

Integrative Structural Biology Course

August 22-September 2, 2022
Lund, Gothenburg & Stockholm



InfraLife is giving a course in integrative structural biology where we cover not only the basics of state-of-the-art structural biology techniques, but also how to combine the information to address a biological question. The course will take place in August 22 - September 2, in Lund, Gothenburg and Stockholm.

What will the course cover?

The two week course is a joint effort between the three large-scale research infrastructures SciLifeLab, MAX IV and ESS and additional related platforms. The aim is to give an overview of the structural biology available at the research infrastructures in Sweden. The course will focus on understanding the sample requirements, the nature of structural information that can be obtained and how data from multiple structural biology methods can be combined using e.g. computational chemistry techniques. The course consists of lectures, key note speakers, modelling practicals and facility visits. In addition events allowing time for networking within the group of students, the teachers and other infrastructure personnel, contributing to an expanded professional network.

Technologies and methods

- Macromolecular X-ray and neutron crystallography
- Small angle X-ray and neutron scattering
- Cryo-electron microscopy
- Macromolecular nuclear magnetic resonance spectroscopy
- Structural mass spectrometry
- Computational chemistry techniques
- Biophysical characterization

Who should attend?

The course is open to scientists of all age from academia, health care and industry. Level approximately corresponding to PhD student or postdoc depending on experience. Applicants welcome from Sweden, the Nordics, and other countries.

Course Details

Appl cat on Deadline: May 23, 2022

Course dates

Aug. 22-25 Lund
Transfer to Gothenburg included
Aug. 26 Gothenburg
Aug. 29-Sep. 2 Stockholm

Accommodation included

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Read More

www.infralife.se

Read more and sign up 

Preliminary Schedule

August 22 Monday Lund	August 23 Tuesday Lund	August 24 Wednesday Lund	August 25 Thursday Lund	August 26 Friday Gothenburg	August 27 Saturday	August 28 Sunday
Arrival	Introduction to Small Angle Scattering	Proteomics	Biophysical characterisation	Introduction to NMR		
	Coffee break	Coffee break	Coffee break	Coffee break		
Registration	Practical Small Angle Scattering	Mass spectrometry, crosslinking and HDX-MS	Visit to LP3/DEMAX	Visit to Swedish NMR Centre		
Lunch	Lunch	Lunch	Lunch	Lunch		
Welcome and Introduction to PreSTO	Visit to MaxIV	Practical mass spectrometry HDX-MS	Practical Biophysical characterisation	NMR Practical		
Coffee break	Coffee break	Coffee break		Coffee break		
Science example, keynote Prof. Poul Nissen	Visit to ESS	Visit to Lund BioMS	Transfer from Lund to Gothenburg	Return trip to Lund		
Poster and networking session			Dinner			

August 29 Monday Stockholm	August 30 Tuesday Stockholm	August 31 Wednesday Stockholm	September 1 Thursday Stockholm	September 2 Friday Stockholm	September 3 Saturday	September 4 Sunday
Arrival	Introduction to Cryo-EM	Crystallography and SAS with X-rays and neutrons	Modelling/ computational methods 1			
	Coffee break	Coffee break	Coffee break	Coffee break		
	Introduction to Cryo-EM	Introduction to NMR continued	Modelling/ computational methods 2	Visit to Stockholm protein production facility		
Lunch	Lunch	Lunch	Lunch	Lunch		
Introduction to crystallography	Visit to Cryo-EM Unit	Science example, keynote Prof. Carmen Domene	Science example, keynote Dr. Hanna Barriga	Summary, feedback, evaluation, reflection		
	Practical Cryo-EM					
Coffee break	Coffee break	Coffee break	Coffee break	Coffee break		
Crystallography Practical	Practical Cryo-EM Continued		Modelling/ computational methods 3	Science example keynote Dr. Demins Hassabis		
			Modelling/ computational methods 4	Departure		

SciLifeLab pub and poster session