

Croucher Summer Course on Neutron Scattering

August 11-15, 2014
City University of Hong Kong
83 Tat Chee Ave.
Kowloon, Hong Kong

Sunday August 10: Registration

Start Time	Activity	Speaker(s)
17:00	Planning meeting with lecturers	All lecturers

Monday August 11: Introduction to Neutron Scattering

Start Time	Activity	Speaker(s)
9:00	Welcome	Professor Way Kuo, President of CityU Mr. David Foster, Director of Croucher Professor Hesheng Chen Director of CSNS Xun-Li Wang T. Egami
9:30	Fundamental properties of neutrons	S. E. Nagler
10:30	Coffee	
11:00	Elementary neutron scattering theory	S. K. Sinha
12:00	Lunch	
14:00	Neutron sources and instrumentation	S. E. Nagler
15:00	Coffee	
15:30	Applications of neutron scattering to industrial problems	X.-L. Wang
16:30	Where to get neutrons	R. McGreevy
17:00	Students breaking into groups for data analysis	Must pick one of the following <ul style="list-style-type: none">• Crystal structure• Pair Distribution Function• SANS• Reflectometry May also pick one additional (optional) <ul style="list-style-type: none">• Quasielastic scattering• Inelastic scattering
17:30	Adjournment	

Tuesday August 12: Neutron Diffraction: Structure and chemistry of materials

Start Time	Activity	Speaker(s)
9:00	Neutron diffraction and structure refinement	T. Kamiyama
10:30	Coffee	
11:00	Structure determination of disordered materials	T. Egami
12:00	Lunch	
14:00	Introduction of data analysis and example data set Good practice of data collection for quantitative structure analysis by diffraction	(split into two rooms) T. Kamiyama (Crystal Structure) T. Egami (PDF)
15:00	Coffee	
15:30	Analysis of example data set	Tutors
17:00	Adjournment	
Evening	Students working on data analysis and presentation	Tutors

Wednesday August 13: Small Angle Neutron Scattering and Neutron Reflectometry: Nanoscale structures and interfaces

Start Time	Activity	Speaker(s)
9:00	Fundamentals of small angle neutron scattering (SANS)	S. K. Sinha
10:30	Coffee	
11:00	Neutron reflectometry applied to magnetic thin films	F. Klose
12:00	Lunch	
14:00	Introduction of data analysis and example data set Good practice of data collection for quantitative structure analysis by SANS and neutron reflectometry	(split into two rooms) SANS Tutor F. Klose (Reflectometry)
15:00	Coffee	
15:30	Analysis of example data set	Tutors
17:00	Adjournment	
Evening	Students working on data analysis and presentation	Tutors

Thursday August 14: Inelastic and Quasi-elastic Neutron Scattering

Start Time	Activity	Speaker(s)
9:00	Study of lattice dynamics by inelastic neutron scattering	B. T. Fultz
10:30	Coffee	
11:00	Magnetic excitations by inelastic neutron scattering	S. E. Nagler
12:00	Lunch	
14:00	How to apply for neutron beamtime (tips for writing a winning proposal)	R. McGreevy
15:00	Coffee	
15:30	Quasielastic scattering study of soft matter and bio systems	S. M. Chathoth
16:30 and on	Students working on data analysis and presentation	Tutors

Friday August 15: Student's presentation

Start Time	Activity	Speaker(s)
9:00	Student's presentation of analysis of example data sets <ul style="list-style-type: none"> • Crystal structure • Pair Distribution Function • SANS • Reflectometry Optional <ul style="list-style-type: none"> • Quasielastic scattering • Inelastic scattering 	Students
12:00	Lunch	
13:30	Bus transfer to Sai Kung and Harbor tour	
14:30		
18:00	Dinner	
21:00	Bus leaving for CityU	

Saturday August 16: Optional tour to China Spallation Neutron Source (CSNS)

A China visa is required

10:00	Bus leaving CityU for Dongguan	
12:00	Arriving at Dongguan	
12:00	Lunch	Hosted by CSNS
14:00	Tour of CSNS (30 min in-door introduction; 90 min on-site tour; 30 min break and interactions)	
17:00	Bus leaving for CityU	
19:00	Bus arriving at CityU	

