



UCD Conway Institute of Biomolecular & Biomedical Research
 Graduate Modules 2025/2026
 CNWY40090: Introduction to 'Omic' & Advanced Imaging Technologies

Date & Time	Session & Topic	Coordinator
Monday 10 February 2025 Conway Seminar Room 1 (G027) 10:00 – 11:00 11.00 – 12.00	Proteomics I L1: Introduction to proteomics and MS (M. Wilm) L2: Quantitative proteomics (M. Wilm)	Prof. Matthias Wilm
Thursday 13 February 2025 Health Science Building C 112 10.00 – 11:00 11.00 – 12.00	Proteomics II L1: Principle of Liquid Chromatography - Mass Spectrometry (LC-MS) L2: Visualisation of quantitative mass spectrometry data based on proteomics	Prof. Matthias Wilm
Friday 14 February 2025 Conway Seminar Room 2 (G028) 10.00 – 10.50	Proteomics III L1: Transcriptomics	Prof. Geraldine Butler
Monday 17 February 2025 Conway Seminar Room 2 (G028) 14.00 – 14.50 15.00 – 15.50 16:00 – 16.50	Advanced Imaging Technologies: History of Imaging Technologies, Basic Principles of Imaging <i>To cover:</i> <ul style="list-style-type: none"> ▪ Brief history of imaging including significant advances in the past decade and the importance of imaging technologies to research. ▪ Basic principles of imaging methodologies and current technologies ▪ Imaging of molecules in fixed and live cells and tissues. ▪ Introduction to the specific detection of genes, proteins and organelles using immunohistochemistry, laser confocal, spinning disc microscopy 	Prof. Dimitri Scholz
Thursday 20 February 2025 Conway Seminar Room 2 (G028) 12:00	Assessment 1	Prof Matthias Wilm



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Friday 21 February 2025 Conway Seminar Room 2 (G028) 13.00 – 13.50 14.00 – 14.50 15:00 – 15.30	Metabolomics L1: Introduction to metabolomics L2: Metabolomics & its potential applications L3: Nutrigenomics	Prof Lorraine Brennan
Monday 24 February 2025 Conway Seminar Room 2 (G028) 13.00 – 13.50 14.00 – 14.50	Clinical Imaging <i>To cover</i> Principles and applications of the major in vivo diagnostic imaging technologies used in medical practice. L1: Computed Tomography (CT) L2: PET & L4: MRI	Dr Kathleen Curran Dr. Shane Foley
Thursday 27 February 2025 Health Science Building B 333 14.00 – 14.50 15.00 – 16:00	Advanced Biological Imaging: Digital Pathology L1- Optimising tissue processing in diagnosis and research: histology , microtomy, staining, biobanking L2- Immunohistochemistry and immunofluorescence : principles, application to tissues, use in personalised medicine (predictive and therapeutic use), role in morphological analysis in research L3- Digital Pathology: Principles, applications, integration in diagnostics and drug discovery	Prof Aurelie Fabre
Friday 28 February 2025 Conway Lecture Theatre 10.00 – 10.50 11.00 – 11.50	Glycomics L1: 'Introduction to Glycobiology with a focus on glycosylation in cancer' L2: Glycan Characterization Techniques for Biotherapeutics	Dr Radka Fahey
Friday 28 February 2025 Conway Seminar Room 2 (G028) L4 13.00 – 14.00 L5 14.00 – 15.00 L6 15:00 – 16.00	Flow Cytometry - Basic Principles, Practice & Application <i>To cover:</i> <ul style="list-style-type: none"> ▪ Basic principles of flow cytometry & cell sorting ▪ Outline of sample preparation, the analysis and reanalysis of the data produced in a flow cytometer. ▪ Applications of flow cytometry & cell sorting 	Prof Alfonso Blanco



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Monday 03 March 2025 Conway Seminar Room 2 (G028) 14:00	Assessment 2	Prof Matthias Wilm