A Brand New Approach to Pain

In spite of an urgent need for new and more effective pain therapies, the current drug treatments have been essentially the same for decades: NSAIDS (including what’s left of the once-lauded Cox2 inhibitors) and opioids, which have been around for a hundred years. These drugs do not treat some kinds of pain and they have notable side effects.

A research team based in the College of Medicine has found an exciting new direction. The researchers are looking for biomarkers in microRNA – small molecules that regulate biological responses – which they hope will provide new insights into pain and its diagnosis, as well as new treatment approaches. Centered in the Department of Pharmacology & Physiology, this effort is a collaboration with the Department of Neurology and the School of Biomedical Engineering, Science & Health Systems.

MicroRNA, first discovered in 1993, is abundant in human cells; several hundred different microRNAs have been identified. Abnormalities in microRNA expression are observed in many diseases, and they have already proven useful as biomarkers in other areas of medical research – for example, specific microRNAs are associated with disease progression, treatment outcomes, and recurrence in cancer.

The current work on biomarkers related to pain is the inspiration of Seena Ajit, Ph.D., an assistant professor of pharmacology and physiology. In conjunction with neurologist Robert Schwartzman, M.D., Ajit is investigating the microRNAs of patients with complex regional pain syndrome (CRPS). Schwartzman, professor and chair of neurology, is internationally recognized for his work in CRPS, also known as reflex sympathetic dystrophy. In addition to treating patients, he pursues research into its cause, pathogenesis, and mechanisms. This also includes the analysis of alterations in inflammatory biomarkers in collaboration with Guillermo Alexander, Ph.D., professor of neurology.

When blood samples from CRPS patients were analyzed for microRNA expression in a preliminary study (www.translational-medicine.com/content/9/1/195), the researchers found that a certain set of microRNAs in the patients were unique relative to healthy, age-matched controls. The analysis identified 18 microRNAs that were expressed differently in the CRPS patients. Additionally, certain inflammatory markers were found to be modified in the patients. Subsequent analyses performed by Ahmet Sacan, Ph.D., assistant professor of biomedical engineering, demonstrated a relationship between microRNAs and key inflammatory mediators that suggests important processes regulated by microRNA.

The question is, Which genes are the microRNAs regulating? Are microRNA changes a cause or consequence of pain? This is further complicated, notes James Barrett, Ph.D., professor and chair of pharmacology and physiology, by the fact that “one microRNA can regulate multiple genes and functions, as opposed to opioids, which target a single receptor or system. Each microRNA could be a project on its own.”

And so Ajit’s lab is now focusing on one microRNA that topped the list of 18, called...
A Commitment to Community Health

As the country prepares for what will end up being a new health care system – and it may or may not look like what people expect – there is no question in my mind that we are moving toward revolutionary change. The emphasis is on the integration of primary care and highly specialized care; on granting access to care to all populations, including those who hitherto did not have access; and on population management, with a focus on education, prevention, health maintenance, and early intervention. Developing healthy communities is a priority.

In part because of this, I made the decision to create two new deanships – Dr. Ana Núñez has been appointed associate dean for urban health equity, education and research, and Dr. Eugene Hong has been appointed associate dean for primary care and community health.

The new deans have different but complementary missions. Dr. Núñez will be responsible for leading outreach and integration efforts. This includes expanding and innovating effective models that better connect us and our trainees with the people we serve. By harnessing the collective talent of our health care community, we can create novel linkages that expand our mission beyond disease detection and care, and move us to a role of improving health and wellness outside of our walls.

Dr. Hong will be responsible for developing a primary care strategy for the College of Medicine that integrates better with that of Hahnemann University Hospital. I also see Dr. Hong as our point person linking the College of Medicine with city and state health officials in matters related to primary care, and with other colleges and individuals in the University to partner in initiatives such as student health services and enhancing the health status of neighboring Mantua.

We are also particularly interested in looking to other campuses, such as St. Christopher’s Hospital for Children, and exploring collaborations around the planned Center for the Urban Child, whose mission intersects with both Dr. Hong’s and Dr. Núñez’s mandates.

The College of Medicine subscribes fully and enthusiastically to Drexel’s goal of becoming the most civically engaged university in the United States. Our students generally are very civic-minded and hungry to be involved in the community. They already participate in many service activities. We need to enlarge the framework in which these endeavors take place and inject the element of research. Research – which can be nothing more than evaluating outcomes – can be essential to any effort to advance community health. We need to approach the community as learners. Action for good health in a population can only come about in partnership. Community constituen-
encies tend to know what’s best for them; where we come in is in offering our knowledge about health issues.

Daniel V. Schidlow, M.D.
Senior Vice President of Health Affairs
Destination Excellence: Diversity in the Biomedical Sciences

The biomedical graduate programs at the College of Medicine mount a strong effort to ensure diversity in their student population. Currently, the doctoral and master’s programs in biomedical sciences comprise 63 percent domestic and 37 percent foreign students; and 48 percent male and 52 percent female students. Twelve percent of students across M.S., Ph.D., and M.D./Ph.D. programs are underrepresented minorities. Each fall for the past three years, the graduate programs have sent a delegation to the Annual Biomedical Research Conference for Minority Students to recruit students for our programs. This year’s team included the senior faculty members who co-chair the Graduate Diversity Committee; a current Ph.D. candidate; and an academic coordinator from the Office of Biomedical Graduate and Postgraduate Studies.

Drexel University is a participant in a National Science Foundation–funded Bridges to the Doctorate consortium through which four College of Medicine Ph.D. students have been supported; two of them have already graduated and have moved to positions outside of Drexel as postdoctoral fellows. The College of Medicine also maintains a successful alliance with Delaware State University, one of the historically black colleges and universities, in a joint NIH-funded Bridges to Doctorate training program. The goal of this unique program is to help underrepresented minority students move from B.S. to M.S. to Ph.D. degrees in biomedical science. While students in the program are studying for the master’s degree at Delaware State in Dover, they have the opportunity to take graduate courses in microbiology, immunology, molecular biology, or neuroscience at the College of Medicine; conduct master’s research in Drexel laboratories; and select members of our faculty for their master’s thesis committees. Students who excel in the program are encouraged to apply to and matriculate with advanced standing in one of several Ph.D. programs within the College of Medicine.

A similar affiliation is being sought with Lincoln University of Pennsylvania. Likewise, a cohort of five students from a third historically black school, Cheyney University, has been included in our 10-week Summer Undergraduate Research Fellowship programs for 2012 and 2013. Recently, several Cheyney students presented posters at Discovery 2012. Finally, there is a dedicated effort to recruit and include underrepresented minority students from urban Philadelphia high schools in the Summer High School Research Fellowship program.

All of these affiliations and outreach programs contribute to the diversity of our pool of applicants and ultimately those selected for admission. Our retention of graduate students from underrepresented minorities is greater than 95 percent. This is aided by a subcommittee of the Biomedical Graduate Education Committee that works to identify and monitor the progress of students who may need extra preparation and attention during the transition, both academic and social, from undergraduate to graduate school. Chaired by two senior faculty members, the subcommittee draws on the experiences and talents of senior underrepresented minority students to facilitate peer group connections and offer preparatory classes and tutoring for incoming students.

– Melody Wright and Barry Waterhouse

Our affiliations contribute to the diversity of our applicant pool

Melody Wright, doctoral candidate, and Barry Waterhouse, Ph.D., vice dean for biomedical graduate studies
Geriatric Services Program: Caring for the Homebound Elderly

A married couple in their 90s, still living in their own home, were no longer well enough to get to their doctor’s office for care. Each of them had a number of medical issues and needed to see a physician. Their granddaughter, who was their primary caregiver, was trying to make sure all their needs were met while balancing her own work and family responsibilities. Despite her best efforts, some things just kept falling through the cracks.

Enter Drexel Family Medicine’s new geriatric services program, developed specifically to address problems faced by Philadelphia’s homebound elderly whose access to needed health care is severely obstructed. According to the 2010 U.S. Census, Philadelphia has one of the largest geriatric populations in the country, with 12 percent of residents over age 65.

Among their many obstacles to care is transportation; 1 out of 10 elderly Philadelphians regularly cancels doctor visits due to transportation problems. Additional obstacles include inadequate or nonexistent insurance, high costs, lack of a regular health care provider, physical or mental illness, frailty, and weather conditions.

Since June 2012, the College of Medicine’s geriatrics program has been addressing all of these obstacles by taking physicians and a social worker to visit the homebound elderly in their homes, where they provide wide-ranging assessments to identify physical, mental, and environmental health and safety issues. The social worker provides case management follow-up to link all elderly participants to additional local services that address their health and safety conditions and needs.

The program’s goal is to enable high-risk, often low-income elderly people to access quality health care while remaining in their homes safely and independently, through improved health and access to services such as personal care assistance, patient advocacy, fall prevention and other safety enhancements, volunteer chore services, and friendly visiting. Funded through a three-year $150,000 grant from The Pew Charitable Trusts, the program aims to carry a census of 30 to 40 patients at all times. Patients must be over age 65, meet the Medicare definition of homebound and live in Philadelphia.

“What makes our program unique is the combination of a comprehensive geriatric assessment completed on the initial home visit along with a social work assessment, and wide-ranging support services and advocacy provided by our social worker,” says B. Brent Simmons, M.D., a geriatrician and assistant professor in the Department of Family, Community & Preventive Medicine, who leads the program.

The comprehensive geriatric assessment comprises a functional assessment, including the ability to do basic activities of daily living and essential activities, such as paying bills, grocery shopping and cleaning; a cognitive assessment; a medical assessment and a medication assessment.

“Concurrently, our social worker [Ruth Valentine, MSW, LSW] completes a social work assessment,” Simmons explains. “This includes identification of geriatric social issues and barriers to care, fall risk assessment and home living assessment.”

Valentine walks around the home, assessing it for safety issues, such as loose rugs, clutter and other fall hazards. She determines whether the patient is getting regular meals and asks whether the patient has any problem paying bills for essential services, such as utilities.

“When you’re on the patient’s home turf, you can really see what’s going on and help to prevent problems,” says Simmons.

In between home visits, which each patient receives at least once every three months, Valentine provides social support services that are invaluable to the homebound elderly population, according to Simmons. “Ruth goes above and beyond to help our patients. She arranges transportation and doctor visits, coordinates visiting nurse follow-up visits, and arranges for home health aides, home-based physical therapy and other services that enable them to stay in their own homes safely. She makes sure they get the follow-up care they need, which, studies show, leads to better health outcomes,” he says.
“Most importantly, Ruth advocates for her patients. For the geriatric population, having someone who knows how to navigate the system and is willing to speak on your behalf is invaluable,” Simmons emphasizes. “This is not part of the typical bundle of services offered by most home visit programs.”

Valentine is passionate about being there for her patients. “They call me because they know they can trust me,” she relates.

One patient who was unhappy with her home health aide asked for Valentine’s help in dealing with the situation. Another very elderly patient asked Valentine to intervene with her well-meaning caregivers who were overzealously pushing her to eat “healthy food” that no longer appealed to her. Yet another patient thought she didn’t have any Medicare supplemental insurance. Valentine searched records and asked questions until she found that the patient did indeed have supplemental coverage.

And for the elderly couple in their 90s, Valentine went above and beyond to help the husband when his wife passed away. She was there to comfort him at the viewing. She provided grief counseling in the months that followed, and she helped to relieve his granddaughter’s stress as caregiver by arranging for additional support services.

“It’s important for primary care physicians to know that this program is available when their elderly patients become too frail or debilitated to get to their office,” says Simmons. “If you realize that you haven’t seen an elderly patient in your office for six months and he or she has a lot of medical problems requiring follow up, consider that your patient may now be homebound, and ours might be the right program to address his or her needs.”

For more information or to refer a patient to the home visit program, contact Ruth Valentine at 215-967-1624.

**Approach to Pain**

miR-939. The CRPS patients had 4.3-fold less miR-939 than the controls, she explains. Using bioinformatics prediction tools, the researchers identified certain genes that are targeted by miR-939, and they hypothesized that the regulation of these genes, known to be important in pain, contributes to chronic pain and inflammation observed in CRPS patients.

Future plans involve an examination of new patients, with blood taken both before and after treatment. This will enable the team to directly test the utility of microRNAs in predicting efficacy and treatment outcome. Another area of investigation is the functional relevance of the presence of microRNAs in circulation. The researchers will look at the microRNA in exosomes, small vesicles secreted by the cells, which carry messenger RNA, microRNA, proteins, and lipids.

The discovery of microRNA in exosomes, in 2007, opened up a new way of studying signaling mechanisms. “People tend to believe that information transfer happens through neurotransmitters,” Barrett explains, “but exosomes can cross the blood-brain barrier.” This leads to more intriguing questions; for example: “How do microRNAs exist in the blood? Does the brain sense that something is wrong and package some microRNAs to regulate gene expression in distant sites?”

Perhaps one could eventually intervene in microRNA activities in two ways: by targeting the microRNAs themselves or by using them to target genes. If you know microRNAs target specific processes, one day you may be able to tailor combination therapies.

The Drexel researchers are also looking at the processes involved in the transition from acute pain to chronic pain. It is known that the brain circuitry reorganizes in response to pain. Alessandro Graziano, Ph.D., assistant professor of pharmacology and physiology, is investigating how plastic the brain is under pain conditions, and Huijuan Hu, Ph.D., also assistant professor of pharmacology and physiology, is using electrophysiological techniques to probe mechanisms involved in pain sensation.

It is not uncommon to think of pain as a unitary thing—that the same processes are involved and treatments should share some common mechanism. Inflammation is one component, but clearly there are many others. The approach taken by this team combines the necessary integration from the molecular to the clinical level to address these complex processes. Pain is a deeply personal experience, and there is variability in its subjective sensation. Pain rating scales leave a great deal to be desired. The medical puzzles surrounding pain, such as why chemotherapy causes long-lasting pain in 50 percent of cancer patients, beg for clearer understanding. For all these reasons, the objective information that biomarkers can yield is invaluable. While at the heart of the research is the desire to get better insight into what pain is, the ultimate goal is to use this information to find more effective approaches to prevention and treatment.
New Office to Address Urban Health Equity

The College of Medicine has announced the creation of a new Office of Urban Health Equity, Education and Research. The office will be led by Associate Dean Ana E. Núñez, M.D., professor of medicine and the director of the Women’s Health Education Program. Núñez is also the principal investigator on a community-centered initiative funded by the Department of Health & Human Services called the Philadelphia Ujima™ Project, 1 of 10 sites nationwide that serve as models of effective outreach and care.

In her new role, Núñez and her team will work with various constituencies to engage and sustain the urban communities of Philadelphia by:
• Providing a dedicated office that connects urban-based health advocates and citizens with expert health care providers
• Joining educators and researchers with local health advocates to bring disease prevention information to urban communities
• Convening conversations with citizens and health care providers to seek solutions to complex health care issues
• Bringing the important perspectives of gender, trauma and social networks to research and education in health care delivery

• Promoting an urban culture that values health and wellness
  "The goal of our office is to work together to promote self-care and health, and to identify and replicate models with a realistic approach that will have a larger impact so that people become better, more informed health advocates – for themselves, their families, their friends and their colleagues,” said Núñez.

She cited some specific practical examples:
• Increasing awareness that blood pressure is under-screened and helping people get into care earlier to prevent consequences from untreated hypertension
• Improving skills and boosting confidence when it comes to reading food labels by playing a card game that helps people select the best food choices
• Increasing youth understanding about health by helping children select better snacks
• Aiding seniors in developing skills in physical activity that don’t require expensive gym memberships or machines, but can help with mobility and minimize falls
• Identifying healthy aspects of close relationships and helping people become aware of signs of unhealthy ones.

Jacobson Awarded $10 Million Grant for Clinical Trials to Study HIV Treatment

Jeffrey Jacobson, M.D., professor and chief of the Division of Infectious Diseases and HIV Medicine, was awarded a $10 million grant from the National Institutes of Health to conduct additional Phase II studies with PRO 140, an experimental humanized monoclonal antibody (mAb) targeting the CCR5 receptor for the treatment of HIV infection. Jacobson is conducting the studies in collaboration with CytoDyn Inc., a biotechnology company focused on the development of new therapies for combating HIV infection.

This clinical research will allow the PRO 140 program to move ahead with the hope of providing new therapeutic alternatives for HIV-positive individuals. The first study, “Long-Acting HIV Therapy for Injection Drug Users” (a National Institute on Drug Abuse study), is a placebo-controlled trial that will explore the combined effect of PRO 140 and the current highly active anti-retroviral therapies (HAART) on circulating virus levels in HIV-infected subjects.

The second placebo-controlled study, “Long-Acting, Self-Administered HIV Therapy with the CCR5 Antibody PRO 140” (National Institute of Allergy and Infectious Diseases), will measure the effect of different doses and dosing schedules of PRO 140 alone on circulating virus levels in drug-naïve HIV-infected subjects. This second study will also measure the effect of PRO 140 treatment on the levels of CD17 cells, a subset of CD4 cells that are thought to control inflammation.

The results of these two FDA-sanctioned studies will provide important clinical information needed to improve understanding of the role of the CCR5 molecule in viral cellular entry and move the PRO 140 clinical program forward.
Affiliate Allegheny General Receives Consumer Choice Award

Allegheny General Hospital, a regional medical campus of the College of Medicine, received the National Research Corporation’s Consumer Choice Award for Western Pennsylvania. Based solely on the views of health care consumers, the award identifies hospitals that have the highest quality and image in their respective markets, as ranked on best overall quality, best doctors, best nurses and best image/reputation. AGH has received the award 10 times.

OMFS Residency Program Approved

The American Dental Association’s Commission on Dental Accreditation has approved the Drexel/Hahnemann Oral & Maxillofacial Surgery Residency Program for the full cycle of five years. The program was approved “without recommendations.” This is the second time in a row that the program has been awarded this distinction. Nabil A. Abaza, DMD, M.S., Ph.D., professor of surgery, is the residency program director.

Look for Drexel Medicine University City to open in January at 3401 Market Street. Located next to the new Drexel Student Health Center, the practice will be staffed by faculty physicians from the Department of Family, Community & Preventive Medicine. Multiple other medical specialties will begin to provide care through this office in the following months. Drexel employees who have the Drexel Preferred Plan for insurance will have $0 co-pay for office visits when they see a primary care physician.

For more information, visit www.drexelmedicine.org.

46 Seniors Elected to Honor Society

Forty-six medical students in the class of 2013 have been elected to membership in Alpha Omega Alpha Honor Medical Society. Election to AOA is based on academic scholarship and professionalism. Capacity for leadership, service, and scholarly activity are also considered. The College chapter is Delta-Zeta.

Katie Blenner
Lauren Borowski
Scott Caganap
Denis Chang
Eric Christenson
Sean Condon
Diana Dougherty
Nicholas Duca
Laura Ecklund
Eric Gallagher
Lauren Glassmoyer
Emily Greenwald
John Griffith
Meaghan Henrici
Joel Jones
Youn Kyung Lee
Michael Lewen
Michelle Maciag
Raman Madan
Meghan Maslanka
Marta Melnyk
Laura Rose Musheno
Swetha Naranahari
Harry Nayar
Hannah Neubauer
Akash Patel
Martina Lee Porter
Vladimir Ratushny
Ariane Rayner
Angela Richardson
Bertram Richter
Megan Ritter
John Rossettie
Joshua Rozell
Aaron Schelegle
Kraftin Schreyer
Eric Shiffrin
Ilya Shnaydman
Meryl Simon
Alison Stein
Elizabeth Still
Veronica Taylor
Amanda Teichman
Joseph Titano
Emily West
Ruwanthi Wijesinghe

Call for Nominations

AOA Alumni and Faculty Members of Drexel University College of Medicine, Hahnemann and MCP Delta-Zeta Chapter may submit nominations of candidates for AOA election in three categories: residents and fellows; alumnae/i (10 years or more following graduation); faculty. For requirements, contact Marie Hartman at mhartman@drexelmed.edu. The deadline for submitting nominations is December 31, 2012.
Lisa Thomas-Laury to Receive 2013 Woman One Award

The Institute for Women’s Health and Leadership has announced that its 2013 Woman One honoree will be 6ABC anchor Lisa Thomas-Laury. The Woman One program recognizes outstanding women leaders in the Philadelphia community and raises scholarship funds for talented minority women medical students at Drexel University College of Medicine.

Thomas-Laury joined 6ABC in 1978, as noon co-anchor and reporter. In 1983, she became co-anchor of the 5 p.m. weekday newscast. During the 1980s and 90s, she hosted 6ABC’s award-winning monthly public affairs program, Fast Forward, and its Children First series. Thomas-Laury has also covered several elections.

She left WPVI in 2003 after being diagnosed with POEMS syndrome, a rare nerve disorder. After undergoing a bone marrow transplant, she returned to 6ABC as a reporter and anchor in 2006.

In 2004 she received the “Braveheart Award” from the local chapter of the NAACP for her dedication to her work and community. She is currently an honorary chairperson for Maternity Care Coalition, an organization that supports mothers in need throughout the Delaware Valley.

“Because the Woman One Award provides scholarships for minority women medical students, I am especially honored,” said Thomas-Laury. “I congratulate the Woman One Scholars who have benefited from this program.”

The Woman One program has raised more than $2.5 million over 10 years and has supported scholarships for 22 students. Thomas-Laury, who will be honored on April 29, 2013, at the Rittenhouse Hotel in Philadelphia, is the 11th Woman One recipient.

For more information or to attend the event, contact the Institute for Women’s Health and Leadership at iwhl@drexelmed.edu or 215-991-8190.

Moto Dragons Float Their Boat

The Drexel Moto Dragons took to the river Saturday, October 6, in the 11th Annual Philadelphia International Dragon Boat Festival. The Moto Dragons have been racing in the event since 2004 – always supported, and at first largely populated, by Biomedical Graduate Studies. The team has expanded over the years, and 2012 participation was better than ever, with members from departments and offices across Drexel’s campuses, including Biological Sciences, Biomedical Sciences, Neurobiology & Anatomy, Clinical Education, Health Sciences Campus Operations, Microbiology & Immunology, Physician Business Services, Public Safety, and ULAR. Paddling their hearts out in three races were graduate students, post-docs, faculty and staff, alumni and friends. Did they win? Well, not this year, but the team is building. If you’d like to join, contact retiring captain Theresa Connors at theresa.connors@drexelmed.edu. The 2013 race day is October 5, and boats can begin registering on Tuesday, February 5, 2013, at 11 a.m.
Save the Date - Pediatric AIDS Benefit Concert

The College of Medicine’s 20th annual Pediatric AIDS Benefit Concert will be held on February 16, 2013, at Main Hall on Drexel’s University City Campus. The student-run event benefits the Dorothy Mann Center for Pediatric and Adolescent HIV at St. Christopher’s Hospital for Children. The center is the largest of its kind in the Tri-State Area, providing comprehensive care, including social services, to children infected with HIV and their families. In honor of the 20th year, the committee would like to get as much of the Drexel community involved as possible. They welcome donations, volunteers, and performers; auditions for the event will be held January 12. For more information, email pabc2013@gmail.com.

To call attention to Breast Cancer Awareness Month, the Student National Medical Association, American Medical Women’s Association, and the College’s Women’s Health Education Program held Pink Day on the Queen Lane Campus on October 1. Among the participants: (standing on benches, l-r) Tuan Trinh, Danielle Williams, Mica Guzman, Ethan Goldstein, Ingrid Schmiederer; (on ground, l-r) Tracey McCafferty, Angelica Johnson, Sherita Glenn, Ruby Oluronbi, Wanda Trotie, Stephany Gabaud, Adeyinka Adebayo, Funsho Adekunle, Maurice Hinson, Sonia Kamanda, Jessica Wilcox.

Dr. Hong Named Associate Dean for Primary Care and Community Health

Eugene Hong, M.D., has been appointed associate dean for primary care and community health. He will be responsible for developing and maintaining a strategic primary care framework for Drexel University College of Medicine and the Drexel University Physicians® practice. (See page 2.) Hong is the Hamot and Sturgis Endowed Chair of the Department of Family, Community & Preventive Medicine and chief of the Division of Sports Medicine. He joined the College of Medicine in 2003 as an associate professor, division chief, and family medicine residency director, becoming interim chair in 2005, and chair in 2006. He was previously on the faculty at Thomas Jefferson University, where he completed a fellowship in primary care sports medicine, as well as his family medicine residency. He also completed a fellowship in community-oriented primary care at the University of Massachusetts. He is a graduate of Tufts University School of Medicine.

Dr. Riviello Testifies at Public Hearing in Support of HB 2299

Ralph Riviello, M.D., associate professor, Department of Emergency Medicine, recently testified before the Pennsylvania House of Representatives Insurance Committee in support of House Bill 2299. The bill changes the standard of proof required in emergency medical care liability claims from the current standard of “preponderance of the evidence” in all medical malpractice matters to “clear and convincing evidence.” Riviello, who currently serves as president of the American College of Emergency Physicians’ Pennsylvania Chapter, said that in cases involving true emergencies, emergency medicine and on-call physicians would not be held to the same standard of practice as a physician who has treated the plaintiff patient in the past or who has had time to prepare for a certain care plan or treatment.

Stating that the medical liability environment has improved in Pennsylvania, Riviello said that “additional action is needed to ensure that the emergency physicians and on-call physician specialists who make up the important medical safety net are protected, and to ensure that a consistent quality of emergency care will be available to patients when it is needed most.”

The hearing was held in preparation for the legislative session that begins in January 2013, when the bill will be a major legislative agenda item. The text of the bill can be found at http://legiscan.com/gaits/text/640345.
Discovery 2012
Alumni, faculty, staff, students, and guests gathered to view the more than 300 posters at this year’s Discovery Day on October 4. The posters covered such topics as infectious diseases, cancer, behavioral neurobiology, medical education, and many more. Eight graduate students gave platform presentations in the afternoon.

This year’s keynote speaker, Lynn W. Enquist, Ph.D., Henry L. Hillman Professor and Chair of Molecular Biology at Princeton University, presented “Unexpected Effects of Alpha-herpesvirus Infection of Neurons.”

**Poster and platform first-prize winners:**

**Outstanding Platform Presentation**
- Ryan Eberwine, Ph.D. student
  Molecular & Cell Biology & Genetics

**Outstanding Senior Graduate Student Poster**
- Tie:
  - Scott Baliban, Microbiology & Immunology
  - Christina Ferrer, Molecular & Cell Biology & Genetics

**Outstanding Junior Graduate Student Poster**
- Valerie Sodi, Molecular & Cell Biology & Genetics

**Outstanding Technician Poster**
- Katlin Davitt, Surgery

**Outstanding Medical Student Poster**
- Tie:
  - Cynthia Edirisuriya
  - Maurice Hinson

**Outstanding Clinical Resident/Fellow Poster**
- Simon Oh, DDS, Surgery

**Outstanding Post-Doctoral Fellow Poster**
- Surbhi Jain, Ph.D., Microbiology & Immunology

**Outstanding Undergraduate Poster**
- Rebecca Hollenbach, Ursinus College

**Outstanding High School Poster**
- Lijia Xie, North Penn

**Other honors:**

**Basic Science Faculty Award**
- Alexander Mazin, Ph.D., Biochemistry & Molecular Biology

**Clinical Investigator Award**
- Ari Brooks, M.D., Surgery

**Young Investigator Award**
- Boris Polyak, Ph.D., Surgery

**GSA Teacher of the Year Award**
- Michael Bouchard, Ph.D., Biochemistry & Molecular Biology

**Graduate Citation Award**
- Kimberly L. Simpson, Ph.D. HU ’98 (see page 19)

**Honored for service to Discovery Day**
- Michael Bouchard, Ph.D., Biochemistry & Molecular Biology
- Alexander Krupka, Ph.D. candidate, Neuroscience

**Bondi Awards**
- Christopher Haas, M.D./Ph.D. student, Neuroscience
- Daniel Chandler, Ph.D. candidate, Neuroscience

**Benjamin Weiss Scholarship Award**
- QingXin Liu, Ph.D. candidate, Pharmacology & Physiology
The U.S. Department of Health & Human Services Office of Inspector General provides a work plan each year that outlines the areas of interest for upcoming audits, program evaluations, and investigations.

The HHS staff of more than 1,700 professionals not only conducts the audits, evaluations, and investigations, but also provides guidance to the health care industry, and, when appropriate, imposes civil monetary penalties, assessments, and administrative sanctions.

The FY 2013 Work Plan lists the Evaluation and Management Service (patient visit) as a critical concern. Trends in the coding of claims will be examined to determine the accuracy of the claims submitted, which lead to payment of $32 billion annually by the Center for Medicare and Medicaid Services (19 percent of Part B paid claims nationwide).

A key new area of interest for FY 2013 is the “Physician – Incident to” service. HHS fears that many of the “incident to” services charged as covered services are actually performed by unqualified non-physicians and that there is a failure to meet the preferred standards of care. The volume of services presented for payment by those violating “incident to” guidelines results in claims for more services than are possible in a 24-hour period.

Additionally, HHS is concerned with potentially inappropriate payments arising from the increased frequency of medical records with identical documentation across services. Use of large sections of medically unnecessary and unrelated clinical information collected at an earlier time may be included to increase the charge level selected.

HHS Secretary Kathleen Sebelius and Attorney General Eric H. Holder, Jr., issued a joint letter to the medical community warning of the “troubling indications” of abuse in the use of electronic records. They noted the administration would not tolerate attempts to “game the system” and vowed to prosecute doctors and hospitals implicated.

The HHS Work Plan provides direction and planning guidance to the annual Drexel University College of Medicine Compliance Program Work Plan and informs our annual risk analysis.

Remember that a hotline is available to report sensitive issues and concerns when confidentiality is important and investigations may be in order.

We never guess ... we ask! Call anytime to ask a compliance or privacy question, or to request training: 215-255-7819

Confidential hotline: 866-936-1010
Timothy Block, Ph.D., professor, Department of Microbiology & Immunology, and director of the Drexel Institute for Biotechnology & Virology Research, gave introductory remarks at the 12th Annual Regional Biotech Conference held October 12 at the Pennsylvania Biotechnology Center in Doylestown. The Regional Biotech Council, a program of the Institute for Hepatitis & Virus Research, of which Block is president, welcomed more than 100 of the area’s life sciences and biotech entrepreneurs. Block read a proclamation by the state legislature designating October 21 as “Biomedical Research Day” in Pennsylvania.

Graduate students Elizabeth Crowe and Alessandro Bitto, and medical student Michelle Moh, along with Christos Katsetos, M.D., Ph.D., professor; Fernando Garcia, M.D., professor; Christian Sell, Ph.D., associate professor; and Claudio Torres, Ph.D., assistant professor, all in the Department of Pathology, and colleagues at the University of Pennsylvania published “Astrocyte Senescence as a Component of Alzheimer’s Disease” in PLoS ONE, September 12, 2012. Rekha Bhat, M.D., a former pathology resident, is first co-author with Crowe.

Christina M. Ferrer, a doctoral candidate in the Molecular & Cell Biology & Genetics Graduate Program received an NIH–National Cancer Institute Pre-Doctoral Minority Supplemental Fellowship that supports three years of pre-doctoral studies. Her thesis title is “Understanding O-GlcNAc Transferase Regulation of Cancer Cell Metabo-

Suresh G. Joshi, M.D., Ph.D., director of surgical site infections and bacterial pathogenesis, and assistant professor, Departments of Surgery and Microbiology & Immunology, with co-authors from Thomas Jefferson University Medical College, published “An Analysis of the Mechanisms that Underlie Absorption of Botulinum Toxin by the Inhalation Route” in Infection and Immunity (September 10, e-pub ahead of print).

Joshi and Christopher L. Emery, M.D., associate professor of pathology and laboratory medicine; Richard Hamilton, M.D., professor and chair of emergency medicine; Ari D. Brooks, M.D., associate professor of surgery and director of surgical research; postdoctoral fellow Bhaswati Sen, Ph.D.; and graduate student Nachiket Vaze (lead author) presented “Patient Demographics of Infection with Carbapenem-Resistant Acinetobacter baumannii in a Tertiary-Care Teaching Hospital” at IDWEEK-2012, an international conference organized by the Infectious Disease Society of America, the Society for Healthcare Epidemiology of America, HIVMA, and the Pediatric Infectious Disease Society, held October 17-21 in San Diego, Calif. With Sen as lead author, and Krista Lewandowski (now at Broad Institute, Harvard University) the same group also presented “Characterization of Carbapenem-Resistant MDR-Acinetobacter baumannii isolated from Philadelphia, PA, (United States).”

Joshi and Herbert Allen, M.D., professor and chair of dermatology, with Emery, Vaze, and Jeffrey Thomas (graduate student), and Abby Hochberg (former dermatology resident) presented a research paper, “A Close Association of Biofilm-Producing Staphylococci and Atopic Dermatitis: Is the Association Etiologically Important?” at ASM-2012, an international conference of the American Society for Microbiology, held June 15-19 in San Francisco. In addition, Joshi and colleagues from King Edward Memorial Hospital, University of Pune, India, presented “An Increasing Incidence of ESBL-Producing Multidrug-Resistant Acinetobacter baumannii from a Tertiary-Care Teaching Hospital.”

Joshi; Brooks; Gregory Fridman, Ph.D., assistant professor, School of Biomedical Engineering, Science and Health Systems; HaiFeng Ji, Ph.D., associate professor of chemistry; and graduate students Utku K. Ercan (lead author; surgery and biomedical engineering) and Arben Kojtari (chemistry) presented “Chemical Modifications in Non-Thermal DBD Plasma Treated Water and Antimicrobial Properties” at the 4th International Conference on Plasma Medicine, June 17-21 in Orleans, France.
Ferrer received a Keystone Symposia Underrepresented Minority Travel Fellowship to travel to Keystone, Colo., to present “O-GlcNAc Transferase Regulates Cancer Metabolism and Survival via Regulation of HIF-1/GLUT1 Pathway” at the upcoming 2013 Keystone Symposium on Tumor Metabolism. Ferrer is doing thesis work in the laboratory of Mauricio J. Reginato, Ph.D., associate professor, Department of Biochemistry & Molecular Biology.

Annette B. Gadegbeku, M.D., assistant professor in the Department of Family, Community & Preventive Medicine, spoke at the “Breaking the Cycle of Infant Mortality in African American Communities” conference, held in Philadelphia on September 28. Gadegbeku spoke about how a woman can adequately prepare for pregnancy, thereby reducing the risk of adverse birth outcomes.

Kenneth George, Pharm.D., BCPs, AAHPV, a clinical pharmacist at the Partnership Comprehensive Care Practice, recently authored a chapter, “Treatment of HIV Infection,” in Clinical Therapeutics Primer: Link to the Evidence for the Ambulatory Care Pharmacist (Jones & Bartlett Learning, 2012).

Elissa Goldberg, MSS, LSW, program director for the Office of Community Experience, received a 2012 President’s Award from Drexel University. Goldberg, who was one of two winners honored in the category of Intercultural Engagement & Diversity, co-directs the Community Health Experience Courses for first-year medical students, coordinates student volunteer projects, and serves as the program director for the Drexel Bridging the Gaps Community Health Internship Program.

Eugene Hong, M.D., Hamot and Sturgis Endowed Chair of Family Medicine and chief of Sports Medicine, was selected to serve as president-elect of the Mid-Atlantic Regional Chapter of the American College of Sports Medicine for a two-year term, which began in November.

Richard Huneke, DVM, MPH, director of University Laboratory Animal Sciences, and colleagues from Drexel’s School of Public Health published “Exposure of Laboratory Animal Care Workers to Airborne Mouse and Rat Allergens” in the September 2012 issue of the Journal of the American Association for Laboratory Animal Sciences.

Laird Jackson, M.D., professor of obstetrics and gynecology, was an author of “Women’s Experiences Receiving Abnormal Prenatal Chromosomal Microarray Testing Results,” which was published in Genetics in Medicine online September 6, 2012.
Ana E. Núñez, M.D., professor of medicine and director of the Women’s Health Education Program (WHEP) participated as a guest faculty member for the Mayo Clinic’s program Creating Consensus: Embedding Concepts of Sex and Gender Health Differences into Medical Curricula in Rochester, Minn., in September. Núñez discussed “Improvement of Post-Secondary Education: Disseminating Proven Reforms.”

Núñez also participated as a faculty member from October 12 to 13 in Boston for an immersion course, Healing Health Care Disparities Through Education: An Interdisciplinary Faculty Development Program, developed by the faculty from Harvard Medical School, Harvard Business School and Harvard University’s Graduate School of Education, as well as other U.S. medical schools. She presented on the topic “Gender in Medical Encounters.”

Núñez; Candace Robertson-James, DrPH, instructor of medicine and research manager, WHEP; Serita Reels, MPH, research associate, WHEP; Rose Malinowski Weingartner, MPH; and Barbara L. Bungy, MPH, HIV program manager, Dorothy Mann Center for Pediatric & Adolescent HIV, St. Christopher’s Hospital for Children, published “Conducting a Needs Assessment for Women and Girls Using a Gender Analysis Framework: The Philadelphia Ujima Coalition for a Healthier Community Experience” in the November 2012 edition of Women’s Health Issues.

Anthony Pinto, a second-year Pathologists’ Assistant student, received a $2,500 scholarship in the American Association of Pathologists’ Assistant/Leica Microsystems annual student essay contest. His winning essay on the topic “How can the AAPA enhance your professional experience as a pathologists’ assistant?” was chosen from more than 20 entries from pathologists’ assistant programs across the United States.

Robert Sataloff, M.D., DMA, professor and chair of otolaryngology – head and neck surgery, senior associate dean for clinical academic specialties, was interviewed by Radio New Zealand on the topics of vocal aging and “voice lift” in October.

Marshall Z. Schwartz, M.D., professor of surgery and pediatrics, served as the moderator for the Surgical Health Care Quality Forum – Philadelphia, during which participants discussed quality improvement programs needed to reduce preventable hospital readmissions and medical errors, improve patient outcomes and reduce costs. U.S. Representative Jim Gerlach (R-PA6) was the keynote speaker.


Kenneth Wasserman, M.D., clinical assistant professor of dermatology, received the Dermatologist of the Year Award (2011-2012) from the Pennsylvania Academy of Dermatology and Dermatologic Surgery. He is the team dermatologist for the Baltimore Orioles and founder of the skin cancer program for Major League Baseball.

Lynn Yeakel, MSM, director of the Institute for Women’s Health and Leadership, was a presenter at a general session, “Women With 2020 Vision – Making a Difference,” at the Ninth Annual Economic Summit for Women: Charting the Course to Economic Equality, sponsored by the Tennessee Economic Council on Women and the Women’s Economic Council Foundation, October 22, in Nashville, Tenn.
New Faculty Reception

A festive group of about a hundred people welcomed new faculty members at a reception at Loews Philadelphia Hotel on October 9.
Loretta P. Finnegan, M.D., HU ’64 was recently a consultant for UNICEF, traveling throughout Kazakhstan and Kyrgyzstan, lecturing on treatment options for pregnant drug-dependent women and management of infants with abstinence in the neonatal period, as well as meeting with medical professionals, NGOs and the Ministry of Health to recommend public health directions. She is president of the College of Medicine’s Alumni Association.

Jay Schamberg, M.D., HU ’72, a pathologist, received the CAP Laboratory Accreditation Program Service Award. The award, which was presented at a special ceremony during the College of American Pathologists’ annual meeting, recognized Schamberg for his support, service, and leadership of the CAP Laboratory Accreditation program for more than 35 years.

Fredric Tobis, M.D., MCP ’75; Cardiology Resident, MCP ’77 recently published The Healthcare Crisis: The Urgent Need for Physician Leadership (Amazon Digital Services, October 2012), exploring the issues of health care reform in the United States. Tobis is chair of Washington State’s 8th District Healthcare Advisory Committee, founder of the Center for Physician Leadership Training, and a member of the Association of Physician Speakers, Experts, and Consultants. He lives in Mercer Island, Wash.

Dennis Saver, M.D., MCP ’77, a family practitioner with Indian River Medical Center in Vero Beach, Fla., won the Scripps Treasure Coast Newspapers’ Health Care Champions Lifetime Achievement Award.

Michael M. Ferraro, M.D., HU ’78 has been named associate regional dean for the South (Wilkes-Barre) Campus of the Commonwealth Medical College. Ferraro has been a practicing gynecologist for more than 30 years and is currently medical director of the Same Day Surgery Center of Commonwealth Health.

Richard Cohen, Ph.D., MCP ’78 was one of the recipients of the 2012 MANNA Nourish Awards. Cohen is president/CEO of Public Health Management Corporation in Philadelphia. The award recognizes him for his more than 30 years of innovative leadership in the public health management arena.


Robert Ashton, M.D., MCP ’92 was appointed chief medical officer of Advanced Practice Strategies. The Boston-based company creates mobile, web-based tools to assess clinician competency, map latent risk in the health care environment, and deliver customized education. Ashton is a board-certified surgeon and co-founder of MDLinx.com, an internet-based company that provides medical information to physicians and other health care providers.

Ali Sajjadian, M.D., HU ’93, a plastic surgeon, has introduced the noninvasive procedure known as CoolSculpting® to his Newport Beach, Calif., practice, Serenity Plastic Surgery. He was also named a 2012 Patient’s Choice Award winner for the third consecutive year.

Wilma Bulkin-Siegel, M.D., WMC ’62, has been named president of the Foundation for the History of Women in Medicine. The mission of the organization, founded in 1998, is to promote the history of women in medicine and the medical sciences on a national and international level (www.fhwim.org).

Siegel enjoyed a distinguished career as an oncologist. She is noted for having established one of the first hospices in the state of New York, and one of the first to accept AIDS patients. Following her retirement from medicine, Siegel changed gears, attending the National Academy of Design. She is now recognized nationally for her series of portraits of people living with AIDS, breast cancer survivors, the homeless, and the elderly. She has exhibited her art throughout the country, particularly in connection with events involved with AIDS and cancer.

Siegel now dedicates her efforts toward a variety of programs that merge art with medicine. She founded Wilma’s Studio, an art program at Columbia University’s Graduate Program in Narrative Medicine, which brings artists to the hospital each week to work with children in a creative setting.
Mark Anthony Duca, M.D., MCP ’94 recently received the Outstanding Community Attending Award from the University of Pittsburgh Medical Center’s Internal Medicine Residency Program. Duca is a clinical professor of medicine at the University of Pittsburgh School of Medicine and has served as a team physician for the Pittsburgh Steelers since 1999.

Karen Kriza, M.D., MCP ’97 has been named emergency medicine director at Trident Health. Kriza has been a member of Trident Emergency Physicians since 2001.

Cici Remy, M.D., MCP ’97, a specialist in psychobiology and neuropsychology, has been named director of educational design at World Education University, a global, online higher education institution that intends to provide comprehensive course offerings and full degrees to students. She focuses her medical research on how the mind learns and recalls memories.

Timothy Ruff, M.D., HU ’98, a board-certified surgeon, joined St. Joseph’s Hospital in Breese, Ill. In addition, Ruff joined the HSHS Medical Group, a network of primary and specialty care physicians aligned with St. Joseph’s and the other hospitals that make up Hospital Sisters Health System. Ruff was recently on a mission trip to Cyprus, performing surgeries that could not otherwise be performed on that island.

‘00s

Christopher Tobias, Ph.D. ‘02 has been named one of the 100 most inspiring people in the pharmaceutical industry by PharmaVOICE magazine. In October, he spoke about nontraditional career opportunities for neuroscientists during the 42nd annual meeting of the Society for Neuroscience in New Orleans.

Saadiq El-Amin, M.S., MCPHU ’97; Ph.D., MCP ’01; M.D. ’03, an orthopedic surgeon, was named team doctor for athletes at the University of Illinois Springfield. He is director of shoulder and sports medicine and an assistant professor in the Department of Surgery/Division of Orthopedic Surgery at Southern Illinois University, where he also holds faculty appointments in the Departments of Electrical & Computer Engineering and Medical Microbiology, Immunology & Cell Biology.

Thomas Birris, M.D. ‘05, a gastroenterologist, joined the medical staff of Lakeland HealthCare in St. Joseph, Mich. Birris practices with Great Lakes Gastroenterology, also in St. Joseph.

Brian Bernhardt, M.D. ‘08; Anesthesiology Resident ’12 joined the Grand River Hospital District in Rifle, Colo., as an anesthesiologist on the surgery team. Bernhardt was born and raised in the town of Rifle, and is returning after more than 20 years away.
Former Residents and Fellows

Jennifer (Capela) Cafardi, M.D. ’04 has joined The Skin Cancer Center in Cincinnati, the practice of Dr. Brett Coldiron, under whose tutelage she completed a Mohs micrographic surgery and reconstruction fellowship. After finishing her dermatology residency at the University of Alabama at Birmingham in 2009, she served on the UAB faculty as an assistant professor of dermatology until beginning her fellowship in 2011. She is the author of The Manual of Dermatology (Springer, 2012).

Vibhavasu Sharma, M.D.; Geriatric Medicine Fellow ’04, a specialist in adult endocrinology, has joined Albany Medical Center, Albany, N.Y., and has been appointed assistant professor of endocrinology at Albany Medical College. Board certified in endocrinology, diabetes and metabolism, as well as geriatric medicine and internal medicine, he most recently served as a clinical endocrinologist with Southcoast Physicians Network in New Bedford, Mass.

Marjorie Bunch, M.D.; Internal Medicine Intern ’06, a neurologist specializing in the treatment of epilepsy, has joined the Department of Neurology at Albany Medical Center in Albany, N.Y., and has been appointed assistant professor of neurology at Albany Medical College. She came to Albany from Harvard Medical School and Beth Israel Deaconess Medical Center in Boston.

Theresa M. DiSandro, D.O.; Gastroenterology Fellow ’09 recently joined the formerly one-physician office of Lourdes Gastroenterology Associates in Cherry Hill, N.J. She had been in private practice in New Jersey and Pennsylvania before joining the Lourdes practice.

Arun Agarwal, M.D.; Cardiology Fellow ’12 joined the Hospital of Central Connecticut in New Britain.

Alumni Association

Alumni Association 2013 Award & Board Nominations

Nominations are now being accepted for new Alumni Association board members and for the 2013 Alumni Association Awards. The awards will be presented during Alumni Weekend, May 3 & 4, 2013, and the Graduate Citation Award will be presented at the Discovery Awards Dinner in October 2013. Award nominees must be able to attend the award ceremony in order to be considered.

Award and board nomination forms can be found at www.drexelmcd.edu/Alumni/Association and submitted to the Office of Alumni Relations. Please include a current CV of the nominee. Submit forms to:

Patty Comey
Alumni Relations Executive Director
Drexel University College of Medicine
1601 Cherry Street, Suite 1050
Philadelphia, PA 19102
Email: medical.alumni@drexel.edu
Fax: 215-255-7302

Should you have any questions, please call toll-free: 866-373-9633.

All nominations must be received by December 31, 2012.

In Memoriam

Edward S. Beck, M.D., HU ’46, October 9
John O. Clune, M.D., HU ’68, September 9
Raymond G. Endreny, M.D., HU ’73, October 11
Leopold T. Graupera, M.D., HU ’78, September 8
Melvin L. Jackson, M.D., HU ’76, September 11
Eugene M. Labowskie, M.D., HU ’45, February 26
Florence Margaret Lewis, M.D., WMC ’50, September 17
Dorson S. Mills, M.D., HU ’54, September 8
Ruby Ayako Shu, M.D., WMC ’48, September 24
Herbert L. Tindall, M.D., HU ’42, October 4

We Want to Hear From You!

Please send your professional accomplishments and achievements to Pulse at pulse@drexelmcd.edu. The Drexel University Online Alumni Directory (www.alumniconnections.com/olc/pub/DXU/) allows you to post and view more informal class notes, search for friends, and register for permanent email forwarding. Be sure to visit the directory often and keep your information up to date. If you have any questions, please contact the Office of Alumni Relations at: medical.alumni@drexel.edu or 866-373-9633.
Connecting and Educating: Kimberly L. Simpson, Ph.D., HU ’98

It seems fitting that an important observation made by neurobiologist Kimberly L. Simpson, Ph.D., HU ‘98, regards neural connections in the brain. During Simpson’s esteemed and prolific career, she has often been a connector, bringing different schools and academic disciplines together, as well as making critical connections and discoveries in her own work. Likewise, she has also demonstrated a focused commitment to research and education that encompasses the entire scientific community.

Born in the Kensington neighborhood of Philadelphia, Simpson moved to Warminster as a child. She was always interested in science, especially biology, and entered Ursinus College because of its strong focus on premedical programs. Unsure whether she wanted to pursue medicine as a career, Simpson was nevertheless energized by the college’s strong biology program. One professor in particular, James Sidie, Ph.D., was to have a lasting effect on her future.

Sidie thought it valuable for undergraduates to conduct research. He approached Hahnemann University faculty member Robert Storella, Ph.D., and inquired whether one of his students – Simpson – could intern in Storella’s Hahnemann lab. So during her senior year at Ursinus, Simpson drove from Collegeville to Philadelphia once a week, conducting research for the Department of Anesthesiology. Appreciative of this opportunity even today, Simpson comments, “Research is something you really need to nurture and foster, and give students opportunities to pursue, pretty much as soon as they come on campus [as undergraduates].”

The following academic year, Simpson became a graduate student in neuroscience at Hahnemann University. As a young graduate student, she thought she would study neurodegenerative disease. However, Simpson’s path changed when she “had the great fortune of having Dr. Waterhouse as [her] advisor.”

Barry Waterhouse, Ph.D., then director of the neuroscience program, acquainted Simpson with “global” aspects of neuroscience that may not have been readily apparent to a novice. For example, he discussed two brain systems that influence sensory perception and guide behavior. Simpson ultimately entered Waterhouse’s lab, a decision that would have a lasting influence on her research and career.

As a graduate student, Simpson investigated and mapped organization within the two neural systems that regulate attention and mood: the locus coeruleus (the norepinephrine system) and the dorsal raphe (the serotonergic system). These systems are also involved in modulating a cell’s response to neurotransmitters. Simpson’s graduate research changed the way neuroscientists viewed these systems. For her groundbreaking work, she was presented with the Bondi Award for Outstanding Academic Performance in Neuroscience.

Simpson continued to explore this line of research as a postdoctoral fellow at the University of Mississippi Medical Center. A colleague, Ian Paul, Ph.D., was conducting his own research in which he suspected the serotonin system played a role. Familiar with Simpson’s expertise, he invited her to join his project and examine cells following treatment with an antidepressant, citalopram, a selective serotonin re-uptake inhibitor (SSRI).

Simpson and Paul examined the effect the SSRI produced on the serotonin system in rats. The rats were treated with an SSRI for the first two weeks of life and then the treatment was discontinued. When the rats were examined as adults, they exhibited autistic-like behavior.

The treated animals “were not as responsive in a social environment to littermates,” Simpson elaborates. “There was a decrease in juvenile play behavior. The animals seemed to be focused inwardly and not outwardly. [They were] not interested in novel objects in their environment.”

In addition, differences were observed in the brain’s physical structure. There were changes in the corpus callosum, a massive fiber bundle that connects the brain’s two hemispheres. Similarly, the corpus callosum is not as thick in autistic patients. “By introducing [citalopram] early on, and only for a short period of time, you see these abnormal effects that persist into adulthood,” Simpson concludes.

Despite these findings, Simpson is quick to point out that SSRIs in themselves are “not bad.” What is important is for individuals on an antidepressant, particularly pregnant women, to be aware of the drug’s potential long-term effects. “We need to be careful of how they’re prescribed and mindful of what they’re doing,” she says. “Serotonin dysregulation seems to be very bad for the developing brain.” Alternatives for pregnant women on antidepressants might include talk therapy and exercise, as well as a lower dosage on their prescription.

In addition to this potentially far-reaching research, Simpson is also excited about her role as director of the medical neuroscience course, an innovative program at Mississippi. The interactive course unites three groups of students and encourages them to consider their common professional goals. As an educator, Simpson has a broad perspective on the course.

“We need to help our graduate students in research have a stronger appreciation for clinical components of the nervous system,” she observes, “and as researchers, we need to reach out to medical students and educate them more about what goes on with biomedical research.”
“Just as the physician alleviates human suffering of the body, poetry alleviates suffering of the soul.”

– Marjorie Agosin, Ph.D., Visiting Scholar

Works of literature can help physicians to understand and care for their patients more effectively because “it is a way of entering the soul,” said Marjorie Agosin, Ph.D., the first Annenberg Dean Medical Humanities Visiting Scholar, during a special grand rounds lecture, “Creativity, Activism and Healing,” at the Queen Lane Campus on October 3.

“As medical students and physicians, you may think you have the perfect diagnosis for an illness. But you know so well that many illnesses are really manifestations of the soul,” said Agosin, a renowned human rights activist, award-winning poet, writer and professor at Wellesley College. “Reading works of literature, such as poetry, narratives and memoirs, will help guide you. They will help you understand the complexity of loss and trauma your patient may be feeling. Poetry and medicine are different paths to healing and knowledge because poets have knowledge that physicians might not have and vice versa.”

Agosin stressed the need for physicians to access the arts and their own intuition to interpret the “narrative of patients’ lives instead of just making simple diagnoses of physical beings.”

She also emphasized the role that literature plays in alleviating human suffering, citing memoirs, diaries and poetry written by survivors of the Holocaust and other acts of genocide and violence. People are often able to write about things that they can’t bring themselves to talk about, she observed. At the same time, understanding such human plights helps to increase empathy, and “empathy has a way of healing.”

Agosin also underscored the important role that health practitioners can play as advocates for social justice. As a human rights activist, Agosin was inspired by her own family’s experiences as refugees from the Holocaust and the Russian pogroms. After fleeing to Chile in 1939, her grandfather organized a committee to rescue other refugees, housing them in his own home until they found places to live. “I grew up with these [stories] and with the idea that change is possible if you act,” she recalled. Becoming a human rights activist was, for her, a natural choice. For physicians, she believes it is a moral choice.

Agosin concluded with a call to action for medical students to seek opportunities to bring the humanities into their educational experience. Participating in group poetry readings, discussions of narratives and other creative endeavors offers a window into the patient’s soul, as well as the inspiration to take a stand for human rights. “Creativity helps to reactivate that good part of [the human spirit] that leads [physicians] to a career in medicine,” she said.