

MCBI 7430/PATH 7430: Cytometric Technologies Lecture Schedule

Monday/Wednesday 3:30-5 PM; Brody 5E-114 (Micro. Conf. Room)

Lecture	Date	Topics	Instructor
1	Jan 10	Class canceled due to university closure	Weidner
2	Jan 12	Orientation: What will be covered, course objectives, etc. History of Flow Cytometry	Weidner
	Jan 17	MLK Holiday – no class	
3-4	Jan 19(W),24*(M)	Physical aspects of Light (what is light?, reflection, diffraction, light scatter, fluorescence)	Weidner
5	Jan 26 (W)	Microscopy Basics: Light, Optics, Phase Contrast, DIC	Hoffman
6	Jan 31(M)	Microcopy special techniques: Fluorescence microscopy, Confocal Microscopy	Zucker
7	Feb 2 (W)	Types of Microscopes (Demonstration Lab)	Hoffman
8-9	Feb 7,9 (M,W)	Lasers and Detectors	Hu
10	Feb 14 (M)	Flow Cytometry: Fluidics	Weidner
11	Feb 16 (W)	Flow Cytometry: Optics, mirrors, filters	Weidner
12	Feb 21 (M)	Flow Cytometry: Signal Processing, Probes and Labels	Weidner
13	Feb 23 (W)	Flow Cytometry: Data presentation, Plots, Computer Software	Weidner
14	Feb 28 (M)	Flow Cytometry Applications: Cell Sorting	Weidner
15	March 2 (W)	Flow Cytometry Applications: Cell Cycle	Lehman
		Spring Break March 6-13	
16	March 14 (M)	Flow Cytometry Lab Demo- Cell cycle, etc.	Weidner
17	March 16 (W)	Mid-Term Exam	
18	March 21 (M)	Flow Cytometry Applications: Apoptosis Assays	Weidner
19	March 23 (W)	Flow Cytometry Applications: Immunophenotyping	Weidner
20	March 28 (M)	Confocal Microscopy: Basics of the Confocal principle, Applications, Analytical Techniques	Weidner
21	March 30 (W)	Confocal Microscopy: Demo of Zeiss LSM 510	Weidner
22	April 4 (M)	Confocal Microscopy: Applications primer	Weidner
23	April 6 (W)	Confocal Microscopy: Applications demonstration	Weidner
24	April 11 (M)	Specialized Topics in Confocal Microcopy	Zucker
25	April 13 (W)	Slide based Cytometry (iCys)	Lehman
26	April 18 (M)	Laser Tweezers (Raman Spectroscopy)	Li
27	April 20 (W)	Total Internal Reflection Microscopy	Schwalbe
28	April 25 (M)	Laser Capture Microscopy: Introduction and Demo	Weidner, (Kukoly)
	May 2 (M)	Final Exam	

Instructors: Douglas Weidner, Ph.D (Course Director), Dept Microbiol. & Immunol.
 John Lehman, Ph.D, Dept. Pathology & Lab. Med.
 Xin-Hua Hu, Ph.D, Dept. Physics
 Donald Hoffman, Ph.D, Dept. Pathology & Lab. Med.
 Robert Zucker, Ph.D, Dept Microbiol. & Immunol. (Adjunct)
 Ruth Schwalbe, Ph.D, Dept. Biochemistry & Molecular Biology
 Yon-Qing Li, Ph.D., Dept. Physics