Cryo-Electron Tomography: Bridging Scales in Biology

Inserm Workshop 283

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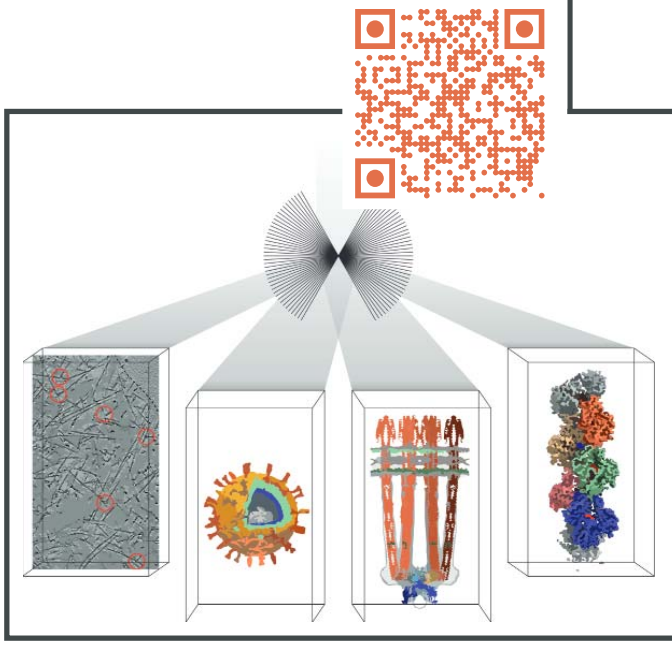
The atelier will provide an overview of cryo-electron tomography with its theoretical principles, workflows, current limitations, and potential to offer structural insights in situ. All these aspects will be showcased in combination with recent results by internationally renowned experts in the field.



Deadline: **February 14, 2025**

PHASE I THEORITICAL

May 19-21, 2025 — **Bordeaux**

SAMPLE PREPARATION AND DATA ACQUISITION FOR CRYO-ELECTRON TOMOGRAPHY
Bettina ZENS (ISTA, AUT), Wim HAGEN (Thermo Fisher Scientific, NLD) & Günter RESCH (Nexperion, AUT)

CORRELATING LIGHT MICROSCOPY & CRYO-ELECTRON TOMOGRAPHY
Pierre MONTAVILLE (Synchrotron Soleil, FRA) & Rainer KAUFMANN (CSSB, DEU)

DATA PRE-PROCESSING, TOMOGRAM RECONSTRUCTION
Beata TUROŇOVÁ (MPI of Biophysics, DEU) & Florian FAESSLER (IGBMC, FRA)

ANALYSIS STRATEGIES FOR CRYO-ELECTRON TOMOGRAPHY DATA SETS
Lindsay BAKER (Kavli Institute for Nanoscience Discovery, GBR), Vojtěch PRAŽÁK (CSSB, DEU), Daniel CASTAÑO DÍEZ (Instituto BIOFISIKA CSIC, ESP), Dimitry TEGUNOV (Genentech, USA) & Florian SCHUR (ISTA, AUT)

RECENT RESEARCH HIGHLIGHTS AND INTEGRATIVE APPROACHES
Petr CHLANDA (BioQuant, DEU), Tzviya ZEEV-BEN-MORDEHAI (Utrecht University, NLD), Juliette FEDRY (MRC LMB, GBR) & Slavica JONIC (IMPMC, FRA)

PHASE II PRACTICAL

June 30 - July 02, 2025 — **Lyon**

Participants of Phase II will be introduced to practical aspects of the central cryo-electron tomography workflow with an emphasis on steps that are not specimen specific and could be carried out by researchers themselves after making use of a national center to acquire data.

In more concrete terms, they will participate in tilt-series acquisition on transmission electron microscope, reconstruct tomograms using different approaches and employ subtomogram averaging for determining an initial structure of a macromolecular complex.

SELECTION: 10 trainees will be selected among Phase I participants.

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