

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.