Dr. Marcus Recognized for ‘Enormous’ Contributions to Electrophysiology and Arrhythmia Treatments

Frank I. Marcus, MD, professor emeritus of the UA College of Medicine and Sarver Heart Center member, was recognized by two professional societies for his significant scientific contributions to the treatment of cardiac arrhythmias this year.

The Heart Rhythm Society honored Dr. Marcus with its Pioneer in Cardiac Pacing and Electrophysiology Award, and the European Cardiac Arrhythmia Society honored him with its Outstanding Achievement Award.

Colleagues noted Dr. Marcus’s enormous scientific contributions to the field of cardiology and electrophysiology, including more than 300 published manuscripts. He first learned of Arrhythmogenic Right Ventricular Dysplasia/Cardiomyopathy from French colleagues while on a sabbatical in Paris. In 1982, he and his associates published the first comprehensive clinical description of this disease.

A leading authority on this rare but important inherited cardiomyopathy, he was the principal investigator of a study funded by the National Institutes of Health (NIH) that led to the publication of more than 55 manuscripts on ARVD/C.

In 1984, Dr. Marcus pioneered the development of radiofrequency catheter ablation. In 1986, he and his colleagues published the first paper that systematically explored the use of radiofrequency energy for catheter ablation of arrhythmias. Since then, Dr. Marcus has published more than 50 manuscripts on various aspects of catheter ablation, including an initial description of the use of ultrasound energy for ablation in 1995.

As a professor emeritus, Dr. Marcus continues to be involved in teaching and research.

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“Radiofrequency energy catheter ablation, pioneered by Dr. Marcus, is used all around the world to treat cardiac arrhythmias. Indeed, with this therapy many intermittent arrhythmias can be cured, freeing the patient from long-term therapy with medication and repeated trips to the hospital,” says Peter Ott, MD, associate professor of clinical medicine, and director of the Cardiac Electrophysiology Lab at The University of Arizona Medical Center.

This technology also is used in selected patients to treat atrial fibrillation, the most common type of arrhythmia. Today, several new technologies are paired up with radiofrequency ablation to treat complex arrhythmias. A three-dimensional mapping system allows the re-creation of cardiac chamber geometry and movement of catheters inside this area in real time, facilitating precise catheter positioning and reducing X-ray exposure to the patient. Also, robotic catheter manipulation technology allows remote steering of the catheter inside the patient’s heart, facilitating minute and precise catheter movement and assessment of the catheter force against the cardiac chamber wall.

Frank Marcus, MD, (center) with Peter Ott, MD, and Julia Indik, MD, cardiac electrophysiologists (heart rhythm experts) at UA Sarver Heart Center, who use radiofrequency catheter ablation on a daily basis to treat a wide variety of patients with arrhythmias.
“There was an overwhelming consensus that Dr. Marcus merits this award based on his many contributions over a remarkably sustained period of time. His personal integrity, kindness, enthusiasm for research and willingness to mentor young investigators—all were mentioned as attributes that should serve as an example to others,” wrote Hugh Calkins, MD, who submitted the Heart Rhythm Society nomination.

*Note: For more information on atrial fibrillation, please see Issue 59 of the UA Sarver Heart Center Newsletter at heart.arizona.edu/news-info/newsletter.htm.*

**William Roeske Named to Endowed Chair**

William R. Roeske, MD, has been appointed to fill the Allan C. Hudson & Helen Lovaas Endowed Chair of Cardiovascular Imaging at the UA Sarver Heart Center.

Dr. Roeske, who joined the UA College of Medicine faculty in 1985, is professor of medicine and pharmacology in the Section of Cardiology.

“For the past 20 years, Bill has been an important member of the Section of Cardiology and the Sarver Heart Center, serving as co-director of the fellowship program and as associate chief of the section for most of that time,” says Gordon A. Ewy, MD, director of the UA Sarver Heart Center.

Dr. Roeske’s current research interest is involved with the discovery of new modalities for the treatment of pain. “Current drug therapy for chronic pain is ineffective and often leads to addiction since the most effective drugs for short-term pain are opioids. We are looking at cellular mechanisms to try to understand how to block these responses,” says Dr. Roeske. His laboratory has been NIH funded for 30 years. His prior research also has shown alterations in cardiac receptor types in hypertension and in heart failure.

“My life-long interest in cardiovascular imaging techniques supports and helps enhance the work of Dr. Aiden Abidov, our director of cardiovascular imaging,” adds Dr. Roeske.

A native of Indiana, Dr. Roeske received his medical degree from Stanford Medical School, his post-graduate medical training at Case Western Reserve and his fellowship training at the University of California at San Diego.