain of command, a traditionally male-dominated structure, are simultaneously being held by women.

"It is a unique situation. Certainly the first time we have had seven women filling all of these positions of leadership at the same time within the brigade," said USU Brigade Commander Navy Capt. (Dr.) Tanis Batsel Stewart (SoM '93, MPH '00). "To me it reflects, since men have been filling these positions, an example of and recognition of leadership qualities across the board. It shows the opportunities for each of us to reach leadership positions."

As a reflection of quality leadership, these commanders are influencing the next wave of military health care providers. But, being "a woman" won't be their legacy in the USU annals.

"I don't want people to look at our leadership and assume we'll be more or less objective, better or worse leaders simply because we're women," said Navy Cmdr. (Dr.) Patricia McKay, (SoM '93) Commandant, School of Medicine. "Being male or female isn't what makes you good or right for a position. We're simply the right leaders for the right time."

This USU leadership team has a vast array of experiences to draw successes and lessons learned, which have cultivated them to be the leaders they are today.

"I had the benefit of being stationed next door with the Department of Military and Emergency Medicine, where I had the experience of working with medical school students in a different setting," said Navy Cmdr. René Hernández, PhD., Navy Company Commander.

"As a course director, involved with research, I have participated in many Operations Bushmaster and Kerkesner, having in-depth involvement and interaction with the students."



Photo by MC1 Chad Hallford

Navy Cmdr. René Hernández presents at the 2009 Antietam Road March. She is one of seven women serving in leadership positions within the Brigade. This is just one example of tribute to our motivation and drive to contribute to the mission of the University as well as our vast array of experiences that have directed the seven to leadership positions.

Hernández attributes these experiences with helping to prepare her for the responsibilities of her current charge. But, Hernández is just one of the service company commanders who, as a group, bring a full palette of career experiences to the USU leadership.

"As my first company command, I feel I have been built for this, beginning as a young second lieutenant to this position," said Army Capt. Cynthia Billie, Army Company Commander. "I believe I have the needed knowledge, and it was the next step in my career. Interacting with the medical students on a day-to-day basis and seeing them develop and mature as leaders is a process I look for in them. When I see them approaching me with ideas of their own, especially the ones without prior military service, it's extremely rewarding to see this growth and to eventually see them graduate."

It is the success of USU's students that guides these leaders to operate beyond their service-specific requirements. This task is sometimes even more difficult as these leadership positions can go vacant for extended periods due to lack of an available candidate or due to an unforeseen deployment.

"Generally what happens is the company commanders work very well together; we cross-cover for each other," said Air Force Lt. Col. Sarah-Ann Beal, Air Force Company Commander. "For

example, I was deployed to Iraq for five to six months, and during that time the Army and Navy commanders covered for me. Because our military mission is much the same regardless of service, we pretty much know each other's philosophies regarding handling common situations. But if there was a problem, they could go to my first sergeant to gain guidance. It's a true joint service operation in our office."

The University's female leadership goes beyond just the Department of Defense (DoD). It also includes the Public Health Service (PHS).

"(PHS students) learn the DoD way," said PHS Capt. (Dr.) Mary Porvaznik, (SoM '92), PHS senior advisor. "But there was a void in the PHS students' development. They weren't prepared for the difference in Public Health Service's culture, areas of operation and mission compared to their military counterparts."

Porvaznik, who like Batsel Stewart and McKay has returned to USU in a position of leadership, became the PHS senior advisor after it went vacant for nearly a decade. She sees her primary role as lead mentor for the corps of young PHS officers at USU who can help ensure any void in training is filled early in each of her students' careers.

"We have strength throughout our Brigade, beyond the top leadership, from women and men alike," said
USU Women's History continued on page 6

Snakes slither into USU

by Staff Sgt. Matthew Rosine



Photo by Tom Balfour

Banana Girl, a 16-foot, 137 lb. albino python, was introduced to braver audience members by snake expert Bruce Shwedick during his Snakes Alive presentation on March 10, 2010.

A special guest and several of his closest venomous “friends” slithered their way into the Sanford Auditorium recently to help instruct USU faculty, staff and students about a unique aspect of health care.

Snake expert Bruce Shwedick, presented the “Snakes Alive!” program to more than 150 visitors. The program, sponsored by the University’s Department of Preventive Medicine Medical

Zoology Discussion, is an informative look at snakes, specifically venomous varieties, and how they can impact military members and the medical field.

“For military medical personnel, it is very important to be familiar with snake bite symptoms in order to deal with them,” Shwedick said. “Caregivers will need to be medical investigators – based on the symptoms, they will have to treat their patients accurately.”

Ceremony honors fallen medical service members

by Ken Frager

More than 300 people gathered at Arlington National Cemetery for the Military Health System’s 2010 Remembrance Ceremony, March 16.

The ceremony is dedicated to fallen military medical personnel.

This second annual ceremony honored 244 medical service members – medics, corpsmen, nurses and doctors —who died in support of Operations Iraqi Freedom and Enduring Freedom from 2001 through Dec. 31, 2009.

“Today, we come with a united sense of purpose and a common bond in that purpose,” said USU President Dr. Charles L. Rice, who is performing the duties of the assistant secretary of defense for health affairs. “We come together to remember and honor our fallen loved ones; we come together to renew our connection with the families and friends that share in this loss. We say thank you for what you have given, and we say thank you for all of which your loved ones gave.”

2010 Wu Award

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humans. Given the biological cost that typically accompanies most antibiotic resistance mutations, the reasons these mutations occur and are propagated in nature are poorly understood. Dr. Jerse’s laboratory has provided, for the first time, crucial evidence that mutations in the MtrR efflux-pump regulatory system in *N. gonorrhoeae* result in enhanced *in vivo* fitness during host colonization. This discovery is in stark contrast to observations in numerous other systems and represents a novel paradigm for the evolution of antibiotic resistance. These findings will likely have an even broader impact beyond the pathogenic *Neisseria* and may be relevant for many other pathogens that

carry multi-drug efflux pumps. The applicability of these concepts to other multi-drug resistant bacterial pathogens is now under investigation.

Clearly these findings represent a seminal contribution to the broad field of microbial pathogenesis, and more specifically, the evolution of antibiotic resistance.

Dr. Jerse’s commitment to science, research and education is evident. She has made significant contributions to USU throughout her career, among them her many years of service on the Institutional Animal Care and Use Committee (IACUC), of which she is currently Vice Chair. Dr. Jerse also serves on the Committee for Advancement, Promotions, and Tenure (CAPT) and has been very active in the training of graduate students and numerous Infectious Disease Fellows. She has sponsored and

has also made contributions to science as an editor and through her participation in numerous NIH study sections. The respect that she engenders within the community is clearly evidenced by her success at obtaining numerous sources of NIH funding of which she serves as Principal Investigator on her own grants as well as an essential subcontractor for numerous laboratories around the country.

“Dr. Wu was a great leader in the Department of Microbiology and Immunology,” said Dr. Alison O’Brien, Chair of the Department of Microbiology and Immunology. “The traits for which he is remembered, his ability to view a scientific problem and discern the vital questions to ask, his personal and professional integrity, and his devotion to teaching, are traits reflected by Dr. Jerse.”

University clinic takes special care of USU family

by Staff MC1 Chad Hallford

The University Family Health Center, or UFHC, strives to give the best medical care possible to every eligible member of the USU family.

They accomplish this vital mission by providing quality care, informing their clientele of current and innovative clinic capabilities and reminding patients about “better” health practices.

“We provide care for students and their families, regardless — if they are in class, on rotation or in the field,” said Air Force Staff Sgt. Christopher Sherman, a medical technician for the UFHC. “So, the student can focus on their learning and know, without worrying, that we have their family’s health in mind.”

The clinic offers centralized care and handles many specialties within the clinic. This allows the clinic to provide a full spectrum of care to its patients.

“(The clinic) is essentially a one-stop shop for many medical needs, from drawing blood work to filling prescriptions, handling OB/GYN issues and practicing sports medicine,” said Sherman. “We also have excellent pediatrics capabilities and pay particular attention to preventive care.”

While competent and comprehensive care is a concern within the clinic, military staff also provide support and training during the field exercises, Operations Bushmaster and Kerkesner.

“As we reduce on-site staffing by two-thirds to help prepare future doctors in their real-world medical train-up, we adapt and overcome to incorporate this capability,” said Air Force Staff Sgt. Marisa Burri, assistant non-commissioned officer-in-charge of the UFHC. “We do this while maintaining the highest level of support, in quality and continuum of care within the clinic.”

To maintain the quality of health for visiting patients and families, the clinic insists all visitors observe some “better” health guidelines.

“If you have a fever and one other of the listed symptoms, please use precautions by using a face mask and sanitizing your hands before entering



Photo by MC1 Chad Hallford

Navy Ensign Scott Allen's son, Maxwell, receives a vaccination from Air Force Staff Sgt. Christopher Sherman. Heather Allen, Scott's wife is present in the clinic, where family physicians provide a full spectrum of care.

the clinic,” said Burri. “We often have pediatric patients and others in for well-visits and physicals. This is one simple step we can take to help protect our visiting population.”

Other symptoms to be concerned about include a cough and a runny nose.

The clinic also urges students and their families to call the clinic before coming in so, if there is an exposure concern, clinic staff can better prepare their patients. Patients can also utilize today’s technology to better serve them at the clinic.

“Use your cell phone and take a picture of the rash or pock,” said Sherman. “Many times we’ll be able to determine what may be going on and provide better guidance for precautions

and treatment without the patient having to come in to the clinic.”

As part of the clinic’s innovative, top-notch health care, the UFHC is able to provide accessible health care around the clock through a special online system. The “Relay Health” system gives 24/7 access to a patient’s doctor within the UFHC. It is also available for doctors to answer questions, provide lab results and much more. The “Relay Health” website is <https://www.relayhealth.com>.

“We are still immunizing H1N1, so families that are TRICARE-eligible, and any active-duty who have unintentionally been missed, please immunize,” said Burri.

The UFHC is among the most readily accessible in the National Capital Region, with nearly 60 percent of appointments seen the same day.

“If you have an emergency or a sick child — come and be seen,” said Burri. “Our doctors are some of the best at following up with patients and following through with their needs.”

The UFHC was recently ranked number three in patient satisfaction in the entire DoD. “That’s a significant accomplishment for us and we are very proud of our team,” said Navy CAPT Kenneth Yew, M.D., director of the UFHC. “However, we’re not satisfied with being third, so if something doesn’t seem right or if patients see ways we can improve, please let us know.”

USU women’s history

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Batsel Stewart, who is dually assigned to USU and the Navy Bureau of Medicine and Surgery until June. “The ongoing spirit of camaraderie and professionalism among the USU leaders over the next several months will continue in my absence. Army Lt. Col. Kandace Wolf, Commandant of the GSN, will be Acting Brigade Commander. She has significant experience here at USU, and she is familiar with the organization and extremely well-suited to serve in

this position. I am very impressed with our brigade leadership team overall.”

“The military trains both men and women to be leaders regardless of gender,” said Lt. Col. Wolf. “While I feel very fortunate to have been afforded the opportunity to sit at the USU Leadership Table, I don’t think of myself as a “woman” at the table, but as a military leader at the table. I have served in the Army Nurse Corps for nearly 20 years and have always felt comfortable and confident serving alongside members of the opposite gender; every leader has specific strengths that they bring to a team and those strengths are products of experience, not gender.”

Briefs

Disruption of UMS services for move:

University Media Services will move the majority of its operations to Twinbrook Parkway in Rockville at the beginning of April.

The move, scheduled for the week of April 5, will create a major disruption of service during that week. It is anticipated that it will take a week for services to be fully operational at the new location. The greatest impact will be on the Graphics Services Division, with such products as posters.

The UMS Customer Service Center in Room G070 will continue to operate without interruption (even during the relocation process) and will continue to accept the submission of work orders at this location.

Please contact (301) 295-3337 if you have any questions.

Helpdesk Closure:

The UIS helpdesk is closed for training on Thursdays from 10 to 11 a.m.

During this time, you can leave a voicemail message at 295-9800, utilize the HEAT Self Service (<http://www.usuhs.mil/uis/forms/trouble.html>), or email help@usuhs.mil.

If an emergency should arise, please call 295-9870.

2010 Antietam Medical Staff March:

The Department of Military and Emergency Medicine will conduct the Antietam Medical Staff Walk at the Antietam National Battlefield on April 29, 2010. The Medical Staff Walk, a component of Military Medical Field Studies, is designed to give the student an appreciation of how historical lessons learned have shaped modern and future military medicine. This year's medical walk will retrace a Civil War casualty's evacuation route from the battlefield to supporting hospitals within the area, highlighting military medical lessons learned along the way.

Faculty senate members needed:

The USU Faculty Senate is looking for faculty volunteers to fill upcoming faculty senate positions in the upcoming year.

The Faculty Senate is a representative body providing the faculty a way to participate in the governance of the university.

The senate is an advisor to the president of the university and may pass resolutions and recommendations on issues such as education, research and faculty welfare.

The following positions will be open this coming year:

- Three positions representing the clinical department
- Four positions representing the basic science departments
- Secretary of the Faculty Senate
- President Pro-tempore of the Faculty Senate. In accordance with the USU constitution, this year's selection must be from the basic science department.

The deadline for candidacy nomination is May 10 and elections will be held in June.

Faculty interested in filling one of these positions should contact their current Faculty Senate representative or a member of the Elections and Nominations committee.

Professional activities:

The Department of Defense and USU policy requires that all employees, both military and civilian, receive approval for engaging in any activity outside their work environment, which involves their professional expertise or government occupation, and involves compensation.

This approval is required prior to engaging in the activity.

In order to get approval, any employee can complete a USUHS Form 1004. This completed form must be approved and signed by each department chair or activity head.

These forms are available in the General Counsel's office or online at the USU OGC Web site.

Completed forms must be turned in to the General Counsel's office. The form will be routed to the appropriate dean, brigade commander or USUHS president.

Once processing is completed, a copy of the approved form will be returned to the employee for the employee's records.

Education Day:

The USU will sponsor Education Day, June 25.

The theme, "Obstacles and Opportunities in Curriculum Reform," was chosen to showcase the experience of the USU faculty in teaching learners across the spectrum of health science education.

Deadlines are:

- Submission of poster or demonstration abstracts are due by midnight, April 16
- Nominations for Innovation in Teaching Award are due by midnight, April 16
- Participation and presentation are due by midnight, June 18

Authors whose abstracts are accepted and Teaching Award nominees will be notified around May 1.

Additional information will be available in future issues of The Pulse and on the USU Web site.

2010 Dining Out:

The 2010 Dining Out will be held April 10.

Tickets for this year's Dining out are now available and may be purchased at the School of Medicine Company Commander's Officer's office, C-1019.

For more information, please contact Master Sgt. Stephen Huntington or Capt. Cynthia Billie.



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