

PANAM Advanced Electron Microscopy Autumn School

From 8th to 14th October 2025, Université Paris Cité and Sorbonne Université will co-organize the first edition of the PANAM Advanced Electron Microscopy Autumn School. This school aims to provide high-level training in the theory and practice of transmission electron microscopy and is open to permanent staff (teachers/researchers, researchers, engineers...) as well as PhD students and post-docs from industries and academia. The electron microscope is one of the most powerful tools for conducting advanced studies in both material and life sciences. Recent technological advances in state-of-the-art microscopy offer unprecedented possibilities for understanding the properties of materials, with users needing new technical and methodological skills to fully exploit the exceptional performance of the latest generation of transmission electron microscopes. Thus, the Paris Advanced Electron Microscopy Autumn School is a not-to-be-missed opportunity to improve your TEM characterization skills, learn about new techniques using aberration correctors, and promote your research work to the highest level.

In this TEM course, basic principles and the latest technical knowledge will be taught, and a state-of-the-art instrument will be offered for practical training as well as a conventional TEM for more standard techniques (see tentative program below). These sessions will be a unique opportunity for the participants to learn how to set up and to manage different types of EM techniques.

As a very nice add-on to the EM school, this school will be followed by the Paris Autumn School on Artificial Intelligence in Electron Microscopy on the use of deep learning techniques in TEM image analysis. For interested participants, this school on AI integration in TEM will take place from 15 to 17th October 2025 at Université Paris Cité.

Pre-registrations to both schools are open.

TEM School pre-registration:

<https://evento.renater.fr/survey/pre-registration-to-the-panam-advanced-electron-microscopy-autumn-school-ssy34hyl>

AI School pre-registration:

<https://evento.renater.fr/survey/pre-registration-to-the-paris-autumn-school-on-artificial-intelligence-in-electron-microscopy-rflubpog>

Provisional program

	Wednesday 08/10/25	Thursday 09/10/25	Friday 10/10/25		Monday 13/10/25	Monday 14/10/25		
08:30								
09:00		HRTEM imaging (DA)	EELS spectroscopy (GR ou DT)		HRTEM / HRSTEM (UPC) <i>in situ</i> liq. TEM (UPC) TEM/STEM - XEDS/EELS (SU) × 2	HRTEM / HRSTEM (UPC) TEM <i>in situ</i> liq. (UPC) TEM/STEM - XEDS/EELS (SU) × 2		
09:30								
10:00	Registration							
10:30		Coffee break	Coffee break					
11:00	Introduction to TEM techniques (NM)	HRTEM imaging (DA)	Practical work 2 spectroscopies (all)				transfer SU <—> UPC + Lunch	transfer SU <—> UPC + Lunch
11:30								
12:00								
12:30	Lunch	Lunch	Lunch					
13:00								
13:30								
14:00	TEM instrumentation and optics sample (CR)	Practical work 1 Image analysis (all)	<i>in situ</i> liquid microscopy (NOP)		HRTEM / HRSTEM (UPC) TEM <i>in situ</i> liq. (UPC) TEM/STEM - XEDS/EELS (SU) × 2	HRTEM / HRSTEM (UPC) TEM <i>in situ</i> liq. (UPC) TEM/STEM - XEDS/EELS (SU) × 2		
14:30								
15:00								
15:30	Coffee break	Coffee break	Coffee break					
16:00	Conventional TEM Imaging and diffraction (CR)	XEDS spectroscopy (FB)	<i>in situ</i> gas spectroscopy (NOP)				HRTEM / HRSTEM (UPC) TEM <i>in situ</i> liq. (UPC) TEM/STEM - XEDS/EELS (SU) × 2	HRTEM / HRSTEM (UPC) TEM <i>in situ</i> liq. (UPC) TEM/STEM - XEDS/EELS (SU) × 2
16:30								
17:00								

17:30

18:00

18:30

School dinner