

PATHOLOGY AND EXPERIMENTAL MEDICINE (PME)

Courses in pathology and experimental medicine (PME) are offered by the Faculty of Medicine

PME 8112 Cell Biology and the Molecular Basis of Pathological Phenotypes (3 units)

Molecular principles of cell biology, with a focus on the mechanisms of disease. Disorders in cell biological processes that underlie many pathological phenotypes, such as intracellular transport, mitochondrial dynamics, cell biology of the nucleus and the regulation of the cytoskeleton. Emphasis on emerging experimental techniques, including functional assay design, fluorescence microscopy (multi-photon, confocal, assays like Fluorescence Resonance Energy Transfer (FRET), Fluorescence Lifetime Imaging Microscopy (FLIM), Fluorescence Recovery After Photobleaching (FRAP), photoactivation and uncaging) and electron microscopy. Participants will have hands-on experience and will work to apply these techniques to their own research problems by rotation through participating laboratories. The experiments performed by the students during the course will be assembled into a manuscript-style paper for submission at the end of the term to be graded by the course co-ordinator. Enrolment is limited to 10 students and preference will be given to students whose projects are related directly to these concepts and techniques.

Course Component: Lecture