

International Alliance for Cancer Early Detection

UCL PhD Supervisors 2025



Dr Aleksandra Gentry-Maharaj

Department of Women's Cancer

Research interests:

Screening for gynaecological cancers (ovarian, endometrial, cervical)

Research question to form basis of PhD project:

Ovarian cancer usually presents at advanced stage when survival is poor. Screening has not shown mortality benefit, despite the UKCTOCS trial demonstrating early-stage cancer detection using CA125-algorithm approach. Biomarkers for premalignant STIC lesions are lacking. How would you discover novel biomarkers for ovarian cancer to inform future prospective studies/trials?



Dr Crispin Hiley

Research Department of Oncology, UCL Cancer Institute

Research interests:

Lung Cancer Genomics and the lung cancer tumour microenvironment. Investigator in the NIMBLE (NCT05432739) early lung cancer detection study

Research question to form basis of PhD project:

What is the role of clonal haematopoiesis of indeterminate potential (CHIP) in the immunosurveillance of early lung cancer and what is the utility of CHIP as a marker of lung cancer risk?



Dr Yipeng Hu

Department of Medical Physics and Biomedical Engineering

Research Interests:

Machine learning, prostate cancer, imaging, surgery

Research question to form basis of PhD project:

How can we improve the prediction, detection and staging of prostate cancer on medical imaging?



Dr Veeru Kasivisvanathan

Urology, Division of Surgery and Interventional Science

Research interests:

My work (PRECISION trial, NEJM) has led to the first major change in 30 years in the way that we diagnose prostate cancer, introducing MRI into the pathway. I am interested in optimising the way we use MRI, exploring novel technology such as PSMA PET and using artificial intelligence.

Research question to form basis of PhD project:

How can we use artificial intelligence, MRI and PSMA PET to improve the way that we diagnose prostate cancer?



Prof Laurence Lovat

Research Department of Targeted Intervention, Division of Surgery and Interventional Science

Research interests:

We have an established program exploring the use of artificial intelligence for detecting early gastrointestinal cancer, predominantly during Endoscopy

Research question to form basis of PhD project:

How can we use of artificial intelligence to further improve the detection and diagnosis of early gastrointestinal cancers?



Prof Yoryos Lyratzopoulos

Epidemiology of Cancer Healthcare and Outcomes (ECHO),
Behavioural Science and Health, Institute of Epidemiology & Health

Research interests:

Cancer healthcare epidemiology / Cancer data science / primary care records / electronic health records / diagnosis / detection

Research question to form basis of PhD project:

How can we use population-based studies to examine the predictive value for cancer of different presenting features (e.g. symptoms, blood test results) and work to identify pathways and intervals to diagnosis and patients at higher risk of delayed / emergency diagnosis?



Prof Juan Pedro Martinez-Barbera

GOS Institute of Child Health

Research interests:

My lab's research focuses on understanding the role of senescent cells in cancer. We have developed tools and accumulated expertise to study senescent cells in the context of cancer and ageing. We also have identified and tested senolytics aiming to translate the basic research findings.

Research question to form basis of PhD project:

Which cells become senescent during ageing and what are their function in prostate cancer? We have generated a new mouse model that allows to detect, isolate, trace and ablate senescent cells in ageing mice and in cancer. We have preliminary data indicating that senescent cells accumulate in the aged prostate and we aim to explore their role in prostate cancer.



Dr Eleftheria (Laura) Panagiotaki

Computational Cancer Microstructure Imaging Group, Centre for Medical Image Computing, Department of Computer Science

Research interests:

My research focuses on computational modelling of quantitative MRI and validation techniques, to establish new non-invasive biomarkers for cancer. An example is the VERDICT-MRI technique I developed for cancer imaging, the first non-invasive microstructure imaging method for cancer which is now in clinical trials.

Research question to form basis of PhD project:

Cancer increasingly affects people worldwide, with significant inter- and intra-tumoral heterogeneity complicating prognosis and treatment planning. How can we develop histology-informed AI computational MRI models of tumours for early diagnosis that will also predict which early-stage patients may or may not benefit from adjuvant treatments?



Dr Dimitra Peppas

Institute of Immunity and Transplantation

Research interests:

Renal cell carcinoma (RCC) is one of the most common types of cancer in the UK with poor prognosis and increasing incidence worldwide. There is therefore an urgent need to develop better tools for the detection of early disease and identification of patients at higher risk of progression.

Research question to form basis of PhD project:

Natural killer cells play a critical role in anticancer defence. NK cell dysfunction/evasion by tumour cells correlates with renal cell carcinoma (RCC) progression and poor prognosis. How can we investigate the role of NK cells in RCC and their potential as a surveillance tool for early-stage RCC?



Dr Pilar Acedo / Prof Stephen Pereira

Institute for Liver & Digestive Health, Division of Medicine

Research interests:

Our translational and multidisciplinary group is interested in early detection of pancreatic cancer and cholangiocarcinoma using biomarkers, imaging, and multi-omics including proteomics and spatial biology



Research question to form basis of PhD project:

Can we refine and validate promising biomarkers signatures for the early detection of pancreatic and biliary tract cancer?



Dr Hayley Whitaker

Targeted Intervention, Division of Surgery and Interventional Sciences

Research interests:

My group develops novel ways to diagnose and treat cancer that combines biomarkers and imaging. In particular we identify and validate novel tissue and fluidic markers alongside pathology AI approaches and MRI data.

Research question to form basis of PhD project:

Can we utilise early changes in lymph node architecture to diagnose and treat pro-metastatic cancer before it spreads?



Prof Kwee Yong

Multiple Myeloma Lab, Department of Haematology, UCL Cancer Institute

Research interests:

Myeloma is the second most common haematological malignancy. Myeloma is invariably preceded by smouldering, an asymptomatic stage, which affects 0.5% of the population aged over forty. My laboratory focuses on understanding the transition from smouldering to active disease: identifying those that will progress and developing biomarkers to guide early decision-making.

Research question to form basis of PhD project:

A key unmet need in this setting is understanding the final stages of disease progression to identify likely progressors early. How can we use tumour and immune interactions, to understand and model the final steps of disease to prevent progression?
