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**Friday, October 25, 2019
3:00 PM, 132 Gilman Hall**

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

**Presented by Prof. Arash Kheradvar
University of California-Irvine
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Hosted by Rajat Mittal (JHU - ME)**

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 the merger of biomedical and mechanical engineering and is focused on the research and development of devices to replace or repair a diseased heart valve. One aspect of my research is heart valve engineering. At my lab, we have four different heart valve research pipelines, including a transcatheter aortic valve (FoldaValve), a transcatheter system for atrioventricular valves (AValve), a bi-leaflet mitral valve (Dynamitral) and a hybrid tissue-engineered valve (HValve). 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.