

Dean's Newsletter

September 24, 2012

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Dr. Lucy Shapiro Wins the 2012 Horwitz Prize

Columbia University announced today that its 2012 Louisa Gross Horwitz Prize is being awarded to Dr. Lucy Shapiro, the Virginia and DK Ludwig Professor and Director of the Beckman Center at Stanford University (<http://med.stanford.edu/ism/2012/september/brief-shapiro-0924.html>). This the 45th year since this prestigious award was established; over those years, 42 of the 87 Horwitz Prize winners have gone on to win the Nobel Prize. Dr. Shapiro shares this year's prize with Drs. Richard Losik of Harvard University and Joe Lutkenhaus of the University of Kansas.

The announcement of the award cites Dr. Shapiro's seminal work on "how one-dimensional DNA can encode and be translated into a complex three-dimensional organism. She showed, for the first time, that bacterial DNA replication occurs in a spatially organized way and that cell division depends on this spatial organization and on segregation of the DNA to opposite ends of the cell. She also showed that the cell cycle requires the precise coordination and timing of multiple biochemical and morphological events, each of which occurs at a specific stage in the cell cycle and requires the expression and function of a discrete set of genes."

Not only has Dr. Shapiro's work elucidated incredibly important biological insights, but, in doing so, she and her collaborators have also defined and utilized the field of systems biology. As a result of bringing together physicists, engineers, biologists, computational scientists and more into this new field, she and her colleagues have moved

it forward with startling speed and impact. Her work embodies and embraces the unique intersections of the physical and life sciences at Stanford – and was evidenced in her seminal contributions to making BioX so much a part of the Stanford landscape.

I would hasten to add that Dr. Shapiro is not only an incredible scientist, well deserving of the 2012 Horwitz Award, along with the many other awards that preceded it and that are yet to come, but she is also a remarkable leader at Stanford and around the world. Dr. Shapiro stands for excellence in all that she does – and she has worked tirelessly and often behind the scenes to bring excellence to our community in virtually every dimension we value and celebrate. Please join me in congratulating Dr. Shapiro as the 2012 Louisa Gross Horwitz Prize winner.

Stanford School of Medicine Receives the Alfred P. Sloan Award for Excellence in Faculty Career Flexibility

The American Council on Education and the Alfred P. Sloan foundation announced today that the Stanford University School of Medicine is the recipient of the Alfred P Sloan Award for Excellence in Faculty Career Flexibility (<http://med.stanford.edu/ism/2012/september/flexibility-0924.html>). This award recognizes Stanford's leadership and progressive policies and its commitment to enhance and develop flexible career paths for its faculty. The award is based on "*Academic Biomedical Career Customization (ABCC): An integrated approach to faculty career flexibility.*" This highly innovative program was developed by Dr. Hannah Valentine, Senior Associate Dean for Diversity and Leadership and Professor of Medicine; Dr. Christy Sandborg, Vice President of Medical Affairs, the Lucile Packard Children's Hospital at Stanford and Professor of Pediatrics; Dr. Jennifer Raymond, Associate Dean for Faculty Flexibility and Associate Professor of Neurobiology; Dr. Caroline Simard, Associate Director of the Office of Diversity and Leadership (ODL); and Jennifer Scanlin, Program Manager, ODL. The award provides \$250,000 to further develop a pilot plan that has been initiated by Dr. Valentine and her colleagues to develop new approaches to creating more flexible career opportunities for both basic and clinical faculty in the School of Medicine. Stanford was one of five medical schools to receive an excellence award for faculty career flexibility and will be honored at an event on September 24th in Washington DC.

Stanford is already a leader in having a number of policies promoting flexibility, including ones for parental leave, reduced teaching or clinical load, family care, part-time appointment, tenure clock extension and personal disability. Despite having these and other policies a major concern is that, with the exception of maternity leave and part-time appointments, a number of these progressive policies are either unrecognized or underutilized by faculty. Not surprisingly, among the major reasons for not using flexible work polices is the fear of seeming to be less committed to one's career or a concern about burdening one's colleagues. This is a topic about which I have written frequently over the years.

As Dr. Valantine and her colleagues have noted on a number of occasions, although flexibility is a pressing issue for institutions across all sectors, as evidenced by Ann-Marie Slaughter's recent article about her decision to opt-out of a prestigious position in government, <http://www.theatlantic.com/magazine/archive/2012/07/why-women-still-cant-have-it-all/309020/2/>), few have offered definitive plans to solve the problem. The School of Medicine recognizes that to recruit and retain the best and brightest, we need to align our organizational practices and culture to the needs of the 21st century workforce. Hopefully the Sloan Award will allow the School of Medicine to move forward with the initial phases of pilot ABCC projects that will begin in both basic science and clinical science departments. The model is organized around teams of faculty members who will work collaboratively with division chiefs or department chairs, assisted by professional career-life coaches, to create individual faculty career plans that evolve over time and ensure that faculty actually use existing and newly designed flexibility options to enhance work life integration. A key goal is to collect data and assess the impact of the ABCC methodology and determine whether and how it can be more widely employed in the years ahead.

There is a lot at stake for our faculty. Our work environment is supportive (note that Stanford was named this week by the "Working Mother" as one of the 100 Best Companies fostering a balance between work and family life (see: <http://www.workingmother.com/best-companies/stanford-university>), but there is much work to do, especially for junior clinical faculty, who are trying to balance the often competing pressures of achieving excellence in research, teaching, patient care and family life. Making progress in this area is important to our current faculty and to future generations. It is wonderful that the work already accomplished or underway has been recognized by the Council on Education and the Alfred P Sloan Foundation, but we are really at the beginning of a long journey. Thankfully, Drs. Valantine, Sandborg, Raymond, Simard and Ms. Scalin are ready to initiate new and novel programs that may help create a better future. We congratulate their accomplishments – and more importantly, wish them well in these future endeavors.

Challenges at Stanford from Different Perspectives: Views from the Faculty Senate

The School of Medicine's Faculty Senate held its first meeting of the year on September 20th. Dr. Sabine Girod, Associate Professor of Surgery (Plastic and Reconstructive Surgery), is the new chair of the Senate. During the meeting she asked the faculty senators to introduce themselves and to offer personal perspectives on what they hope the senate and school will work on in the year ahead. It was helpful and important to hear the range of views and topics of interest to faculty, students and trainees as they offered individual perspectives as well as collective wisdom. They also reflected on issues and concerns affecting each of our faculty –obviously seen through an individual lens.

Among the concerns raised was how the school and university will support and assist basic science faculty during this time of fiscal constraint and limitation in research funding. Coupled with this was how career development will be supported and fostered at

Stanford. Senators expressed concern about the perceived value of Clinician Educators in comparison to other faculty, as well as how medical school faculty are seen in relation to the greater university. One or more senators raised the question of whether Stanford is preparing its medical students for the dramatically changing landscape in how medical care will be delivered. Also raised was the issue of whether education programs promoting joint degrees have had an impact on medicine, and how this fits into the education of future physicians. Questions (and hopes) were raised about how to develop more interdisciplinary interactions among departments and across the university. Also raised was the question of how to engage more faculty involvement in improving the quality and cost-effectiveness of patient care. And the list could go on.

Of note, many of the issues and concerns expressed by this year's senators have been topics that have been raised in the past, and a number have received considerable attention during my association with Stanford. Indeed, a number have consumed the time and efforts of previous members of the faculty senate, medical school and university. Clearly none are fully resolved, which underscores the reality of the continued external and internal forces that impact academic medicine. Further, the importance of these forces will almost certainly be further exacerbated in an era when NIH funding is flat to declining and when the economics and changes in healthcare alter the overall practice of medicine. Taken together, the various issues and concerns raised by members of the senate highlight the fact that the work of improving our work environment, locally and beyond, is constant and ongoing – sometimes with two steps forward to one back and on other occasions the opposite.

On further reflection, the expressions by members of the Senate of what we can do to further improve Stanford as a medical school and medical center illustrate that each of us, whether faculty, student or staff, has an individual responsibility to seek ways of helping to address concerns and offer solutions. It is terrific to witness suggestions, comments and of course concerns and disappointments, because they show a willingness to engage in seeking ways of making our community better and stronger. The issues are enduring, and the solutions often more evanescent, with new solutions building on past successes or failures. Obviously there is much to be done – and it is important that the Faculty Senate began by reflecting on some of those challenges and opportunities. Hopefully, next will come steps to solutions – and further progress.

Report to the Executive Committee from the Department of Anesthesiology, Pain and Perioperative Medicine

On Friday September 7th, Dr. Ron Pearl, the Richard K. and Erika N. Richards Professor and Chair of the Department of Anesthesia, provided an update to the Executive Committee, including a change in the department's name. Dr. Pearl's summary follows:

In recognition of the expanding involvement of anesthesiologists outside the operating room, the Department of Anesthesia has been renamed the Department of Anesthesiology, Pain and Perioperative Medicine. Overall, it is

one of the three largest departments in the medical school with 155 faculty, 80 residents, 35 fellows, 40 administrative staff, and an additional 50 people involved in research. The annual budget is over \$71 million, primarily in healthcare services and research.

The department has maintained clinical growth at 7% per year throughout the past decade, and now has over 100 clinical FTEs at Stanford and Packard Hospitals. The majority of the faculty growth has been in the Clinician Educator Line, which accounts for over half the current faculty. The department is divided into eight clinical divisions: the general OR group (renamed the multispecialty division), pediatric anesthesia, pain management, critical care, cardiovascular anesthesia, obstetrical anesthesia, and medical acupuncture, plus the VA group. In addition to increasing patient numbers there has been an increase in patient acuity and in the complexity of surgical procedures, which has required increasing sub specialization within the anesthesia divisions. The pain management division has had the greatest percentage growth, and is one of only four programs in the country to receive two Center of Excellence awards from the American Pain Society.

In resident education, the 80 anesthesia residents are involved in 26 rotations at four hospitals. The majority of the residents continue with fellowship training after residency, and half continue in academic anesthesia. The residency program at Stanford has been highly innovative, including an iPad-based curriculum, a research track, a resident wellness program, a global health program, combined residency programs with pediatrics and with internal medicine, and the extensive use of information technology, simulation, and blended multimedia experiences for training. A Faculty Scholars Teaching Program has trained 26 faculty in curricular theory during the past 5 years. Nationally, simulation in medicine developed from the efforts of David Gaba, Associate Dean for Immersive and Simulation-based Learning at Stanford, and the anesthesia residents participate in simulation programs, often in collaboration with other departments, in anesthesiology, critical care, obstetrics, pediatrics, and neonatology. Many of the departmental educational innovations, including the use of advanced information technology, have been published. Larry Chu organizes the annual Medicine X symposium at Stanford, which is attended by over 500 national and international experts on the use of information technology to advance health care. At the fellowship level, Stanford is the only anesthesia department in the country to offer all five ACGME-approved fellowships (critical care, pain, pediatrics, cardiac, and obstetrical anesthesia).

During the past five years, departmental NIH funding has tripled, and the department now ranks third in the country. The department has 20 active federal awards, including 9 new grants this year, for a total of \$44.3 million in total costs over the award periods. In addition, there are 19 non-federal awards. Overall, there are 21 different principal investigators. Areas of research include pain, mechanisms of anesthesia, neuroscience, cardiopulmonary research, adult and

pediatric clinical pharmacology, patient safety, health care economics and outcomes research. Approximately half the departmental research is in the area of pain. A \$17 million P01 grant to Sean Mackey uses deep phenotyping and genotyping to determine which individuals will respond to one of four different treatments for low back pain. Other ongoing pain studies include the use of low dose naltrexone to modulate microglia to decrease pain in fibromyalgia, an EGR-1 DNA decoy to prevent the progression from acute to chronic pain after surgery or injury, the use of brain imaging as an objective marker for pain, and basic mechanisms, including epigenetic modifications, underlying complex regional pain syndrome, postsurgical pain, and response to opioids. In the area of anesthetic mechanisms, electrophysiological studies have examined effects of alcohol and anesthetics on specific ion channels and neural circuits. Modeling of molecular dynamics has described the details of binding between anesthetics and relevant ion channels and has begun to identify new anesthetic molecules that may have greater specificity and safety. A study of identical and fraternal twins demonstrated the role of genetic variability in the effects of narcotics, and subsequent studies will examine candidate genes. The use of computational mouse genetics demonstrated the role of the 5HT3 receptor in opioid withdrawal, and an NIH-funded multi-center study is examining the use of ondansetron to prevent narcotic drug withdrawal in neonates born to mothers taking narcotic drugs.

Many of the complications of anesthesia and surgery are due to perioperative inflammation. In collaboration with Gary Nolan, Mark Davis, and Mike Longaker, Martin Angst is using CyTOF mass cytometry to perform a comprehensive, system-based quantitative and functional evaluation of the circulating immune system in the context of surgery. Based on data from cytokine changes in the wound fluid of patients, Gary Peltz is studying the ability of anakinra, an IL-1 receptor antagonist, to decrease postoperative wound pain. In other work, his transformative RO-1 uses human hepatocytes to replace the native liver in Tk-NOG mice, allowing in vivo pharmacokinetic studies applicable to human metabolism and providing a potential method for human liver regeneration from differentiated human adipocytes obtained from liposuction.

Finally, although the Department of Anesthesiology, Pain and Perioperative Medicine has been successful in clinical care, education, and research, resource constraints (money, billets, and space), the impact of new health care reimbursement systems such as accountable care organizations, and the increasing role of mid-level practitioners will need to be addressed to continue this success in future years.

Dr. Natalie Rasgon Appointed Associate Dean of Academic Affairs

Dr. David Stevenson, Vice Dean and Senior Associate Dean for Academic Affairs, has announced the appointment of Dr. Natalie Rasgon, Professor of Psychiatry and Behavioral Sciences, as Associate Dean of Academic Affairs. A member of the Stanford faculty since 2002, Dr. Rasgon holds a courtesy appointment in the Department of Obstetrics and Gynecology and serves as the Director of the Stanford Center for Neuroscience in Women's Health. In addition to her research, teaching and clinical activities, Dr. Rasgon has served on the School's Appointments and Promotions Committee and has just completed a two-year term as chair of the School of Medicine Faculty Senate. She is also co-chair of the Women's Faculty Forum at Stanford. She will join the Office of Academic Affairs on October 1.

Stanford Faculty Continue Amazing Success with Prestigious Awards for Innovation

“Innovative,” “creative,” and “entrepreneurial” are words that characterize Stanford faculty in ways that transcend virtually every other university in the world. Many different metrics can be used to measure these attributes, some of which occur year after year. For example, on September 13th the NIH announced the 2012 winners of the NIH Director's Pioneer Awards, New Innovative Awards and Transformative Research Awards (see: <http://med.stanford.edu/ism/2012/september/nih-awards-0913.html>). Stanford faculty account for 9 of these 81 awards, which recognize creative and innovative scientists – demonstrating once again that our medical school, as well as the rest of the university, is the beneficiary of enormously talented faculty who themselves benefit from the unique and big-idea thinking that results from the very special environment we know as Stanford. The awardees in the School of Medicine (including Bioengineering) include:

- **NIH Director's Pioneer Award**
 - *Dr. Christina Smolke*, Associate Professor of Bioengineering
 - *Dr. Ann Brunet*, Associate Professor of Genetics
- **New Innovator Awards**
 - *Dr. Alexander Urban*, Assistant Professor of Psychiatry and Behavioral Sciences
 - *Dr. Rajat Rohatgi*, Assistant Professor of Medicine (Oncology)
 - *Dr. Jan Carette*, Assistant Professor of Microbiology and Immunology
- **Transformative Research Awards**
 - *Dr. Karl Deisseroth*, Professor of Bioengineering and of Psychiatry and Behavioral Sciences
 - *Dr. Helen Blau*, Donald and Delia B Baxter Professor and Director of the Baxter Laboratory, Department of Microbiology and Immunology
 - *Dr. Ben Barres*, Professor and Chair of the Department of Neurobiology

In addition to these prestigious awards from the NIH, the Howard Hughes Medical Institute (HHMI) also announced the recipients of the HHMI Collaborative Innovation Awards, which will bring together six teams to carry out potentially transformative research, each headed by an HHMI investigator. These awards include 28

investigators from 20 institutions in the US, Germany and Israel – including Stanford. Indeed, two of the six teams will be led by (and include) Stanford faculty, including:

Structures of challenging biological systems with the world's first hard X-ray laser

- ***Axel Brunger***, Lead Investigator, HHMI Investigator and Professor of Molecular and Cellular Physiology, Neurology, Photon Science and Structural Biology, Stanford University. Dr. Brunger's team will develop new methods of sample delivery, data collection, and analysis to enable structural studies of nanometer or micron-scaled crystals of biological molecules using the new Linac Coherent Light Source at the SLAC National Accelerator Laboratory in California.

Collaborators:

- ***James Berger***, University of California, Berkeley
- ***David Eisenberg***, HHMI Investigator, University of California, Los Angeles
- ***Douglas Rees***, HHMI Investigator, California Institute of Technology
- ***William Weis***, William Hume Professor of Structural Biology and of Molecular and Cellular Physiology, Stanford University

Mapping global patterns of connectivity in the mammalian brain

- ***Liqun Luo***, HHMI Investigator and Professor of Biology and, by courtesy, of Neurobiology, Stanford University. Dr. Luo's team plans to develop a suite of tools for mapping neuronal connections in the complete mouse brain, including those that extend across long distances, and use those tools to study the organization of neural circuits and how they are affected by specific neurotransmitters.

Collaborators:

- ***Edward Callaway***, Salk Institute for Biological Studies
- ***Karl Deisseroth***, HHMI Early Career Scientist and Professor of Bioengineering and of Psychiatry and Behavioral Sciences, Stanford University
- ***Adi Mizrahi***, Hebrew University

Congratulations to each of these remarkable faculty members for these recent awards and recognition.

Upcoming Events

Stanford Medicine X September 28-30, 2012 Li Ka Shing Center, Berg Hall

This conference will show attendees how emerging technologies will reshape the practice of medicine, right from the front lines of Silicon Valley. Social media, mobile apps, design practices, and self-tracking technologies are reshaping healthcare and have the potential to transform the doctor-patient relationship. In order to engage the Stanford community, the Medicine X organizers are pleased to extend discounted rates of up to 72% off our current prices.

- \$699 to attend Medicine X and the Self-Tracking Forum [Sept 28-30, 2012](#) (Normally \$2448, a 72% savings)
- Regular staff members may be eligible to use STAP funds to cover the full cost of the conference with supervisor approval. Refer to the [STAP website](#) for further details.

To register today, visit: <http://medicinex.stanford.edu/stanford-university-access-program>. Please [click here](#) to access the special \$699.00 rate to attend Medicine X [Sept 29-30, 2012](#).

Some Notable Events

- The Stanford Cancer Institute hosted the *Sixth Comprehensive Cancer Research Training Program* from September 17-21st. Special thanks to Drs. Amato Giaccia, Ginna Laport, James Ford and Karl Blume for their leadership with this excellent program.
- *The Stanford University Postdoctoral Association* held its 2nd Annual Research Symposium on September 20th. The SUPD has done a great job in fostering a community of scholars, colleagues and friends at Stanford. Special thanks to Simal Ozen Irmak, Hedwich Kuipers, Gerwin Hassink, and Yoan Konto-Ghiorgi for their work in hosting and coordinating this important program.

Other Awards and Honors

- *Dr. Jonathan S. Berek* was named the first incumbent of the Laurie Kraus Lacob Professorship at a festive event on September 18th. This event honored the extraordinary compassion, commitment, dedication and generosity of Ms. Laurie Lacob, who made this professorship possible, along with the exceptional contributions of Dr. Berek as a world-renowned leader in gynecologic cancer. Dr. Berek is also the Chair of the Department of Obstetrics and Gynecology and the Director of the Stanford Women's Cancer Center.
- *Dr. John R. Adler Jr.*, Professor of Neurosurgery and Radiation Oncology, has just received the Ralph Cloward Award from the Western Neurosurgical Society. Please join me in congratulating Dr. Berek and Dr. Adler.

Appointments and Promotions

- *Stephen Baccus* has been promoted to Associate Professor of Neurobiology, effective 8/01/2012
- *Valerie Baker* has been promoted to Associate Professor of Obstetrics and Gynecology, effective 9/01/2012
- *Victor Carrion* has been promoted to Professor of Psychiatry and Behavioral Sciences, effective 9/01/2012
- *Karl Deisseroth* has been promoted to Professor of Bioengineering and of Psychiatry and Behavioral Sciences effective 9/01/2012
- *Jason Drago* has been promoted to Associate Professor of Orthopaedic Surgery, effective 9/01/2012
- *Sharon Geaghan* has been reappointed to Professor of Pathology at the Stanford University Medical Center, effective 6/26/2012
- *Jeremy D. Goldhaber-Fiebert* has been reappointed to Assistant Professor of Medicine, effective 11/01/2012
- *Allison W. Kurian* has been reappointed to Assistant Professor of Medicine and of Health Research and Policy, effective 2/01/2013
- *Laura Lazzeroni* has been reappointed to Associate Professor (Research) of Psychiatry and Behavioral Sciences, effective 10/01/2014
- *Henry Lowe* has been appointed to Associate Professor of Pediatrics, effective 9/01/2012
- *Peter G. Maxim* has been reappointed to Assistant Professor of Radiation Oncology, effective 9/01/2012
- *David Miklos* has been appointed to Assistant Professor of Medicine, effective 9/01/2012
- *Walter Park* has been appointed to Assistant Professor of Medicine, effective 9/01/2012
- *Kathleen L. Poston* has been reappointed to Assistant Professor of Neurology and Neurological Science, effective 2/01/2013

- *Edward Riley* has been promoted to Professor of Anesthesia, effective 8/01/2012
- *Daniel L. Rubin* has been reappointed to Professor of Radiology and of Medicine, effective 2/01/2013
- *John Sunwoo* has been reappointed to Assistant Professor of Otolaryngology-Head and Neck Surgery, effective 10/01/2012
- *Jeffrey Yao* has been promoted to Associate Professor of Orthopaedic Surgery, effective 9/01/2012