Abstract:
Cardiovascular disease and infection are major factors for morbidity and mortality in patients on dialysis. Although the precise mechanisms by which infection may affect cardiovascular events are not fully known, infections may affect vascular endothelium and create a chronic sub-clinical inflammatory state that affects atherosclerosis. Thus, we hypothesize that the time period following infection are associated with increased cardiovascular events risk in patients on dialysis. We examine this hypothesis using the self-controlled case series (SCCS) design/method, which adjusts for measured and unmeasured baseline confounders using hospitalization data from United States Renal Data System (USRDS) which captures nearly all (>95%) patients with end-stage renal disease in the U.S. This analytic approach is appealing because dialysis patients who do and do not acquire infections likely differ in important ways not easily measured, therefore making adjustment difficult. Furthermore, when the timing of infection onset (or exposure onset) is not known precisely, as with hospitalization data, issues with valid estimation and inferential procedures for the SCCS method must be addressed. In this talk I will discuss resolutions/developments for some of these challenges for the SCCS analysis as well as open topics.

Biography:
Dr. Danh Nguyen, PhD, is Professor in the Department of Medicine, Division of General Internal Medicine, at UC Irvine since 2013. Prior to joining UC Irvine he was Professor of Biostatistics, at UC Davis from 2003-2013. He has held numerous leadership positions, including as Director of the Biostatistics, Epidemiology & Research Design (BERD) unit in the Institute for Clinical and Translational Science (ICTS) at UC Irvine (2013-2016), Consortium Statistics Leader for the NeuroTherapeutics Research Institute, Director of Data Coordinating Center for the Early Autism Risk Longitudinal Investigation (EARLI) Network, and Director of the Statistics Core of the Center for Children’s Environmental Health at UC Davis.