

A fluorescence microscopy image showing several cells. The nuclei are stained blue, and the cytoplasm or other cellular structures are stained green. The background is black, making the glowing cells stand out. The text is overlaid on the left side of the image.

Molecular Diagnostics & Image Analysis Training School

4th – 8th October 2021

Overview

Molecular Diagnostics Training School 2021

4th – 6th October 2021 (Virtual event)

Overview

Diagnostic Molecular Pathology is the interrogation of tissue-derived molecules (DNA/RNA/protein) to provide clinically useful information adjunctive to routine histopathological examination. **The University of Nottingham**, supported by **The Pathological Society of Great Britain and Ireland**, will run the seventh Molecular Diagnostics Training School (MDTS) which aims to:

- Teach the theory and utility/limitations of commonly used tests
- Provide a comprehensive overview of the current use of molecular diagnostics

Who should attend?

The course is suitable for Trainee and Consultant Pathologists with little or no experience of diagnostic molecular pathology and for Clinical Scientists (who may have some experience with molecular testing) wishing to learn more about the clinical application of molecular diagnostics. Teaching will be delivered in the form of formal didactic lectures, interactive tutorials and problem-solving exercises.

Registration

Registration for the MDTS: £90

Registration for the MDTS and Image Analysis Training School (IATS): £140

Bookings can be made via our secure online store:

MDTS only: <https://store.nottingham.ac.uk/conferences-and-events/conferences/schools-and-departments/medicine/molecular-diagnostics-training-school-2021>

MDTS & IATS: <https://store.nottingham.ac.uk/conferences-and-events/conferences/schools-and-departments/medicine/molecular-diagnostics-and-image-analysis-training-school-2021>



The University of
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Pathological Society

Understanding Disease — Guiding Therapy



Programme: Day 1

Sunday 3rd October: Optional pre-course introductory session

14:00	The Highs & Lows of PCR	Prof Mohammad Ilyas
15:00	Bioinformatics for Beginners	Dr Isioma Egbuniwe

Monday 4th October: Tissue Interrogation

08:55	Introduction	
09:00	Real-time quantitative PCR	Prof Mohammad Ilyas
09:30	The Principles of Sequencing	Dr Susan Richman
10:15	Data interpretation	Prof Mohammad Ilyas / Dr Susan Richman
11:00	Comfort break	
11:00	The Fluorescent In-Situ Hybridisation	Dr Kate Martin
12:15	The Fluorescent In-Situ Hybridisation – data interpretation	Dr Kate Martin
13:00	Lunch break	
14:00	Chromogenic in-situ hybridisation	Dr Elizabeth Soilleux
14:30	Geospatial profiling	Prof Sergio Rutella
15:00	Mass Spectrometry Imaging	Dr Kristina Schwamborn
15:30	Comfort break	
16:00	The Liquid Biopsy	Dr Karen Page
16:30	Rubbish In=Rubbish Out: The Importance of Template	Dr Abhik Mukherjee

*See Registration & Fees page for further info

Programme: Day 2

Tuesday 5th October: Tissue Interrogation continued

09:00	Next generation sequencing: Principles and platforms	Prof Mohammad Ilyas
10.00	Next generation sequencing: Single cell analysis	Dr Nadine Holmes
10.30	Comfort break	
10:30	Next generation sequencing: Worked examples	Prof Richard Emes
11.30	Next generation sequencing: Interpreting the data	Dr Tania Dottorini
12:00	Next generation sequencing: Nanopore technology	Prof Matt Loose
12:30	Lunch	
13.30	Next generation sequencing: Is this a Mutation or Not?	Prof Rachel Butler
14:00	Ensuring Standards in Molecular Diagnostics	Kristina Schwamborn
14:30	How we set up molecular diagnostics in the middle of nowhere!	Dr Sarah Wedden / Dr Corrado D'Arrigo
15:00	Comfort break	
15:30	The landscape of molecular testing in England	Dr Abid Sharif
16:00	Molecular Diagnostics in Skin Cancers	Dr Asok Biswas

*See Registration & Fees page for further info

Programme: Day 3

Wednesday 6th September: Applied Molecular Diagnostics

09:00	Molecular diagnostics in CNS cancers	Dr Zane Jaunmuktane
09:45	Molecular diagnostics in lymphoid cancers	Prof Ming Du
10:30	Comfort break	
11:00	Molecular diagnostics in lung cancers	Dr Emily Shaw
11:45	Molecular diagnostics in gynaecological cancers	Dr Raji Ganesan
12:30	Lunch	
13:30	Molecular diagnostics in male genitourinary cancers	Dr Claire Verrill
14:15	Molecular diagnostics In breast cancers	Prof Emad Rakha
15:00	Tea / coffee	
15:30	Molecular diagnostics in gastrointestinal cancers	Dr Abhik Mukherjee
16:15	Molecular diagnostics in mesenchymal cancers	Dr Nischalan Pillay
17:00	The cancer, the pathologist and the immune response	Prof Gareth Thomas
17:45	Course evaluation	



Overview

Image Analysis Training School 2021

7th – 8th October 2021 (Virtual event)

Overview

Digital pathology aided by robust image analysis techniques has made great inroads in both diagnostics and research in histopathology. The implementation of whole slide scanning and advances in software and computer processing capacity has profoundly impacted not only routine clinical diagnosis but also molecular testing including bio-banking, molecular profiling and companion diagnostic development. The Image Analysis Training School (IATS) will take place entirely online this year and aims to:

- Provide an overview of the basis and utility of image analysis in pathology
- Address how potential problems in image analysis can be resolved
- Describe the integration of digital pathology into the work-stream
- Describe the challenges and innovations in immunohistochemistry

Who should attend?

The course is suitable for Trainee and Consultant Pathologists with little or no experience of image analysis and for Clinical Scientists/computer experts (who may have some experience with digital platforms) wishing to learn more about the techniques and application of image analysis. Teaching will be delivered in the form of live online lectures, with Q&As and interactive elements.

Registration

Registration for the whole course: £60

Registration for the MDTs and Image Analysis Training School (IATS): £140

Bookings can be made via our secure online store:

MDTs only: <https://store.nottingham.ac.uk/conferences-and-events/conferences/schools-and-departments/medicine/image-analysis-training-school-2021>

MDTs & IATS: <https://store.nottingham.ac.uk/conferences-and-events/conferences/schools-and-departments/medicine/molecular-diagnostics-and-image-analysis-training-school-2021>



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Programme: Day 1

Thursday 7th October: Basic principles of image analysis & research applications		
08:55	Introduction	
09:00	Basics of digital imaging including lexicons:	Prof Vincenzo Della Mea;
09:45	Quantitative histo-morphometry - Segmenting tissue compartments in H&E & IHC images	Dr Alain Pitiot
10:30	Spatial reasoning for histological imaging:	Prof Gabriel Landini
11:15	Comfort break	
11:45	Deep learning and diagnostic pathology part I:	Prof Vincenzo Della Mea
12:30	Lunch break	
13:30	Deep learning and diagnostic pathology part II:	Prof Vincenzo Della Mea
14:15	Geospatial profiling Digital Intelligence for Tissue Pathology	Prof Arvydas Laurinavičius
15:00	Comfort break	
15:30	Histogenic molecular mapping - Multivariate analysis of IHC biomarkers:	Dr Alain Pitiot
16:45	Strategies and demands for digital pathology workflow integration:	Dr Liron Pantanowitz:

*See Registration & Fees page for further info

Programme: Day 2

Friday 8th October : Digital pathology in practice

09:00	Digital pathology - What are the main challenges	Prof Mohammad Ilyas
10:00	Scanner technology – What makes an ideal scanner?	Dr Norman Zerbe,
11:00	Comfort break	
11:30	Image quality - Issues, techniques and assessment metrics	Prof Gloria Bueno
12:00	RCPATH guidelines for implementing diagnostic digital pathology	Dr David Clark
12:30	Implementation of digital pathology – How to win the argument:	Prof David Snead
13:00	Lunch	
14:00	The promise of computational pathology	Prof Nasir Rajpoot
14:45	Immunohistochemistry (1) - Scoring methods and pitfalls	Dr Abhik Mukherjee
15:30	Comfort break	
16:00	Immunohistochemistry (2) – Multiplex IHC	Dr Kim Blenman
16:30	Immunohistochemistry (3) - Automated analysis	Dr Zbigniew Mikulski
17:00	Immunohistochemistry (4) – the next generation	Tbc
17:30	Course evaluation	

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