UNIVERSITY OF OTTAWA HEART INSTITUTE INSTITUT DE CARDIOLOGIE DE L'UNIVERSITÉ D'OTTAWA

Robert L. Raffai, PhD

Emerging Pathways in Cardiovascular Disease

The Ottawa Heart

Research Conference

Born and raised in Montreal, Dr. Raffai graduated with a Bachelors degree in biochemistry from McGill University in 1990. He joined Dr. Ross Milne's laboratory at the University of Ottawa for graduate studies and his doctoral thesis work focused on investigating the structural basis for apolipoprotein E (apoE) isoform-specific recognition by the low density lipoprotein receptor through antibody engineering and molecular modeling. In 1997 he joined Dr. Karl Weisgraber's laboratory at the Gladstone Institutes of Cardiovascular Disease in San Francisco. During this postdoctoral training

period, Robert developed the "Arg-61" mouse model of human apoE4 Domain Interaction and the "HypoE" mouse model of conditional apoE expression to study the isoform-specific roles of apoE in atherosclerosis progression and regression. In 2004 Robert joined the Faculty at the University of California San Francisco in the Dept of Surgery and established a laboratory at the Veterans Affairs Medical Center. Recent findings from his laboratory have uncovered that apoE suppresses atherosclerosis by reducing the expansion and activation of monocytes in the circulation, and identified that apoE4 domain interaction accelerates atherosclerosis by causing macrophage activation. A major focus of the laboratory is to investigate mechanisms through which apoE regulates adaptive immunity to suppress systemic and vascular inflammation and thereby reduce the progression and improve the regression of atherosclerosis in an isoform-specific manner.