



Visionary Seminar Series at USC

Wednesday, 29 March 2017 at 1 PM



Ray R Irani Hall Conference Room 101

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Engineering and Medicine
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“Emerging Trends in Heart Valve Engineering and Translation to Clinical Medicine”

Valvular heart disease is an increasingly common cause of cardiovascular disease in the United States and is equally impactful around the globe. This burden of disease leads to over 300,000 heart valve replacement surgeries each year worldwide. It is anticipated that the number of patients requiring valve replacement worldwide will triple by 2050, leading some to describe heart valve disease as “the next cardiac epidemic”. Heart valves cannot naturally regenerate or heal. The current approaches to heart valve disease is either to repair or replace a native heart valve. Heart valve engineering is a branch of biomedical engineering focused on the research and development of devices to replace or repair a diseased heart valve. At my lab, we have four different heart valve research pipelines, including a transcatheter aortic valve (FoldaValve), a transcatheter system for atrioventricular valves, a bi-leaflet mitral valve and a hybrid tissue-engineered valve. In this presentation, I will go over different aspects of the heart valve engineering, clinical unmet needs and discuss the research and development related to the heart valves currently being developed and studied at my laboratory.

Arash Kheradvar, M.D., Ph.D., FAHA is an Associate Professor of Biomedical Engineering and Medicine at the University of California, Irvine. His research interests are focused on developing novel heart valves, cardiac fluid dynamics, and new cardiac imaging technologies. He is the author of more than 45 journal articles and the lead inventor of 45 issued and pending patents in cardiovascular area, mainly on heart valve technologies and imaging modalities. Dr. Kheradvar received M.D. from Tehran University of Medical Sciences in 2000 and a Bioengineering Ph.D. from Caltech in 2006. He is an elected Fellow to the American Heart Association by two councils of Cardiovascular Radiology and Intervention, and Cardiovascular Surgery and Anesthesia. For more information see <http://kheradvar.eng.uci.edu/>

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