

## « Tutorial in macromolecular crystallography » 2024 edition

**The aim of the tutorial is to deepen the theoretical knowledge of crystallography and to give a first introduction in the hands-on aspects of macromolecular crystallography.**

The tutorial will take place during one week from 15 April to 19 April 2023. It will include 22 hours of classes (lectures and exercises) as well as three 2-hour sessions of practical training on graphical workstations and a 2 h practical in data collection on a synchrotron beamline. Teaching will be in English. The tutorial is aimed at any PhD student working in the field of structural biology as well as PhD students in chemistry facing crystallographic techniques. The classes address more fundamental aspects of crystallography (pencil, paper, ruler and pocket calculator are required) as well as work with current software.

The tutorial will take place in the CIBB seminar room and the CIBB graphics room on the EPN campus.

**Public: Students in biochemistry, biophysics, structural biology, chemistry**

Teaching volume: **30 h, 4 ECTS**

### Preliminary program

	9:00 – 12:00 h		14:00 – 17:00 h	
Monday 15.4.2024	Space groups and symmetry CIBB seminar room 2 <sup>nd</sup> floor Wim Burmeister		Protein crystallisation CIBB seminar room 2 <sup>nd</sup> floor Monika Spano	
Tuesday 16.4.2024	Reciprocal space, mathematical background, Fourier transform, diffraction physics CIBB seminar room 2 <sup>nd</sup> floor Wim Burmeister		The diffraction pattern / oscillation method/scaling/twinning CIBB seminar room 2 <sup>nd</sup> floor	
Wednesday, 17.4.2024	Patterson / Experimental Phasing CIBB seminar room 2 <sup>nd</sup> floor Shibom Basu		Molecular Replacement and NCS / CIBB seminar room 2 <sup>nd</sup> floor Carlo Petosa	
Thursday, 18.4.2024	9:00h – 12:30 h		14:00 – 15:30 h	15h30 – 17:00 h
	Refinement and validation CIBB seminar room 2 <sup>nd</sup> floor Matthew Bowler		Another view on structure factors W. Burmeister	Interface with AI predictions (AlphaFold2) CIBB seminar room 2 <sup>nd</sup> floor Max Nanao
	9:00h – 12:00 h		14:00 – 15:30 h	15:30 – 17:00 h
Friday, 19.4.2024	<b>Beamline practical ESRF ID30B</b> N.N. (gr. 2a)	<b>Beamline practical ESRF ID30B</b> N.N. (group 1a)	<b>Beamline practical ESRF ID30B</b> N.N. (group 2b)	<b>Beamline practical ESRF ID30B</b> N.N. (group 1b)
	<b>Practical Experimental Phasing</b> N. Tarbouriech, W. Burmeister, N.N. (group 1)	<b>Practical Molecular replacement</b> N. Tarbouriech, W. Burmeister, N.N. (group 2)	<b>Practical Molecular replacement</b> N. Tarbouriech, W. Burmeister, N.N. (group 1) (group 1)	<b>Practical Experimental Phasing</b> N. Tarbouriech, W. Burmeister, N.N. (group 2)

Capacity: **20 students**

**Please contact me directly for registration (do not go through the ADUM platform):**

**Wim Burmeister** [wim.burmeister@ibs.fr](mailto:wim.burmeister@ibs.fr)

Please provide the following information:

- Your status (Post-doc, engineer, Master Student, staff scientist, ...) or the year of your doctoral studies (1<sup>th</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> etc.)
- Institute, group and name of your supervisor

**For questions about site entry, please contact**

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