

## **PCL/20/10 - Defining the bi-directional relationship between cancer and kidney disease**

Cancer and cardiovascular disease are the two commonest causes of morbidity and mortality worldwide. Approximately 5-10% of population have chronic kidney disease (CKD). Both cancer and cardiovascular disease are present in excess in patients with CKD, and associated with significant morbidity and early mortality. With an ageing population, the burden of CKD, cancer and cardiovascular disease is ever-increasing. Onco-nephrology, the study of the interface between oncology and nephrology, aims to understand the interplay between cancer and kidney disease. CKD is associated with increased incidence and possibly worse outcome from cancer. Cancer treatments, especially newer systemic anti-cancer treatments, are associated with nephro- and cardio-toxic side effects, presenting clinically as acute kidney injury, hypertension, proteinuria or exacerbating existing CKD. We will address a number of important issues where kidney disease, cancer and cardiovascular disease either co-exist or are mutually exacerbated using large, readily available datasets and data linkage from general population, cancer and CKD cohorts in Scotland and the UK. We anticipate that this will increase understanding of the interplay between cancer and CKD, and will lead to improvements in care for patients with co-existent cancer and kidney disease.