

BROWN MEDICINE

Volume 16 | Number 3 | Fall 2010

PLUS:

Primary Care
Crusaders

The Life Aquatic

The dean
makes
his vision
concrete.

MAN AT WORK

LETTER

FROM THE DEAN



A New Day?

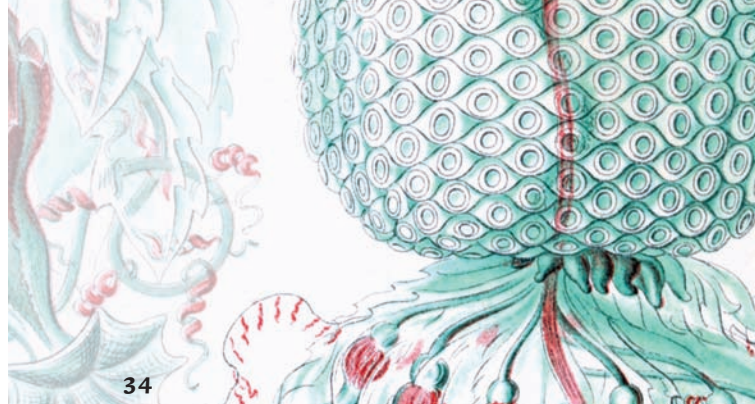
This edition of *Brown Medicine* contains some fascinating articles, including a feature on the work of one of our outstanding faculty, Assistant Professor of Biology Casey Dunn. I also reflect on my first two years as dean, and thus this letter will be quite short.

You will note that a group of medical students decided to design a course that teaches about our system—the good, the bad, and the ugly of health care in America. I am convinced that medicine is changing and will change even more in the near future. Physicians will be mostly employed by larger organizations, compared to the historic solo or small group practices. Primary care doctors will no longer go to the hospital to care for their patients, but will rely on hospitalists and the hospital-based specialists in medicine and surgery. Physicians will be monitored much more closely by their employers through digital technology. They will be expected to produce complete data on their patients through electronic medical records, and will be held accountable for quality, errors, and cost through such systems. Salaries and compensation will be lower, but hours will be fewer. Doctors will be

expected to work in teams of health care providers, many of whom have expertise beyond their own, including pharmacists, nutritionists, nurses, physical therapists, and social workers. Accountable care organizations will have much more control over the activities of physicians.

While all of this seems intrusive, I believe it will actually make the practice of medicine better for patients and less onerous and more satisfying for physicians. Employment of physicians will remove the tyranny of the market. Physicians will not need to focus on their cash flow, office operations, malpractice, or negotiating with insurance companies. Instead, doctors will be able to concentrate on the care of their patients. Also, rather than working ridiculous hours and having burdensome paperwork, they will be freer to care for patients. Finally, teams will remove the burden of being the all-knowing, autonomous, “perfect” doctor. Together, I believe that all these changes will enable us to focus more on what we do best and enjoy most: caring for our patients.

Edward J. Wing



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“Each time physicians admit a patient, we use a time-tested system ... with one exception.”

—Samuel Evans, Page 23

INSIDE

28 What Kind of Doctor Will You Be?

BY EILEEN O’GARA-KURTIS

A group of medical students decided that before they could answer that question, they needed to know more about the health care system they’d be practicing in.

34 Creature Feature

BY KRIS CAMBRA

Finally, Internet videos you can actually learn from. Biologist Casey Dunn uses podcasts to introduce us to unusual animals and their habits.

COVER 40 STORY The Shape of Things to Come

BY SARAH BALDWIN-BENEICH

After two years at the helm of biology and medicine, Dean Wing gives us a piece of his mind.

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Village People

The dean's not the only one seeing his vision become reality. Early last summer we were discussing what kind of coverage to give the new medical school project in the fall issue of *Brown Medicine*. My office had been covering the building for a long time, mostly using floor plans and architectural renderings, but the actual renovation was finally under way. Suddenly I had a vision of my own: Dean Wing so driven, so focused on his goals that the building gradually rose up around him as he worked, almost as a function of his will.

That is not far from what was happening: a drive-by revealed that the building was no longer an idea on paper. It was starting to be a reality in the most visible and (forgive me) concrete way possible. This is what I wanted to convey on the cover—not a dean standing next to a maquette or pretending to look at blueprints, but a man who (with help from many dedicated colleagues)

gets things done.

I conveyed my vision to Mindy Oswald, our art director, and we set about enlisting the many people needed to make it happen. Indeed, it took a village. We had to scout the location with Scott Kingsley, the photographer. To scout the location, we had to involve Steve Phillips, the project manager. Steve in turn had to call Peter Holden, director of Biomed facilities, at his vacation hideaway to coordinate the delivery—from God knows where—of an executive-style desk. Karen Scanlan, the dean's communications manager, had not only to convince her boss this was a good idea, but to gather his desk

accessories before the shoot. The workers had to give us space, and the dean had to trust us. And it all had to happen while I was on vacation.

Somehow it worked. While I was reading last year's bestseller, *Netherland*, on a hammock in Maine, these great people came together and made the vision a reality. I tip my hat to them all.



GO TEAM

Dean Wing, Karen Scanlan, Peter Holden, and Steve Phillips

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INBOX

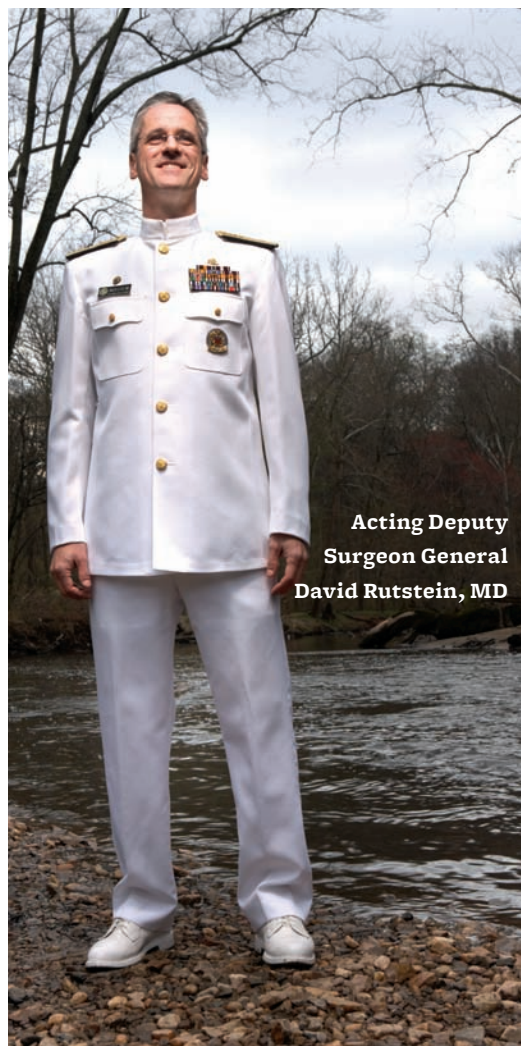
DON'T FORGET THE SURGEONS

I was very interested to read about some of the disaster response activities of our new Acting Deputy Surgeon General, RADM David Rutstein, MPH MD'83 ("Force of Nature," Spring 2010).

One of the elements that has been missing from US disaster response planning is the ability to rapidly deploy trauma-trained volunteer civilian surgeons.

When the USNS *Comfort* arrived on scene at Port-au-Prince, it had only one orthopaedic surgeon on board to assist in the management of thousands of fractures and crush injuries. The Navy

D.A. PETERSON



Acting Deputy
Surgeon General
David Rutstein, MD

made a request to the Orthopaedic Trauma Organization (OTA) and the American Academy of Orthopaedic Surgeons (AAOS) to provide civilian surgeons to augment their team. A very difficult Memorandum of Understanding (MOU) that indemnified the Navy and placed these organizations in to potentially significant liability positions caused considerable delay in getting the orthopaedic surgeons into place.

As a direct response to the earthquake in Haiti, the OTA and the AAOS have commissioned a joint project team. The general consensus is that a cadre of experienced civilian surgeon volunteers who are prequalified, properly educated, and trained to work in disaster medicine should be developed. They should come under a federal umbrella when activated so as to obviate issues of state licensing and credentialing as well as liability/disability/health insurance coverage. These physicians could be organized and monitored by their respective specialty organizations. A strong liaison with the military should be established, and credentialing, training, and immunization status would be set to pre-approved standards. MOUs ... would be pre-negotiated. Ultimately, the resulting model could be used to similarly engage other medical specialties.

One of the elements that has been missing from US disaster response planning is the ability to rapidly deploy trauma-trained volunteer civilian surgeons.

One of the goals of the AAOS/OTA Project Team is to study these questions in depth and to work with government agencies and the military to bring about changes to improve rapid response to disasters. At this time, the orthopaedic consultants to the Surgeons General of the Army, Navy, and Air Force are assisting us with this process. Input and support by the Office of the Surgeon General of the United States would also be critical to making successful changes in the early phase response process.

**Christopher T. Born,
MD, FAAOS, FACS**

*Professor of Orthopaedics,
Alpert Medical School
Director of Orthopaedic
Trauma, Rhode Island
Hospital*

The writer is chairman of the OTA Disaster Management and Emergency Preparedness Committee, co-chairman of the AAOS/OTA Haiti/Disaster Project Team, and Orthopaedic Group Leader, IMSuRT-East of HHS/ASPR/OPEO/NDMS.

COST CONSCIOUS

Dr. Neel T. Shah's opinion piece ("Assuming Responsibility for Patients' Pockets," Spring 2010) called for greater

INBOX

awareness of the cost-effectiveness of the tests that physicians order. Dr. Shah will be pleased to know that in April, the American College of Physicians (ACP), the largest medical specialty organization and the second-largest physician group in the United States, announced its High-Value, Cost-Conscious Care Initiative. This effort will assess benefits, harms, and costs of diagnostic tests and treatments for various diseases to determine whether they provide ...

The objective is to **provide evidence-based recommendations** for interventions for a variety of clinical problems.

medical benefits that are commensurate with their costs and outweigh any harms. The objective is to provide physicians and patients with evidence-based

recommendations for specific interventions for a variety of clinical problems.

The initiative will include the development of ACP's *High-Value, Cost-Conscious Care Recommendations* that will be submitted for review and consideration for publication in the *Annals of Internal Medicine*. Also, the next edition of ACP's Medical Self-Assessment Program (MKSAP) will focus on optimal diagnostic and treatment strategies, based on considerations of value, effectiveness, and avoidance of overuse and misuse. Additional phases of the initiative may include patient education materials and curricula for medical students and residents.

Yul D. Ejnes '82 MD'85
Clinical Associate
Professor of Medicine,
Alpert Medical School
Chair-elect, Board of
Regents, American
College of Physicians



"Room to Grow"
told the story of
ex-preemies David
and Elyssa Collins.

Nice to Be Noticed

The New England Society for Healthcare Communications

recognized *Brown Medicine* with two Lamplighter Awards at its annual ceremony last May. These awards were established to showcase and honor communications excellence in New England. The 2010 competition included 340 entries from more than 75 organizations. Kris Cambra's article "Room to Grow" (Fall 2009) won the Award of Excellence in the Feature Articles category. And in the Publications: External Periodicals category, *Brown Medicine* took home the gold!

THOUGHTS?

Please send letters, which may be edited for length and clarity, to:

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- Brownmedicinemagazine.org

THE BEAT

WHAT'S NEW IN THE CLASSROOMS, ON THE WARDS, AND IN THE LABS

Second-year Will Perez hoists the Do Something award at the July 19 event.



GOOD NEWS

From Haiti to Hollywood

Med student makes the Do Something Award finals.

When Will Perez '08 MD'13 found himself sitting in a celebrity-packed Hollywood Palladium on July 19, his Facebook status summed up his reaction: "This is surreal." Hollywood is far from his medical classes at Brown, and a world away from the orphanage in Haiti where he lived for a year developing public health programs (see *Brown Medicine*, Fall 2009).

Do Something, an organization that supports young adults actively engaged in charitable causes, presents the annual award to people under 25 who are

"making the world a better place." In May, Perez was named one of five finalists with his project, "Public Health Education and Training Program for Haitian Youth in Rural Haiti." He received \$10,000 for the program and a chance to win the big prize—\$100,000—at the July event.

Celebrity "do gooders" were also recognized during the award show, aired live on music channel VH1. Among them was actress Christina Applegate, who started a foundation for women with breast cancer after her own struggle

with the disease. Actor/comedian George Lopez, who organized a benefit for Haiti after the January earthquake, introduced Perez, noting that like him, he was the first person in his family to graduate from high school.

Ultimately, the grand prize went to Jessica Posner, a Wesleyan graduate who started a free school and community center in a Kenyan slum.

Now in his second year of medical school, Perez is partnering with Hope



George Lopez presents the silver sneaker.

For Haiti, one of the largest nonprofits in the country. "Together, we will be bringing the public health programs to more than 50,000 rural Haitians, of which 10,000 are students from 40 different schools in southern Haiti," Perez says.

He used his moments before a national television audience to throw a shout out to a man who could help. "Bill Clinton," he said to the camera, "if you're watching this, call me!"

—Kris Cambra

Follow Will Perez at willinhaiti.org.

THEBEAT

FINDINGS

A Major Miner Discovery

TB rates soar in African mining countries.

An international research team—including Assistant Professor of Community Health and Medicine Mark Lurie (*Brown Medicine*, Spring 2010)—recently published a study finding a link between mining and the rampant spread of tuberculosis in sub-Saharan Africa.

Lurie and his team analyzed data from 44 countries and noticed that the greater a country's mining production, the higher its incidence rate of TB. According to Lurie, TB infection in

certain mines is 10 times greater than in the general population.

Among the key factors leading to the TB link is the inhalation of silica dust particles in the mines. Workers also endure extremely cramped living and working conditions, which, combined with the widespread transmission of HIV, weakens immune systems and increases miners' susceptibility to disease.

"It is a sad irony that precious minerals and metals coveted around the world cause such great harm in their production," says Lurie. "Our research points to the urgent need to improve the living and working conditions in African mines as an effective public health intervention."

The incidence of TB in sub-Saharan Africa has increased from 173 to 351 cases per 100,000 people in the past



20 years. Many miners travel between the mines and their home countries a number of times per year, increasing the risk of TB exposure for friends and families.

Lurie's study was published in the *American Journal of Public Health*.

—Justin O'Neill '11

Ask THE EXPERT

Et Tu, Rhode Island?

C-sections on the rise.

In March the Centers for Disease Control and Prevention released a report showing that cesarean deliveries rose 53 percent from 1996 to 2007 and now comprise a third of all deliveries. In Rhode Island, however, the number of c-sections rose by 82 percent, far more than the national average. Katharine D. Wenstrom, MD, professor of obstetrics and gynecology and director of the Division of Maternal-Fetal Medicine at Women & Infants Hospital, and Dwight J. Rouse, MD, professor of obstetrics and gynecology and a maternal-fetal medicine specialist, explain.

Why has the number of c-sections increased so dramatically in Rhode Island?

Although the rate of increase in the proportion of births by cesarean in Rhode Island did outpace the national rate of increase over this time period, this is because Rhode Island's cesarean rate in 1996 was well below the national

average (17.7 percent versus 21 percent). Since then, Rhode Island's rate of cesarean delivery has caught up with rates around the nation and currently is fairly typical: in 2007 it was 32 percent, the same as the national rate. The cesarean rate varies considerably across the United States; it is lowest in Utah (22 percent) and highest in New Jersey (38 percent).

Clearly, the threshold for performing a cesarean delivery has decreased, and the myriad reasons for this include near universal cesarean delivery for fetuses in breech presentation, much wider utilization of labor induction (which increases the risk of cesarean), much lower rates of attempted vaginal birth after cesarean delivery, medical liability concerns (alleged failure to perform a timely cesarean delivery is a leading reason for medicolegal action against obstetricians), a heavier obstetric population (overweight and obese women are more likely to have abnormally progressive labor), and an acceptance of the concept of "patient choice cesarean" or cesarean with no medical indication.

Have a medical question? Send it to us at www.brownmedicinemagazine.org.

WHO KNEW

The Producer

Neuroscientist has a Cannes-do attitude.

Even the most devoted scientists need to leave the lab every once in a while.

In May, Mark Bell, neuroscience PhD candidate at Brown, took a break from working on his doctoral thesis and got out of his lab in Providence—way out—to Cannes, France, to show off his new short film at the prestigious Cannes International Film Festival.

The movie, a 24-minute psychological thriller called *Hushed*, was chosen for the Short Film Corner, a chance for new, unknown talent to show off their work and maybe get discovered.

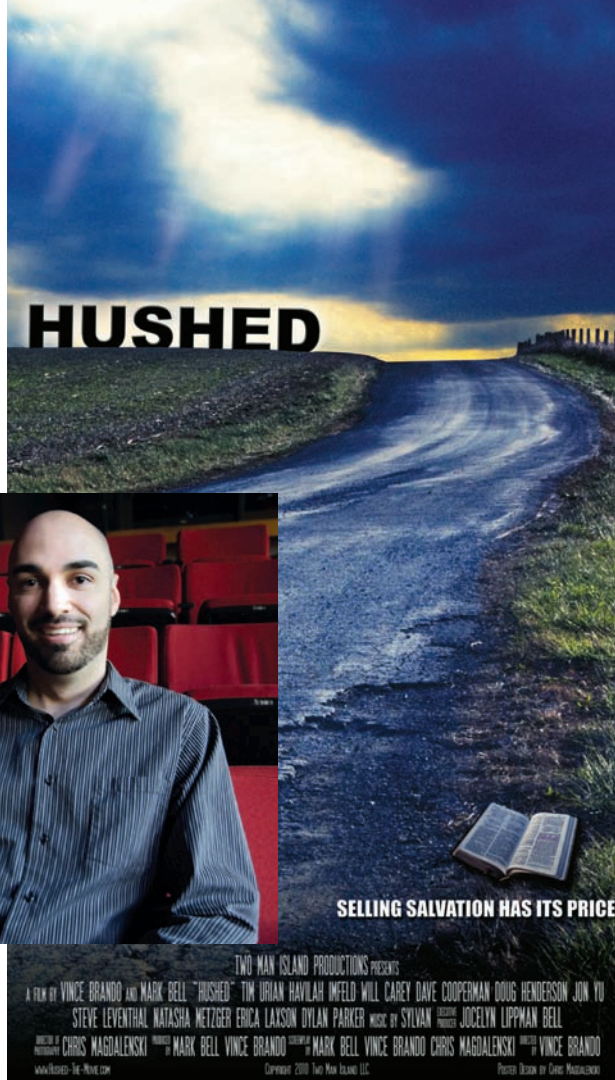
Filmmaking has been a lifelong hobby for Bell, whose neuroscience research focuses on epilepsy. He made *Hushed* together with childhood friend Vincent Brando, with whom Bell grew up making movies for fun in Mountain Top, PA.

Bell and Brando filmed *Hushed* last summer for a total of \$9,000 in Maryland with a crew that included Bell's wife, Jocelyn Lippman Bell, a 2008 doctoral graduate of the neuroscience program.

Hushed is the first official film of the two friends' new production company, Two Man Island Productions. Inspired by *The Twilight Zone* and the works of artists such as Stephen King and Tim Burton, *Hushed* tells the creepy story of the mysterious disappearance of missionaries from a fictional religious sect.

Bell says that the practices of filmmaking and working in a

Mark Bell:
coming to
a theater
near you?



neuroscience lab are more complementary than one might think: "The discipline of science helps my film producing, and the precision of film producing helps my science. Working on my PhD gave me great training in long-term project management and honed my critical thinking and communication skills. ... The producing of a movie is on a knife's edge. If the team fails at one step, the film isn't getting produced. That's what I can apply to my science ... I've become a better scientist."

Now back in his lab, Bell hopes *Hushed* doesn't stay quiet—it's possible a big producer might want to turn it into a full-length feature.

"I think you always want to have your art taken to the screen. But if that weren't to happen ... it would be OK to recoup our investment. Or make another film. Getting multiple offers would be our dream scenario," he says.

"It's already a rare event, completing a film and getting into the Short Film Corner. We'll take what comes."

Sounds like the right attitude.

—Adapted from "Today at Brown" by Janet Kerlin

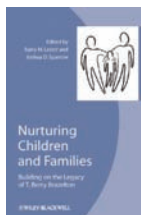
Book SHELF

Nurturing Children and Families:

Building on the Legacy of T.B. Brazelton

Edited by **Barry M. Lester, PhD**, Professor of Psychiatry and Human Behavior and Pediatrics at Alpert Medical School, and **Joshua D. Sparro, MD**

Wiley-Blackwell, 2010



THE BEAT

MONEY

Smallest State Scores Big

NIH funds flow to RI.

Never to be outdone by larger states, Rhode Island was the country's fourth-highest recipient of funding per resident from the National Institutes of Health, and it's (largely) thanks to Brown.

Rhode Island's hospitals, universities, and research institutions amassed a total of \$152.1 million in 2009, according to new government numbers. That figure is a significant increase over 2008

(\$141 million), and double the amount the state was awarded a decade ago—\$77 million in 1999.

Brown University generated \$64 million, the bulk of the state's NIH funding. Other winners in the state include Rhode Island Hospital (\$34 million), The Miriam Hospital (\$14 million), University of Rhode Island (\$12 million), and Women & Infants Hospital (\$11 million). The state's single biggest NIH grant was given to Associate Professor Andrew G. Bostom for his research on the potential of folic acid to diminish the risk of cardiovascular disease in patients suffering from chronic kidney disease.

—J.O.



FOREIGNER

Happy to Be Here

Invasive species usually get a bad rap, but Brown ecologist Andrew Altieri has found one, the Asian shore crab, that isn't so nasty. The crabs likely found their way to the Atlantic aboard ships and have thrived along New England's rocky coast.

Writing in the journal *Ecology*, Altieri says that the crabs seem to be "promoting co-existence" with native species, not destroying them.

Stat Sheet

Meet the Class

Here's what MD'14 is made of.

This year, matriculating medical students hail from 23 states—from Minnesota to Florida—with 20 students from New York comprising the largest contingent. Eight call Rhode Island home, but there are also residents of Lebanon, Korea, and Canada. Their undergraduate institutions range alphabetically from Amherst to Yale and geographically from Portland (Reed College) to Santa Fe (St. John's College) to Chapel Hill (University of North Carolina). Ten hold advanced degrees, including one PhD from Oxford University.

This is an adventurous group, with a former helicopter pilot and U.S. Naval Academy graduate; an emergency medical tech who spent three astral summers at a U.S. Antarctic research station; an HIV researcher who spent last year in South Africa; four Fulbright scholars who have worked in Kenya, Indonesia, China, and Korea respectively; and two former Peace Corps workers in Albania and Madagascar. Musical talent abounds, with classically trained pianists, violinists, an opera singer, a cellist, performance artist, rock guitarists, and several *a cappella* singers.

TOTAL STUDENTS	100
Female	56
Male	41
Program in Liberal Medical	
Education	47
Postbaccalaureate	9
Early Identification Program	3
Standard Admissions	38
Returning	3
Age range	20-30
ADVANCED DEGREES	10
(MBA, MPH, MPhil, MS, PhD)	
UNDERGRADUATE INSTITUTIONS	
Most common is Brown, then Harvard, Stanford, and Columbia	
UNDERGRADUATE MAJORS	
Humanities	37%
Physical and Life Sciences	55.8%
Computer Science, Mathematics, Biomedical Engineering	7.2%

STUDENTS

On the Run

Med students go from College Hill to Heartbreak Hill.

Alpert medical students Michelle Gosselin MD'13 and Eve Hoffman '09 MD'13 ran the 114th Boston Marathon last April.

Hoffman has been running since she was 8 and is an experienced marathoner. Gosselin, too, is a lifelong athlete who has run four complete marathons and an Ironman triathlon.

But how did they manage to train under the demands of a first-year medical school schedule?

It took careful planning, dedication, and discipline to wake up before sunrise to squeeze in a run while knowing they would still be in the anatomy lab that night well after the sun went down.

"I feel so much better when I am working out," notes Gosselin, "so I think [running] has helped me stay on top of everything in med school." —J.O.



Michelle Gosselin
(number 5125) and
Eve Hoffman

FINDINGS

Side Effects May Include...

What patients with
depression aren't saying.



Why are doctors failing to notice depression medication side effects?

Nonspecific prompting by psychiatrists seems to be the trouble, and written surveys may be the solution—or at least part of it.

A study at Rhode Island Hospital found that patients taking medication for depression claim to experience side effects at a rate 20 times more often than psychiatrists identify and write in charts. The findings appeared in the *Journal of Clinical Psychiatry* in April.

Because the occurrence of side effects commonly results in premature medication discontinuation, inaccurate reporting can lead to inferior treatment outcomes.

The study's lead researcher, Mark Zimmerman, associate professor of psychiatry and human behavior, says, "This study finds that clinicians do not record in their progress notes most side effects reported on a side effects questionnaire."

The researchers theorize that patients grow used to certain side effects and stop reporting them to doctors, though they note them when asked specifically in a questionnaire. They advocate the clinical use of self-administered questionnaires for depression patients. Questionnaires standardize side effect reporting, and lessen the risk that an important symptom will be missed in conversation.

—J.O.

THEBEAT

CURRICULUM

Focus on Your Work

Program enables students to pursue a special area of interest throughout med school.

The **Scholarly Concentrations Program** is an elective option that enables Alpert Medical School students to take on projects and explore interests beyond the traditional medical school curriculum. Students get the chance to apply their knowledge in new and exciting ways. Below are current projects from the 12 scholarly concentration areas.

- Advocacy and Activism**
- “Advocating for Children with Special Needs: Improving Resources for Families” *by Andrea Batchelor ’09 MD’13*
 - “Global and Domestic Patient Safety and Quality Implementation and Integration” *by Reshma Ramachandran ’09 MD’13*

- Aging**
- “The Effects of State Level Flu Mandate Policies on Nursing Home Patient Outcomes” *by Andre Dev ’09 MD’13*
 - “Evidence-Based Geriatric Emergency Medicine: Are We Overtreating Urinary Tract Infections?” *by Lesley Gordon MD’13*

- Contemplative Studies**
- “Yoga for PTSD” *by Sarah Schmihofo MD’13*
 - “Mindfulness-Based Positive Psychology” *by H. Mason Hedberg ’08 MD’13*

- Disaster Medicine and Response**
- “Injury and Illness Patterns of Workers During the 9/11 Rescue and Recovery Operation at the World Trade Center” *by Angela Hua ’08 MD’12*

- Global Health**
- “A Clinical Archive and Photographic Atlas from Sihanouk Hospital Center of Hope, Phnom Penh, Cambodia” *by Sarah Andiman MD’13*
 - “The Capability Approach and Health: The Role of Access to Care in Breaking the Intergenerational Transmission of Poverty in Indigenous Kichwa Communities” *by John Molina ’08 MD’13*

- Informatics**
- Currently no students

- Medical Education**
- “The Adaptation of Medical Education to Diverse Learning Styles” *by Zachary Engler MD’13*
 - “Confronting the Lion in the House: Using Education to Address Late Effects of Pediatric Cancer Treatment” *by Julia Heneghan ’09 MD’13*

- Medical Ethics**
- “Physician in a Changing World” *by Emily Amos MD’13*

- Medical Humanities**
- Currently no students

- Medical Technology and Innovation**
- “Use of Percutaneous, Image-Guided Therapies in Cancer Treatment” *by Jeffery Guenette MD’13*
 - “Development and translation of a wearable neural recording system for seizure-focus localization in patients with medically refractory epilepsy” *By Farah Laiwalla MD/PhD’13*

- Physician as Communicator**
- “Beyond Pain and Meds: Stories of Chronic Pain Patients on Long-Term Opioids/Narcotics” *by Angela Yang ’09 MD’13*

- Women’s Reproductive Health Rights**
- “Reducing the Underutilization of Mental Health Services for a Maternal African-American Population Through Freedom and Psycho-Education and Community Outreach” *by Melissa Cranford ’09 MD’13*
 - “The Menstrual Bleeding Questionnaire: Validating a Comprehensive Patient-Based Outcome Measure for Heavy Menstrual Bleeding” *by Dana Scott ’09 MD’13*

Visit <http://med.brown.edu/education/concentrations/> for more information.

NEUROPOP

Mood Music

Using sound to mess with your head, scientifically.

Young people like loud music.

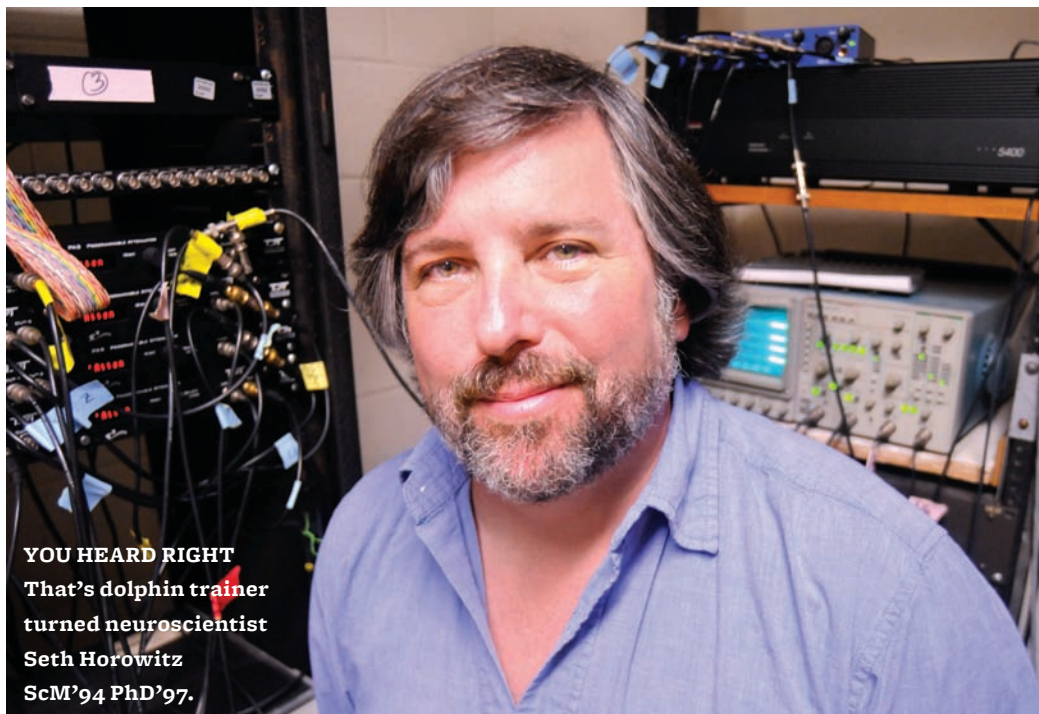
That's why, according to Associate Research Professor of Neuroscience Seth Horowitz, stores like Hollister play music at a corporate-mandated volume of 90 decibels, about equal to that of a lawnmower or hair dryer.

Teenagers are not only drawn to the sounds, Horowitz says, but the high volume also evokes a physiological stress response that gives people the urge to control their environment. The easiest way to do that in a Hollister store? Shop.

In casinos, barely noticeable ultrasonic screamers raise arousal to near panic—another stressor that drives gamblers to spend money.

It's sonic mind control, and it's becoming a lot more common.

Horowitz caught on to this phenomenon 10 years ago when he and his long-time friend, composer Lance Massey (who, incidentally, is the creator of the notorious T-Mobile ringtone), founded NeuroPop, a music company that uses science to mess with our heads—through our ears.



YOU HEARD RIGHT
That's dolphin trainer turned neuroscientist Seth Horowitz ScM'94 PhD'97.

At the time, Horowitz was doing postdoctoral research (he earned his PhD at Brown) on how bats use the auditory system to orient themselves in space. He became interested in how sound can affect the vestibular system and, indeed, all kinds of perception. The challenge was to apply theories of auditory neuroscience to the real world.

Massey and Horowitz started to experiment, creating pieces they could perform live in a concert venue. First they found ways to use sound to influence attention and change the way people remember things—a composition they called “Focus.”

Another is the infamous “Vertigo Tour,” a piece that gives listeners the sensation that they are moving through space. It works, well enough to make an audience of listeners wobble in their chairs and to make Horowitz's former boss, his department chair at New York's Stony Brook University, sick.

“I didn't get tenure there,” Horowitz jokes.

HEAR, BUT DON'T LISTEN

When it first started, “[NeuroPop] was art,” Horowitz explains, himself a musician in his pre-PhD days (he was also, at one point, a dolphin trainer). He and Massey have moved on from the early experiments to refine the music (and science) into something more practical.

After a friend asked Massey if the duo had any sonic creations that could help a baby sleep, Horowitz set to work on finding a way to relieve insomnia.

He found a clue in Sопite syndrome, a mild form of motion sickness associated with constant, low-frequency vibrations, causing drowsiness; it's the reason why babies can be rocked to sleep and why passengers fall asleep in cars. Horowitz realized a similar effect could be achieved

Over Heard

“How many of you are scared to death that you're going to hurt or kill someone?”

—**DR. HARRY C. SAX**, professor of surgery, at the start of his two-hour course on patient safety. The course is required for medical students before they begin seeing patients as part of their clinical clerkships.

ANATOMY OF A THIRD-YEAR

Meet Ed Cheung

For the first time in their academic careers, third-year students at Alpert Medical School find themselves without a lengthy summer vacation. Instead they begin their clinical training in May, shortly after the close of second year. But students like Edward Cheung '08 MD'12, a native of California, are too excited to waste time crying over lost beach days. Third year is what they've been waiting for: patient care all day, every day.

On the wards, Ed soon found there are some creature comforts he can't live without. Here's a look at what your typical third-year medical student carries around with him.

—K.C.



Chapstick

Hospital ID

Pager

Clif Bar

iPhone

Tarascon Pocket
Pharmacopoeia

Maxwell
Quick Medical
Reference

The Sanford Guide to
Antimicrobial Therapy 2010

Tourniquet

Pocket
Medicine

Dansko shoes

During the summer of 2009 Ed virtually lived on this bike. He rode it cross-country, from Providence to San Diego, to raise money for the non-profit he co-founded, Sustainable Community Development Project, in the Dominican Republic.

THEBEAT

by applying certain algorithms to songs that mimic in the vestibular system the deep rumbling of a moving vehicle.

The result is RealSleep, a CD that helps listeners fall asleep and stay asleep. With a combination of the Sopite-rumbles and a few other scientific elements embedded in the music (buyers get a choice of either well-known classical pieces or Massey's original ambient compositions), RealSleep helps around 80 percent of users—from babies to 80-year-olds—get a good night's sleep, according to Horowitz. He warns, however, that if you pay attention to the music too carefully, it won't work.

NeuroPop is now refining the "Focus" track. It's a challenge to create background music that will help listeners pay attention to a task, and not to the music itself. Typically, after they pick a target, Horowitz does the scientific research and gives basic parameters to Massey, who then composes the music.

Future plans include the score to a new 3D IMAX documentary on sound, and, Horowitz says, "We're hoping to work with video games."

A NeuroPop soundtrack could add a whole new layer to the videogame experience, Horowitz thinks, because "we can do some really stunning things. We have sounds that make you feel like you're sick—like you're dying. It's like being surrounded by fingernails on blackboards."

The most surprising thing about the project, Horowitz says, is just how well the theoretical science works in the real world—something that can make the world of science uncomfortable.

"There are a lot of scientists who look at taking data out of the lab and trying to make it work without control conditions as heresy," Horowitz says, "but that's what I've always loved doing." —J.O.

Learn more at www.neuropop.com.

PLANT PERSON
Annie Schmitt
in the Brown
greenhouse.



HONORS

In Good Company BioMed professor elected to AAAS.

Collected in a vault at the American Academy of Arts and Sciences headquarters in Cambridge, MA, are the acceptance letters all fellows write upon their election to the honorary society. A letter from Johanna Schmitt, PhD, the Stephen T. Olney Professor of Natural History and professor of biology and environmental studies, is now among this vaunted collection.

Schmitt, who is also director of Brown's Environmental Change Initiative, studies how plants change over time in response to their environment. She and her research group use the model plant *Arabidopsis thaliana*, a member of the mustard family, to study how genetic variation in sensitivity to environmental cues such as day length and temperature affects reproductive success in different regions and climates. Schmitt also was elected to The National Academy of Sciences in spring 2008.

"I've had the privilege of working with so many good scientists at Brown—students, post-docs, lab managers, fellow faculty members—that I feel that this honor is shared," Schmitt says. "I'm thrilled to join the Academy."

So was George Washington, who wrote in his acceptance letter: "The Arts and Sciences essential to the prosperity of the State and to the ornament and happiness of human life have a primary claim to the encouragement of every lover of his Country and Mankind."

—K.C.

STEWART MARTIN

THEBEAT

ELEVATOR PITCH

Early Adopters Getting students hooked on research early on.

Michael McKeown is a geneticist, cyclist, fruit fly guy, father, teacher, mentor, and science education advocate. Now he's got another title: Principal Investigator on Major University Grant.

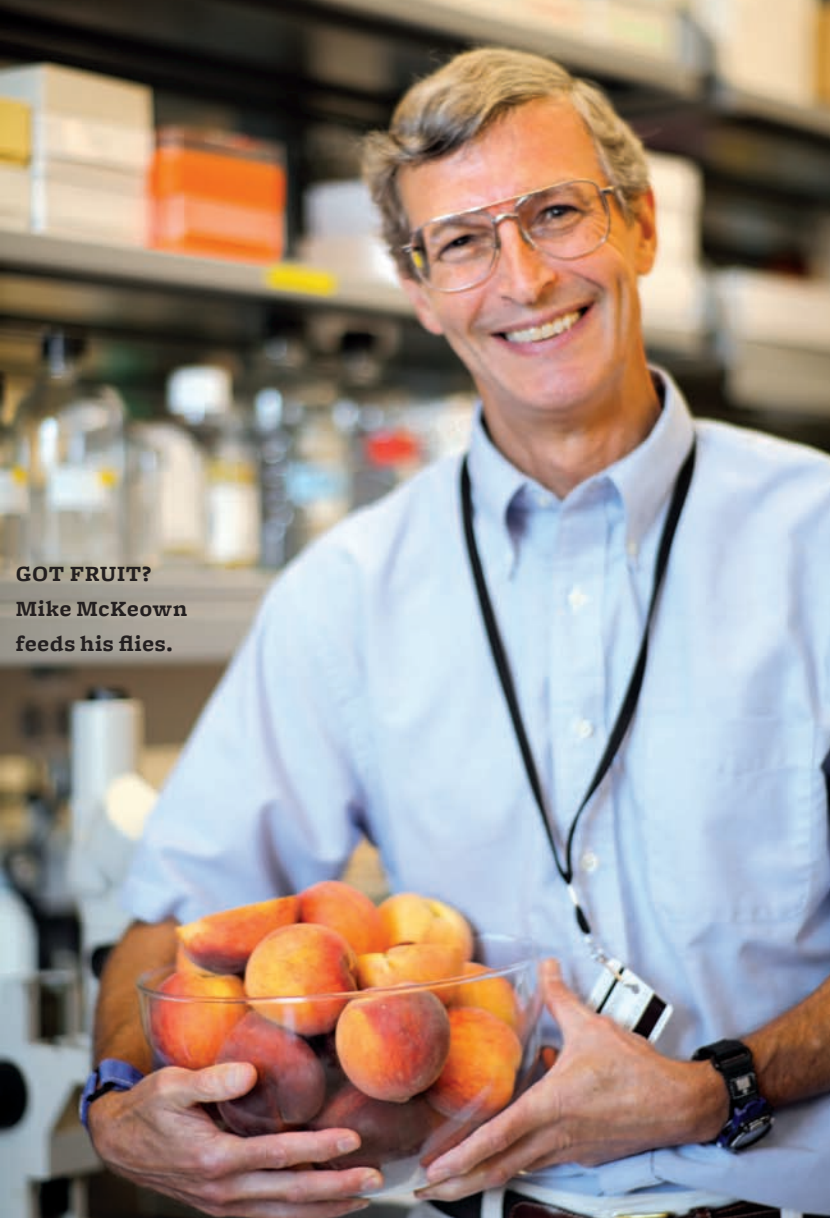
Last spring, McKeown helped Brown land a \$1 million, four-year grant from the Howard Hughes Medical Institute (HHMI) under its Undergraduate Science Education Program—the first time Brown has received HHMI funding under this influential initiative since 1998. Previous HHMI grants have made a big impact at Brown, seeding the hallmark Undergraduate Teaching and Research Awards (UTRA) program and creating the popular Bio19 courses.

The new grant will create the HHMI Fellows Program, a group model for undergraduate summer research, and three undergraduate science courses. McKeown, a member of the Department of Molecular Biology, Cell Biology and Biochemistry who teaches the genetics course that is standard among pre-meds, talks about the new HHMI program and its promise.

In a nutshell, how will the new HHMI program improve science education at Brown?

It will make research more collaborative for students and get them to try research earlier in their careers. It will also create three new science courses, and they're exciting. One will introduce computation to biology concentrators. The other two will introduce students—including non-science concentrators—to topics in science and society, such as gender and genetics. Overall, we're

GOT FRUIT?
Mike McKeown
feeds his flies.



giving new opportunities to students, and trying to engage them in science in new and interesting ways.

You conceived, and will lead, the HHMI summer research program for undergraduates. Explain the concept.

The idea is to bring students in early in their careers—after their first or second year at Brown—and get them in labs for a full summer. This is important. Biological research isn't for everyone. It's possible to love biology and not love doing it. This program should help students decide if they love doing biology—early on.

And students will work in groups. This is how a lot of science is done. People have their own strengths, their own skills, and a group working together can put together a powerful intellectual and scientific force

that melds well. Right now, undergraduates' experience depends entirely on the lab they land in. This new model will put students in a team, with other undergraduates and with faculty and graduate mentors, which is completely focused on their learning.

When I was an undergraduate, I jumped into a lab as a rising junior and I got lucky. The lab was really welcoming. ... We're going to start everyone out in this kind of lab—and have them conduct significant research. If the experiments work, the work will be publishable. So the HHMI program will provide a challenging culture *and* a nurturing culture.

How did you get the idea? Why does it excite you?

[Professor of Biology] Gary Wessel works with our Brown iGEM team. This

KAREN PHILLIPS

is the group of undergraduates involved in the worldwide International Genetically Engineered Machine competition, and each year they make microbes that do useful tasks for people. It's not only a competition, but a collaboration, as students compete as a group. I knew some of the students and they just thrived. They were working long hours ... and were so excited about it. Students were doing challenging research early on, and it made me realize there could be a new paradigm.

In your mind what role does research play in educating undergraduates?

If you can make science real—and involve students in the process through research—you can grab them. If you have what Kipling would call “insatiable curiosity,” you just can’t stop asking questions. And when you figure out a way to answer some of those questions, if you really figure something out, it’s almost like crack cocaine. But in science, there are long gaps between those times. Sometimes research can be repetitive. And sometimes, even the most trivial procedure won’t work. So you need to decide, for yourself, whether those big highs will cover those lows. And the only way to figure that out is to be in the lab.

When HHMI’s \$1 million is spent, how will you know you’ve been successful?

Our hope is that a significant fraction of students who’ve done the research program go on to do other research at Brown and to do honors theses. We want them to carry on research—in graduate school, in medicine. For the non-science concentrators taking new classes, we want to see if they take other science classes at Brown. We want to see students carrying on with science, in one way or another.

—Wendy Y. Lawton

Cost Control

Making fertility treatment affordable.

Women & Infants Hospital has partnered with the Lance Armstrong Foundation’s LIVESTRONG Sharing Hope Program to offer reduced-cost fertility treatments to help cancer patients and survivors whose fertility was affected by cancer therapies.

The Foundation will work with Women & Infants to improve access to fertility preservation services, which are often prohibitively expensive. Sandra Carson, director of Women & Infants’ Center for Reproduction and professor of obstetrics and gynecology, says that infertility and its exorbitant treatment costs produce “an incredible amount of stress” that can be “overwhelming.”

The hospital, Carson says, is “so grateful” to be able to help reduce costs.

High-Tech

Robotic surgery for women.

What Women & Infants Hospital’s new surgeon lacks in personality, it makes up for with precise, less-invasive care. Women & Infants is installing a da Vinci® Surgical System and launching the region’s first robotic surgery program devoted to women.

The \$1.9-million machine will help doctors perform a variety of laparoscopic surgeries, including hysterectomy, cancer staging, sacrocolpopexy, myomectomy, and more, with shorter recovery times, less pain and scarring, and fewer complications. The cutting-edge technology will provide new educational opportunities; fellows, residents, community doctors, and surgeons can learn robotic surgery techniques on Women & Infants’ new machine.

The hospital predicts it will use the da Vinci on 400 procedures per year by 2013.

You Screen, I Screen

Early detection will reduce ovarian cancer deaths.

A team of researchers at Women & Infants Hospital, including Associate Professor of Obstetrics and Gynecology Richard Moore, has found a promising early screening method for ovarian cancer.

The American Cancer Society estimates the number of new ovarian cancer cases in 2010 will be 21,880, with 13,850 resulting deaths. The problem, according to Moore, is 70 percent of ovarian cancer cases are diagnosed in the disease’s advanced stages; Women & Infants’ study may be able to change this. The research focuses on the protein CA125, long known to be a biomarker for ovarian cancer. Results suggest that a simple blood test and Risk of Ovarian Cancer (ROCA) analysis of CA125 may detect early-stage ovarian cancer, even the most aggressive forms, in post-menopausal women at average risk. Moore says he is “hopeful we will have a blood test for ovarian cancer within five to ten years.” —J.O.

Name Game

Revisions to a clinical manual may have unintended consequences.

As the field of psychiatry prepares to create the fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-5)*, due out in 2013, the debate about how autism should be classified illustrates the complexity of the process.


The work group tasked with the behemoth job of updating the DSM—the “bible” for psychiatric diagnoses—is making a bold recommendation: eliminating the separate categories of classic autism, Asperger’s syndrome, and another mild form of autism known as pervasive developmental disorder, not otherwise specified (PDD-NOS). Instead they would be lumped together into a single category called “autism spectrum disorder.” The rationale? Some experts say there are no clear diagnostic bound-

diagnoses makes many professionals—including us—wary. Clinicians will now be asked to think about autism as a diagnostic possibility in cases where it would have never been considered just 15 years ago. Because epidemiological statistics are often compared without noting how definitions may have changed over time, this change may feed the so-called “autism epidemic” rather than control it.

Along the same lines, a single “autism spectrum disorder” diagnosis means that meaningful distinctions between cate-

social isolation and are often miserable because of it. In contrast, for youngsters with high functioning autism, the *parents* are the ones who typically are more concerned about the lack of friendships than the children themselves. Caregivers and clinicians who work closely with both groups do not see this as an insignificant difference.

Another major implication of these new guidelines is the potential loss of identity for the proud members of “Aspie Nation,” a term that represents the many outspoken people with Asperger’s who have fully embraced their diagnosis. Through their efforts, society has begun to accept Asperger’s; it has even become part of the popular culture. If these diagnostic changes are accepted, people with Asperger’s will suddenly have to deal with the stigma that goes along with being labeled autistic. It’s not surprising that Aspie Nation vigorously opposes them.

The DSM-5 will not be a purely scientific document; there are inevitable social, political, and economic ramifications. Although we’ve made considerable research and clinical strides in the 15 years since the last DSM was released, the primary obstacles remain the same: we still do not conclusively know what causes autism, and the diagnosis rests entirely on descriptions of behavior and function. Biologic markers, be they genetic, chemical or neuroanatomic, are needed. 

The DSM-5 will not be a purely scientific document; there are inevitable **social, political,** and **economic ramifications.**

aries between the three, and that autism as a single diagnosis with different levels of severity—ranging from high functioning to profoundly impaired—will simplify the system.

Yet changing the definition of autism and grouping together previously separate

gories will be lost. For example, children with Asperger’s and those with high functioning autism have many characteristics in common, including poor social interactions that make it difficult to maintain friendships. Children with Asperger’s are acutely aware of their

Dr. Fritz is academic director at Emma P. Bradley Hospital and editor of the Brown University Child and Adolescent Behavior Letter. **Dr. Barrett** is director of the Center for Autism and Developmental Disabilities at Bradley Hospital.

FROM THE COLLECTIONS

BY SARAH BALDWIN-BENEICH

PHOTOGRAPH BY KAREN PHILIPPI

OUR BODIES,
OUR SELVES
Descartes believed
in the importance
of knowing oneself,
and that included
one's body.

What a Piece of Work Is Man

The greatest thinker of the 17th century gets physical.

“**Cogito ergo sum**” might be Rene Descartes’s claim to fame, but the French philosopher concerned himself with matters physical as well as metaphysical. His *De Homine Figuris* (Leyden, 1662) was the first work in the history of science to portray the human body from a mechanistic point of view—that is, to ascribe mechanical rather than spiritual or metaphysical causes to all physical motions. This perspective was so dangerously divergent from accepted views of the time (Galileo Galilei was condemned in 1633 for holding that the sun was the center of the universe) that he deferred its publication. The book, translated into Latin by Florentio Schuyt, a physician, was not published until a dozen years after Descartes’s death.

Donated by Albert E. Lownes ’20 in 1954, *De Homine Figuris* was the Brown University Library’s one millionth item. You can almost smell three and a half centuries of time in the foxed and crinkly pages. The illustrations, considered the best of their day, include engraved plates of the heart, like the one shown at left, some with lift-up flaps.

Visit www.brownmedicinejournal.org to see more images from Descartes’s book.



Unseen America

A month on a Navajo reservation.

Mrs. B, a Navajo woman in her mid-60s, was brought in to our Emergency Department by ambulance. She felt unwell and had a blood sugar level that was six times the normal level. After speaking with her, I discovered that she had run out of her diabetic medications about a month ago. “I have no means of coming into town. I live about 45 minutes away.” She explained that she did not want to bother her nephews who had previously brought her in for her appointments.

I did my away rotation in emergency

medicine at the Northern Navajo Medical Center, an Indian Health Service facility, in Shiprock, NM, to experience emergency medicine in resource-limited settings. It was the US parallel to underdeveloped countries, which is relevant to my future goal of helping to develop the field internationally. I also wanted to gain exposure to this unique health care system. Indian Health Services provides completely free medical care to all Navajo Indians on the reservation. This includes emergency department visits,

clinic visits, inpatient stays, transfers to other health care facilities for more complicated diseases, and even free medications.

Perhaps it was the knowledge that tribe members did not need to pay anything for health services that frustrated me about Mrs. B’s situation. As I went through her chart, I noticed that she came in three months ago for the exact same reason: running out of medications. Her blood sugar during that visit was five times the normal level. She was brought in by ambulance then, too. Both of her ambulance trips, and thus the high cost of these trips to the health care system, could have been avoided if there

was some way of giving her better access to this care. Access was the barrier, even with completely free health care.

FAST FOOD NATION

I had other realizations during my time in New Mexico. I am used to seeing obese middle-aged patients like Mrs. B. in Rhode Island. However, the number of obese adolescents I took care of in Shiprock shocked me. “Bad genetics” have been shown to play a role in this. My 10-minute drive around this beautiful town revealed another potential reason that obesity is so much more prevalent in Native American communities than the general population of the United States.

As I turned onto the main road, I became mesmerized by the gorgeous rock formation in the background that gives the town of Shiprock its name. Before I left for New Mexico, I learned about the various cultural and religious significances of Shiprock. I tried to remember the Navajo word for Shiprock, “*Tsé Bit’a’i*,” named after a legend of the great bird that brought the Navajos from the north to their current location. After admiring this wonder of nature in the distance for a few moments, I looked to my left and saw a Burger King, KFC, a local Chinese restaurant, and a McDonald’s. On the right was a That’s a Burger, Taco Bell, and Sonic. About half a kilometer down the road was a Subway, and a couple of kilometers up the road was a Domino’s. That was it. These were the only food options I found in Shiprock. Eating out in Shiprock means eating unhealthy fast foods. As a vegetarian, I don’t often end up at KFC for dinner, but their free Wi-Fi Internet was the best in town and I spent many of my free evenings there. I quickly concluded that

investing in a fast food restaurant in Shiprock would be a very profitable venture—fast food restaurants were at the center of life on the reservation.

Thankfully, Mrs. B felt well after spending a few hours in the Emergency Department receiving fluids and insulin. She had no electrolyte abnormalities and did not get any severe complications from not taking her medications. We sent her home with a new batch of diabetes pills. I talked to her about the importance of coming to her appointments to get her

many women in such unfortunate circumstances. There was a powerful emotional story associated with each one. For some, this was the first time anything like this had happened. For others, holding back their tears became impossible as they told me about multiple episodes of mistreatment by significant others and sometimes, family members. I tried to listen to each story and offer as much support as I could. I tried to give them any resources that we had available. I encouraged them to report what hap-


I saw at least two victims of domestic violence per shift during my time in New Mexico.

medication refills. We talked about her extended family, and how she could try and rotate through nephews so that she didn’t feel like she was burdening them. She promised to come to her appointment with her primary care physician the following week. Feeling satisfied with my counseling efforts, I left the room and went to see my next patient.

PAINFUL LESSONS

As I walked in, I saw a young woman with bruises throughout her face and arms. She was clearly in shock and pain. I took a deep breath and hoped that my counseling skills would be just as good with this victim of domestic violence. It turned out that I saw at least two such victims per shift during my time in New Mexico. Despite reading about the significantly higher prevalence of domestic violence experienced by Native American women, I was not prepared to see so

many women in such unfortunate circumstances. I still felt that I could have done more but wasn’t sure what. I realized I needed to learn more about the issue so that I can help my future patients. As much as I loved my time in Shiprock, this experience with domestic violence was very unsettling.

I thought my month in Shiprock would simply confirm my career choice in emergency medicine, but it taught me so much more than that. I learned many lessons about access to care and the underlying cultural and societal problems contributing to health issues. I will never forget my time on the Navajo Reservation, and I expect to apply these lessons wherever I practice medicine in the future. 

Nitin Aggarwal was profiled in the Spring 2008 issue of Brown Medicine. A native of Tanzania, he plans to return to East Africa to help build health care infrastructure in impoverished countries.

The Anatomy Lesson

Ever wonder what anatomy class is like today?

As long as there has been a medical school at Brown, there have been great anatomy teachers. Members of the first graduating class in 1975 still recall—and use—the lessons taught by George Erikson. In more recent years, one student was so moved by Ted Goslow’s anatomy class she wrote a memoir about the experience.

These days students find inspiration in morphology course director Dale Ritter. Survey medical students who’ve completed his course and they’ll say things like “Dale’s my favorite professor so far” and the highest compliment a 20-something can give: “Dale’s a rock star.”

Affable and easy going, Ritter shrugs off the praise. The course, he says, is team taught, and it’s the dedicated colleagues that he works with who make it all come together. But his earnest respect for his students and genuine interest in their learning clearly have something to do with his popularity.

THE EVOLUTION OF ANATOMY

“When I was an undergraduate I started thinking about teaching at the college level, so I went to grad school,” Ritter says with a hint of an Alabama twang. After completing a master’s degree at Northern Arizona University, he came to Brown’s PhD program in the Department of Ecology and Evolutionary Biology. Ritter was interested in working on animal locomotion. As all graduate students in the department do, he took the gross anatomy course in his first

year and then taught it as an assistant while finishing his PhD.

Postdoc work at SUNY-Stony Brook came next, and then Ritter landed a teaching position at a small liberal arts college in Ohio. It wasn’t the best fit.

“When I was in Ohio, I took a job at the community hospital as a patient care tech in the emergency department ... I’d take vitals, move people to x-ray. What I found was that I liked the team environment, working with the docs and the nurses. I found it fulfilling,” he says. “I realized that in a small biology depart-

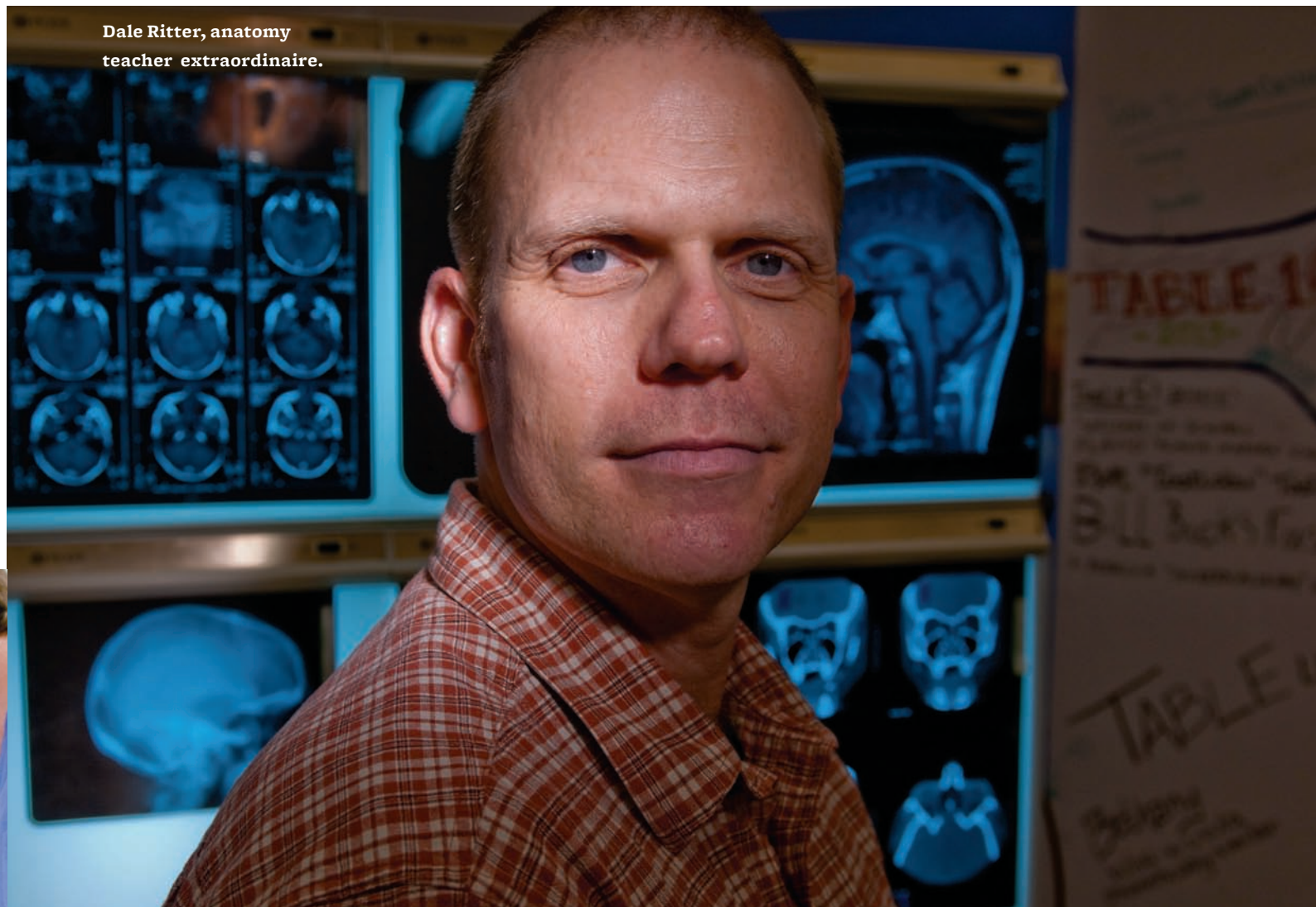
ment, I felt isolated. Some people really like that, but I found that it wasn’t my thing.”

Shortly after that Brown was searching for a course director to replace the retiring Ted Goslow. Goslow had dramatically changed the teaching of anatomy for the Medical School. While Erikson was a traditional anatomist who built an amphitheatre where students would sit on oak stools spring loaded so they could lean forward and watch prosecutions on the floor below, Goslow opened the course to student participation. Quite literally, in fact: he allowed students to have the security code to the lab’s door so that they could work on their dissections anytime they wanted to.

“Ted started bringing in clinicians to



Teamwork is critical, Ritter says, in the anatomy lab, in health care, and in life in general.



Dale Ritter, anatomy teacher extraordinaire.

make anatomy more immediately relevant to the [students'] practice of medicine," Ritter says. "He worked really hard and changed the anatomy course."

In the new model, a course director oversees all aspects of the course, and has no faculty research responsibilities—no grants to write, no papers to publish. The focus is on teaching, crafting the syllabus, and coordinating a large cast

of co-teachers and guest speakers. For Ritter, it was a dream job.

COMFORT ZONES

"One of the main reasons that I came back to Brown is because there are good resources for the medical students. The medical students are really motivated, they're really smart. They're into it," Ritter says.

Even so, the anatomy course can be grueling for some students. At the same time, it's a seminal, sometimes even life-changing, experience. Many students remark that it's when they begin to feel they are truly on their way to becoming a doctor.

And though several classes have now passed through the basement of the Biomed Center under his direction,

ZOOM

Ritter does not downplay the impact on his students' lives.

"They spend a lot of time together in a very stressful situation, and they are depending on one another. It's a less drastic version of going to war," he says. "In working down there it sort of forces them early on to deal with issues that they are going to have to deal with for their whole careers."

For instance, he says, "How do you honor and respect this person who made this great gift but at the same time you are doing these things that feel like you are mutilating the body? In some ways it's similar to what they are going to have to do when they're practicing. They need to empathize with their patients and they

anatomy lab as one way medical students learn to work through the many things that may make them uncomfortable as physicians. Doctors do and see things that most people never will.

"Some elements of the physical exam are very tough and personal," Ritter says. Gaining comfort touching another person's body through the cadaver is an important step in the transition to becoming a doctor.

"It's interesting because one of the toughest parts of the dissection is the hand," Ritter says. "Hands are really intimate structures. Students start at the thorax and work across, dissecting into the upper arm—and then they take off the covering [over the hand] and it

says. "Health care is about working with all kinds of people, so it's a good lesson for life. You've got to talk to people."

NEW HORIZONS

The anatomy course may find itself evolving again next year when Alpert Medical School moves into its new building. Ritter and the anatomy course instructors have been involved in the planning for the state-of-the-art, 10,000-square-foot anatomy suite that will occupy the building's third floor. Natural light will flow into the space, making those long hours in the lab more tolerable.

Another change is that the class will be divided among three anatomy labs separated by glass walls. On the plus side, it won't be as noisy. "When everyone is in there it gets really loud," Ritter says. But it will present some logistical issues, such as when one table discovers some interesting pathology or a good example of the variations in human anatomy.

"Right now we ring a bell and say something like, 'At table 17, there's a gall bladder full of gall stones...'" The idea is for the doors to always be open and have people circulating through. It's important for them to see the diversity."

Ritter likes diversity, especially in the medical students.

"It's fun to have people who have done wildly different things, just because they are interesting to talk to. We spend a lot of time with them. We don't want to talk about grades," he says with a laugh.

"Some people don't like the idea of teaching something of a service course; they would rather be able to teach their research. But I like the students and the atmosphere, and the people that I work with are great. [F]or me it's ideal."

"Health care is about working with all kinds of people, so **it's a good lesson for life.**"

need to communicate with them but they can't get drawn into their lives and their problems, because they'll give themselves away. They'll be burnt out in a year."

And then there's touching a dead body, and cutting into it. Even though every student who accepts admission to medical school knows he or she will have to do this, it can still be difficult.

"I always tell them that there's no way to know how you're going to react to this experience, so the best thing to do is just be open to it and go in and see how it's going to go," Ritter says. "We just talk about it and acknowledge the fact that we know that they are nervous."

As much as he wants to make students feel comfortable, Ritter sees

surprises them." Christine Montross MD'06 RES'10, author of the memoir about her anatomy experience, wrote, "The most alarming moments of anatomy are not the bizarre, the unknown. They are the familiar."

While most students work through their discomfort, every year there are a couple who cannot get past it. Because four students work together dissecting one cadaver, they are expected to work cooperatively. When one hits an emotional roadblock, it can be construed as not carrying one's weight.

"Ultimately they have to let their partner and their tablemates know what's going on with them. It's just like life, right? They have to communicate," Ritter

RESIDENT EXPERT

BY SAMUEL EVANS, MD, RES*



Speaking in Code

Discussions about end-of-life care should not be left for the end.

Each time physicians admit someone to the hospital we use a time-tested system, the history and physical, to gather the information we need to take care of our patients. With one exception. Somewhere in that system, usually vaguely lodged within the “Social History,” is one of the most important, and potentially most complex, aspects of any patient’s admission: the code status.

A patient’s code status is, in its most concise form, a few words that dictate his or her preferences with regard to emergency resuscitative measures. More broadly, code status is a cipher to a patient’s biopsychosocial approach to life, death, and interaction with the health care system. With troublingly varied degrees of accuracy, code status reduces a patient’s beliefs about goals of care, quality of life, end-of-life planning, and surrogate decision making into a few manageable terms and acronyms: full

code, DNR/DNI (do not resuscitate/do not intubate), and CMO (comfort measures only).

Discussions about code status can be incredibly difficult for patients and physicians alike. Yet we accord little more time to this vital topic than we do to a patient’s medication list or the head-to-toe review of the body’s systems. When a sick, distressed patient, who may not have a sophisticated grasp of his illness and prognosis, and a time-pressed house officer discuss code status, the results can border on surreal. Imagine the following encounter.

House officer: “Mr. Smith [a high school-educated 88-year-old man with oxygen-dependent chronic obstructive pulmonary disease, in the Emergency Department in respiratory distress with his third COPD exacerbation in as many months], do you have an advanced directive or a living will?”

“A what? Never heard of it.”

“Have you ever discussed with your family what you would want if your breathing were to become so bad that you needed a machine to do the work for you?”


“Nope, never came up.”

“If you were to require a breathing tube and a machine to breathe for you, is that something we should do for you?”

Mr. Smith, staring blankly, shrugs shoulders: “Sure, if it’ll keep me going.”

“Even if it means you might never come off the machine?”

The patient who has a clear grasp of this question is the exception rather than the rule, especially in the setting of acute illness. Mr. Smith, again staring blankly, has no answer to this. Indeed, from his perspective it seems as if I am asking, “Do you want to live?” In such a brief encounter, it is almost impossible to relay my desire not to intubate someone who may face terminal extubation.

Without any additional information from family, I would admit this patient with the fervent hope that his lungs would allow me time to get a better sense of his and his family’s understanding, expectations, and possible similar experiences with loved ones. Would this situation have looked different if prior encounters with the health care system were more systematically geared toward addressing end-of-life issues? Perhaps, but for now I have a code status that I must follow, despite its woeful inadequacy to comprehensively address the complexity of his condition. 

Sam Evans is a third-year resident in Brown’s internal medicine residency program. He earned his MD degree from SUNY Downstate College of Medicine in 2008.





BIG SHOT

FRANÇOIS LUKS, MD, PHD

Iways and Bye-ways

A parting shot of an East Side landmark.

Providence's ambitious Iway project entails moving the I-95/I-195 interchange, which used to cut right through the city. Removing the old section of highway will reconnect the Jewelry District with the waterfront and downtown while creating waterfront parks and greenways as well as property for mixed use development. It also means that certain quirky "monuments," like the one pictured here, will disappear. Pediatric surgeon and amateur photographer François Luks immortalized the mural painted by Brent Bachelder in 1997 for a neighborhood beautification project as it was being demolished.

"For almost as long as we've been in Rhode Island," says Luks, "the Wicken-den Street mural of Van Gogh, *Guernica*, *Mona Lisa*, *The Scream*, and *The Birth of Venus* had been a Providence landmark. Ironically, they only came out of the shadows as they were being torn down. Oh, well ... not quite as dramatic as owning a piece of the Berlin wall, but it is the end of an era."

Dr. Luks is the director of the Fetal Treatment Program and a professor of surgery at Alpert Medical School, Hasbro Children's Hospital, and Women & Infants Hospital.

ESSAY

BY PETER R. SHANK, PHD

Small Pox in the New World

How Brown's first professor of natural history contributed to the beginning of the end of a deadly disease.

Benjamin Waterhouse has been called the “Jenner of America.” Born in Newport in 1753, he pursued a career in medicine by apprenticing for several years there, starting in 1770, with John Halliburton. In 1775 he sailed to London to pursue a formal education. There he worked with his great uncle, John Fothergill, a prominent physician and a member of the Royal Society. He continued his studies in Edinburgh and Leyden, where he received his medical degree in 1780. (While studying in Leyden he stayed with the American Minister to the Netherlands, John Adams.) Upon returning to America in 1781, Waterhouse was the most highly educated physician on the continent.

Waterhouse began to practice medicine in Newport but was soon called to other activities. In 1782 he was elected to the Board of Fellows of Rhode Island College—now Brown University—and appointed the first professor of natural sciences. In 1783 he was appointed the first professor of the theory and practice of physic (medicine) at what would become Harvard Medical School. (Waterhouse's appointment at Harvard was



RI GUYS
Portrait of Benjamin Waterhouse (ca. 1776)
by his friend Gilbert Stuart. Waterhouse introduced the first successful smallpox vaccination in America.

not universally praised; first, he was from Rhode Island and second, he was a Quaker! A letter from Dr. Fothergill seems to have saved the day for him.) Waterhouse delivered the first comprehensive lectures on natural history in America at Rhode Island College in 1786 and 1787 and later at Harvard.

Waterhouse's ties to Jenner date back to March 12, 1799, when John Coakley Lettson, a physician Waterhouse knew in London, sent him a copy of Jenner's *An Inquiry into the Causes and Effects of the Variolae Vaccinae*, published the year before. Waterhouse immediately realized the importance of Jenner's discovery and on March 16, 1799, published an article in the influential Boston newspaper the *Columbian Centinel*. Titled *Something Curious in the Medical Line*, the article described the course of kine-pock (cow pox) infection and the subsequent immunity to smallpox as described by Jenner.

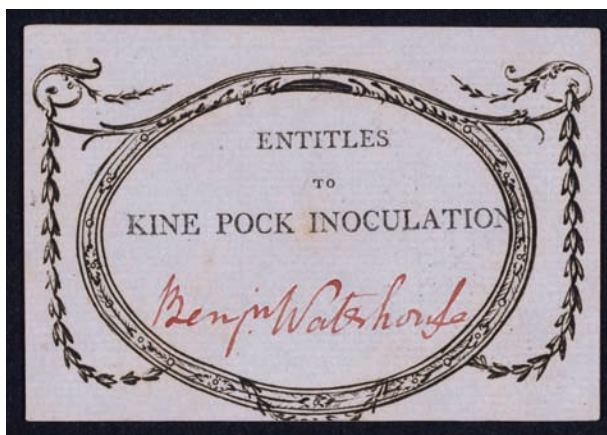
In the summer of 1800, Waterhouse conducted an experiment to confirm Jenner's observations: he inoculated his son Daniel with kine-pox.

Waterhouse immediately set out to obtain some vaccine or "cow-pox-matter." In the summer of 1800, he conducted an experiment to confirm Jenner's observations: he inoculated his son Daniel, age 5, with kine-pox.

"I made a slight incision in the usual place for inoculation in the arm, inserted a small portion of the infected thread and covered it with sticking-

plaster ... on the sixth day there was increased redness ... on the 8th, he complained of pain ... by the 11th day his febrile symptoms were pretty strongly marked ... the sore on the arm appeared to the eye very like the second plate in Dr. Jenner's elegant publication."

Waterhouse subsequently inoculated his other children and several servants. To test his experiment, Waterhouse



Later that year Waterhouse sent then-Vice President Thomas Jefferson his pamphlet *A Prospect for Exterminating the Smallpox*, which led to extended correspondence between the two men. Waterhouse supplied Jefferson with vaccine matter in August 1801, and in June 1803 President Jefferson instructed Captain Meriwether Lewis (of the Lewis and Clark expedition) to "Carry with

you some matter of the kinepox: inform those of them with whom you may be, of its efficacy as a preservative from the small-pox; & instruct & encourage them in the use of it."

Waterhouse resigned from Harvard in 1812 but devoted much of his long life to eliminating smallpox through treatment and education. In 1980, 182 years after the publication of Jenner's manuscript, the World Health Organization declared smallpox eradicated from the human population.

Peter Shank is professor of medical science in the Department of Molecular Microbiology and Immunology. The Winter 2010 issue of *Brown Medicine* included an article about Dr. Edward Jenner's 1798 book, *An Inquiry into the Causes and Effects of the Variolae Vaccinae*. This seminal work on the treatment of smallpox prompted the author to point out Jenner's connection to Brown.

COME TOGETHER

Medical students

Amanda Westlake, Toni Ramirez, Natasha Hunter, Marina MacNamara, and Jeremy Stricsek converge in the heart of Rhode Island's capital.

WHAT KIND OF



DOCTOR

WILL YOU BE?

Student-led elective shows new medical students the big picture.

BY EILEEN O'GARA-KURTIS | PHOTOGRAPHY BY DANA SMITH

Growing up in El Paso, Toni Ramirez '08 MD'12 didn't give a lot of thought to organized medicine.

She'd seen a pediatrician regularly until around the second grade. After that—like most of the children she knew—she visited the local walk-in clinic, and only when she got sick. But in high school, Ramirez decided to become a doctor. It seemed like a good career choice for a high-achieving, high-energy kid with good grades and a full extra-curricular schedule. She set her sights on the nation's top medical schools.

Her guidance counselor was less than encouraging. "It's very competitive," she said. Ramirez's resolve grew. A friend of her brother had been accepted to Brown's Program in Liberal Medical Education

(PLME), and—with the support of her family and the help of a teacher who had mentored her throughout high school—she submitted an application.

By fall, Ramirez was taking her Texas-sized dreams to the smallest state in the Union.

It was right about then that she started to sense the full implications of what she'd gotten herself into. Just as she was starting her freshman year at Brown, her father lost his job—and the family lost its health insurance. (Her mother works at Wal-Mart, but does not receive health benefits.) Ramirez, who had secured coverage under Brown's stu-

dent health insurance plan, started to consider the economics of health care.

Somewhere along the way, her vision of a career in medicine stopped being about achievement and started being about empathy.

"I realized that most of the people I knew back home didn't have health insurance, even though a lot of them worked two or three jobs," Ramirez says. "I started thinking about how important it is for doctors to understand how the totality of their patients' lives affect the way they interact with the health care system—why people cut up pills, or why they may not show up for a follow-up appointment and pay a co-pay if they're feeling OK."

Ramirez continued to explore those issues as an undergraduate community health concentrator, volunteering as an

interpreter at the Rhode Island Free Clinic and doing other community service projects in addition to her coursework. The social justice side of health care was still on her mind when she entered medical school four years later. And she was even more convinced that good doctoring, for herself and her classmates, would depend on a solid foundation in the big-picture challenges that affect the day-to-day delivery of care.

WELCOME TO THE SUPERSTRUCTURE

One night, at a meeting of the Brown chapter of the American Medical Student Association (AMSA), Ramirez mused aloud about offering an elective based on a health system survey course, led by Professor Vincent Mor, Florence Pirce Grant Professor of Community Health, that she had taken as an undergraduate. Another student, Marina MacNamara MD'12, liked the idea and offered to help. Amanda Westlake MD'12 and Natasha Hunter MD'12 soon signed on, completing the working group.

"Starting in the first semester of the first year, students are assigned a mentor through the Doctoring course," says

issues are covered later, during the community health clerkship, but we thought it would be helpful to have a foundation earlier in medical school."

MacNamara observed at a community health center in Providence and at a suburban private practice. "The health center's demographics reflected a lower overall socioeconomic status and the private practice had a mix of patients with private and state insurance, but some of the issues were the same. For instance, a surprising number of patients had mental health challenges—mostly depression—but there aren't enough counselors or psychologists to meet the need. And the 15-minute rule applies to all physicians. They just don't have time to address it. One physician I worked with would have to say *I can only address the issue you called in with today, you'll have to make another appointment.*"

"We have about 200 volunteer mentors [participating in the Doctoring course]," says Mor, "and ... depending on what doctor you're assigned to, he or she may or may not complain to you about insurance, for example. It's useful to have a frame of reference through which those experiences can be understood."

"It's important for students to have a context for what they're observing today—and the realities in which they'll be practicing tomorrow."

MacNamara. "We would go out to [the community settings where they practice] ... talking to patients and getting a glimpse of some of the bureaucratic and logistical hurdles [involved in providing care.] We learned that some of those

"It's important for students to have a context for what they're observing today—and the realities in which they'll be practicing tomorrow," agrees chair of Family Medicine Jeffrey Borkan, who heads the medical school's curriculum

committee. "Why can't patients pay for their medications? How is health care and medication financed? Why do people end up in ERs for simple problems? How were they allowed to get so sick? Why are three MRIs ordered on the same patient for the same problem without anyone knowing? All of these issues flow from deficiencies in the organization and financing of the US health care system, access challenges, lack of a shared medical record. How can you learn the emotional and clinical stuff without having a superstructure to plug it into?"

THINKING ABOUT SOLUTIONS

After securing approval from the curriculum committee, the group sought faculty input from Mor, Adjunct Professor of Community Health Edward Feller, and Associate Dean of Medicine Arthur Frazzano, who heads the Brown-based Area Health Education Center (AHEC) of Rhode Island, part of a national network of federally funded programs designed to encourage interest in primary care careers while enhancing access to care among underserved populations.

"We had been thinking about doing something like this for a while, and there was about a 75 percent overlap between what the students wanted to do and what we wanted to do," says Frazzano. "Our goal was to create a meaningful seminar experience, through which we could reach young people who haven't been jaded yet about the politics and realities of medicine, and inspire them to think about solutions."

Mor and Feller helped the students frame the course. Frazzano and AHEC's associate director, Robert Trachtenberg,

helped them identify and recruit an impressive roster of regional health policy experts. The Rhode Island Medical Society underwrote the cost of dinner, making it possible to present an evening seminar series that would unfold over the course of a full academic year.

The new elective, endowed with the sweeping title *Health Care in America*, debuted in the fall of 2009. About 25 percent of all first- and second-year students enrolled.

VIEW FROM THE TOP

Rhode Island Health Insurance Commissioner Christopher Koller led a session on “economies of health care and private health insurance,” with a reactor

“How can you learn the emotional and clinical stuff without having a superstructure to plug it into?”

panel consisting of Peter Hollmann ’76 MD’79, associate chief medical officer of Blue Cross/Blue Shield of Rhode Island and Karen Davis, Brown’s vice president for human resources. Trisha Leddy, founding director of Rhode Island’s Rite Care health insurance program for low-income families, co-presented a session on Medicaid with Stephen Davis, associate medical director of Neighborhood Health Plan of Rhode Island, a managed care organization owned and operated by nonprofit community health centers.

John Murphy, a geriatrician currently serving as president of the American Geriatrics Society and as vice president of medical affairs and chief medical officer at Rhode Island Hospital, presented on Medicare. A session on the pharma-

ABOUT RHODE ISLAND AHEC

One of the changes that faculty adviser Arthur Frazzano plans to make in this year’s *Health Care in America* course is to invite some non-physicians—specifically, students at Rhode Island’s nursing schools and at the University of Rhode Island School of Pharmacy—to participate. It’s all part of his mission as principal investigator of the Brown-based Rhode Island Area Health Education Center (RI-AHEC), which is charged with improving access to care for the underserved by leveraging the resources of universities, clinics, and health care providers.

“It’s in keeping with our goals,” says Frazzano. “We want to integrate AHEC into the fabric of the medical school through this course, AHEC-funded summer research assistantships, and other programs. And we want to improve on the interdisciplinary side of things. The best care is delivered through a team approach;

it’s important for future health professionals in all disciplines to understand how the system works and to be comfortable working together in an integrated way.” Robert Trachtenberg, RI-AHEC’s associate director and current

president of the National AHEC Organization, agrees. “High-performance, interdisciplinary teams will be needed to sustain our future health care system. Helping to support stronger interdisciplinary models of care is a core element of our mission.”

Rhode Island AHEC, one of more than 200 sites nationwide, has received \$6.2 million in funding from the federal Department of Health and Human Services since the award that launched the program in the Ocean State in 2004. Twenty-five percent of the annual RI-AHEC budget goes to campus-based programs, such as student community health projects, sponsorship of the annual Primary Care Week events, and development of the *Health Care in America* course. The other 75 percent supports three community-based programs. “The role of AHEC becomes even more salient in light of health reform,” says Trachtenberg. “In a few years, 32 million more Americans will [be insured and therefore] have primary care services readily available to them. That’s an exciting step forward. But we have to ask ourselves, *Where are these providers going to come from?* We’re confronting a huge workforce issue, and it’s not just a matter of enticing people to go into primary care. It’s about reimbursement levels, call schedules, and the financial incentives that determine what kinds of residency slots are available.”

Visit <http://med.brown.edu/ahec/> to find out more.

ceutical industry was led by Mike Magee, a former Pfizer executive. Paul Levy, president and CEO of Beth Israel Deaconess Medical Center, talked about various issues in the context of hospitals.

Borkan teamed with pediatrician Beth Lange to present a session on outpatient services and the future of primary care. Mary Cooper, chief quality officer for the Rhode Island-based health system Lifespan, lectured on quality regulation. And an eclectic panel—consisting of Professor of Medicine Jody Rich, Associate Professor of Pediatrics Patricia Flanagan, and Steve DeToy of the Rhode Island Medical Society and Liz Tobin Tyler of Roger Williams School of Law—led a discussion on health care advocacy.

Lieutenant Governor Elizabeth Roberts '78, a longtime advocate for affordable health care, spoke at the closing lecture.

Mor, who delivered the opening lecture, had been there before.

"Most years, I've done some kind of lecture on the US health care system in the context of a student-led elective," he says. "Interest waxes and wanes from year to year, depending whether students are interested or not. It's idiosyncratic. That's the advantage and the disadvantage of an entrepreneurial approach to curriculum development."

"Offering [this content] as part of an elective is a bit like taking coals to Newcastle—you're reaching a cohort of students who are already primed for it," he adds. "But this is material that everyone needs to learn. By and large, medical students have no connection to the policy environment in which they'll practice; they have no concept, for instance,

"By and large, medical students have no connection to the policy environment in which they'll practice."

about whether [ordering] this or that test will generate or cost money. Understanding something about the system in which you will work is part of the process of being socialized into professionalization."

EDUCATING CHANGE AGENTS

The elective has sparked review and revision of the core curriculum.

"This is a great example of what can happen when really smart, motivated students take the initiative," says Philip Gruppuso, associate dean of medicine for medical education.

"A redesign of the third and fourth year curriculum had just been launched at the time, and [the application for the elective] highlighted the fact that students were getting this preparation much too late—often not until their community health clerkships, sometimes in the latter part of year four," he says. "We're now in the planning phase of creating a comprehensive community health continuum that will integrate [much of the content of *Health Care in America*] into the core curriculum across all four years."

"My prediction is that this elective will wind up evolving as an in-depth exploration of the issues raised elsewhere in the curriculum," adds Gruppuso, noting that talks are underway with Albert Einstein College of Medicine, which has been engaged in a five-year, NIH-funded curriculum development process, to partner in creating an intensive program of new community health and population studies offerings.

"Giving students this foundation is absolutely essential in the current environment," says Gruppuso. "One of the serious aspects of health care reform is that it will affect how physicians earn their living. It will have tangible implications for physician employment, with a very real possibility that there will be restrictions on the number of specialist training slots—and that the combination of a new policy-level focus on primary care, combined with market forces, may raise reimbursement rates for primary care physicians [and make it a more attractive option]."

"These are times of great change," says Borkan. "We need to prepare students for the health system they'll be working in, and make them aware of the intricacies and agents of change—so that they can, in fact, be change agents."

MAKE A DIFFERENCE

Before medical school, MacNamara spent two years with a Peace Corps health education project in Togo and later moved to Kenya, where she directed a comprehensive HIV/AIDS treatment program for Doctors of the World USA (now HealthRight International). "It was incredibly rewarding to start a program and get it going, especially in difficult environments where the electricity was not consistent, or there was no running water, or there would be shortages of basic supplies like antiseptic and there would be three patients sharing one hospital bed."

The domestic challenges raised in the

Health Care in America course crystallized her commitment to a career in family medicine. “It will allow me to provide basic health care to anybody anywhere in the world, including meeting the huge need here in the United States.”

Jeremy Stricsek ’09 MD’13 took the elective last year and has assumed responsibility for its administration this year, in collaboration with classmates Thomas Scupp MD’13 and Reshma Ramachandran ’09 MD’13. Stricsek didn’t go into the course committed to primary care, but was converted. It can be intellectually engaging, he says—“you have to know a fair amount about a lot of things”—and offers a meaningful opportunity to serve.

“A lot of people are turning away from primary care because it’s not well-reimbursed and they have significant loans to pay off,” says Stricsek. “It was something I never thought about too much, but the more I learned about the shortage [of primary care physicians] and the differences you can make

VICTIMS NO MORE

It was advocacy that brought Amanda Westlake to medical school, after years of working on behalf of the disenfranchised and underserved—first with a homelessness prevention program run by the New York City Department of Housing and then with Boston Healthcare for the Homeless.

“I was originally drawn to the caregiving aspects of medicine,” Westlake explains. “But I also came to realize that to be a doctor is to have a very powerful position as an advocate. You have the capacity not only to work on the individual level with patients, but to help solve broader, system-level problems.”

“[Rhode Island health insurance commissioner] Christopher Koller challenged us, when he spoke, asking us what kind of doctors we wanted to be,” she says. “I want to be the type of physician who can address those macro-level issues.”

“As doctors, we have a responsibility to be actively engaged in building our

“And you don’t have to be some kind of whirlwind or genius to get things done. You have an idea, and you work on that idea. Part of what we try to do in the *Health Care in America* course is show students that they can, every one of them, effect change.”

“Part of the goal is to give students the language—the phrases and concepts—that allows them to conceptualize and analyze this highly complex system, and a chance to consider some of the salient issues now so that they can have a base of knowledge and experience in the future, when they’re in decision-making roles,” says Borkan.

GOING HOME

Toni Ramirez expects to return to El Paso someday. She carries a vision of a full-service clinic—a medical home where people can ask questions, access social services, and escape from the kind of episodic, crisis-oriented care often received by people who have too many bills to pay.

But in the meantime, there’s plenty of work to do.

“When you’re wearing that white coat, people listen to what you have to say,” she says. “There are a slew of changes that need to be made. We’ll be in a position to make change—locally, nationally, wherever we are. We can do some really good things.” 

“In my opinion, you’re not a complete physician unless you understand policy and advocacy.”

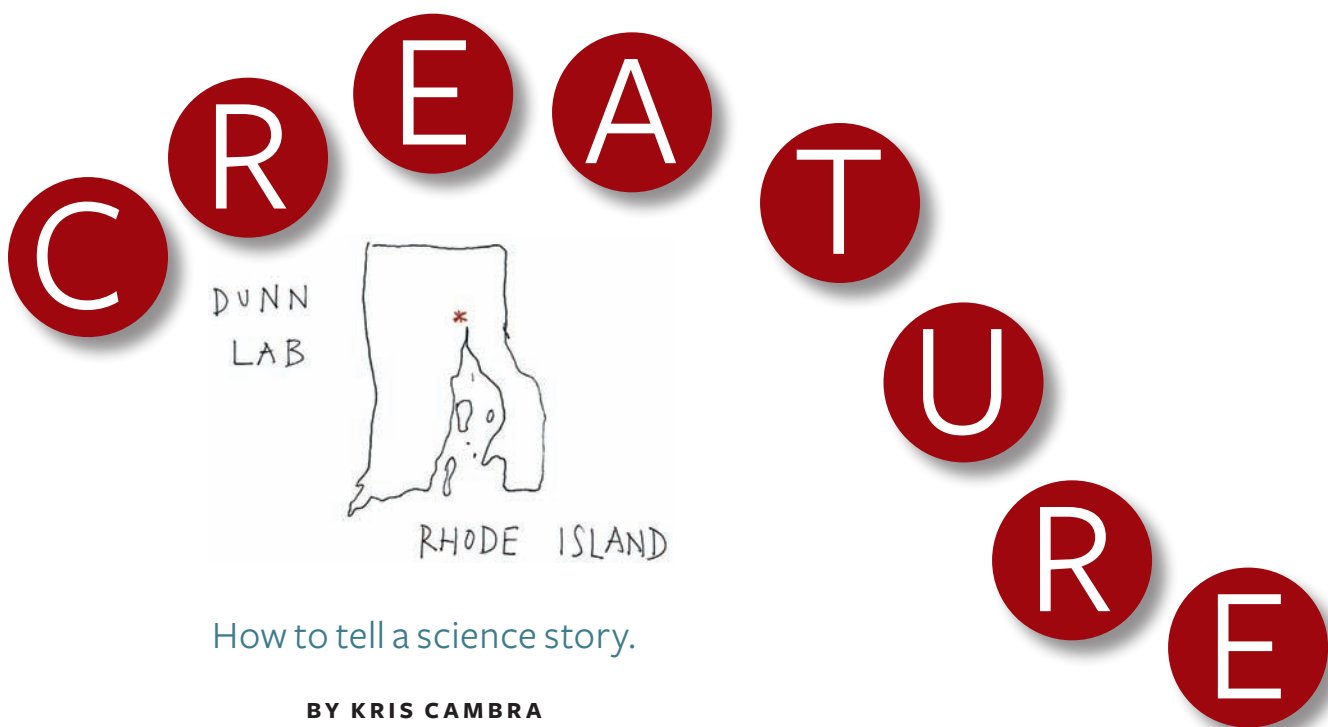
through prevention, the more interested I’ve become.”

“I left every session [last year] feeling pumped up about being part of all this,” he adds, noting that the course drew energy from student presentations as well as the guest lecturers. “People are excited about what they’re doing. And I got a feeling that a lot of changes would be happening, which is incredibly positive. I want to be part of it.”

health care system—not just to be consumers, or victims, of it,” she adds. “I think this course takes a step toward giving medical students the tools to do that.”

“In my opinion, you’re not a complete physician unless you understand policy and advocacy—because when you’re dealing with policy, you can positively affect hundreds of thousands, perhaps millions of lives,” says Frazzano.

Eileen O’Gara-Kurtis is the founder and president of Silver Branch Communications, a strategic communication consultancy dedicated to partnering with individuals and organizations effecting positive change in health care, technology, education, the arts, and other arenas.



How to tell a science story.

BY KRIS CAMBRA

A krill contemplates her life's direction. A scientist overcomes his fear of worms. A bird dances his way into the heart of his mate. These characters—their joy and pain, their struggle to live, breathe, and reproduce—can all be found in the stunningly simple podcasts you can watch at www.creaturecast.org.

Assistant Professor of Biology Casey Dunn was looking for a way to teach people—students, other scientists, interested lay people, anyone, really—about his research. In part, it was because his grant from the National Science Foundation required him to. But Dunn wanted to find an innovative and interesting way to do it.

"I really enjoy podcasts," Dunn says. "They struck me as an effective and relatively inexpensive way to communicate science, and I wanted to communicate science with stories."

Indeed, Dunn sounds more like a storyteller than a scientist when he describes his motivation.

"Often science communication focuses on conveying facts in isolation, but I strongly feel that ... it should be cohesive, and I mean that literally—I want to use narrative structure to talk about science," Dunn says. "In some ways that is more true to the way science is actually done. I wanted to see if we could focus on character-driven approaches to talking about science."

With students in his lab, Dunn conceived Creature Cast. Sophia Tintori '09 was an undergraduate in Dunn's lab at the time and began working on the first video, a piece about iridescence in squid skin.

TOON TOWN

Tintori struck upon cartoons as an effective way to strip down to the minimum set of facts necessary to convey the information. Creature Casts are short

and succinct, but they need to feel whole, and informative.

Cartoons also fit Creature Cast's lean grant support. "[I]f you stick somebody in front of a camera and make a video of them talking, unless you have a really good camera and really good lighting, it looks really cheap," Dunn says. "It's very expensive to make something that doesn't look amateur on live-action video. But somehow magically when you are making cartoons, all of the little quirks and technical glitches are endearing. They add character."

Creature Cast was launched in the summer of 2009, and soon found an audience. It was featured on NPR's Science Friday and is a regular part of the journal *Nature's* education blog, scitable.org. The podcasts have had more than 100,000 views. Here's a glimpse of how a biologist is using multimedia to share "the unexpected world of animals" with the rest of us.

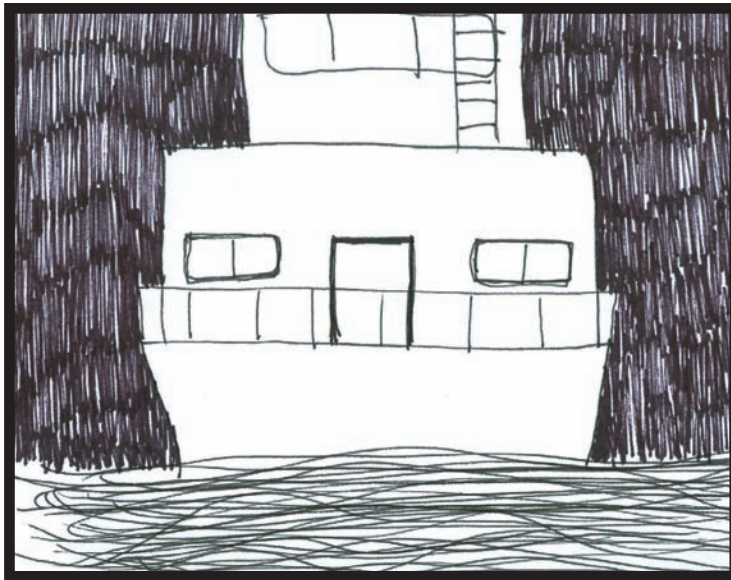
Visit www.creaturecast.org to watch the full videos.



Squid Iridescence



In "Squid Iridescence," Sophia Tintori '09 describes her encounter with iridescent squid aboard a research vessel off the California coast. A "squid scientist" (wryly drawn above) explains how the squid's cells contain self-assembling proteins that can create different color patterns, "like an iTunes visualizer."



How Do Krill Grow?

Do I emerge like this?



Front-ways?

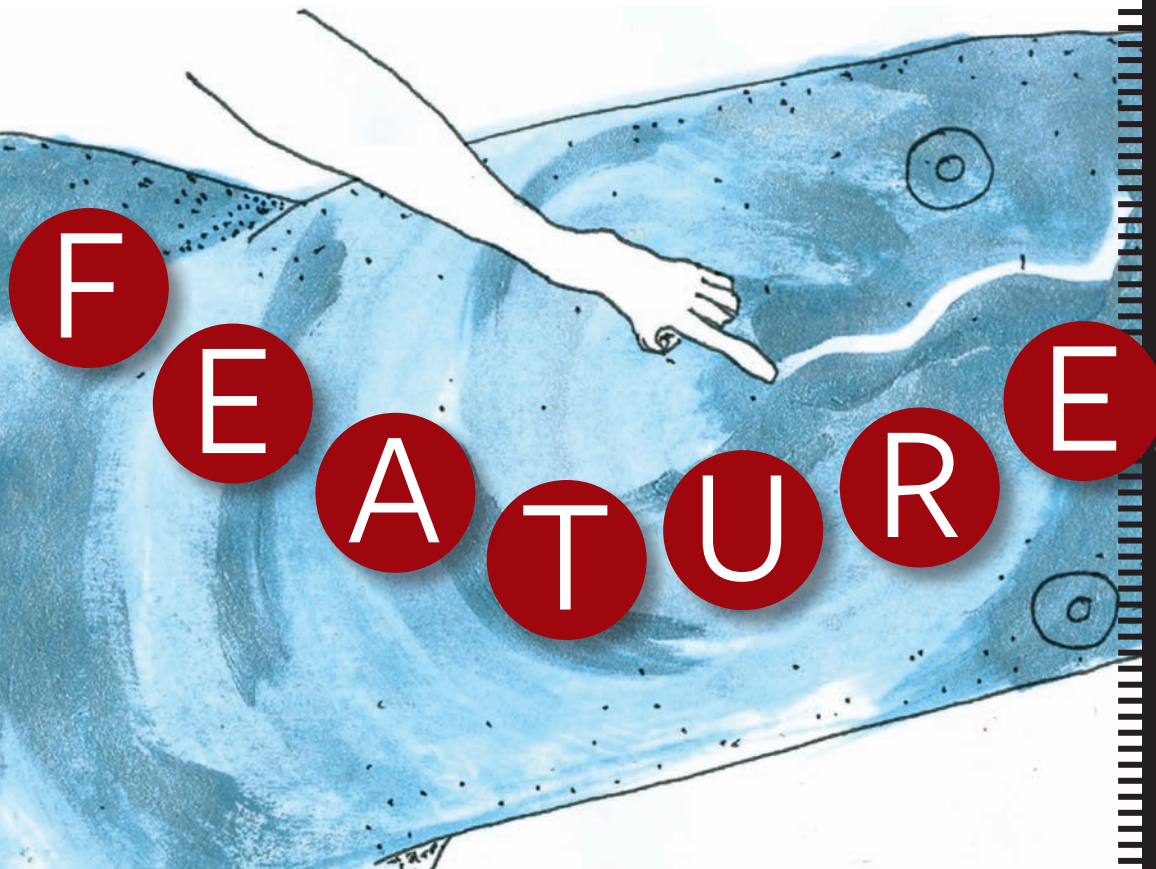


Which way is up? Where do my eyes belong? "I would really like to know which way to go," a tiny Antarctic krill wonders. Australian artist Lisa Roberts answers the little krill's questions and teaches us about its lifecycle in "How Do Krill Grow?"

I would really like to know



Are my eyes-to-be here?



...Euphausia superba

You first develop
in the egg shell.



The krill video features no narration, just a hauntingly beautiful improvised piano piece by 11-year-old Sophie Green. Handwritten notes name the stages of development, and Roberts addresses them directly to the krill. "Well, Euphausia superba...", she begins.



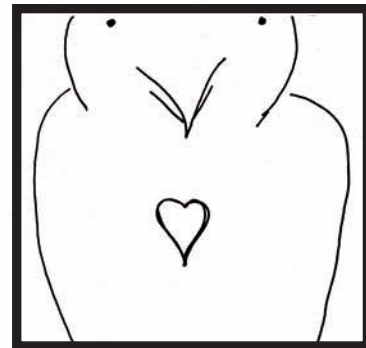
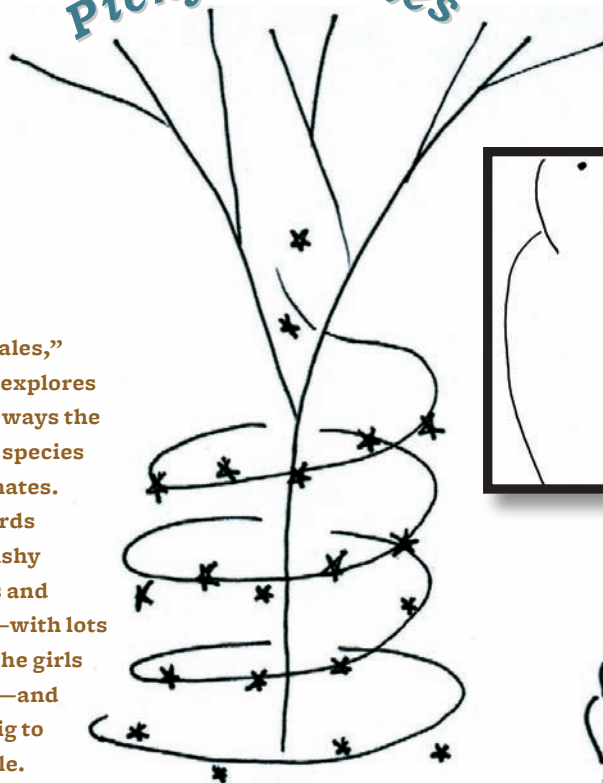
from your bottom



CalypsoisI

Picky Females

In "Picky Females," Rebecca Helm explores the intriguing ways the females of the species choose their mates. Male bower birds construct a flashy tower of twigs and shiny objects—with lots of blue, since the girls seem to like it—and dance a little jig to attract a female.



Researcher Trisha Towanda describes how the fried egg jelly starts out about "this big" (illustration above) and by the end of the summer is about "THIS big"—roughly one meter across. The jelly plays host to a number of organisms in the ocean, and "Jellyfish Theater" describes the parasitic crustaceans that eat the jelly and the crabs that help the jelly by eating the parasites.



Jellyfish Theater



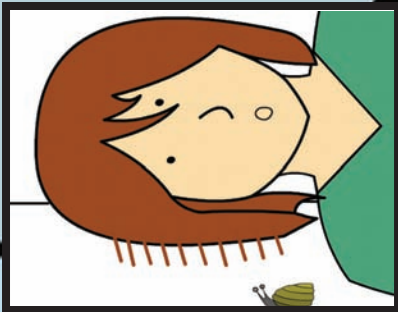
Siphonophores and Individuality

Other ones, when you see them in the distance, look just like a fireworks display.

Dunn's lab studies siphonophores, colonies of jellyfish that in motion look like a single animal. This podcast raises questions about how we define an individual—humans are individuals, for example, but are made of millions of cells that are also individual living things. The 19th century plate by Ernst Haeckel shown here is from one of the first papers describing siphonophores.

Footage from the Deep

Comb Jelly Movement

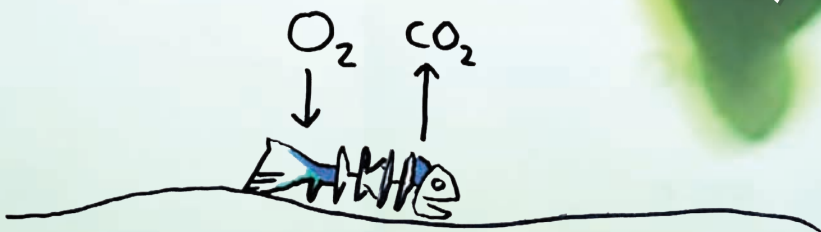


Students in Dunn's Invertebrate Zoology class can create a podcast for their final project. Lee Stevens '12 explains how cilia are compacted into small plates on the surface of a comb jelly to propel it through the water.

Noah Rose '12 dons a fake mustache to recount childhood fishing trips with his father, where he was terrified of the live bait they used. As a research assistant in Maine, Rose learned that these worms provide bioturbation, mixing up the sediment on the sea floor to release oxygen that speeds the decomposition of organic matter and releases carbon dioxide needed by underwater plants.



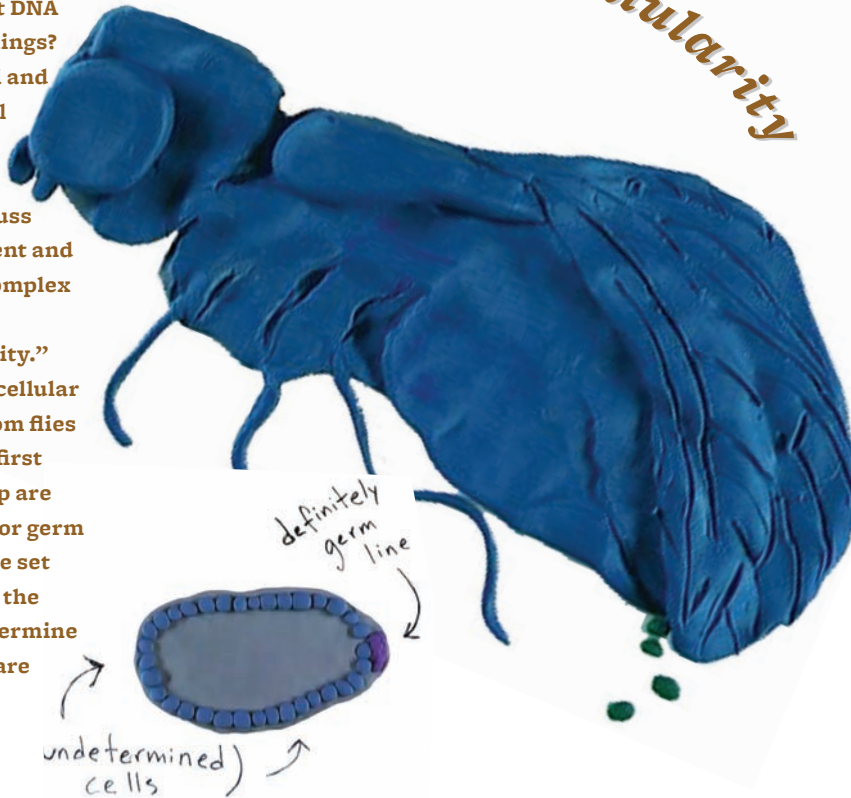
Marine Worms



FLY

Multicellularity

How can cells with the same exact DNA do different things? Sophia Tintori and developmental biologist Cassandra Extavour discuss the development and evolution of complex organisms in “Multicellularity.” In many multicellular organisms, from flies to people, the first cells to develop are reproductive, or germ cells, which are set aside while all the other cells determine what job they are meant to do.



Dunn wants Creature Cast to be a way to teach scientists how to talk to the world about their work—something not taught very well in graduate school. He employs the method with his undergraduates, too: “[S]tudents write a paper, you grade it, and they throw it in a drawer ... it’s a lot of fun for them to get their work out there instead.”



Pattern Shifting Snails

THE MARINE GASTROPOD


Chris Vamos describes the amazing flamingo tongue snail’s ability to extend and retract spots on their shells, which is actually their breathing reticule, in “Pattern Shifting Snails.”

Your appendages will continue to wiggle.





THE SHAPE OF THINGS



THE DEAN IS IN
It may look like a
hollowed-out shell, but
Ed Wing can clearly see
the new Alpert Medical
School building as it will
be when it opens,
in August 2011.

**Dean Wing reveals his goals for medical education
and life sciences at Brown.**

INTERVIEW BY SARAH BALDWIN-BENEICH | PHOTOGRAPHY BY SCOTT KINGSLEY

TO COME

In May 2008, *Brown Medicine* sat down with Edward Wing to get to know Alpert Medical School's newest dean. In the course of that conversation Wing identified his "can-do attitude" as his best trait, and it's a quality that has stood him in good stead: mere weeks after his tenure began the financial crisis hit, stunning the country and putting a serious dent in both Brown's endowment and its fundraising efforts. Undaunted, he has continued to define—and achieve—his goals.

Here Dean Wing looks back on the past two years and ahead to the future.

One of your main goals from the beginning was to have a dedicated medical school building. Despite the recession, that project seems to be proceeding.

The importance of this project can't be overstated. Med students have had adequate facilities here, but The Warren Alpert Foundation gift of \$100 million was the first step in allowing us to have our own home, with optimal facilities. This is very important for our identity, for our students and faculty, and for our relationship with the hospitals.

The building also will enable us to expand our student body to 120 over four years. We have the clinical capacity. The country has a shortage of physicians. We produce leaders in academic medicine. So we *should* be bigger.

This project has gained a great deal of traction in the political and building communities, and in Rhode Island at large—it's one of the very positive things in this very difficult economic environment. It will add 350 construction jobs, 200 related

jobs, plus 30 permanent jobs. And it will move 500 additional people from Brown to the Knowledge District to complement the 500 Brown employees there already. This building is a hallmark, one of the shining symbols of the renaissance of Providence.

Let me point out, too, that the building is on budget and on schedule. We do need \$17 million more in philanthropy to complete the goal, and we're hopeful that our alumni and friends will provide the gifts needed to complete this once-in-a-lifetime effort. For the Medical School, the end of construction is only the beginning.

You are dean not only of Alpert Medical School but of the entire Division of Biology and Medicine. What are your goals for the Division?

My overall mission for the Division—the Medical School, public health, and the basic science departments—is to become the best it can be, i.e., one of the

best in the country. One way to do this is through research: research is the marker for excellence. If you're outstanding in research ... you attract the best faculty and students, you practice the best medicine, and you educate in the best way. Research is the starting point for the best institutions, and it's the starting point for me.

How do you measure research excellence? The ideal measurement is asking how important is the quality and long-term significance. But the secondary measure, which we all use, is peer-reviewed research grant dollars. We measure that at the individual, departmental, program, and divisional levels. We pay a lot of attention every month to how many proposals we are submitting, how many are awarded, how much money we have and how much we are expending. Biomed overall has approximately \$190 million a year, putting us in the top quarter nationally.

We will continue to grow our research by hiring and investing in the best faculty and in infrastructure. We just received a

grant to purchase a DNA sequencer, which will allow us to analyze large amounts of genomic data. It's the new generation of sequencers, and very important for genomics and genetics. There's also the new IBM supercomputer, and new MRI machines and CT scanners.

Our collaborative efforts have been very important as well. One example is the Marine Biological Laboratory partnership. Another example is our new relationship with the University of Rhode Island. URI was just awarded a \$20 million NSF/EPSCoR grant, and Brown gets a very significant portion of that. This award will support our IT infrastructure and our computational abilities. Collaborations are very important to our future.

The same goes for our hospital collaborations. Professor of Community Health Steve Buka, for example, has \$26 million for the National Children's Study with Women & Infants Hospital. I view these collaborations as essential.

You've talked about research and medicine. What about public health?

Another major priority is establishing a School of Public Health. Our Public Health Program has expanded tremendously under the leadership of Associate Dean Fox Wetle. They've hired new faculty, grown their research, and developed broad-based relations across Rhode Island—with the Department of Health, Women & Infants, URI, and other community groups. It's a highly successful program. This will be the third professional school at Brown. It's a very important step for the University. I hope to make lots of progress toward this over the next 9 to 12 months. We have truly outstanding public health researchers and the potential to become one of the most prominent schools in the country.

Where does the School's relationship with its teaching hospitals stand?

Another of my priorities is to strengthen our relationships with our teaching hospitals through new affiliation agree-

ments. In September we signed a new agreement with our Lifespan partners [Rhode Island Hospital, The Miriam Hospital, and Bradley Hospital]. The agreement provides for a strategic planning committee composed of the CEO of Lifespan, the CEO of The Miriam and Rhode Island hospitals, the dean, and some others from Brown. It also provides for a flow of funds from the hospital to the dean that will enable us to align our priorities and resources and develop programs together.

This is just the start of a new, closer working relationship. We plan to do the same with our Care New England partners [Butler and Women & Infants] and Memorial Hospital.



What else is important to you?

In the clinical realm, I think it is very important that we form a faculty practice plan. It's something we need to do. It will surely be challenging. It's part of the new relationship with the hospitals.

What has been most challenging in your two years here?

Being dean has widened my perspective enormously. When I started two years ago, all of a sudden I found myself part of the larger University administration and faculty—that's been a

“Research is the starting point for the best institutions, and it’s the starting point for me.”

fascinating experience. Take faculty governance: I was used to hospitals and medical schools, but at the University level I’ve discovered a mix of systems and structures. It can be challenging... but the Brown administration has a lot of talent and a very strong leader in Ruth Simmons. It’s nice to be working under that kind of leadership.

The Division has an unusual structure in that faculty teach undergraduates as well as medical and graduate students, and this places stress on the biology departments. How do you optimize that, and ensure faculty continue to be successful at all levels? That’s been a challenge. And of course, finances are always an issue.

What have you enjoyed the most?

One of the most satisfying things has been supporting the faculty in their scholarship and educational activities. Coming

from the clinical side, I’ve gotten to know the Biomed faculty and the research here on campus. I visit biology and public health labs on a regular basis. Our faculty in biology and public health are some of the best in the country; their science is remarkable. There’s tremendous talent there.

In addition, over the past six months my Executive Leadership Group has been working hard to figure out how to work together most effectively, developing a mission-vision-values statement, and clearly identifying our priorities. I’ve empowered this group to discuss openly, analyze, and reach conclusions at a strategic level. The group is making broad-based decisions for Biomed.

And then there are the students. I have lunch with medical students and graduate students every other week. I also interact with residents and fellows in clinic. I enjoy the students tremendously. I’ve spent my career doing research and educating medical students, and our students are remarkable. They’re the reason we’re here, after all.

What are you most proud of?

As dean I was able to set up the Global Health Initiative, under the direction of [Professor of Medicine and Obstetrics and Gynecology] Susan Cu-Uvin. We worked closely with [Vice President for Internationalization] Matt Gutmann on this. The GHI coordinates our many clinical and research activities abroad. It develops policies that dictate how we will interact with programs overseas. There are so many programs. The GHI makes sure a program is serious and sustainable before partnering with it.

This is just one example. It’s been extremely satisfying for me to be able to support the activities of the Division at a whole other level, as dean.



SMASH HIT
President Simmons
joined the dean last
April to kick off the
renovation of the
new Medical
School building.

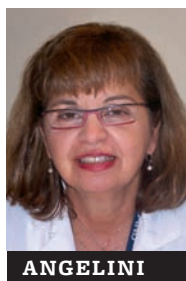
FRANK MULLIN

PROMOTIONS

Progress Report

The 2009-2010 BioMed senior faculty appointments.

BioMed promotions are not for the faint of heart. The lengthy process depends on the efforts of department administration, the Office of Faculty Affairs, and departmental and university committees to review candidates' dossiers. Candidates must also be approved by the Dean of Biomed, the Provost, the President, and the Brown Corporation. Ultimately, the process ensures the continued excellence of Biomed academic programs—recognizing and rewarding a faculty member's contributions to their discipline.



ANGELINI

**DIANE
ANGELINI,
EDD, CNM,
FACNM, FAAN**

» Clinical professor of obstetrics and gynecology

Diane Angelini has been promoted to

clinical professor of obstetrics and gynecology. Angelini has served as director of Nurse-Midwifery at Women & Infants Hospital since 1990. She is senior editor for the *Journal of Perinatal and Neonatal Nursing* and associate editor for *Journal Watch Women's Health*. Angelini was elected a fellow to both the American College of Nurse-Midwives

(1996) and the American Academy of Nursing (2001). During Angelini's tenure, the midwifery program at Women & Infants has become a national model for the role of midwifery in medical education. October marks the 20th anniversary of the academic midwifery section in the Department of Obstetrics and Gynecology.



BURGESS

**FREDERICK
BURGESS,
MD, PHD**

» Clinical professor of surgery

Frederick Burgess has been promoted to clinical profes-

sor of surgery. Burgess is currently chief of anesthesia at the Providence Veterans Affairs Medical Center. Before joining the VAMC, Burgess worked for more than 15 years as an attending anesthesiologist at Rhode Island Hospital. He has been active nationally in the area of pain treatment as a member of the board of directors for the American Academy of Pain Medicine, for which he served as president from 2006 to 2007. He is a member of the editorial boards for the medical journals *Regional Anesthesia and Pain Medicine* and *Pain Medicine*, and is the current president of the Rhode Island Society of Anesthesiologists.



CARR

**STEPHEN
CARR,
MD, FACOG**

» Professor of obstetrics and gynecology

Stephen Carr has been promoted to professor of obstetrics

and gynecology. A specialist in the Division of Maternal-Fetal Medicine at Women & Infants Hospital, he has served as director of its Prenatal Diagnosis Center and Maternal-Fetal Medicine Diagnostic Imaging since 2001 and as co-director of Brown's Program in Fetal Medicine since 2000. He is the recipient of numerous teaching awards, including Alpert Medical School's Profiles in Competence Award (2009) and the Dean's Teaching Excellence Award (2001-2007, 2009), as well as the CREOG Excellence in Teaching Award (2004, 2006). Carr's research focuses on the pathophysiology of fetal disease and developing safe interventions for these diseases.

PROMOTIONS

JUDITH DEPUE, EDD, MPH

» Clinical professor of psychiatry and human behavior

Judith DePue has been promoted to clinical professor of psychiatry and human behavior. DePue is a counseling psychologist at the Centers for Behavioral and Preventive Medicine. Her research interests focus on public health approaches to delivery of preventive care and behavioral/lifestyle interventions. Currently, DePue is co-principal investigator for a NIDDK-funded project using community health workers to

support diabetes self-management in American Samoa. She received the Dean's Teaching Excellence Award in 2001 and a Teaching Recognition Award in 2005.

DEBRA LOBATO, PHD

» Professor of psychiatry and human behavior (clinical)

Debra Lobato has been promoted to professor of psychiatry and human behavior (clinical). Lobato, an expert on the unique needs of siblings of children with chronic illnesses and disabilities, is

BORIS SKURKOVICH, MD

» Clinical professor of pediatrics

Boris Skurkovich has been promoted to clinical professor of pediatrics. He is an assistant physician in pediatrics and pediatric infectious diseases at Rhode Island Hospital and director of the International Adoption Clinic at Hasbro Children's Hospital. Born and educated in Moscow, Skurkovich is an expert in evaluating health issues related to international adoptions, particularly adoptions from Russia and other Russian-speaking countries. He is trained in



DEPUE



HAREL



LOBATO



MURPHY



SKURKOVICH



SNELLING



ZHITKOVICH

support diabetes self-management in American Samoa. She received the Dean's Teaching Excellence Award in 2001 and a Teaching Recognition Award in 2005.

ZEEV HAREL, MD

» Professor of pediatrics

Zeev Harel has been promoted to professor of pediatrics. He is the director of research and training at the Adolescent Health Center of Hasbro Children's Hospital/Rhode Island Hospital. In addition to providing health care to his adolescent patients, Harel has dedicated his career to improving the general well-being of teenagers through his research and teaching. At Brown, Harel has co-directed the second-year course "Human Reproduction Growth and Development" for the past 10 years and is the re-

director of child psychology at Rhode Island Hospital and Hasbro Children's Hospital. She has been awarded the Brown Medical School Distinguished Teacher Award and the Excellence in Teaching Award.

MARJORIE MURPHY, MD

» Clinical professor of surgery/ophthalmology

Marjorie Murphy has been promoted to clinical professor of surgery/ophthalmology. She is the first woman to achieve the rank of clinical professor in the Department of Surgery at Rhode Island Hospital, where she has served as director of neuro-ophthalmology since 1997.

Murphy's research focuses on diseases of the optic nerves, visual pathways, and oculomotor system.

pediatric infectious diseases and frequently assesses children for diseases such as HIV/AIDS, hepatitis, and tuberculosis.

LINDA SNELLING, MD, FAAP

» Professor of pediatrics and surgery (clinical)

Linda Snelling has been promoted to professor of pediatrics and surgery (clinical). Snelling is Hasbro Children's Hospital chief of pediatric critical care and medical director of its pediatric intensive care unit. She has been an intensivist for 12 years and at Hasbro for 8. She is a long-standing member of the Faculty Executive Council and the Pediatric Strategic Planning Task Force at Rhode Island Hospital. Her research interests focus on the effects of unconscious emotions on objective medical decision making.

ANATOLY ZHITKOVICH, PHD

» Professor of medical science (Department of Pathology and Laboratory Medicine)

Anatoly Zhitkovich has been promoted to professor of medical science. Zhitkov-

ich has established a national and international reputation for his research, which is directed at characterization of molecular mechanisms responsible for cell death and mutagenicity of DNA-reactive carcinogenic chemicals and an-

ticancer drugs. An active classroom teacher and student advisor and mentor, he received the inaugural Nelson Fausto Outstanding Teacher Award in 2009 and is a five-time recipient of the Dean's Teaching Excellence Award.

ASSOCIATE PROFESSORS

Muhanned Abu-Hijleh, MD

Associate Professor of Medicine (Clinical)

Jacques Benun, MD

Associate Professor of Pediatrics (Clinical)

Brian Borsari, PhD

Associate Professor of Community Health (Research)

Robert Carnevale, MD

Clinical Associate Professor of Medicine

Thomas Chun, MD

Associate Professor of Emergency Medicine and Associate Professor of Pediatrics

Jennifer Clarke, MD, MPH

Associate Professor of Medicine, Research Scholar Track

Dominic Corrigan, MD

Clinical Associate Professor of Medicine

Kwame Dapaah-Afriyie, MD

Clinical Associate Professor of Medicine

Don Dizon, MD

Associate Professor of Obstetrics and Gynecology and Medicine

Kristin Ellison, MD

Associate Professor of Medicine, Teaching Scholar Track

Michael Gilson, MD

Clinical Associate Professor of Medicine

Geetha Gopalakrishnan, MD

Associate Professor of Medicine, Teaching Scholar Track

Achyut Kamat, MD

Clinical Associate Professor of Emergency Medicine

Nabil Khoury, MD

Clinical Associate Professor of Obstetrics and Gynecology

Valerie Knopik, PhD

Associate Professor of Psychiatry and Human Behavior (Research)

Donna LaFontaine, MD

Clinical Associate Professor of Obstetrics and Gynecology

Carol Lewis, MD

Associate Professor of Pediatrics (Clinical)

Jeanne McCaffery, PhD

Associate Professor of Psychiatry and Human Behavior (Research)

Robyn Mehlenbeck, PhD

Clinical Associate Professor of Psychiatry and Human Behavior

Roland Merchant, MD, MPH

Associate Professor of Emergency Medicine and Associate Professor of Community Health

Stephen Mernoff, MD

Associate Professor of Neurology (Clinical)

Robert Miranda, PhD

Associate Professor of Psychiatry and Human Behavior (Research)

Aman Nanda, MD

Associate Professor of Medicine, Teaching Scholar Track

Thomas Ng, MD

Associate Professor of Surgery, Teaching Scholar Track

Richard Ohnmacht, MD

Clinical Associate Professor of Pediatrics

Kittichai Promrat, MD

Associate Professor of Medicine, Teaching Scholar Track

Susan Ramsey, PhD

Associate Professor of Psychiatry and Human Behavior (Research)

Charles Rardin, MD

Associate Professor of Obstetrics and Gynecology, Teaching Scholar Track

Mark Schleinitz, MD

Associate Professor of Medicine, Teaching Scholar Track

William Sikov, MD

Clinical Associate Professor of Medicine

Laura Stroud, PhD

Associate Professor of Psychiatry and Human Behavior (Research)

Lawrence Sweet, PhD

Associate Professor of Psychiatry and Human Behavior (Research)

Linda Tartell, MD

Clinical Associate Professor of Pediatrics

Wen-Chih (Hank) Wu, MD

Associate Professor of Medicine, Research Scholar Track

Richard Freiman, PhD

Associate Professor of Medical Science (Department of Molecular and Cellular Biology)

Mark Johnson, PhD

Associate Professor of Medical Science (Department of Molecular and Cellular Biology)

Wolfgang Peti, PhD

Associate Professor of Medical Science (Departments of Chemistry and Molecular and Cellular Biology)



MOMENTUM

CAMPAIGN FOR ACADEMIC ENRICHMENT

Shared Values

Alpert Medical School and The Miriam Hospital dedicate a new professorship in humanistic medicine.

When practiced, humanism in medicine fosters relationships with patients and other caregivers that are compassionate and empathic. It also describes attitudes and behaviors that are sensitive to the values, autonomy, cultural and ethnic backgrounds of others. —The Arnold P. Gold Foundation


Irving Sigal and his wife, Phyllis, moved to Rhode Island as a young couple, raised four children, and built a thriving family business (Tourtellot & Company) during their marriage of 55 years. When Irving Sigal was diagnosed with cancer in 2006, Professor of Medicine Fred Schiffman was his treating physician. Invoking the principles of humanistic medicine, Schiffman guided the entire Sigal family through a difficult journey. “Dr. Schiffman saw my father for who he truly was,” says the Sigals’ daughter, Jamie Manville. “A family man, an entrepreneur, and a fighter—and the bond that formed between them seemed to fuel them both.”

Phyllis Sigal was diagnosed with cancer soon after Irving, so the couple began to think about what sort of legacy to leave for their family and the Rhode Island community they cared so deeply about. For months during their illnesses, Phyllis and

Irving shaped a gift that would reflect their shared values of education, Judaism, and the availability of quality, compassionate health care for anyone in need.

The family became acutely aware of how fortunate they were to have access to the extraordinary end-of-life care provided by Schiffman. “So much attention is paid to maintaining and extending life, but learning how to die and how to let loved ones die is equally valuable,” says Manville. “Love with hope when it is appropriate and don’t abandon the spirit—even when it is time to leave the fight...Dr. Schiffman’s proprietary brand of medicine taught us that.”

When Irving Sigal passed away in 2007 and Phyllis in 2009, the Sigal children—Andrew, Jamie, Steven, and Susan—carried out their parents’ vision. “We wanted to make a living, breathing, and teaching memorial,” Manville says. Ensuring that future physicians would be educated in the values of humanistic medicine was important, and so connection to an academic institution like Brown was key. The family also wanted to honor the community that had given them so much. This made The Miriam an obvious choice, especially since the hospital had been a long-time recipient of the Sigal family’s volunteer and philanthropic support. With these two components in mind, the choice to endow a professorship made perfect sense.

With the endowment of the Sigal Family Professorship in Humanistic Medicine, the Sigals have shown that in addition to the impact humanistic medicine has on patients, it also leaves an indelible mark on families. —**Amy R. Umstadter** 

ON SEPTEMBER 16, Fred J. Schiffman was appointed the inaugural Sigal Family Professor of Humanistic Medicine. Below, left to right: Arthur Sampson, Executive Director of The Miriam Hospital, Andrew Sigal, Fred Schiffman, and Dean Edward Wing.



Above, left to right: Steven Sigal, Andrew Sigal, Jamie Sigal Manville, and Susan Sigal Bazar.

ALUMNI ALBUM

CHECKING IN WITH BROWN MEDICAL ALUMNI



Scott Harada MD'10

WHAT'S NEW?

Career news, weddings, births, reunions...it's all good. Go to med.brown.edu/alumni and click on "Fill us in."

CLASSNOTES

1975

Valerie Parisi '72 has been promoted to dean of the Wayne State University School of Medicine, after nearly a year

as interim dean. She was hired by Wayne State in 2007 as vice dean of hospital relations and clinical affairs. She helped establish a family medicine residency program at Crittenton Hospital Medical Center, where she is a board member.

News from the Brown Medical Alumni Association

[HTTP://MED.BROWN.
EDU/ALUMNI/BOARD](http://med.brown.edu/alumni/board)

The Brown Medical Alumni Association extends membership to all graduates, faculty, and house staff officers of Alpert Medical School and to graduates of Brown University who hold degrees from other medical schools. The BMAA is dedicated to supporting the alumni/ae, students, faculty, and administration of Alpert Medical School and is governed by a Board of Directors.

The Board currently has five vacant spots and looks to fill them with interested alumni/ae. Please be in touch with Bethany Solomon, director of alumni relations, at 401 863-1635 or Bethany_Solomon@brown.edu for more information. To submit a nomination form for yourself or a fellow classmate, please visit med.brown.edu/alumni/board.

Meet the leaders of the BMAA.

• EXECUTIVE COMMITTEE

PRESIDENT

Galen V. Henderson MD'93; Taunton, MA

IMMEDIATE PAST PRESIDENT

Lisa A. Taitsman '90 MD'94; Seattle, WA

PRESIDENT-ELECT

Srihari S. Naidu '93 MD'97; New York, NY

CO-SECRETARY-TREASURER

Lisa J. Goldstein '78 MD'82; Rumford, RI

CO-SECRETARY-TREASURER

Michelle S. Ginsberg '87 MD'90; New York, NY

• BOARD MEMBERS

David C. Brooks MD'76; Chestnut Hill, MA

Preston C. Calvert '76 MD'79; Potomac, MD

Jonathan B. Greer '04 MD'08; Boston, MA

Daniel S. Harrop '76 MD'79 HS'83; Providence, RI

Thomas A. Krahn '78 MD'81; Barrington, RI

Pebble M. Kranz '91 MD'07; Rochester, NY

Melisa Lai Becker '94 MD'99; Somerville, MA

Daniel Medeiros MD'86; New York, NY

Mark R. Migliori '84 MD'87; Minneapolis, MN

Judith A. Owens '77 MD'80; Portsmouth, RI

Peter J. Panton '79 MD'82; Chicago, IL

Emma M. Simmons MD'91 MPH'04; Cumberland, RI

Kartik K. Venkatesh '06 PHD'11 MD'13;

Student Representative

Philip D. Wey '82 MD'86; Princeton, NJ

Patrick J. Worth MD'11; Student Representative

• OUR MISSION

The Brown Medical Alumni Association (BMAA) serves as the central organization and primary resource for connecting medical alumni to Brown's medical school, the University, and the extended medical community.

1976

Richard Kagen and Valerie Stevens '76 write that their daughter, Melissa Kagen '09, received a master's degree in humanities at the University of Chicago in June 2010.

Sally Oliver Sondergaard still practices obstetrics and gynecology full time in Baltimore. Her husband, Neal Sondergaard ScM'77 PhD'77, retired from the Naval Surface Warfare Center in July 2009 and now works for a small engineering firm. Their daughter Krysta graduated with a master's in genetics from North Carolina State University. She also received a national teaching assistant award this year. Contact Sally at nskbson@comcast.net.

1977

Claudia Gruss '74 was re-elected president of the Fairfield County Medical Association. She practices gastroenterology and internal medicine in Georgetown, Norwalk, and Wilton, CT. Claudia is an attending physician at Norwalk Hospital and is board certified in internal medicine and gastroenterology. She is secretary of the Connecticut State Medical Society, and also a board member of the Women's Medical Association of Fairfield County.

John Shuck '74, PMD'11 has been elected Delaware's governor-elect to the American College of Cardiology. When he assumes office in March 2011, Shuck will represent Delaware on the American College of Cardiology (ACC) board of governors, which promotes research, continuing education, and evidence-based medicine for all cardiologists. Shuck will be a liaison between the ACC and Delaware cardiologists and cardiology patients.



BROWN
Alpert Medical School

1979

Michael Cropp '76, P'05, '09, president and CEO of Independent Health, was selected by the Public Relations Society of America as Buffalo/Niagara's 2010 Outstanding Executive Award Recipient. This award honors a local business executive who supports the role of public relations within his/her organi-



Charles Mitchell MD'10

April Atiba '06 MD'10



Jason Zommick MD'95
with his wife, Amanda,
and their son, Aiden.



zation and advances the use of strategic communication as part of an overall operating philosophy.

The daughters of **Susan L. Hyman** '76 and Karen Margulis London '76 are now roommates at Washington University in St. Louis in the dorm where Susan's husband lived as a sophomore. Susan is division chief of neurodevelopmental and behavioral pediatrics at the University of

ALUMNIALBUM



Joshua Fischer
MD'10 and family

Anthony Okobi
MD'10 and Courtney
Olson '06 MD'10



BECOME A MEMBER AND
MAKE A CAREER
CONNECTION
TODAY!
<http://alumni.brown.edu/volunteer/career/>

Rochester. Karen is a founder of the Autism Science Foundation.

Contact Susan at susan_hyman@urmc.rochester.edu.

Carol Bocaccino Kelly '76 writes that her daughter, **Erin Kelly** '07 MD'11, married Dade Veron '07 on November 7, 2009, at Our Lady of Mt. Carmel Catholic Church in Elmsford, NY. Father Henry Bodah, Catholic chaplain at Brown, concelebrated their mass.

1984

Michael Rossi '81 is currently the physician executive director of the Lehigh Valley Physician Group. He also holds the Walter May Endowed Chair in Cardiology at Lehigh Valley Hospital in Allentown, PA, and is a clinical professorship in medicine at Penn State University. He is married with four children.

1985

Yul Ejnes '82 has been practicing internal medicine in Cranston, RI, for 20 years and is a clinical associate professor of medicine at Alpert Medical School. He also remains involved with the American College of Physicians, the professional society for internal medicine. In 2010 he will be the chair-elect of its National Board of Regents. Anne Edwards Ejnes '83 teaches at LaSalle Academy's Pegasus program and begins her second year on the Glocester school committee. Their son Sam, 21, is now an Emerson College graduate and has a job in Burbank, CA. Son Josh, 14, enjoys high school, music, and Boy Scouts, and is working toward Eagle Scout distinction. Contact Yul at 46 Jeffrey Dr., Glocester, RI, 02857; Yul_Ejnes@brown.edu.

1986

Sunita B. Sheth '83 has been named Tension Inc.'s chief medical officer and vice president, Clinical and Regulatory Affairs. She is an adjunct professor at Temple University Medical School.

1991

Andrew Bonwit married Julianne Murphy on May 30 in Oak Park, IL, and they are currently living in Forest Park, IL. He is practicing pediatric infectious disease at Loyola University Medical Center.



Sandra
Rutigliano '05
MD'10



Anne Bercovitch '69
MMS'71, P'00MD'04,
'02, '10, Jane Ferguson
'69, and Robin
Doroshov '69
MMS'71 reconnect
at Field Day.



Katy Tsai '06 MD'10

ALUMNIALBUM



Jon Elion '72
MD'75, P'05 with
former dean
Stanley Aronson

Emma Simmons
MD'91 MPH'04



1996

Colette Whitby recently moved to central Illinois to provide adult and pediatric general surgery services at a critical access hospital in DeWitt County. She is a Fellow of the American College of Surgeons and Board Certified by the American Board of Surgery.

1997

Meg van Achterberg '93 recently became medical director of Community Connections, Washington, DC's, largest non-profit mental health agency. Community Connections serves low-income adults and children in the Washington area and specializes in treating trauma survivors.

2004

Joshua Markowitz '99 and Allison Barnstable Markowitz '03, announce

the birth of their son, Shaun Mitchell Markowitz. Joshua writes, "We've already started the application process for the class of 2032." Contact Joshua at J@alumni.brown.edu.

2005

Christine A. Liang '00 married Dr. Andrew Bond on May 30, 2010, at the Silver Sands Resort in Jamaica.

2007

Elizabeth Won '03 and Warren Young '01 were married on May 29, 2010, in Palisades, NY.

2003

George Bayliss RES'06 received a Dean's Teaching Award in June 2010. George is an assistant professor of medicine at Alpert Medical School.

KAREN PHILLIPS (2)

OBITUARIES

2009

Sonia Aneja '04 married Rajeev Chaudhry '04 last June in Pittsburgh in a traditional Indian wedding. Sonia and Rajeev have residency positions at Duke, where Sonia is an ob-gyn intern and Rajeev is in the urology program. Sonia writes: "We are enjoying married life and the challenges of intern year."

2010

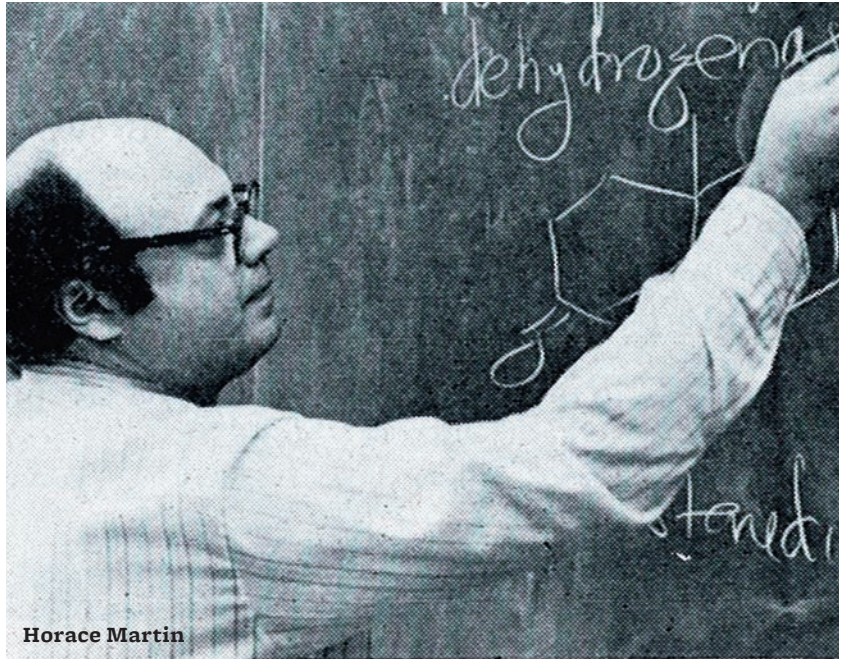
Courtney Lynn Olson '06 and Michael Yu-Fu Chen '07 were married on May 22, 2010.

RESIDENTS 1992

David A. Marcoux, an internal medicine specialist and clinical assistant professor of medicine at Alpert Medical School, was recently named The Miriam Hospital's 2010 Charles C.J. Carpenter, MD, Outstanding Physician of the Year. Noted as an exceptional physician, patient advocate, and colleague, David was nominated by his peers and chosen by a committee of physician leaders. He has practiced at The Miriam since 1992, where he is also a member of the hospital's ethics committee.

FELLOWS 2007

Jeff Temple was awarded a research grant from the Hogg Foundation for Mental Health to study the impact of teen dating violence on mental health. Jeff is an assistant professor in the Department of Obstetrics and Gynecology at the University of Texas Medical Branch in Galveston. His proposal was chosen from among 47 applicants from 19 Texas universities.



Horace Martin

ALUMNI

HORACE F. MARTIN

Horace F. Martin MD'75, PhD, JD, died of lung cancer on April 11, 2010. He was 79.

Born an American citizen in St. Miguel, Azores, in 1931, he and his family moved to America and settled in Pawtucket in 1941.

He graduated with a BS in science from Providence College in 1953, earned

Southern New England School of Law in New Bedford in 1990 and a master's in public health from McGill University in Canada in 2000. He was a professor of clinical pathology at Brown and taught health science classes at Providence College and pharmacology at the New England School of Pharmacy in Boston.

For 30 years, Horace worked as the director of Clinical Pathology at Rhode Island Hospital. He wrote multiple medical textbooks and scientific articles. He

Horace wrote that he **"enjoyed his seven children and 15 grandchildren."**

his master's in chemistry from the University of Rhode Island in 1955, and a PhD in biochemistry from Boston University in 1961. He received his MD from Brown University in 1975 as a member of the first class of Brown's renewed medical program.

Horace later attained his JD from the

was especially well known in the US and internationally for his efforts in normal values in clinical chemistry.

He is survived by his wife of 55 years, Florence J. Martin. Just before he passed away, Horace submitted a note to the MD Class of 1975's 35th Reunion memory book. He wrote that he was retired and

OBITUARIES

enjoyed his seven children and watching his “15 grandchildren grow straight and strong.”

Gifts in his memory can be made to St. Anthony’s Church, 32 Lawn Ave., Pawtucket, RI 02860.

FACULTY

WALTER C. QUEVEDO JR.

Walter C. Quevedo Jr., PhD, died at the age of 80 on June 16, 2010, at Bethany Home in Providence.

Quevedo was born in Brooklyn, NY, and was a resident of Providence for nearly 50 years.

He earned his BS degree in biology in 1951 from St. Francis College in Brooklyn, a master’s in biology from Marquette University in 1953, and his doctorate in biology from Brown University in 1956.

After receiving his PhD, Quevedo worked in skin biology research at the Argonne National Laboratory in Lamont, IL, and served as Senior Cancer Research Scientist at Roswell Park Memorial Cancer Institute in Springville, NY. Quevedo was a professor in the Division of Biology and Medicine at Brown for 41



Walter Quevedo

years, joining the faculty in 1961 and retiring in 2002 as professor emeritus of biology.

Quevedo’s research focused on improving the ability of natural mechanisms to defend the skin from malignant melanoma and other pigmented tumors resulting from sun exposure.

At Brown, Quevedo taught human biology, the origin of life, evolution, and Darwin. His hobbies included photography, travel, and home repairs.

Quevedo is survived by his wife, Mercedes Hutchinson Quevedo.

Contributions in Quevedo’s memory can be made to Brown University, Gift Cashier, Box 1877, Providence, RI 02912.

STANLEY SIMON

Stanley Simon, MD, clinical associate professor emeritus of surgery, passed away on July 4, 2010, after a long struggle with illness. Simon taught at Brown for 24 years and was a surgeon at The Mir-



Stanley Simon

in 1982 and 2003. He was also a recipient of Miriam Hospital’s Outstanding Physicians Award.

Simon co-founded an annual program that enables a surgical resident to train at Tenwek Hospital in Kenya, thereby furthering The Miriam Hospital’s global outreach.

Simon was honored with Brown University’s Distinguished Teacher Award in 1982 and 2003.

iam Hospital for 52 years before retiring in 2006.

Simon was born on October 22, 1924, in New York City. He attended the University of Pennsylvania-Westminster College, Army Specialized Training Program and the Medical College of Virginia, where he was elected to Alpha Omega Alpha. He served as Captain-Medical Corps in the United States Army.

He was president of The Miriam Hospital Medical Staff and a member of the clinical staff of Pawtucket Memorial Hospital. He was honored with the Brown University Distinguished Teacher Award

He leaves his wife, Sandra, and children, Leslie and Richard Haduch, Laura and Michael Mainelli, Gary and Janette Simon, S. Robert and Cathy Oresman, and Lee and Suzanne Oresman. He also leaves 18 grandchildren and one great-granddaughter.

Simon’s beloved English Setters provided him with the chance to practice his talent as a photographer. His work was exhibited in his office and at The Miriam Hospital.

To honor his advocacy for animal rights, contributions may be made to Winslow Farm Animal Sanctuary, 37 Eddy Street, Norton, MA 02766.

BEYOND BRICKS AND MORTAR

"Meg and I made a gift to the new Alpert Medical School building because it's exciting for us to see the Medical School finally get a home of its own. We'll continue to make leadership gifts to the Brown Medical Annual Fund because it supports the work that will go on inside the building – the education and training of the next generation of Brown physicians."

—PRESTON CALVERT '76 MD'79

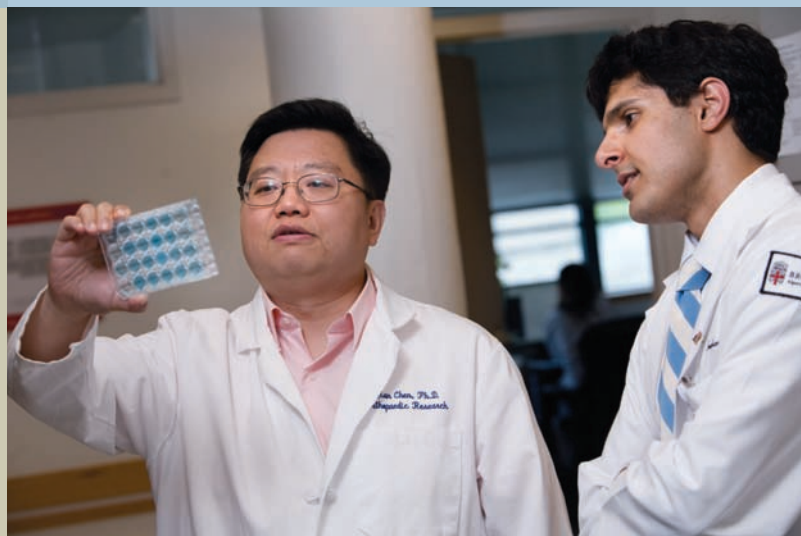
All gifts to the Brown Medical Annual Fund (BMAF) directly benefit medical students and medical education. Fifty-five percent of the BMAF is used for medical student scholarships, the need for which has never been greater. The remainder is used for curricular initiatives, such as the Scholarly Concentrations Program and the Doctoring course—the very things that make Alpert Medical School an innovator in medical education.

Your gift to the Brown Medical Annual Fund counts as a gift to Boldly Brown: Campaign for Academic Enrichment. So be bold. Consider becoming a member of the Brown Medical Society with a gift of \$1,000 or more. Your gift—at any level—will help us reach our goal of \$850,000 by June 30, 2011. Give online at www.gifts.brown.edu.

Visit <http://bmaf.brown.edu> for more information.

QUESTIONS?

Contact Bethany Solomon, director of the Brown Medical Annual Fund, by email at Bethany_Solomon@brown.edu or phone at 401 863-1635.



THE BMAF HELPS PROVIDE A ROBUST EDUCATIONAL EXPERIENCE FOR STUDENTS LIKE **SAMIR TREHAN**, ABOVE. **SAMIR AND QIAN CHEN, PHD**, **MICHAEL G. EHRLICH, MD**, PROFESSOR OF ORTHOPAEDIC RESEARCH, TOGETHER STUDY THE MECHANISMS UNDERLYING NORMAL CARTILAGE DEVELOPMENT AND OSTEOARTHRITIS. THEY HOPE TO DEVELOP THERAPIES WITH THE POTENTIAL TO TREAT OSTEOARTHRITIS AND REPAIR DAMAGED CARTILAGE.

Office of Biomedical Advancement

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The transformation of 222 Richmond Street into the new Alpert Medical School building is well under way.
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