



General Information

Subject Area:	Conway Institute	Short Title:	Flow Cytometry
Semester:	SEM_3	Long Title:	Flow Cytometry & Principles and Practice
Module Coordinator:	Alfonso Blanco Fernández	School:	Conway Institute
Level:	4	Credits:	2.5
Module Status:	Submitted for Review	Passing Grade:	DPF%
Available on Blackboard:	Yes		

Module Places

Overall Places:	15	Core / Options:	15	General Elective:	0
		In-Programme:	0	International:	0

Module Description:

This module is designed for research students who wish to understand and become critically aware of principles, practice and applications of flow cytometry and become competent, independent users of this technology. It will be delivered in five blocks comprising seminars (3 hrs - morning) and practical sessions (3 hrs - afternoon) covering: Introduction to flow cytometry: principles & data analysis [Block 1] Flow cytometry instrumentation [Block 2] Flow cytometry applications; Apoptosis, cell cycle & physiology [Block 3] Flow cytometry applications; Immunology & phagocytosis [Block 4] Flow cytometry applications in industry & synergies with allied technologies [Block 5]

Learning Outcomes:

On completion of the course, students should: 1. Demonstrate knowledge and understanding of the principles of Flow Cytometry (FC). 2. Be able to obtain and critically assess FC data using specific analysis software applications and pre-acquired samples. 3. Become familiar with instruments and their components, demonstrate understanding and critical awareness of the process of analysis protocol creation. 4. Integrate knowledge of good laboratory practice in instrument usage, sample preparation, quality control, troubleshooting. 5. Describe the biology of apoptosis, the cell cycle & general physiology. 6. Be able to integrate knowledge of apoptosis, cell cycle and physiology into protocol design for FC analysis and to carry out sample analysis using standard (and/or own) samples and protocols. 7. Understand the concepts of immunophenotyping & phagocytosis. 8. Apply knowledge and understanding of FC to the analysis of immunological & phagocytic cells, carry out sample characterization using standard (and/or own) samples and protocols. 9. Become critically aware of uses of FC outside the academic research setting. 10. Achieve understanding of allied technologies such as high content analysis, live cell imaging, confocal and fluorescent microscopy and be able to critically assess the synergistic benefits of flow cytometric analysis in combination with allied technologies.

Workload

Code	Workload
Lectures	15
Specified Learning Activities	15
Autonomous Student Learning	20
Total	50



Assessment Strategies

Assessment Type	Description	Timing	Score-by	% Final Grade	In-Blackboard
MCQ	Competency in usage of technology	UNSPECIFIED	Letter Grade	15	No
ASSIGN	Course end problem based assignment	UNSPECIFIED	Letter Grade	70	No
PRACTICAL	Online analysis	UNSPECIFIED	Letter Grade	15	No

Resits

Type	Duration - Hours	Timing Weeks
CW		