2000 Tetalman Award Goes to Jadvar

Hossein Jadvar, MD, PhD

Hossein Jadvar, MD, PhD, is the recipient of the 2000 Marc Tetalman Award of the Society of Nuclear Medicine (SNM) Education and Research Foundation (ERF). The award recognizes outstanding achievement among young investigators in nuclear medicine and is named after a young nuclear medicine physician whose death ended a promising career. Dr. Jadvar is Assistant Professor of Radiology in the Division of Nuclear Medicine, Keck School of Medicine, University of Southern California (USC), Los Angeles, CA.

Jadvar combined his medical training with a strong background in chemical engineering, bioengineering, and computer sciences. As a child in Iran, he enjoyed building electrical circuits and looking through microscopes. After coming to the United States to attend Iowa State University, he continued his dual interest in engineering and medicine, earning MS degrees in bioengineering (University of Wisconsin-Madison) and computer engineering (University of Michigan, 1986), a PhD in bioengineering (University of Michigan, 1988), and an MD (University of Chicago, 1993). During doctoral research on computer analysis of electrocardiograms, he first became interested in nuclear cardiology procedures. His choice of nuclear medicine as a specialty reflected his desire to work in a field in which the various elements of his training could come together. "My background in biomedical and computer engineering has definitely helped me to better understand imaging technology, including its limitations and capabilities," Jadvar says. "I am more able to focus on the source of technical errors and the ways in which a procedure may be improved by computer data manipulation, either at the time of image acquisition or image processing."

The focus of his work was sharpened by a fellowship in PET and oncologic and pediatric nuclear medicine at the Harvard Medical School Joint Program in Nuclear Medicine, where he worked with S. James Adelstein, MD, PhD, S. Ted Treves, MD, and Alan Fischman, MD, PhD. Jadvar had previously worked with clinical applications of PET at Stanford University, under the guidance of H. William Strauss, MD, George Segall, MD, and I. Ross McDougall, MD, PhD. At USC, he continues research on clinical PET and has added a focus on basic science applications of PET in molecular imaging, in close collaboration with the USC PET Imaging Science Center, directed by Peter Conti, MD, PhD.

The Tetalman Award is one of many received by Jadvar in his multifaceted scientific career. His research efforts have been recognized by 6 patents and by awards from the University of Chicago (1993), the National Institutes of Health (1994), the Radiological Society of North America (1997), and the American College of Nuclear Physicians (1998). In 1999 he received 2 research grants for projects in nuclear cardiology (SNM) and PET (American Cancer Society). "The Tetalman Award is beyond a tremendous honor, because it validates my choice of an academic career in nuclear medicine," he says. "I am humbled and honored, and want to thank my parents, who instilled in me the satisfaction and joy of learning, and all my mentors who taught me along my journey."

His academic work is evident in other interests. Another area of research has been imaging assessment of physiologic changes induced by microgravity, combining a serious amateur interest in astronomy and cosmology with medical imaging. He is an accomplished photographer with a number of published images to his credit, including photographs in the pages of *The New England Journal of Medicine* and *The American Journal of Roentgenology.*

Jadvar sees special challenges for the young nuclear physician in this period of rapid technological and organizational change in medicine. "With the advent of coincidence imaging and PET, nuclear medicine physicians must have a thorough understanding of cross-sectional anatomy," he says. "Interpretation of nuclear studies in a vacuum, without appropriate correlation with anatomic imaging studies, can often lead to inconclusive and suboptimal results." He believes that incorporation of a 6-mo rotation in diagnostic radiology (2 mo bone and chest radiography, 2 mo CT, 1 mo MRI, and 1 mo ultrasound) as part of the the American Board of Nuclear Medicine's required 2-y postinternship training would be most helpful to trainees in the field.

Jadvar's enthusiasm for all aspects of nuclear medicine is evident in his assessment of future prospects for growth and discovery. "Nuclear imaging will be a major contributor to our basic understanding of health and disease states of all organ systems. As a relatively young field, nuclear medicine is one of the most exciting ventures in medical sciences, combining the art and practice of medicine with the major basic sciences of biology, chemistry, and physics. Who can ask for more?!" In presenting the Tetalman Award, the SNM ERF recognized Jadvar for his varied and remarkable accomplishments and noted the promise these hold for future advancements and discovery.