Lab Schedule

Date	Time	Room	Topic
4/4 *THU*	**2-5 PM**	**Kerckhoff 347K** Teaching lab (CAJ, TAS, SH, FMH)	**Crystallization of Individual Protein Targets** Bring pipette set (P1000, P200, P20, P10, and P2)
4/11 *THU*	**2-5 PM**	**Kerckhoff 347K** Teaching lab (CAJ, TAS, SH)	**Crystallization of Individual Protein Targets** Optimization screens
4/18&19 *THU/FRI*	**2-5 PM**	**Braun 121** Biophysics lab (TAS, SH, FMH)	**Crystal Freezing, Individual Signup (Signup Sheet)** Bring laptop for software installation
4/25 *THU*	**2-5 PM**	**Broad Basement** X-ray lab (CAJ)	**In-House X-ray Diffraction Data Collection - Jens Kaiser**
5/3 *FRI*	**12-6 PM**	**Braun 320** Common room (TAS)	**Native X-ray Diffraction Data Collection - Jens Kaiser** Remote X-ray diffraction data collection at SSRL Data processing with XDS
5/9 *THU*	**1:30-3:30 PM**	**Braun 320** Common room (TAS, CAJ, SH, FMH, SP)	**Office Hour:** XDS data processing Model building and refinement
5/16 *THU*	**1:30-3:30 PM**	**Braun 320** Common room (TAS, CAJ, SH, SP)	**Office Hour:** XDS data processing Model building and refinement
5/24 *FRI*	**10 AM-6 PM**	**Braun 320** Common room (SH)	**Anomalous X-ray Diffraction Data Collection - Jens Kaiser** Introduction BlueIce software anomalous diffraction data collection Anomalous X-ray diffraction data collection
5/30 *THU*	**1:30-3:30 PM**	**Braun 320** Common room (TAS, CAJ, SH, FMH)	**Office Hour:** Preparation of illustrations in Pymol
5/31 *FRI*	**1:30-3:30 PM**	**Braun 320** Common room (TAS, CAJ, SH, SP)	**Office Hour:** Preparation of Table 1
6/3 *MON*	**1:30-3:30 PM**	**Braun 320** Common room (TAS, CAJ, SH, SP)	**Office Hour:** Discussion of open questions

Lecture Schedule

Date	Time	Room	Topic
4/3 *WED*	**2-4 PM**	**Schlinger 101**	**Introduction** Overview of the entire structure determination process Protein expression systems Protein purification methods Discuss computer requirements – laptop essential – Mac best
4/10 *WED*	**2-4 PM**	**Schlinger 101**	**Protein Crystallization Methods** Protein crystallization optimization Protein crystal freezing and cryo protection
4/17 *WED*	**2-4 PM**	**Schlinger 101**	**Native X-ray Diffraction Data Collection** Space groups and crystal symmetry Native X-ray diffraction data collection "Phase Problem"
4/24 *WED*	**2-4 PM**	**Schlinger 101**	**Data Processing in HKL2000 & XDS** Data processing in HKL2000 (André Hoelz) Data processing in XDS (Stefan Petrovic)
5/1 *WED*	**2-4 PM**	**Braun320**	**Introduction to BlueIce Data Collection Interface - Jens Kaiser**
5/8 *WED*	**3-5 PM**	**Schlinger 101**	**Molecular Replacement in PHENIX**
5/15 *WED*	**2-4 PM**	**Schlinger 101**	**Model Building and Refinement** Manual model building in COOT Automatic model building in PHENIX Refinement in PHENIX Ramachandran plot, side-chain rotamers
5/22 *WED*	**2-4 PM**	**Schlinger 101**	**Experimental Phasing** SeMet SAD in PHENIX SeMet MAD in PHENIX Self Rotation Function Anomalous Difference Fourier map calculation
5/29 *WED*	**2-4 PM**	**Schlinger 101**	**Structure Validation and Deposition** Ramachandran Plot Molprobity ADIT PDB