Speaker's Biosketch

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Chang-Hoon Woo (Yeungnam University, Republic of Korea)

My interest in laboratory research began while still a student at the school of veterinary medicine, which prompted me to enroll in the Master of Science program at the Chonnam National University, Korea in 2000. And I decided to pursue molecular medicine at the Korea University in the laboratory of Dr. Jae-Hong Kim, Professor of Biochemistry and Life Science. I began studying molecular correlates of oxidative stress- and eicosanoid-mediated inflammatory signaling based on several animal disease models including asthma, acute lung injury, and COPD. After receiving my PhD in 2005, I came to the United States to obtain additional training in the field of cardiovascular research. Since joining the laboratory of Dr. Jun-ichi Abe, Associate Professor of Medicine at the Aab Cardiovascular Research Institute in the University of Rochester, my initial work was to investigate the role of ERK5-mediated PPAR activation in vascular inflammation demonstrating the negative regulation of ERK5 N-terminus region through post-translational modification.

Next, I started professional carrier as an assistant professor at the Yeungnam University College of Medicine in 2010. My lab investigated the molecular mechanisms of diabetes-related endothelial inflammation and cardiomyopathy. In addition to endothelial inflammation, we are interested in blood flow-mediated endothelial mechanotransduction. Atherosclerosis is often observed in areas where disturbed flow is formed, while atheroprotective region is found in areas where steady laminar flow is developed. My lab reported that ERK5-Nrf2 signal module and protease activated receptor 1 (PAR1) regulated blood flow-mediated mechanotransduction as a novel signaling pathway and mechanosensor, respectively.