

# International Alliance for Cancer Early Detection (ACED)

## Manchester Clinical PhD Supervisors 2022/23



### **Professor Rob Bristow**

Manchester Cancer Research Centre, Division of Cancer Sciences

#### *Research interests:*

Hereditary cancer evolution and aggression is studied using spatial 'omics to understand the inter-relationships between genomics and the tumour microenvironment for cancer early detection. New models re being developed from patients with germline BRCA1/2, ATM and MMR mutations to study the role of altered cancer metabolism in shaping their evolutionary trajectories

*Relevant clinical specialties:* Pathology, Clinical Oncology, Surgery, Medical Oncology



### **Professor Emma Crosbie**

Gynaecological Oncology, Division of Cancer Sciences

#### *Research interests:*

Pioneering innovative, non-invasive detection tools (eg urine testing) for gynaecological cancers (particularly endometrial, ovarian and cervical cancer) for triage of symptomatic patients in the community (eg those with abnormal bleeding) and for home-based self-sampling screening approaches for high risk women (eg Lynch syndrome, BRCA, obesity, smoking, reproductive risk factors).

*Relevant clinical specialties:* Public health, primary care, pathology, genetics, gynaecology, oncology



### **Dr Marilena Hadjidemetriou**

School of Health Sciences, Faculty of Biology, Medicine & Health

#### *Research interests:*

Develop multi-omics enrichment nanotechnology platforms to explore disease pathways and to uncover molecular biomarkers.

*Relevant clinical specialties:* lung cancer, glioblastoma, omics, early detection, liquid biopsy, nanotechnology



### **Dr Sacha Howell**

Division of Cancer Sciences

#### *Research interests:*

I am particularly interested in breast cancer risk prediction in young women from diverse ethnic backgrounds such that those identified as high risk can be offered preventive therapies. I have developed a platform of

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serial vacuum assisted biopsy of the normal breast to better understand the molecular impact and aid development of novel preventive strategies.

*Relevant clinical specialties:* Medical Oncology, Radiology

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**Professor David Wedge**

Division of Cancer Sciences



*Research interests:*

I use computational methods to study tumour evolution. Working with Whole Genome Sequencing and other molecular data, such as spatial transcriptomics and spatial proteomics, I track the evolutionary trajectories of tumours. Concerning Early Detection, I am particularly interested in the factors that cause normal cells to transform into cancer-forming cells.

*Relevant clinical specialties:* oncology, surgery, pathology

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**Dr Emma Woodward**

Manchester Centre for Genomic Medicine, Manchester University NHS Foundation Trust



*Research interests:*

We study high-risk hereditary cancer predisposition to improve outcomes for at-risk families and provide insights into sporadic tumourigenesis. This involves investigating (i)-blood-based biomarkers for early detection; (ii)-early changes in tissue from normal to tumour; (iii)-novel means to achieve earlier genetic diagnosis of hereditary predisposition; (iv)-large datasets to clarify risk.

*Relevant clinical specialties:* Clinical Genetics. Paediatric Oncology. Adult Oncology. Surgery. Public health (data studies)

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