Class Day Honors Graduates

Amid the celebration and ceremony, DMS Class Day speakers acknowledged the tenets of the newly chosen professions: the doctor-patient relationship, the art of healing and the scientific method. Award-winning novelist and screenwriter John Winslow Irving, the invited keynote speaker, addressed DMS graduates and their guests at the gathering Saturday, June 10. He discussed his work as a storyteller. Winning the Academy Award this year for the screenplay of *A Man Called Ove*, catapulted him into a maelstrom of controversy and adoration.

The book had its genesis, he said, in haunting pre-World War II pictures of orphanage children who were not being adopted, as well as the heritage of his grandfather, a Boston obstetrician/gynecologist. “Performing an abortion is never a simple decision,” he said. One must respect whatever choice colleagues and friends make on the issue. “All should be wary of legislators who are not doctors but who want to create legislation ... on what should be a medical decision between patient and doctor. Congress should not dictate how doctors do their jobs. We didn’t elect them to be doctors.” Surveying the audience of families and friends, Irving reminded graduates to thank especially their parents. “Being a parent is one of the hardest jobs, and everyone has to have a choice.”

Also speaking were medical student M. Adriana Rossi and biochemistry PhD recipient Jonathan C. Cruz, who launched a new tradition of having a graduate student as well as a medical student talk. Rossi paid tribute to what separates doctors from so many other professionals: “As physicians, we touch people. We touch people to diagnose them. We touch people to fix them. When we cannot fix them, we touch people to comfort them.” Citing their emerging healing arts abilities, he thanked classmates for the caring and empathy they extended to him and to each other. He summed up the past four years with amazement and respect: “… At the end of these four years, there are two things of which I will be fiercely proud for the rest of my life. The first is: I am a doctor. The second is: I graduated from Dartmouth Medical School, class of 2000.”

Cruz paid tribute to the principles of the scientific method, which, he said, “can be used to make sense of everyday life.” He urged his fellow graduates to follow their hearts and their passion. “Our success in this dynamic world will be measured by our creativity and our courage to try new ideas and to venture forth into unknown territory.” Concluding, he quoted Albert Einstein, “who truly understood the scientific method, (and) once said: ‘There are two ways to live your life. One is as though nothing is a miracle. The other is as though everything is a miracle.’” Then he added his own challenge: “… Treat today and the rest of your life as a miracle.”

Class Day opened under sunny skies with senior medical students Travis Matheny and James Feeney on the bagpipes followed by their fellow graduates, who stopped to form a double line. DMS Dean John Baldwin and Irving, along with faculty marshal Roger Smith, Irene Heinz Given Professor of Pharmacology and Toxicology, led the academic procession through the rows of applauding students. Baldwin began the ceremonies, welcoming the guests and congratulating graduates.

Almost 100 DMS students were awarded degrees at Dartmouth College commencement ceremonies (Sunday, June 11): 61 received the MD, seven received a PhD in the life sciences; and 26 received degrees in the clinical evaluative sciences, one PhD and 25 master’s.

The newly minted Dartmouth Medical School physicians will continue their training in generalist and specialty areas across the nation; 26 will remain in New England. Ninety percent of those who participated in the National Resident Match Program secured one of their top three residency assignment choices.
Dartmouth Medical School geneticists have clarified the picture of the way living things maintain robust and stable internal clocks to safeguard the timing of daily activities.

Internal clocks are ubiquitous. In humans they cue circadian rhythms—the 24-hour cycle that paces life’s ebbs and flows—from when we wake up to when we go to sleep. They are linked to jet lag, seasonal affective disorder and sleep disturbances.

Research published in the July 7 issue of Science delineates the dual roles and interlocking connections of the molecular gears that drive biological clocks and prevent them from winding down. The striking parallel in a relatively simple model offers clues to what makes creatures tick, report the DMS authors—Jay Dunlap, professor and chair of genetics, Jennifer Lorus, professor of biochemistry, and Kwangwon Lee, a postdoctoral fellow.

Just as the machinery behind clock faces of countless shapes and designs is built on a few basic principles, the genetic machinery behind all biological clocks—from plants to people—shares fundamental properties, in spite of the diverse functions governed. Studying the development of spores in the bread mold, _Neurospora_, Dunlap and Lorus have teased apart the genetic cogs that form the basis of most living clocks. Light and dark cycles reset the clocks, they found, the way turning the hands of a clock does, but are not required to run them.

The nearly complete map of the human genome is a parts list. Now into a new era of identifying, turning the hands of a clock does, but are not required to run them. They found, the way turning the hands of a clock does, but are not required to run them. The clock mechanism, called an oscillator, is a delicate balancing act of chemical messages where protein products feed back to shut off their own gene activity. If clocks operated solely on random feedback delay, they would run down quickly. The clock cycle involves a central cog, the Frequency (FRQ) protein, and a complex, called white collar proteins, that control behavior in both light and dark phases. The DMS research reveals more dexterity than once thought. FRQ has dual functions, blocking some products while promoting synthesis of others, depending on the white collar protein signals. “What we thought was negative is actually positive as well,” says Dunlap.

In addition, stretches of the clock genes resemble those of comparable regulatory proteins in mice and humans. “The wiring is similar; although the molecular biology—at the level of making protein—is different,” notes Dunlap. Sequence conservation between proteins has evolutionary importance and indicates the extent to which you can generalize.” Strong similarities suggest “broad applicability.” The work is supported by the National Institutes of Health and the National Science Foundation.

### Retirements

The following DMS faculty retired at the end of June: Harriet Crow, MD, professor of radiology; Leland Hall, MD, associate professor of surgery (orthopedics); John Ketterer, MD, assistant professor of obstetrics and gynecology; Herb Maurer, MD, professor of medicine; Robert Porter, MD, associate professor of surgery (orthopedics); Roger Smith, PhD, Irene Heinz Green Professor of Pharmacology and Toxicology; Judy Tyson, MD, assistant professor of obstetrics and gynecology; Robert Wilkinson, MD, professor of radiology and of pediatrics.

Beginning this issue, DMS Digest will be published bimonthly. It will appear as an insert in _Cover-to-Cover_ every other month and will also be distributed quarterly.

### Appointment

David Robern, MD, surgery, has been appointed senior associate dean for clinical affairs, a newly created position at DMS, effective September 1. Robern will continue as section chief of neurosurgery and with his research program on computer-assisted surgery.

### Promotions

DMS faculty promoted, effective July 1, are as follows:

- **Professor:** Paul Beisswenger, MD; William Black, MD; Paul Gerber, MD; Jennifer Lorus, PhD; Charles Marrin, MBBS, Thomas McAllister, MD; Nancy Speck, PhD; John Sutton, Jr., MD; Gilbert Welch, MD.
- **Associate Professor:** William Abdu, MD; Emily Baker, MD; Michael Beach, MD; Phil De George, MD; Patricia Carney, PhD; Nancy Cochran, MD; Lawrence Dacey, MD; William Dewhirst, MD; Pamela Ely, MD; Phil Fago, MD; Gilbert Fauscillo, MD; Barbara Geffing, MD; Diane Harper, MD; Peter Holzberger, MD; Eric Larsen, MD; Nathaniel Niles, MD; Douglas Noordsy, MD; Brian Remillard, MD; Rosalind Stevens, MD; Rand Swenson, PhD; William Torrey, MD; Wendy Wells, MBBS.