

presents the seminar series in **Cancer Biology,
Biotherapy and Nanomedicine**

“Deep learning the spatial and molecular heterogeneity of tumour immune response”

Dr Yuan Yinyin
Institute of Cancer Research, London

Date : 18 January 2019

Time : 14:00 - 15:30

Venue : Meeting Room 2-130, 1/F, Block 2, To Yuen Building

Abstract

Tumours are complex, evolving ecosystems with dynamic crosstalk among cancer and normal cells. Measuring spatial heterogeneity in the tumour microenvironment is critical for understanding the spatial context in which cancer evolves. I will discuss the quantitative spatial measures of immune response we developed by combining automated histology image analysis and spatial statistics. Such measures led to new appreciation of the clinical relevance of immune response in breast cancers and high-grade serous ovarian cancer. I will also share our recent progress on studying the geospatial complexity of lung tumour microenvironment in the TRACERx study of cancer evolution.

About the Speaker

Yinyin Yuan leads the Computational Pathology and Integrated Genomics team at the Institute of Cancer Research, London. Her research focuses on the emerging concept that tumours are complex, evolving ecosystems with dynamic crosstalk between cancer and normal cells. Studying the relationships between cancer cells and its ecological environment allows for development of new and effective therapeutic interventions, analogous to draining the swamps to help eradicate malaria. By combining digital pathology, genomics and ecological statistics using advanced machine learning, her team aims to study how heterogeneous cancer cells grow, compete, and spread amidst healthy tissue in unprecedented detail.

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All are welcome!