Spatial Models of Tumours, CONTRA Innovative Training Network Workshop
Organized by The Institute of Cancer Research, London, UK
24 – 26 of November 2020

24th of Nov 2020: Lecture by Invited Speakers (open for external attendees)

9:00 Start, Host to give introduction

9:05 The role of macrophages in cancer metastasis and therapy resistance
Dr. Binzhi Qian, Reader, Principal Investigator Chancellor’s Fellow & CRUK Career Development Fellow Edinburgh Cancer Research UK Centre & MRC University of Edinburgh Centre for Reproductive Health University of Edinburgh
Chair: Yinyin Yuan

9:35 Q&A

9:50 DEPICTION: extracting insight from deep learning models in computational biology.
Dr. Maria Rodríguez Martínez, IBM Zurich
Chair: Ewa Szczurek

10:20 Q&A

10:35 Coffee Break

10:50 Early disease detection and the art of asking clinical questions
Marcel Gehrung, CEO at Cyted
Chair: Ewa Szczurek

11:20 Q&A

11:35 Lunch Break

13:00 Spatial models for forecasting tumour growth and survival
Dr. Robert Noble, Lecturer in Applied Mathematics at City, University of London
Chair: Yinyin Yuan

13:30 Q&A

13:45 Integrated Imaging and Analysis to understand the biological complexity of tissues
Dr. Stephanie Ling, Associate Principal Scientist, Imaging and Data Analytics, AstraZeneca
Chair: Nuria Lopez
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14:15 Q&A
14:30 Coffee Break
14:45 3D imaging of solid tumors
   Dr. Anne Rios, Junior Principal Investigator, Princess Máxima Center for Pediatric Oncology
   Chair: Nuria Lopez
15:15 Q&A
15:30 Close
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25th of Nov: Journal Club (CONTRA student only)

9:00 Paper 1: Michael Schneider, Spatial Heterogeneity in the Tumor Microenvironment

9:20 Paper 2: Paula Martin-Gonzalez, 3D-printed moulds of renal tumours for image-guided tissue sampling in the clinical setting


10:00 Paper 4: Jose Bonet, Spatial Organization and Molecular Correlation of Tumor-Infiltrating Lymphocytes Using Deep Learning on Pathology Images

11:20 Paper 5: Nico Borgsmueller, Spatially constrained tumour growth affects the patterns of clonal selection and neutral drift in cancer genomic data

11:40 Coffee break

12:00 Paper 6: Artur Dondi

12:20 Paper 7: Senbai (Ethan) Kang, Modeling Cell-Cell Interactions from Spatial Molecular Data with Spatial Variance Component Analysis

12:40 Paper 8: Shadi Shafighi, Integrating spatial gene expression and breast tumour morphology via deep learning

13:30 Lunch

14:00 Paper 9: Reda Keddar, Local mutational diversity drives intratumoral immune heterogeneity in non-small cell lung cancer

14:20 Paper 10: Mandi Chen, PathologyGAN: Learning deep representations of cancer tissue

14:40 Paper 11: Mohammadreza Mohaghegh Neyshabouri, Spatial transcriptomics inferred from pathology whole-slide images links tumor heterogeneity to survival in breast and lung cancer

15:00 Coffee break

15:20 Paper 12: Fausto Fabian Crespo Fernandez, How many samples are needed to infer truly clonal mutations from heterogenous tumours?
15:40 Paper 13: Monica Valecha, Spatial structure governs the mode of tumour evolution

16:00 Paper 14: Hrvoje Misetic, A spatial model predicts that dispersal and cell turnover limit intratumour heterogeneity


16:40 Closing
26th of Nov 2020: Paper writing training (CONTRA student only)

By Katie D’Arcy, Freelance Training Consultant & Career Coach

9:30  Lecture 1. The Writing Process - writing with clarity and purpose
11:00 Peer review (pair work)
12:00 Writing time (approx 40mins)
13:00 Lunch break
14:00 Lecture 2. The Writing Process - overcoming writer's block and procrastination
15:15 Peer Review
16:00 Writing time
16:45 Q&A
17:30 FINISH (or before depending on Q&A)