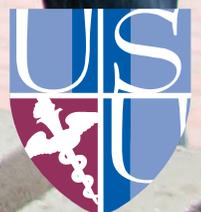


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Sharon Willis

Deputy Vice President for External Affairs and Managing Editor

Ken Frager

Public Affairs Specialist

Staff Sgt. Matthew Rosine

Production Editor

MC1 Chad Hallford

Writer

Christine Creenan-Jones

Contributing Writer

Lori Fields

Layout and Design

Production

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Cover Photo by Ken Frager

On the cover

Mr. David Green, (pictured left) chief, Industrial Hygiene and Environmental Division, distributed free tree seedlings to USU personnel in honor of Earth Day 2011. (See story page 5)



From Opponent to Proponent: A Look at Curriculum Reform at UCLA

by Roberta A. McIntyre, Program Specialist, Office of Curriculum Reform

They say ‘change is hard’—but being able to discern the benefits that await the end of the process can make it easier to bear. It was tough for those involved with the UCLA School of Medicine’s curriculum reform project, but in the end - and given the perspective of hindsight - it wasn’t that bad and the results have been more than worth it, according to Jeffery F. Miller, Ph.D., chair of the UCLA Microbiology, Immunology & Molecular Genetics Department.

USU faculty and staff were presented with an inside look at curriculum reform at the UCLA School of Medicine when Dr. Miller spoke at USU in April. Dr. Miller admitted he was not a fan of curriculum reform at the outset, but when the process was finished, he had definitely come on-board.

When asked what changed his mind, Dr. Miller replied, “Doing it. It was an opportunity to interact with really great colleagues, especially those who knew more about putting molecular mechanisms into a program students would enjoy learning.” He also noted that Problem Based Learning (PBL) could be used to make learning motivating and fun, and this made a greater impact than any pedagogic argument offered by their educationally trained Ph.D.s. And how long did that take? “I saw this after the implementation,” said Dr. Miller.

Reform at UCLA was spurred by the arrival of a new dean of medical education, who patterned the effort after the reform she had just been through at Harvard, setting up a task force to review best practices and develop guiding principles. Although curricular reform at UCLA was seven years in the making, Dr. Miller noted it really didn’t need to take that long. Their process was started by a small group and included an extended discussion phase that lasted for four years, before being put into place one year at a time. Since so many medical schools have now transformed their curricula, Dr. Miller felt that



Photo by Thomas Balfour

Jeffery F. Miller, Ph.D.

USU should be able to learn from their experiences, thereby cutting down the time needed for implementation.

At UCLA, as at many medical schools, one advantage of the traditional, 2+2 (2 years of pre-clerkship training + 2 years of clinical training) program was that individual departments had control over specific courses, with full accountability for the same. As Dr. Miller pointed out, “there were many lectures and many lecturers, and things ran like a well-oiled machine.” The downside, however, was the lack of integration; for instance bacterial structure (Microbiology and Immunology) was taught in early September, while antibiotics (Pharmacology) came in November. There was also little communication between departments. This created a passive learning environment, with low student involvement.

The first two years of the new UCLA model is known as the Human Biology and Disease Curriculum. The guiding principles of their curriculum are:

- Integration of basic, clinical and social sciences is essential to clinical practice and research.

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Juliano named 2011 Wu lecturer

by Ken Frager



Photo by Thomas Balfour

Sharon Juliano, Ph.D.

Sharon Juliano, Ph.D., professor, Department of Anatomy, Physiology and Genetics, has spent the last several years conducting research on the mechanisms underlying formation of the cerebral cortex and the migration of cells into their target sites.

This research has earned Dr. Juliano selection as the 2011 Henry C. Wu Award recipient.

The cerebral cortex, the region within the brain that receives all ascending projections and sensory information, originates all motor output, and is the site where thoughts are generated. Dr. Juliano has been continuously funded by the NIH, largely for the study of this model since 1986. She and her team developed a model of cortical dysplasia in animal models in which a population of neurons fails to migrate successfully into the neocortex and mimics the effects seen in human disorders such as autism, ADHD and epilepsy.

"I feel honored that the work I have been doing for so long is receiving this esteemed recognition," said Dr. Juliano. "USU is my home and it is so nice to be appreciated by my colleagues. My hope is that the long-term implications of this basic research will improve the study and treatment for traumatic brain injuries

and enhance the development of treatments to help heal the brain."

Dr. Juliano was nominated based on her current study (Poluch et al 2010, PLOSOne), which demonstrates that Radial glial cells play an essential role during development of the brain, or cortical dysplasia. through their function as neural precursors and guides of neuronal migration. Both reelin and neuregulin1 (NRG1) maintain the radial glial scaffold and induce expression of Brain Lipid Binding Protein (BLBP), a well known marker of radial glia. Although radial glia in normal animal models express both vimentin and BLBP, this co-expression diverges at three days postnatal (P3); vimentin is expressed in the radial glial processes, while BLBP appears in cells detached from the ventricular zone.

The Juliano lab developed a model of cortical dysplasia in the animal model, resulting in impaired migration of neurons into the cortical plate and disordered radial glia. This occurs after exposure to the antimetabolic methyl-azoxymethanol (MAM) on the 24th day of development (E24). When treated at E24, the result was an overall decrease of BLBP expression. Radial glia that continue to express BLBP, however, show only mild disruption compared with the strongly disrupted vimentin expressing radial glia. When E24 MAM-treated sections are exposed to reelin or NRG1, the severely disrupted vimentin+ radial glial processes are repaired, but the slightly disordered BLBP+ processes are not.

The realignment of vimentin+ processes was linked with an increase of their BLBP expression. BLBP expressing radial glia are distinguished by being both less affected by MAM treatment and by attempts at repair.

These findings are important as they suggest at least two distinct populations of radial glial cells exist that respond differently to damage and attempts at repair.

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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, Alison O'Brien and Ann Jerse.

Cancer survivorship research garners recognition for Leonard Award lecturer

by Ken Frager

Michael Feuerstein, Ph.D., MPH, professor, Departments of Medical and Clinical Psychology and Preventive Medicine and Biometrics, is the 2011 recipient of the Leonard Award for Clinical Research. Dr. Feuerstein has made significant contributions in the area of cancer survivorship, including essentially standing up an entirely new field of research in a short period of time by virtue of his research and scientific activities.

“Recognition by my scientific colleagues and leadership that my endeavors have clinical value and implications is gratifying,” said Dr. Feuerstein. “Certainly my own interests in this area have increased my efforts to improve survivorship healthcare and services, and I am proud that it is being acknowledged.”

In his research, Dr. Feuerstein has pursued research related to occupational outcomes in individuals living with the aftermath of cancer diagnosis and treatment. His ongoing work is focused on optimizing the function of cancer survivors (particularly individuals with brain tumors and breast cancer) after cancer treatment.

Dr. Feuerstein’s team observed that both breast and brain tumor survivors who continue to work report higher levels of symptom-burden three to four years post-treatment compared to non-cancer comparison groups. These cancer survivors are generally considered less impaired than those not at work.

However, symptoms of fatigue, cognitive limitations, and depressive symptoms are greater than in a non-cancer comparison group working in similar jobs and with similar job satisfaction. More importantly, there is a significant relationship between this fatigue and work productivity in the breast cancer survivors while in the non-breast cancer comparison group it is depression that is related to work output.



Courtesy Photo

Michael Feuerstein, Ph.D., MPH

While his research on its own would warrant consideration for this recognition, Dr. Feuerstein’s nomination, by David Krantz, Ph.D., chairman, and Tracy Sbrocco, Ph.D., an associate professor in the Department of Medical and Clinical Psychology, notes that “the work is even more impressive if it is placed in a personal context. Specifically, Mike is himself a cancer survivor. In 2002, while a faculty member at USU, he was diagnosed with a malignant brain tumor and given a poor prognosis. Over the past seven years, he has used the insights gained from his personal experiences to lead a new area of research—optimizing work performance for cancer survivors.”

Dr. Feuerstein’s research has been the first of its kind in the important area of optimal work and cognitive functioning in cancer survivors—especially those who desire or must work in order to continue insurance coverage or for income. Although there have been a number of papers related to this topic that he and his students have published in the past three years, the Leonard Award nomination was based upon *J Occup Environ Med.* 2008;50:777–784 and *J Occup Environ Med.* 2010; 219–227, which provide examples of this program of research.

The Leonard Award for Clinical Research



Photo by Thomas Balfour

Dr. James Leonard

The Leonard Award for Clinical Research is named for the founding Chair of the Department of Medicine, James Leonard, M.D., an internationally respected cardiologist.

Dr. Leonard came to USU in 1976 from the University of Pittsburgh. He was perhaps best known for his classic research on the physiological basis of heart sounds. Dr. Leonard was a leader in cardiac research and was instrumental in establishing undergraduate clinical education at USU and graduate medical education programs at USU-affiliated hospitals. His broad view of medicine and his open door made him a favorite of students and colleagues alike. Dr. Leonard retired in 1996 and was named Chair Emeritus.

The Leonard Award for Clinical Research was established in his honor in 2003. Dr. Leonard died in 2005. Past recipients of the Leonard Award include Drs. Andre DuBois, George Tsokos, Mark Haigney, Carol Fullerton, Shiv Srivastava, David Tribble, Thomas Darling and Marian Tanofsky-Kraff.

Brigade Climate Assessment released

by MC1 Chad Hallford

The Brigade Commander released the results of an annual Defense Equal Opportunity Management Institute (DEOMI) Organizational Climate Survey in a commander's call recently.

"Big picture, this survey is saying the brigade and University are doing many things right — that we have a very positive command climate," said Navy Capt. (Dr.) Tanis Batsel Stewart.

The DEOMI Directorate of Research at Patrick Air Force Base, Fla., compiles anonymous aggregate command survey data. This includes responses to open-remark questions, scaled questions, true-false and other style questions mainly from broad-ranging topics ranging from sexual harassment to equal opportunity and religious discrimination. Brigade leadership at USU encouraged maximum participation across the board from staff, faculty and students and had heightened response in attendance at the recent call.

"Our teamwork concept is strong; this to me is one of the most important concepts for the command, and the trust in leadership is strong. In many areas USU rates well, but there is always room for improvement," said Capt. Batsel Stewart. "It is always important to assess the working environment and understand how your people perceive."

The statistics from this survey overwhelmingly support the claims that USU is a thriving command. But on certain questions, the disparity index, or the difference among how population groups rate a response to a question, was larger than command leadership would like.

"There can be a tremendous gap — so we give people the opportunity to comment, to offer suggestions of improvement and even criticize if they like. What I have found very rewarding is the number of positive comments," said Capt. Batsel Stewart. "Surveys tend to elicit responses from more disgruntled employees and less from the happy employees, and our experience was no different."

While scientific-based surveys can be skewed statistically or possibly reveal an incomplete command picture, Capt. Batsel Stewart attests that when they are used as a tool among many to gauge and monitor command morale and attitude, they enable an approach designed to improve the command-at-large.

"Our intent is to focus more on ensuring the command message is delivered from top to bottom, unadulterated. We will do our best to assure our junior staff that their efforts are noticed and appreciated, and contribute to the overall mission of the University," said Capt. Batsel Stewart.

The Human Performance Resource Center Health Tips is a new column intended to provide the USU community with information to help develop and maintain a healthy lifestyle. Check out the HPRC website at: <http://humanperformanceresourcecenter.org>.

Exercise 101

Don't forget to exercise your heart. As with all fitness requirements, warfighters need extra cardio fitness for optimal performance.

The American College of Sports Medicine and the American Heart Association recommend doing moderate-intensity cardiovascular exercise for 30 minutes a day, five days a week. Elite athletes and tactical Warfighters need to train more to achieve higher levels of fitness. See the Navy Seal Fitness Guide and the Building the Soldier Athlete Manual for more information.

Improve performance

According to the National Sleep Foundation, more than one-third of U.S. adults are not sleeping enough. Compared to those who reported sleeping 7-8 hours regularly, those who slept less than 7 hours reported significantly more trouble performing the daily tasks including:

- Ability to concentrate
- Memory
- Working on a hobby
- Driving or taking public transport
- Taking care of financial matters
- Performing at work

Re-greening the earth, one tree at a time

In recognition of Earth Day, USU employees were offered tree seedlings for planting. Indigo bush, Redbud, and Red Osier Dogwood were available. The distribution, sponsored by NSA Bethesda's Environmental Office, aligned with the global Canopy Project, the Earth Day Network's Billion Acts of Green® effort. The goal of the project is to measurably reduce carbon emissions and support sustainability. While the USU effort was small, the trees distributed by USU

will be pledged towards the United Nations Environment Programme's Billion Tree Campaign, a worldwide tree-planting initiative.



Packard lecturer highlights implications for improved blood use

by Ken Frager



Photo by Thomas Balfour

Dr. Gary Wind, professor of Surgery and president of the USU Faculty Senate (left), and USU president Dr. Charles L. Rice, present Dr. Lena Napolitano with the commemorative Packard Lecture award.

The Faculty Senate and USU President Dr. Charles L. Rice sponsored Dr. Lena Napolitano, a distinguished trauma/critical care surgeon, as the 26th annual David Packard Lecturer, recently. Dr. Napolitano is professor of Surgery and chief of the Division of Acute Care Surgery at the University of Michigan.

Dr. Napolitano's cutting edge research related to blood and blood product transfusion may have direct implications to improve the quality of blood used and ultimately improve outcomes following trauma and acute care surgery.

Dr. Napolitano spent an additional day at NNMC, where she presented Advanced Management of ARDS, followed by trauma/critical care rounds and visits with wounded warriors and the ICU. She also visited the Andrews Air Force Base flight line to witness patient transport innovations.

This joint Packard activity was a first, yet important, step in the integration of USU into the envisioned world class academic medical center on the Bethesda base.

The Packard lecture was recorded and will be made available on the USU Web site.

Juliano honored...

Continued from page 3

In addition, distinct signaling elements appear to initiate movement out of the ventricular zone, but do not play a role in allowing further movement toward the cortical plate.

Dr. Juliano was nominated by Harvey B. Pollard, M.D., Ph.D., professor and chair, Department of Anatomy, Physiology and Genetics. "The paper, which is extensively

discussed here, is emblematic of a revolution in neurobiology, in which repair processes in damaged brain appear to recapitulate a developmental process based on a very simple, yet fundamental structural principal in brain development," said Dr. Pollard. "If a symposium were to be organized by Dr. Juliano, it would attract a large and very appreciative audience with individual interests in the neurobiology revolution."

Curriculum reform...

Continued from page 2

- Application of knowledge requires both mastery of facts and deep understanding.
- Learning for a lifetime is central to professional practice and research.

Much like the new USU schedule, the UCLA plan replaced separate basic science courses with multidisciplinary "blocks," organized around scientific themes and organ systems. It also replaced the traditional approach of teaching predominantly normal anatomy and physiology in the first year of medical school and abnormal structure and function in the second year. This more blended approach, where normal and abnormal pathology are presented early, can be used to stimulate a more comprehensive understanding of both basic and clinical science.

UCLA's pre-clerkship schedule is similar to the one being developed at USU in that it includes plans for a total of 24-28 formal contact hours per week.

Like USU, the UCLA program also includes a greater emphasis on small groups versus large lectures, and encourages the use of independent study and self-directed learning. Content area "threads" running through the blocks represent yet another similarity between the two programs.

Dr. Miller believes one of the most positive outcomes of the updated curriculum at UCLA is the opportunity for faculty to actively engage in interdisciplinary teaching. Not only has this been rewarding, but faculty members have found PPBL to be an effective tool for facilitating active and interactive learning.

Internal satisfaction polls also have shown students like the increased integration and class attendance has gone up.

It was noted, however, that developing and implementing PBLs is labor-intensive, and some of the best teachers are actually those who are both M.D.-Ph.D.s.

Knowing how to measure success is also a challenge. When asked "How do you measure success?" Dr. Miller replied, "It's down the road..."

Briefs

Using Computer Resources

Security incidents continue to be a drain to limited USU Information Assurance manpower. The following highlight current DoD policy and best practices:

Personnel must not install self-coded or non-licensed software on network resources; add, remove, configure, or attempt to modify USU computer operating systems or programs; move audio/visual or network cables, computers or attempt to connect personal computers to the network including MDL and lecture hall spaces; connect personal devices except for those previously authorized by NOC; download pornographic material and store or display offensive material, such as racist literature, sexually harassing or obscene language or material; store or process classified information on any USU system.

Personnel must not permit unauthorized individuals access to a government-owned or government-operated system or program; access online gambling, games and social engineering sites, dates or times.

Helpdesk Closure

The NOC 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.

Exercise/Fitness Areas

Physical Fitness training should be conducted in designated areas.

The only authorized space for PT within the university is room G060.

The campus' Student Community Lounge area is also authorized, but only during specified PFT dates or times.

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 USU 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 USU president.

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

Time Change For Commencement

Please note, the start time for USU's 32nd Commencement has changed. The ceremony will now begin at 10:30 AM on May 21, 2011 instead of 11:00 AM as originally planned.

Funding Applications

The USU Merit Review Committee is accepting applications for the fiscal year 2012 USU Intramural Research Funding.

Applications may be submitted for Pilot, Standard and Exploratory grant funding. New or revised applications will be accepted. Competing continuations are no longer funded. These applications are for basic, clinical or behavioral research.

Projects will be evaluated for demonstrated relevance to military concerns and/or are specific to the USU mission.

Eligibility for funding from the University's intramural program is restricted to USU-billeted civilian and uniformed faculty members with full, associate or assistant professor titles.

Late applications will not be accepted and incomplete applications will not be reviewed.

Applications must be submitted by June 17, 2011.

For additional information: <http://www.usuhs.mil/research/intramuralfunds.html> or contact the Office of Research at (301) 295-3303.



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