Experimental Molecular Biophysics (實驗分子生物物理學)

Instructor：

Credit： 3 credits

Outline： Principles and applications of biophysical instruments

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Topics

Protein Crystallography

(I) Crystallization, X-ray sources and detectors
(II) Symmetry, space group & diffraction basics
(III) Phase determination & Structural refinement and validation

Mass spectrometry

(I) Principles Kay-Hooi Khoo (邱繼輝)
(II) Applications (protein analysis)

Cryo-Electron Microscopy

(I) Principle and application

NMR

(I) NMR theory and experiments
(II) Structure determination: Protein
(III) Structure determination: Nucleic acid

Spectroscopy

(I) Optical spectroscopies and their applications
(II) Optical spectroscopies and their applications
Fluorescence and bio-spectroscopic characterization of biomolecular structure and interactions

Computational biophysics

(I) Forces and structure prediction
(II) Structure comparison and classification