

## Neurotransmitter expert is named chair of physiology

In December, Hermes Yeh, Ph.D., will become the first chair of physiology at DMS in more than a century who's neither an alum nor already on the faculty. The last three chairs, for example, were Donald Bartlett, M.D., a DC and DMS graduate who'd taught at DMS for 19 years before becoming chair in 1990; Heinz Valtin, M.D., who'd taught at DMS for 20 years prior to his 1997 appointment; and Marsh Tenney, M.D., a DC and DMS graduate who was chair from 1956 to 1977.

**Build:** But although Yeh (pronounced "yay") is new to Dartmouth, the physiology department's strong tradition of research and teaching is part of what drew him to DMS. "I think a chair who comes in would be wise to build on the existing strengths," he says.

Adjusting to new places comes naturally to Yeh, who is currently a neuroscientist at the University of Rochester's Center for Aging and Developmental Biology. The son of a Taiwanese diplomat, he moved often as a child—from Taiwan to Germany; back to Taiwan; then to Beirut, Lebanon; back to Taiwan again; then to Austria and Germany. "When you are a little kid and you go from one country to the next, you have to learn the language, go to school, and everything," says Yeh. Moving from place to place "taught me how to adjust very quickly and

## FACTS & FIGURES

### On the ball

#### Predicting a pandemic

"It's clear that an influenza pandemic is overdue," declared Kathryn Kirkland, M.D., chair of DHMC's SARS/Influenza/Contagious Respiratory Infection Committee, in July 2005.

#### Past

20%

Worldwide infection rate from the 1918 "Spanish flu"

20 million to 40 million

Worldwide deaths from the 1918 flu

675,000

U.S. deaths from the 1918 flu (47% of all deaths that year)

September 1918

Boston Red Sox win the World Series



#### Present

108 / 54

Confirmed cases and deaths worldwide from avian flu, 1997-2005

36,000

U.S. deaths annually from seasonal flu

2 million to 7.4 million

Estimated deaths worldwide if avian flu becomes a pandemic

October 2004

Boston Red Sox win the World Series

Avian flu, Kirkland went on, is "a good candidate to cause a pandemic at this point. It's immunologically a new virus . . . and it is highly virulent to humans. . . . Perhaps most worrisome of all, the Red Sox appear to be on a winning streak."

SOURCES: U.S. CENTERS FOR DISEASE CONTROL AND PREVENTION AND A DHMC GRAND ROUNDS LECTURE BY KIRKLAND ON JULY 22, 2005

adapt to changing environments and situations."

Yeh came to the U.S. in 1972 to study zoology and physical chemistry at DePauw University in Indiana. In 1976, he enrolled at the University of Texas Southwestern, intending to earn a Ph.D. in genetics. But when his advisor took another job, "I was left in Dallas . . . not knowing exactly what to do," he recalls. Then one day he passed by a neurophysiology lab. "I saw these blinking lights," remembers Yeh, "and these sweeping oscilloscopes," instruments that measure electrical signals. "It looked really cool." Soon Yeh was working in the lab, studying neurotransmitters—chemicals that allow or inhibit communication between brain cells—specifically norepinephrine. As a doctoral student, Yeh helped to define norepinephrine as a neuromodulator and to describe how it worked. "As it turns out," he explains, norepinephrine "didn't exactly turn things on or off. . . . It was more of a modulator."

After completing his Ph.D. and a fellowship at the National Institutes of Health (NIH), he spent eight years at the University of Rochester, three at Wake Forest University, five at the University of Connecticut, and another five at Rochester.

**Nerve:** Throughout his career, Yeh has remained active in both teaching and research, studying how nerve cells in the brain communicate and how they adapt to normal development, aging, and toxic substances, such as alcohol. He is probably best known for developing a way to

record electrophysiological functions and genetic expression at the same time in a single nerve cell. "It represents a very good marriage between two rather different techniques," says Yeh, who created the method in 1992 with a colleague at the University of Pennsylvania.

**NIH:** Yeh is the principal investigator of three NIH grants, which he will bring with him to DMS. He has also chaired various panels for the National Institute of Neurological Disorders and Stroke and the National Institute of Mental Health.

Yeh accepted the position at DMS because, he says, "Dartmouth had the right mix for me . . . a good academic atmosphere, academic tradition, dedication to teaching, and also the sort of future vision that I felt I could, as a chair, contribute to building.

"Everybody talks about translational research," he continues. But "the issue really is how to go about doing it and where I feel I can do [it] best."

JENNIFER DURGIN



Yeh will bring three NIH grants to DMS.

## IOM panel issues mammography recommendations

**M**ammography equipment has improved dramatically in the last 20 years, yet questions linger about how accurately mammographic images are interpreted. So says a new report from the national Institute of Medicine (IOM).

"We learned from published studies that the technical aspects of imaging have really come a long way," says DMS cancer researcher Patricia Carney, Ph.D. She was one of 12 experts who drafted the IOM report, commissioned by Congress and titled "Improving Breast Imaging Quality Standards."

"The equipment is much better—it's much more standardized," explains Carney, who has been at Dartmouth since 1980 but in September was to join the faculty at Oregon Health Sciences University. "The film processing is more standardized and of high quality," she adds. "The biggest area left unaddressed is radiologist interpretation."

Despite mammography's popularity as a breast-cancer screening tool, it's a flawed test. Mammography fails to detect one out of four cancers and also has a very high false-positive rate—about 75% of women who have an abnormal mammogram and undergo a biopsy turn out not to have breast cancer. Furthermore, the percentage of woman called back for additional imaging or biopsy varies widely from facility to facility and provider to provider. Several studies, notes the report, "have revealed that recall rates . . . range from 3% to 57%

among facilities, and 2% to 13% among individual radiologists."

To help eliminate some of this variability, Carney and her coauthors recommended that mammography centers track at least three measures: 1) the proportion of women recommended for biopsy who are subsequently diagnosed with breast cancer; 2) the number of cancers detected in every 1,000 women; and 3) the proportion of women whose mammogram leads to additional imaging or biopsy.

"Interpreting physicians need to know and understand their current level of performance," says the report, "before they can determine whether and how it could be improved."

**Data:** Steven Poplack, M.D., codirector of mammography at DHMC, agrees. His department has been tracking its outcomes for over 10 years, and all mammography providers in the Dartmouth-Hitchcock system already collect the data listed in the IOM report. That information is then fed into the New Hampshire Mammography Network, which is housed at DHMC and is one of only seven such registries in the country.

By analyzing this mammography data, Poplack and his team can keep track of long-term outcomes of patients they screen. This helps them know about any patients who had a normal mammogram reading but were later diagnosed with breast cancer. In those cases, "we try to assess whether or not a mistake was made in the imaging," Poplack



JON GILBERT FOX

DMS's Carney served on the IOM panel.

explains, "and if so, try to learn from it. And if not, get a handle on what [types of] cases [we] are more apt to miss."

Although the IOM report made several bold recommendations, its release was "incredibly quiet," says Carney. But she expects critics to emerge when the Mammography Quality Standards Act (MQSA) is up for reauthorization in 2007. MQSA was supposed to be reevaluated by Congress this past summer, after the release of the IOM report. Instead Congress reviewed the act in the fall of 2004, several months before the IOM panel completed its analysis. Nevertheless, the report sent a clear message to radiologists and the government: interpretation variability needs to decrease, and for that to happen reimbursement rates need to rise.

Poplack agrees that reimbursements are a major obstacle to better breast imaging. "We have trouble breaking even," he said. "And in this country, if you can't break even . . . you may not be able to offer that service."

JENNIFER DURGIN

**FELINE FINE:** The Fisher Cats, New Hampshire's Manchester-based minor league baseball team, chose the Children's Hospital at Dartmouth as their "primary charity" for the 2005 season. The Cats hoped to raise \$50,000 for CHaD.



## THEN & NOW

A reminder of the pace of change, and of timeless truths, from the Fall 1990 issue of DARTMOUTH MEDICINE:

"In 1990," wrote Dr. John Kitzhaber, "Americans will spend \$650 billion on health care. Yet 19 countries have lower infant mortality rates and 26 have better cardiovascular statistics." The cause of the discrepancies, said Kitzhaber, "is not a lack of money, but rather some fatal, systemic flaws in the American health-care system."



Kitzhaber, a 1969 Dartmouth graduate who was then president of the Oregon senate and later the state's governor, went on to explain his efforts to reform Oregon's medical payment system. Today, the National Coalition on Health Care estimates U.S. health-care expenditures at \$1.8 trillion.

## Goodman heads pediatric workforce initiative

Professional societies quite regularly promulgate policy statements on various weighty subjects. But rarely in those statements do societies go against the prevailing winds of their profession.

For months, the Association of American Medical Colleges has been pushing a 15% increase in medical school enrollments and residency positions by 2015 in order to prevent a physician shortage that the group says is likely. However, the American Academy of Pediatrics (AAP) argues, in a recent report and policy statement, that the current pediatrician workforce is adequate. The AAP recommends maintaining, not increasing, current numbers of U.S. medical students and pediatric residency positions.

"The academy is now the first specialty society to come out and say that we should not be increasing physician training rates in this country," notes Dr. David Goodman, a DMS pediatrician. He was the lead author of the report, which was published in the journal *Pediatrics*.

**Resources:** Goodman has been studying physician workforce issues for more than 10 years at Dartmouth's Center for the Evaluative Clinical Sciences (CECS) and as a member of the AAP's Committee on Pediatric Workforce. "There are lots of things that can improve children's health and well-being, he says. "So the caution here is that one should not promote workforce policies that can be expensive

and essentially divert resources from other policy initiatives that are known to improve children's health."

The bottom line, he adds, is that turning out "more physicians is very expensive."

If current trends continue, the per capita supply of both pediatricians and physicians in general will grow over the next 15 to 20 years, says Goodman. "The evidence," he continues, "is stronger and stronger that [the health of a population] is not sensitive to physician supply, once you get beyond a supply that everyone would agree is very low." In fact, several CECS studies have shown that regions with more physicians per capita have poorer health outcomes than regions with fewer physicians.

Distribution, not overall supply, is the problem, according to Goodman and the AAP. Since pediatricians, and physicians in general, tend to concentrate around areas with wealth, many rural and poorer communities are underserved.

To address this disparity, the AAP recommends admitting more medical students from underserved communities (because they have been shown to be more likely to return to those areas after their training); expanding the National Health Service Corps; and exploring the use of tax credits and other financial incentives for physicians who serve communities in need. Increasing the ethnic diversity of the pediatric workforce so it is more representative of the na-

tion's population is also a key part of the AAP's agenda.

Among the other findings of the workforce committee was that women now make up 50% of all pediatricians—welcome news for adolescent females, who overwhelmingly prefer female providers. Although many female physicians work part-time, "the supply of pediatricians is growing so vigorously [that the profession] can easily accommodate more part-time practice," says Goodman.

**Principles:** Overall, Goodman was pleasantly surprised by the policy statements. "It's easy for a committee like this to either consciously or unconsciously develop statements that are best for pediatricians," he says. "It was just great to see this committee really stick to its principles that policy should be not necessarily what's best for pediatricians, but what's best for children."

JENNIFER DURGIN



Dartmouth pediatrician Goodman was the lead author of a national report.

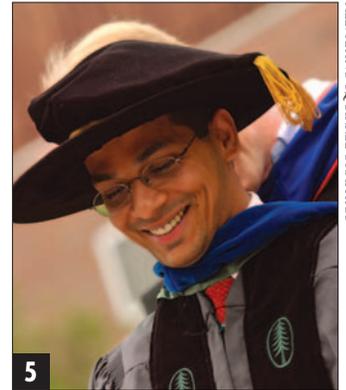
JOSEPH MEHLING



1



4



5



2



8



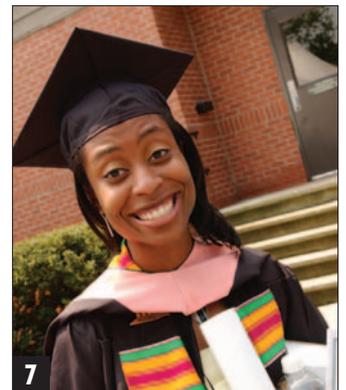
6



3



9



7

Captured by the camera at Class Day were grinning M.D. grads like 1 Kristin Elias, 2 Benjamin Solomon and Kathleen Del Grosso; proud faculty and administrators like 3 Elmer Pfefferkorn, left, pictured with M.D. grad Jeffrey Barrett, and 4 Dean Stephen Spielberg, pictured with (behind him) associate deans Constance Brinckerhoff, David Nierenberg, and Gerald O'Connor; happy about-to-be-Ph.D.'s like 5 Niranjan Bose and 6 Laleh Talebian; and graduates of the master's of public health and evaluative clinical sciences programs like 7 Thaniyyah Ahmad. The already special day had particular meaning for two families—those of 8 Nikhil Thakur, in the center of the back row, who graduated from DMS exactly 100 years after his great-grandfather graduated from medical school, and 9 Geoffrey and Jaime Walford, in the center of the front row, first cousins and classmates whose graduation was cause for a family reunion.

ALL: BYING SQUIRE GRAPHICS

## Class Day speakers commend a world view to DMS graduates

Graduating from DMS is better than winning the lottery, Dr. William Foege told the crowd at Class Day. “If you win the lottery,” said Foege, senior medical advisor for the Bill and Melinda Gates Foundation, “you are still the same person the next day. . . . You just have money in the bank.” The soon-to-be DMS graduates, however, had “won a lottery of high potential for a life of satisfaction and service—a bank account of knowledge and experience that will only grow,” Foege explained. “You are now one of the people with the highest capacity for making the world what we want it to be.”

Foege went on to challenge the new physicians and scientists to “love science . . . but don’t worship it,” to “think and act locally and globally,” to “be a generalist and a specialist simultaneously,” and to “close the gap” between haves and have-nots.

**Students:** The student speakers struck a similar note. “There is no bigger test for humanity than the global health crisis that we are currently facing,” said Ph.D. candidate Niranjana Bose. “Each one of us has a unique contribution to make.” And M.D. candidate Tobias Hays said, “I believe that even the smallest things have real significance. Instead of being overwhelmed by the immensity of the universe, we should . . . believe that we do matter and that our daily interactions are incredibly significant.”

## Student Prizes and Awards



**Dean’s Medal** David Wartman

**John W. Strohbehn Medal for Excellence in Biomedical Research**  
Jonathan Huntington

**Good Physician Award** Kristen Thornton

**Department of Anesthesiology Outstanding Graduating Student Award**  
Jennifer McGuire

**Saul Blatman Award for Excellence in Maternal and Child Health**  
Cara Mathews

**Harte C. Crow Award in Radiology** Asef Khwaja

**Dartmouth-Mosenthal Surgical Society**  
Rebekah Kim, Bryan Mitchell, Nicholas Osborne,  
Matthew Stanwix, Nikhil Thakur

**E. Elizabeth French Distinguished Student Award in Pathology**  
Bryan Coffing, Jonathan Marotti, David Wartman

**Dr. Freddie Fu Orthopaedic Surgery Award** Bryan Mitchell

**AMWA Glasgow-Rubin Achievement Citations**  
Rebecca Cogswell, Meighan Smith

**Hitchcock Foundation Student Research Prize**  
Christine Weinberger, Erin Salcone

**Julian and Melba Jarrett Memorial Prize** Kelly Bodio

**C. Everett Koop, M.D., Courage Award** Paul DeKoning

**Frederic P. Lord Award in Anatomy** Nwamaka Tagbo

**Department of Medicine Award** Rebecca Cogswell

**Merck Manual Awards**

Joi Carter, Nicholas Osborne, Anthony Perrone, Hussein Samji

**Arthur Naitove Surgical Scholar Award** Nicholas Osborne

**New England Pediatric Society Award** Benjamin Solomon

**Payson-Hampers M.D.-M.B.A. Scholars Award** Anthony Perrone

**Department of Psychiatry Award for Excellence in Clinical Psychiatry**  
Thaddeus Shattuck

**John F. Radebaugh Community Service Award**

Trevor Braden, Meighan Smith

**Rural Health Scholar Awards**

Trevor Braden, Jessica Holland, Lisa Holland, Kristen Thornton

**Barry D. Smith, M.D., Award for Excellence in Obstetrics and Gynecology**  
Cara Mathews

**Stanley J. Sarnoff Cardiovascular Science Award** Geoffrey Walford

**Rock Sleyster Memorial Scholarship** Shannon Lucas

**Rolf C. Syvertsen Fellows** Stanley Weinberger, Evan Dvorin

**Rolf C. Syvertsen Scholars**

Rebecca Cogswell, Corey Couto, Elizabeth Martin,  
Cloe Shelton, Geoffrey Walford

**Leonard Tow Humanism in Medicine Award** Rebekah Kim

**John and Sophia Zaslow Prize** Evan Dvorin

**Douglas P. Zipes, M.D., Research Prize in Medicine** Geoffrey Walford

Probably the most significant moment that day for the 21 Ph.D., 23 M.S., 29 M.P.H., and 69 M.D. students was when they heard their names called and received their velvet-lined hoods, which they would wear in the College-wide graduation ceremony the next day.

After the conferring of the hoods, a few student awards were presented: the Dean’s Medal to M.D. candidate David Wartman, the John W. Strohbehn Medal to M.D.-Ph.D. candidate Jonathan Huntington, and the Good Physician Award to Kristen Thornton, chosen by her classmates as the graduate who best exemplifies the personal and intangible qualities of a good physician. All the awards, including many presented the previous day, are listed in the adjacent box.

**Teachers:** In addition, the graduates handed out some awards—the Basic Science Teaching Award to Dr. Martha McDaniel, the Clinical Science Teaching Award to Dr. Donald St. Germain, and the Thomas P. Almy Housestaff Teaching Award to Dr. Kari Rosenkranz.

Bringing Class Day to a close was the booming voice of Professor John Rassias, Dartmouth’s chair of French and Italian, as he chanted the Hippocratic Oath in Greek. Then Dr. Stephen Spielberg, DMS’s dean, led the M.D. candidates in reciting the oath in English. “If I will be true to this, may prosperity and good repute be forever mine; the opposite if I shall prove myself forsworn,” finished the dean and Dartmouth’s newest physicians.

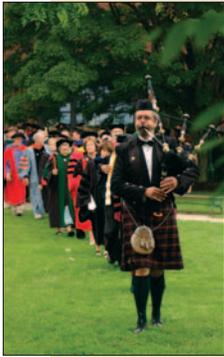
JENNIFER DURGIN

**ALL HEART:** Leonard Decato of Lebanon, N.H., collapsed as he stepped off an elevator at DHMC on June 3 and woke up the next day—he'd had a heart attack. He was so impressed with his care that he made a gift to DHMC in honor of his doctors.



## A PATHOLOGIST AND A PIPER

Each Class Day ceremony at DMS has begun the same way for the past six years—with the rich, harmonic tones of bagpipes. Two DMS alumni, James Feeney and Travis Matheny, started the tradition at their own graduation in 2000, leading the academic procession as they played a self-composed piece titled “DMS 2000: Into the New Millennium.” The two pipers returned for the next four years, despite their hectic residency schedules.



But this year, when the two alums weren't able to get to Hanover for the ceremony, Dr. James AuBuchon, who has been piping for 46 years, gladly dusted off his pipes and donned his kilt. Since AuBuchon is chair of the Department of Pathology and so usually attends Class Day anyway, the new role “just meant that I wore two different costumes that day instead of one,” he says. After he led the faculty in—as shown in the photograph at left—he donned his academic robe and sat with his colleagues.

The Office of Student Affairs, though grateful to AuBuchon, hopes to bring Feeney and Matheny back in 2006. J.D.

## RX: NO MORE PAPER PADS

You think *you've* got trouble reading your doctor's handwriting? Just think about the poor pharmacist who has to decipher it in order to fill a prescription.

But pharmacists at Dartmouth-Hitchcock Medical Center don't have to worry about clinicians' poor handwriting any more. A few months ago, DHMC began requiring its health-care providers to “e-prescribe” medications. Now clinicians review, enter, manage, and sign prescriptions by computer.



“We do e-prescribing to minimize and decrease the great potential for medication errors,” explains Andrew Gettinger, M.D., associate medical director of DHMC.

Not only does the computerized system eliminate problems caused by illegible handwriting or confusing abbreviations, but it will also allow each prescription to be electronically checked for appropriate dosage, interactions with other medications, and patient allergies.

DHMC patients will still get a paper copy of their prescriptions, however—as a legible computer printout. L.S.C.

## New students: 210 matriculants in 8 programs

They came from far and wide and have traveled to the four corners of the earth, but now they are embarking on a common journey—through Dartmouth Medical School. This year's incoming students arrived in Hanover from 29 states and 17 different countries—including Armenia, Bulgaria, China, Russia, Taiwan, and Vietnam.

The new students have also traveled widely. Many M.D. students have circled the globe not as tourists but as volunteers. Brian Thomas spent a summer caring for orphaned children in Haiti. James Sherwood was a volunteer English teacher in China. And R. Mitchell Ermentrout served as an interpreter for a clinic in Nicaragua.

But many gained valuable experience stateside as well. Justine Hutchinson, a graduate student in pharmacology and toxicology, spent the last two years testing the potency of a cancer vaccine at a biotech company in California. And Darcy Arendt, an M.D. student, worked as a cardiovascular monitoring technician.

**M.D. program:** The 82 M.D. students have a wealth of experience in nonmedical fields, too. Broc Burke believes that his work as an engineer, building and launching satellites, has given him a “finely tuned analytical approach to problems.” Planning to pursue a career in medicine, Nishan Kugan chose business as his undergraduate major because he wanted to “understand the economical dynamics of the health-care world.” When Kath-

ryn Noyes wasn't volunteering in community health clinics, she was working as a ski instructor in Jackson Hole, Wyo. Brittany Sehn assisted with autopsies in the Ohio State University Hospital morgue but also worked in an ice cream shop, scooping up gourmet flavors like Thai Chili.

And despite the highest aver-

### Some Statistics About the New Students

#### M.D. Program

##### Applicants

More than 4,500

##### Matriculants

82

#### M.D.-Ph.D. Program

##### Matriculants

4

#### Ph.D. Programs in the Biomedical Sciences

##### Matriculants

Molecular & Cellular Biology

30

Pharmacology & Toxicology

10

Physiology

5

#### Center for the Evaluative Clinical Sciences

##### Matriculants

M.S. Program

24

M.P.H. Program

48

Ph.D. Program

7

age combined score ever on the Medical College Admission Test, the M.D. students aren't all work and no play. They profess to enjoying martial arts, mountain biking, skiing, fly-fishing, and even brewing beer.

Some are talented performing artists, too. Kristina Hennessey-Severson, a 2002 graduate of Dartmouth College, directed an *a cappella* group. Judy Lin founded a Pan-Asian dance troupe. Tim Huang is an accomplished classical musician, having placed in several competitions. And during the Broadway show *Cats*, Gerard Carroll received a standing ovation for a performance of another kind—he successfully performed CPR on an ailing audience member!

Half of the M.D. students are women, and 30% are of color or international origin.

**Other programs:** In addition to the M.D. Class of 2009, the crop of new DMS students includes 79 who began graduate studies in the Center for the Evaluative Clinical Sciences and 45 who entered the doctoral programs in the biomedical sciences—molecular and cellular biology, pharmacology and toxicology, and physiology.

Regardless of the program the students are entering, they all seem eager to begin this journey. Mary Schwab, who just began the graduate program in physiology, says she is “looking forward to her new life as a graduate student,” while new M.D. student Haitham Ahmed hopes that “everybody is as excited as I am to be at DMS this year!”

KRISTEN GARNER

## Q: When is a desk more than a desk? A: Read on . . .

In 1877, a group of Dartmouth undergraduates presented the retiring College president—the Reverend Asa Dodge Smith, an 1830 graduate of Dartmouth—with a special gift: a “Wooten cabinet secretary,” a fancy name for a very fancy desk. With its “110 compartments, all under one lock and key,” the desk created a system in which “order can be obtained, confusion avoided, time saved, vexation spared,” as a Wooten Desk Company advertisement put it.

President Smith passed the desk onto his son, Dr. William Thayer Smith, DMS 1879 and dean of the Medical School from 1896 to 1909. Dean Smith, in turn, gave the desk to his son, Thayer Adams Smith, DC 1910. Even though Thayer

Smith's children included five DC grads, one DMS grad, and three doctors, when he died in 1973 his children decided the desk should go back to Dartmouth. Today, the elaborate “cabinet secretary” is on display in a central hallway of the DMS dean's office, for all to enjoy. J.D.



Made of black walnut, with poplar shelves and burl-walnut, satinwood, and curly-maple veneers, this elaborate desk once belonged to Dr. William Thayer Smith, dean of DMS.



XCH LIBERTY/NOI-TTY



## GREAT EXPECTATIONS

**Y**ou remember the guy with the Great Dane [and] the Harley Davidson,” says Merilee Perkins, an administrative assistant in the Department of Community and Family Medicine. Perkins and others at DMS will surely long remember 2005 graduate Anthony “Rocco” Perrone, M.D., M.B.A.—and not just for his eccentricities, but also as the first graduate of the newly created M.D.-M.B.A. program. “It was clear from our early meetings that Rocco would be a leader and champion” of the dual-degree option, says Dr. Michael Zubkoff, codirector of the program, which is offered jointly by DMS and Dartmouth’s Tuck School of Business.



In May, Perrone also received the program’s first award, named in honor of Drs. Norman Payson, DMS ’73, and Constantine Hampers, whose philanthropy supports M.D.-M.B.A. students at DMS.

“With the award comes recognition, but also great expectations,” notes Zubkoff, who is also chair of community and family medicine, “including the expectation that our M.D.-M.B.A. graduates, particularly Rocco—in addition to delivering the best medical care possible—will find ways to help solve the myriad of problems facing health care today.” J.D.

## LONG SITE LINES

**A**t the end of July, DARTMOUTH MEDICINE launched a major redesign of its website. The new site features a fresh graphic presentation, a thorough reworking of the navigational structure, a more sophisticated search engine, and much richer use of links to other institutional sites. In just the first month after it went live, the new site had logged nearly 100,000 hits, compared to an average of 40,000 a month on the magazine’s previous site; by comparison, 27,000 copies of each issue of the paper edition are printed. But while the line of visitors to the new site is long, it features a much shorter URL: <http://dartmed.dartmouth.edu>.



The development of the new site was a collaborative effort of the magazine’s staff and the DMS web office. And further enhancements to the site are already under discussion—including image galleries, featuring photos beyond those for which there’s room in the print edition, and web-exclusive stories. A.S.

## NLM acquires papers of Dartmouth’s Dr. Koop

**W**hen you become an officer in the United States government, you take an oath of office,” says Dr. C. Everett Koop, former U.S. surgeon general, in his rugged, commanding voice. “As I pointed out to people many times when they said, ‘Why didn’t you strike out about so and so?’ . . . I was the surgeon general of [everyone]. . . . I just can’t pick out people and say, ‘I like what you believe and therefore I’m telling you how to save your life.’”

**Public:** This was the philosophy that guided America’s best-known surgeon general in his fight against tobacco, his efforts to remove the stigma of AIDS, and his innovative strategies to promote the health of the nation. More than any other surgeon general before or since, Koop (who served in the post from 1981 to 1989) was a public figure. And it’s for the public that his papers were recently welcomed into the National Library of Medicine (NLM).

Occupying 71 linear feet, the collection includes paper documents—lectures, letters, fan mail and hate mail, photographs, and published works—plus hundreds of television interviews, documentaries, and public service announcements. In addition, Koop annotated each of the 960 lectures he gave. “I would try to set the political stage” at the time the lecture was delivered, he explains, “tell what had happened before, try to give a reason why we chose a particular venue or why we chose the subject. And

then if there was anything I could say from 25 years out,” he included that, too.

The Koop papers are housed in an exclusive section of the NLM called “Profiles in Science.” The web-accessible archive (<http://profiles.nlm.nih.gov>) also includes the personal papers of Francis Crick, codiscoverer of DNA; Florence Sabin, the first woman elected to the National Academy of Sciences; and several Nobel laureates.

“It’s nice to be in good company like that,” says Koop, a 1937 Dartmouth College graduate who still, just shy of his 89th birthday, heads the C. Everett Koop Institute at DMS. “It’s also nice to know,” he adds, “that some of the things that I labored on so arduously are available for historians, and especially people in public health.”

JENNIFER DURGIN



**Former Surgeon General Koop—still a fan of bow ties—recently donated 71 linear feet of his papers to the NLM.**

JOHN BERBERT FOX



**CASE IN POINT:** A team of students from DMS, its Center for the Evaluative Clinical Sciences, and Dartmouth's Tuck School of Business took second place in a national health-care case competition, solving the problems experienced by a hypothetical patient.

## Anonymous donor gives \$1 million to CECS

There are a million reasons why Dartmouth's Center for the Evaluative Clinical Sciences (CECS) shouldn't have succeeded. Its premise 16 years ago was counterintuitive and its findings since then have clashed with conventional wisdom. And that's just for starters.

Now there are a million new reasons why the center will continue to succeed in spite of all odds. CECS recently received an anonymous \$1-million gift as part of the Transforming Medicine Campaign for DMS and DHMC.

"Transforming medicine," as it happens, could be CECS's mantra as well as the campaign's. The center's founding director, Dr. John Wennberg, has been making medicine rethink itself since the early 1970s, when he began to study variations in treatments and outcomes in Vermont. The variations, he discovered, were due not to differences in patients' conditions but to uncertainty among doctors about treatments' value. CECS, which was established in 1989, is now nationally and internationally recognized for its research on health outcomes, decision-making, and policy.

**Outcomes:** "CECS has led the nation and the world in improving our understanding of both determinants and outcomes of health-care practices," explains Dr. Albert Mulley, chief of general internal medicine at Massachusetts General Hospital and a longtime collaborator with many CECS faculty. "The work of

CECS and the professionals it trains, today and in the future, offer our best chance of seeing to it that people get the care they need and no less—and the care they want and no more," adds Mulley. "And in a country that spends 15% of its gross domestic product on health care, nothing could be more important." As vice chair of the campaign executive committee and chair of its CECS working group, Mulley is among those charged with helping CECS find the resources it needs to expand its impact. A 1970 graduate of Dartmouth College, he is also a Dartmouth Trustee and a DMS Overseer.

**Paradox:** The CECS faculty includes clinicians, epidemiologists, economists, sociologists, cognitive psychologists, statisticians, management engineers, and health-services researchers. Their research ranges from the widely quoted *Dartmouth Atlas of Health Care* to numerous studies showing that more health care often leads, paradoxically, to poorer health outcomes.

CECS's clinical outcomes group, for example, aims to reduce scientific uncertainty about

the impact of medical care on patients' lives. The cover feature about cancer screening in the Summer DARTMOUTH MEDICINE is an example of such work.

The center also runs a number of educational programs, including master's and doctoral programs in the evaluative clinical sciences; an M.P.H. program; postdoctoral fellowships; two joint degree programs; a National Quality Scholars Program at the White River Junction VA Medical Center; and, in partnership with DHMC, the largest preventive medicine residency program in the U.S.

The recent gift, Mulley says, "has inspired those of us who are committed to securing the future of CECS to raise the funds necessary to ensure that CECS can continue its vital work—which has tremendous, positive implications for the health of populations, as well as individuals."

It hasn't yet been decided exactly how the \$1 million will be used, though the possibilities include an endowment to support the work of senior CECS faculty and a discretionary account to provide current-use funds for emergent research opportunities.

KATHARINE FISHER BRITTON

The Campaign.

transformingmedicine

Dartmouth Medical School  
Dartmouth-Hitchcock Medical Center

"Transforming Medicine" is both the name of DMS and DHMC's \$250-million capital campaign and a succinct description of what the Center for the Evaluative Clinical Sciences—recipient of a recent \$1-million gift—has been doing since 1989.

## THEN & NOW

A reminder of the pace of change, and of timeless truths, from the 1912-13 DMS course catalogue:

"The minimum requirement for admission to Dartmouth Medical School is by two years of College work. . . Applicants must demonstrate their ability to translate at sight easy Latin prose."

**\$125**

Tuition for each of four courses in 1912-13 (compared to \$34,498 per year in 2005-06)



"The Nathan Smith Laboratory is a modern brick building of two and one-half stories. . . The upper floor contains a students' laboratory with gas and running water. . . All the rooms are well lighted by closely placed windows."

## CLINICAL OBSERVATION

In this section, we highlight the human side of clinical academic medicine, putting a few questions to a physician at DMS-DHMC.

**Robert Gougelet, M.D.**

**Assistant Professor of Medicine (Emergency Medicine)**

*Gougelet, who's been at DHMC since 1999, is the medical director for emergency response. He also heads a Boston-based disaster response team that has traveled all over the world—including to New Orleans in the wake of Hurricane Katrina.*

**What made you decide to become a physician?**

I wasn't sure I was going to be a physician when I started college. But as I took courses, I kind of kept going toward medicine. I do have a love for the biological sciences. I volunteered in the emergency room every Friday night for three or four years in college. I also did EMT training when I was 18 and volunteered at my local fire department as an EMT for many years—and later

became that fire department's medical director.



**What famous person, living or dead, would you most like to meet?**

I would say the Dalai Lama. He has this peaceful nature, but there's this incredibly political aspect to his life. I'd like to understand a bit more about how he balances that out.

**If you could live in any time period, when would it be?**

I would like to have a glimpse of the future, 50 years ahead or so. I'd be interested to see how things are working out politically, what kind of shape the world is in then, what medical technology is like, what's the role of doctors.

**What's your favorite nonwork activity?**

Going to canoe camp with my family; we do that once a year. Also, when I have time, fixing things around the house and working on the cars. I don't get much time for that, but I enjoy it.

**What country would you most like to travel to and why?**

China has always fascinated me. I understand that some places there are absolutely beautiful, such as the canyons along the Yangtze River where they're building a dam and they're going to flood all these villages built into the rock—I'd like to see them before they disappear forever.

**Do any events in your career stand out?**

I think the earthquake in Bam, Iran, was the most significant—the politics of it, the enormity of it. Certainly it was the most horrible thing I've seen ever. The other one of particular importance was responding to the New York City anthrax attacks and treating several thousand postal workers. I learned a lot from both of those.

**What new technologies are you involved with?**

We're working with several groups on developing a new foam technology that could decontaminate patients much better than water and soap. This has enormous potential. There are also new ways to track patients and communicate during disasters—all the command and control issues in how medical teams coordinate with law enforcement and fire control. Obviously the focus now is on terrorism.

**What are your greatest frustration and greatest joy?**

The greatest frustration in my work is politics. We're working in a very difficult field right now, with enormous potential consequences, and yet we have to deal with politics, territories, egos, and things like that. It's very unbecoming of people who work in this field. I think the most satisfying thing, at this point in time, is our efforts here at DHMC. There's been a significant amount of attention regionally and nationally to preparing for mass casualties, and we should be proud of the fact that some of the work we've done here is being used in other places.

**What about you would surprise most people?**

I used to be a TV repairman. When I was in high school, a family friend owned a TV repair shop and I worked after school fixing TVs.



## Student from Serbia brings ultrasound to his homeland

Getting an ultrasound, MRI, or CT scan—technologies taken for granted in industrialized nations—is unheard of in remote and impoverished parts of the world. Even when such procedures could save a life, they're simply unavailable. Veljko Popov, a fifth-year M.D.-Ph.D. student at DMS, has been chipping away at this disparity for a few years now, with the assistance of Robert Harris, M.D., director of ultrasound at DHMC.

In 2002, Popov and Harris began investigating the feasibility of transmitting ultrasound images from Popov's hometown—Zrenjanin, Serbia—to DHMC for interpretation. With a grant from the Dartmouth International Health Group, the pair traveled to Zrenjanin to set up a basic computer infrastructure in a local hospital and to conduct preliminary tests.

The people of Zrenjanin are “a population to which I felt in debt, to whom I felt sorry for after all those years of suffering and political and social crises,” says Popov, who emigrated from Serbia in 1995, during its war with Bosnia. This project is a way to give back to the community he left behind.

**Unit:** In January 2004, Popov and Harris returned to Zrenjanin with a compact, portable sonography unit, donated by DHMC's Department of Radiology, and began collecting ultrasound images of patients. They used 50 of

**HIGH-WIRE ACT:** Dartmouth-Hitchcock was one of only 47 hospitals nationwide listed in both the *U.S. News & World Report* "Best Hospitals" ranking and in the "100 Most Wired" ranking by *Hospital and Health Networks* magazine.



the images in a study to compare the quality of transmitted scans—compressed so they could be e-mailed—with the original, uncompressed images. They found the quality to be comparable and the overall process feasible—not to mention inexpensive.

Ultrasound is an ideal form of imaging to use in remote and resource-poor countries, say Popov and Harris. After x-rays, ultrasound is the most widely used diagnostic tool worldwide. It does not use ionizing radiation, so safety concerns are minimal; it produces low-resolution images that are e-mailable; and the equipment is portable and relatively cheap—from \$5,000 to \$20,000 per unit. By comparison, a simple x-ray machine costs about \$75,000; a CT scanner, at least \$500,000; and an MRI machine, about \$1 million.

"It's hard to put an MRI machine in a little village in Africa," says Harris. But "it's easy to take a compact ultrasound

[unit], because you can move that around [from] village to village, house to house." Harris and Popov are now seeking discounted or gratis satellite transmission links because, as Popov explains, "there are only so many remote locations that have terrestrial internet links."

There is also a domestic aspect to Harris and Popov's international initiative. They look on the project as a pilot for figuring out how physicians can consult from afar during mass emergencies or natural disasters in the U.S.—"to examine large numbers of people in settings that are not necessarily hospital-based," says Popov. To develop this concept, the pair is collaborating with Dartmouth engineering professor Susan McGrath, Ph.D., who specializes in mobile computing systems.

Ultimately, Popov and Harris would like to export what they learn in Serbia to DMS initiatives in other parts of the world and to other medical schools.

**Remote:** Popov recently told the international news outlet Voice of America (VOA) that he believes many radiologists will donate their time to such efforts. "One goal of this project was to enable physicians who want to do humanitarian and philanthropic work but who cannot necessarily travel to remote areas and third world locations to still be able to do this work remotely," Popov told VOA. "This was started as a humanitarian project, and it depends on the good will of . . . the physicians of this country."

JENNIFER DURGIN

## Pain researcher DeLeo is third incumbent of Given Professorship

Joyce DeLeo, Ph.D., a DMS researcher known for her strong mentorship of graduate students and for her studies of chronic pain, was recently named the Irene Heinz Given Professor of Pharmacology. DeLeo was "shocked" when she learned she had been appointed to the endowed chair. "It's a tremendous honor," she says.

DeLeo is only the third person to hold the Given Professorship; Robert Gosselin, M.D., Ph.D., was the first, in 1964, and Roger Smith, Ph.D., was the second in 1993. Both are now emeritus professors of pharmacology and toxicology. "It is certainly a choice that I applaud," Smith says of DeLeo's appointment.

DeLeo, a former Fulbright Scholar, came to DMS in 1988 as a postdoctoral fellow in the lab of anesthesiologist Dennis Coombs, M.D.—known for developing implantable pumps to deliver pain-management drugs. Previously, DeLeo had studied ischemia—decreases in blood supply due to obstruction or constriction of blood vessels—and its relationship to glial cells, which protect neurons in the central nervous system.

She was new to chronic pain research but welcomed the change. "I was always interested in pain," recalls DeLeo, who earned her Ph.D. in pharmacology at the University of Oklahoma in 1988. "There's a lot of duplicity in the mechanisms of



JON GILBERT FOX

Joyce DeLeo, right, poses with her two predecessors in the Given Chair—Bob Gosselin, left, and Roger Smith, center.

chronic pain and ischemia and neurodegenerative diseases. I thought, 'Wouldn't it be great to apply all of my knowledge of glial biology to nerve injury.'"

**Investigator:** DeLeo's research gained momentum through the 1990s as she studied low-back and chronic neuropathic pain—pain caused by diseases or abnormalities of the nervous system. In 2002, she became the first director of the Neuroscience Center at Dartmouth and vice chair of the Department of Pharmacology and Toxicology. Today, she is the principal investigator for two nine-year grants from the National Institutes of Health that total \$7 million.

DeLeo attributes much of her success to the graduate students and postdoctoral fellows who have worked in her lab over the years. "They bring such energy and such great ideas to the group," she says. In fact, she considers mentoring students and fellows "the highlight of my career" and "the best part . . . of being the director of a lab." Since she expects to be teaching and conducting research for many more years, "hopefully," she adds, "I'll have many more students."

JENNIFER DURGIN



ANDY NONRHOFF

Popov, left, and Harris, right, have been working on an international imaging project together since 2002.

INVESTIGATOR INSIGHT



In this section, we highlight the human side of biomedical investigation, putting a few questions to a researcher at DMS-DHMC.

**Alice Givan, Ph.D.**  
**Research Associate Professor of Physiology**

*Givan develops methods for studying cells that have been activated by the presence of foreign antigens. She also directs the Englert Cell Analysis Laboratory at DHMC's Norris Cotton Cancer Center.*

**What are your primary research interests?**

My research career has been erratic for many reasons (some more interesting than others). I started out working on photosynthesis in unicellular green algae, then progressed to studying cells from transplant patients by flow cytometry. Now I am mainly collaborating with other scientists but also studying methods for identifying cells when they become activated.

**How did you decide to become a scientist?**

I don't remember any actual decision. I just remember that I always wanted to be a biologist.



**If you weren't a scientist, what would you like to be?**

An archeologist or, if I had any musical talent, the first violinist in a string quartet.

**What famous person, living or dead, would you most like to meet?**

Pete Seeger or Nelson Mandela or Abraham Lincoln or Martin Luther King.

**What are the last book you read and last movie you saw?**

Right now I'm reading *Birdsong* by Don Stapp. It's about birds, their songs, and the scientists who study them. I like the book because it hangs at the interface of science, anthropology, and philosophy. The last movie I saw was *Sabrina*—the old version. I liked it; who can't like anything with Audrey Hepburn and Humphrey Bogart.

**What's in your CD player right now?**

All "my" CD players are currently being used by other people, but what I like most is classical chamber music or jazz.

**Who were your scientific mentors?**

My first mentors were my parents. My father was an electrical engineer and high school teacher (he was the first person in his family to have a college education). My mother did not graduate from high school but was the wisest person I'd ever met. They took me to the botanical gardens to make collections of leaves. They took me to concerts, art museums, Ebbets Field, and Coney Island. And neither one ever suggested that I needed to choose between science and a "real" life. My first traditional mentor was Robert Conner, my undergraduate advisor. Science is based on the apprenticeship relationship, so I owe much of my approach to science to Dr. Conner.

**What's your favorite nonwork activity?**

Cooking, reading novels, watching baseball games, and doing just about anything with my children (who are no longer children).

**What about you would surprise most people?**

Perhaps the fact that I like cooking, reading novels, watching baseball games, and doing anything with my children.

**Would you change anything about your career?**

Perhaps I would have pursued my career with more determination—and not worked part-time when I could have been working full-time. However, I am still not sure that I would have been willing to give up all that time that I spent cuddling my kids.

**Finish this sentence: If I had more time I would . . .**

Read more, cook more, and start square dancing again.

**What do you ultimately want to discover?**

I think that science works mainly by informed chance, not by purpose. So I will refrain from answering this question.

**Two former DHMC section chiefs attain emeritus status**

Two longtime members of the Dartmouth Medical School faculty were named to emeritus status during the past year. And although life has thrown them each a curve ball, they're still in the game and swinging away.

**Dr. Barry Smith**, who was the head of obstetrics and gynecology for nearly 30



years—from 1976 to 2004—had anticipated spending time in retirement traveling with his wife,

MaryAnn, a retired nurse practitioner. But when she died this past February from a worsening heart condition, he decided it would be best if he returned to work and kept his mind busy despite his new emeritus status.

An alumnus of both Dartmouth College (Class of '59) and Dartmouth Medical School (Class of '60), Smith completed his M.D. and residency training at Cornell Medical College. In 1970, he returned to DMS and Mary Hitchcock and joined what was then the Section of Obstetrics and Gynecology, within the Department of Maternal and Child Health.

Six years later, he was named chief of the section and became a driving force behind its growth and eventual establishment as a department, with a residency program. In addition, Smith is credited with introducing gyne-

**LESS IS MORE:** Now that a branch of Norris Cotton Cancer Center is open in St. Johnsbury, Vt., radiation therapy patients in the North Country will save 20,000 hours and 1.1 million miles a year driving to get their care.



colgic laparoscopic surgery to New Hampshire.

And now, even in the twilight of his career, Smith continues to contribute to his field. During the summer of 2005, for example, he was involved with five different Dartmouth-Hitchcock projects—including an obstetrics quality improvement program—and he was also running for a national position with the American College of Obstetricians and Gynecologists. Whether he gets elected or not, “either way I’ll have plenty to do,” he says.

But his plans aren’t all work and no play. “I hope to return to skiing, traveling, and perhaps to develop some [more] real hobbies,” he says—outside of medicine, that is.

**Dr. Nathan Geurkink**, who served as chief of the Section of Otolaryngology and Audiology for 15 years—from 1980 to 1995—had planned to retire at age 70 or 71. But in 2003, about a week before his 70th birthday, he was diagnosed with kidney cancer. So in December 2003, Geurkink took a leave of absence, and he officially retired this past May.

He still has cancer but remains in good health. “The problem is I don’t feel bad at all,” he says. Well, that’s not really a problem. In fact, since retiring, he’s taken up woodworking.

As an ear, nose, and throat (ENT) surgeon, specializing in head and neck cancers, he stayed

away from power tools for most of his life. “I didn’t want to cut a finger off,” he says. Now, however, he has a full-fledged workshop—power tools and all. Above the shop is a writing studio for his wife, Kathleen, a retired nurse practitioner.

Raised on a dairy farm in Oklahoma, Geurkink jokes that one of the accomplishments of his career was that he didn’t become a dairy farmer. But the Sooner State put a stamp on his medical career, since he earned his M.D. at the University of Oklahoma.

He arrived at Dartmouth in 1970 after four years at the Cleveland Clinic, two years in the U.S. Public Health Service, and his otolaryngology residency at the Mayo Clinic.

Although Geurkink is enjoying retirement—taking time to smell the acre and a half of wildflowers he planted near his house—he looks back on his career at DHMC fondly. “I really like the collegiality of this place,” he says. Geurkink was especially close to Dr. Samuel Doyle, who preceded him as section chief, and to Dr. Dudley Weider, a fellow ENT surgeon who died unexpectedly this past February (see the Spring 2005 issue of DARTMOUTH MEDICINE for more on Weider).

But most of all, Geurkink enjoyed his patients. “The people in the area, the patients, have been excellent,” he says, adding that head-and-neck cancer surgeons often form close relationships with their patients. “You get as fond of them as a close relative,” he says.

JENNIFER DURGIN

## A HUFF AND A PUFF . . .

**O**n July 9, nearly 2,000 bikers and walkers were huffing and puffing as they participated in the 24th Annual Prouty Bike Ride and Fitness Walk, a fund-raiser for Dartmouth’s Norris Cotton Cancer Center. And ever since then, Cancer Center officials have been gasping (in amazement) as they counted up the proceeds. The 2005 event not only broke but smashed previous records for the event. The 2004 Prouty raised \$366,000; this year’s income was still being counted at press time, but the total was nearing \$760,000.

The Prouty has become a huge presence in the region. Lawn signs sprout for miles around in the weeks before the event. Participants travel from all over the country to ride in memory of loved ones affected by cancer. And this year an unusual pair of local celebrities—a hand-carved wooden pig and wolf who ornament the lawn of a house in downtown Hanover—promoted the ride by donning Prouty t-shirts and bike helmets. So the fairy-tale ending (financially speaking) seems to have been foreordained.

A.S.



## ORANGE YOU GLAD . . .

**A**n orange circle connotes all sorts of upbeat messages: The liquid gold of Florida orange juice. The glow of a Halloween jack-o-lantern. The richness of a Thanksgiving pumpkin pie. Now there’s another symbol based on an orange circle: A new logo for Dartmouth’s Norris Cotton Cancer Center.

A logo is, of course, supposed to be simple, memorable, and evocative. According to a presentation unveiling the new symbol to Cancer Center staff, the three bars of the logo echo the bars of the DHMC logo and “lead the eyes upward toward the circle,” while the circle “suggests sun, light, and hope.” And the color orange was chosen because it “is associated with warmth, energy, and strength.”

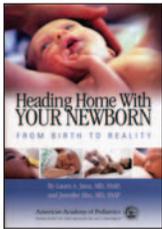
Officials look to the new logo, according to the presentation to staff, “to strengthen our ability to communicate our distinction as a nationally recognized comprehensive cancer center,” as well as “to unify with a shared identity all Norris Cotton locations.” Those locations now include not only DHMC in Lebanon, N.H., but also permanent new facilities in Manchester, N.H., and St. Johnsbury, Vt., plus longstanding outreach sites throughout the two-state region.

A.S.



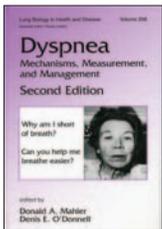
**New on the bookshelf:  
Recent releases by  
DMS faculty authors**

*Heading Home with your Newborn: From Birth to Reality.* By Laura A. Jana, M.D.; and Jennifer Shu, M.D., instructor in pediatrics at DMS; American Academy of Pediatrics; 2005. This handbook is intended to help



parents cope with the first few months of their baby's life, from feeding, diapering, and bathing to using car seats and traveling on planes. Combining medical information with practical advice (the authors are parents, too), its amusingly titled chapters include "Poop Happens," "Going with the Flow," and "Fever: Trial by Fire."

*Dyspnea: Mechanisms, Measurement, and Management.* Edited by Donald A. Mahler, M.D., professor of medicine at DMS; and Denis E. O'Donnell, M.B.; Taylor & Francis; 2005 (second edition). This book, on relief of breathlessness in patients with chronic obstructive pulmonary disease, covers the causes of dyspnea, dyspnea in asthma, the use of bronchodilators and inhaled corticosteroids, self-management strategies, and instruments available to measure the intensity of dyspnea.



MEDIA MENTIONS: DMS

Among the people and programs coming in for prominent media coverage in recent months was the director of DMS's Center for the Evaluative Clinical Sciences. In a three part-series on Medicare, the *Washington Post* wrote that "the typical Medicare patient in Los Angeles costs the government \$3,152 more than a comparable patient in the District" of Columbia and "a patient in Miami costs \$3,615 more than one in Baltimore. Those disparities cannot be explained by differences in local prices or rates of illness, said Dr.



**John Wennberg**, a Dartmouth physician and an expert on geographical variations in medical care." Rather, "higher spending is related to the number of specialists, hospital beds, and technology available." The *Post* also moderated a live, online discussion between its readers and Wennberg—whose research was also cited in a letter to the editor and an article in the *Wall Street Journal*.

The *New York Daily News* cited a DMS neuroscientist, noting that "people with mild cognitive impairment (MCI) have trouble remembering new information. More perplexing are people who don't have MCI but are suffering from more than just 'senior moments.' Dr. **Andrew Saykin** calls them 'cognitive complainers.' . . . 'Early on we thought the people in this cognitive complaint group might just represent the 'worried well' who are somewhat hyper-aware and afraid of developing Alzheimer's disease or another dementia,' said Saykin, director of the brain-imaging lab at Dartmouth-Hitchcock Medical Center. [But] people actually appear to be very sensitive to changes that are occurring in the brain . . . early on."



"Dartmouth-Hitchcock Medical Center in New Hampshire decided to pioneer a radically new approach. Full disclosure, detailed results, good and bad," reported ABC's *World News Tonight* in a story about hospitals that voluntarily disclose performance data. "The trust that you develop with your patient is the most important thing over the

long term," **Paul Gardent**, DHMC executive vice president told ABC's John McKenzie. "This full disclosure even includes the cost estimates of various procedures and results of patient satisfaction surveys," McKenzie said. "It does highlight where we need to improve," added Gardent.

"Fifteen years have passed since the Americans with Disabilities Act was enacted to protect workers who have a mental or physical impairment," began an article in a suburban New York paper.



However, "workers with epilepsy face big hurdles when it comes to unemployment," says Dr. **Gregory Holmes**, chief of neurology at Dartmouth. Only about 25% of adults with epilepsy have full-time employment . . . a statistic that is out of line even after accounting for their lower college-graduation rates," Holmes told the *Journal News*, which serves New York's Westchester, Rockland, and Putnam counties. "Patients will tell you that's often due to the epilepsy itself," Holmes added.

*Shape* magazine recently consulted a DHMC physician for advice on how to avoid motion sickness. "Although it's often tough to predict who will be affected, if you know you're prone to motion sickness, take medication ahead of time, advises **Jay Buckley**, M.D., associate professor of medicine at Dartmouth Medical School." What the article failed to mention was that Buckley, in addition to being a physician, is a former astronaut. On the 1998 NASA Neurolab mission, he endured extreme motion—speeds upwards of 17,500 miles per hour.



"Tom Wolfe was so taken with **Michael Gazzaniga's** *The Social Brain* that not only did he send Gazzaniga a note calling it the best book on the brain ever written, he had [a professor in one of his novels] recommend it in class." So began a *New York Times* review of a new book by Dartmouth's best-known neuroscientist. The book also inspired an editorial in the *Times* of London, which called Gazzaniga "a fascinating character—a rare, secu-

A N D D H M C I N T H E N E W S



lar voice among a choir of Christians who sit on the President’s Council on Bioethics.”

To explain two recent studies on microRNA—a molecule that helps regulate gene expression and protein production—the *New York Times* turned to microRNA’s “discoverer, **Victor Ambros** of Dartmouth. With his colleagues Rosalind Lee and Rhonda Feinbaum, he found a gene called *lin-4*. When the gene was activated, its messenger RNA folded itself up into a little hairpin twist, and that was its product”—a microRNA molecule.



“Peter Jennings’s death from lung cancer,” said the *Dallas Morning News*, “has left many of the nation’s 48 million former smokers asking apparently simple questions: Should they be screened? Why don’t doctors perform routine checks for lung cancer?” The answer: “‘We don’t know if it works,’ said **Dr. William Black** of Dartmouth. And if it doesn’t work, it could generate a lot of unnecessary anxiety, medical treatment and cost.” Black, who is cochair of the multicenter National Lung Screening Trial, was featured in the cover story in DARTMOUTH MEDICINE’s Summer 2005 issue.



Another subject of that cover story turned up in the *New York Times*, explaining a medical analogy regarding the Discovery launch. “The more NASA looks for damage, engineers and other experts say, the more it will find,” wrote the *Times*, likening NASA officials to doctors who have increasingly powerful diagnostic tools at their fingertips. “**Dr. H. Gilbert Welch**, a professor of medicine at Dartmouth and an expert on med-



ical diagnosis, agreed. ‘A lot of what we’re calling disease now never becomes clinically apparent during the life of the patient,’ he said. ‘Everything you find is less threatening, but you can never say anything is a zero threat.’ NASA faces a similar challenge, he said: ‘I’m sure they want to do the best they can. But the harder they look, they’ll find more things.’”

“Most Women Overestimate Breast Cancer Risk” was the headline on *Fox News Online* coverage of a University of Michigan study.



The article quoted the author of a DMS study that came to the same conclusion 10 years ago. “Researcher **Lisa Schwartz**, M.D., says cancer awareness campaigns often scare people with numbers that highlight the magnitude of cancer risk but provide little context.” Drawing on Schwartz’s research, Fox explained that “a 40-year-old woman who has never smoked, for example, has a 0.2% chance of dying from breast cancer before she is 50.”

“Aspirin does it all,” said the *New York Daily News* of the tried-and-true painkiller. “Aspirin’s role as an anti-inflammatory agent also appears to interfere with the growth of intestinal cancer cells. In 2002, a study [by **Dr. John Baron**] at Dartmouth Medical School



was the first to show a link between taking aspirin and reducing the number of polyps that lead to cancer. The study looked at 1,121 people who had colon polyps removed. . . . Three years later, the researchers found that only 38% of those getting baby aspirin had new polyps, compared with 47% of people getting placebos.”

“In an unprecedented move,” the *New York Times* reported, Medicare plans to “give doctors—free of charge—software to comput-

erize their medical practices. . . . Medicare says the lack of electronic records is one of the biggest impediments to improving health care. . . .



Given Medicare’s heft, the software giveaway could transform American medicine, said **Dr. John Wasson**, a Dartmouth health-care researcher. But, Dr. Wasson added, it may take a while. ‘If you look at it from a five-year point of view, it will make a huge difference,’ he said.”

“Even after adjusting for age, health, and income differences among states, New Hampshire receives one of the lowest Medicare reimbursement rates in the country,” wrote the *Boston Globe*. “New Hampshire gets an average of \$5,400 per patient, while Massachusetts gets nearly \$7,500. . . . Despite the smaller payments, New Hampshire patients are among the most likely to recover from serious illnesses and surgeries.” To explain the apparent contradiction, the *Globe* quoted “**Megan McAndrew**, editor of the *Dartmouth Atlas*, a compilation of medical statistics. ‘You don’t have the duplication of services like you do in Boston. . . . More health care doesn’t mean better health,’ she said.”

Vermont Public Radio reported on a study of post-traumatic stress disorder (PTSD) that was “designed to compare the effectiveness of two very different therapies” in women veterans, the reporter explained. “Dartmouth researcher **Dr. Paula Schnurr** is one of the study’s principal investigators. . . . Schnurr says because the core symptoms of PTSD are the same for women and men, male combat veterans and civilians will benefit from the research.” (See the Summer 2005 issue for more on this study.)



## DHMC is only center in New England to do new liver cancer therapy

**D**iamonds may be a girl's best friend, but glass beads are proving to be some liver cancer patients' best ally. Millions of tiny beads, called microspheres, are part of a new treatment at DHMC for patients with unresectable, or inoperable, hepatocellular carcinoma (HCC). This form of cancer is characterized by tumors that cannot be surgically removed and that originate and stay in the liver. Patients with HCC typically have a life expectancy after diagnosis ranging from 4 to 18 months.

Dartmouth's Norris Cotton Cancer Center is the only place in New England that offers the treatment, known as Therasphere. Bassem Zaki, M.D., a radiation oncologist, says that DHMC started doing the procedure in late 2004 and has treated eight patients so far.

**Beads:** The glass beads used in Therasphere are embedded with the radioactive isotope yttrium-90 (Y-90). The microspheres, in a saline solution, are inserted through a catheter into the femoral artery in the patient's thigh. From there, they travel into the hepatic artery and on into the liver. They then become trapped inside the tumor because the spheres are slightly larger than the surrounding microvessels. The Y-90 targets the tumor quickly and precisely. It affects only tissues within a range of less than a centimeter but delivers a dose five times higher than ex-

## This *Grey's Anatomy* isn't gross—but it's a textbook case of a hit show

**A**ll of us at some time or other will go through the walls of a hospital," observes Shonda Rhimes, a 1991 Dartmouth College graduate and the producer of the hit TV series *Grey's Anatomy*. It's that familiarity, Rhimes thinks, that makes the hospital/doctor show such a perennial favorite on television. "There's something both distant and familiar about hospitals and doctors," she says. Her own interest in medicine springs from being, she says, "a sickly kid" who spent a lot of time in hospitals.

But being a doctor herself was a short-lived idea. "I planned to study medicine for about five seconds before I realized that I'm scientifically challenged," Rhimes says. The show is not, she emphasizes, a medical show *per se* but a relationship show set in a hospital—though Rhimes did do extensive research before writing the show's first episodes. She now calls on Dr. Karen Pike, a fellow Dartmouth alumna, to read all the scripts, and she has a coterie of other medical experts on call, including some at the Centers for Disease Control and Prevention and the National Institutes of Health.

*Grey's Anatomy*—named for its principal character, surgical intern Meredith Grey, by way of allusion to the famous anatomical reference book—includes enough grisly detail to be an accurate depiction of medical life and enough relationship drama to keep it romantically interesting. Its first-year surgical residents have already, in their first few months of training, confronted the death of a woman with a 60-pound

tumor, the need to extract a set of keys from a man who swallowed them when his wife threatened to leave him, and the awkward season-opener: Meredith's discovery that a man she had a one-night stand with was with the surgeon who will be her boss for the next four years.

Asked if she knows what will happen in future seasons, Rhimes says she knows exactly what's coming up, "but if I told you, I'd have to kill you," she laughs. Under the guidance of a woman with a sharp sense of reality, a gift for dark comedy, and a keen interest in the kind of medical drama for which the public seems to have an insatiable interest, *Grey's Anatomy* seems poised to become even better-known than its eponymous textbook. MEGAN McANDREW



ABC-TV / FRANK OCKENHELS

Dartmouth grad Shonda Rhimes is producer of the show.

ternal beam radiation. The Y-90 decays over 2.7 days into non-radioactive zirconium, and the tiny bits of by-then inert glass stay in the liver, causing no problems.

Patients who have had Therasphere have suffered minimal side effects, and their tumors have decreased substantially in size. Zaki says it is a very good alternative to the traditional treatment, transarterial chemoembolization (TACE). TACE combines anti-cancer drug therapy to shrink the tumor with emboliz-

ing, or blocking, the hepatic artery that feeds the tumor. However, TACE requires a hospital stay of two to five days and can cause more damage to surrounding tissue than Therasphere. In addition, most patients suffer post-embolization syndrome—a reaction to blood being cut off to a solid organ—as well as nausea, abdominal pain, and low-grade fever.

**Organ:** Furthermore, TACE is not an option for some patients if their liver is relying solely on the

hepatic artery for its blood supply, because the organ's other blood supply, the portal vein to the liver, has become clotted due to the disease. TACE would require blocking such patients' only functioning blood supply, which would damage the liver. Therasphere avoids that problem because it doesn't involve blocking the artery.

Therasphere is done on an outpatient basis, and the procedure takes just one hour, with a three- to four-hour recovery



**TOP DOC:** Dr. John Wennberg, director of DMS's Center for the Evaluative Clinical Sciences, was selected by *Modern Healthcare* magazine as one of the U.S.'s "50 Most Powerful Physician Executives." He ranked 14th.

time. Side effects are usually limited to a couple of weeks of generalized fatigue, mild nausea, and a temporary elevation of the liver enzymes. "That's about it," says Andrew Forauer, M.D., an interventional radiologist who assists with the treatments. The only complications, he explains, arise if some of the spheres migrate into the stomach or the small bowel, where they can cause ulcers. Such complications are not common, though, adds Forauer.

**Side effects:** "It looks like the Therasphere has a lot less side effects than the chemoembolization . . . and that's partly because it localizes mainly where the tumor is," says Zaki.

"The reason that we're able to [offer this treatment] is simply because of the culture here," explains David Gladstone, Sc.D., a physicist who sets up the delivery device and does the radioactivity measurements. At DHMC, he says, "disparate groups can easily interact with one another and they have a highly collaborative approach in order to deliver first-rate care to the patient."

The team has not yet fully analyzed its results with the new treatment. However, a study published in the *Journal of Vascular Interventional Radiology*, about the use of Therasphere at other centers in the U.S. and Canada, showed that a low-risk group of 88 patients had a median survival rate of 466 days—at the high end of the usual survival range; minimal side effects; and no confirmed cases of radiation-induced liver disease.

MATTHEW C. WIENCKE

## Worthy of note: Honors, awards, appointments, etc.

**Michael Simons**, M.D., a professor of medicine and chief of the Section of Cardiology, recently assumed the presidency of the North American Vascular Biology Organization.

**Kathryn Zug**, M.D., an associate professor of medicine, was elected president of the American Contact Dermatitis Society.

**William Wickner**, M.D., a professor of biochemistry, was elected to the biological sciences membership committee of the National Academy of Sciences.

**Harold Swartz**, M.D., Ph.D., a professor of radiology, received the International Zavoisky Award, for outstanding applications or developments in electron paramagnetic resonance. In addition, he was recently elected a fellow of the International Electron Paramagnetic Resonance Society.

**Claudia Zayfert**, Ph.D., an associate professor of psychiatry, was appointed to the editorial board of the journal *Cognitive and Behavioral Practice*.

**Adam Schwarz**, M.D., an assistant professor of medicine, received the Leonard Tow Humanism in Medicine Award of the Arnold P. Gold Foundation.

**Patricia Glowa**, M.D., an assistant professor of community and family medicine, was named New Hampshire Family Physician of

the Year by the American Academy of Family Physicians.

**Barry Smith**, M.D., a professor emeritus of obstetrics and gynecology, received an Outstanding District Service Award from the American College of Obstetricians and Gynecologists. He has served the New Hampshire chapter as treasurer, secretary, vice chair, and chair. (See page 22 for more on Smith.)

**Lawrence Kaplan**, M.D. (pictured), an associate professor of pediatrics, just took office as president of the New Hampshire Pediatric Society. The Society also recently handed



out its annual awards—and every single one of the six individuals honored this year has a DMS tie. **Eugene Lariviere**, M.D., an adjunct assistant professor of pediatrics and a 1963 DMS alumnus, was named Pediatrician of the Year; **Gina Balkus**, DHMC's director of government relations, was named Public Citizen of the Year; and **Sam Dugan**, M.D., an adjunct assistant professor of pediatrics, received the Franklin Norwood Rogers Award, as the retired pediatrician of the year. And three New Hampshire pediatricians received a Special Achievement Award from the American Academy of Pediatrics (AAP): **George Little**, M.D., a professor of pediatrics, for his long-standing commitment to regional pediatric and perinatal care; **Gregory Prazar**, M.D., an adjunct assistant professor of pediatrics, for promoting New Hampshire's

participation in the AAP's collaborative, practice-based research program; and **Ardis Olson**, M.D., an associate professor of pediatrics, for her leadership in behalf of children with special medical needs. (See page 7 for more on Olson.)

**Seddon Savage**, M.D., an adjunct associate professor of anesthesiology, was appointed to the education board of the Chronic Pain Network.

**Katherine Baicker**, Ph.D., an adjunct assistant professor of community and family medicine and a specialist in health economics, has joined the White House Council of Economic Advisors.

**James Varnum**, M.H.A., president of Mary Hitchcock Memorial Hospital and a professor of administration at DMS, was the first faculty recipient of the C. Everett Koop Award for Courage—an award that will be presented annually to recognize a member of the DMS faculty who exhibits courage, vision, and leadership. Regional outreach and collaboration have been hallmarks of Varnum's 27-year tenure as president of

MHMH. (See the Summer 2005 issue for an announcement of his retirement, as of April 2006.)

**Naj Wikoff**, director of the Healing and the Arts Project at Dartmouth's Koop Institute, received a Fulbright Scholar grant. He will teach arts administration for a semester at the East Siberian Academy of Culture in the Re-



*continued on page 69*