

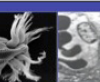
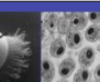
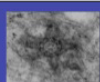
UNIVERSITÀ DI PISA

DIPARTIMENTO DI RICERCA TRASLAZIONALE E DELLE NUOVE TECNOLOGIE IN MEDICINA
E CHIRURGIA

DIPARTIMENTO DI MEDICINA CLINICA E SPERIMENTALE

DIPARTIMENTO DI BIOLOGIA

CENTRO INTERDIPARTIMENTALE DI MICROSCOPIA ELETTRONICA CIME



Winter School (7th Edition)

Pisa 2023 20th - 28th January

FRIDAY 20/01/2023

ES1 classroom Via Volta 4Bis

10:00-10:45

Welcome to the course (P. Lenzi)

10:45-11:00

Coffee break

11:00-12:00

Lesson: Introduction to transmission electron microscopy (TEM) (A. Falleni)

Break

14:00-16:00

Lesson: Introduction to scanning electron microscopy (SEM) and sample processing for SEM analysis (L. Modeo)

16:15-17:30

Lesson: Sample processing for TEM analysis (P. Lenzi)

SATURDAY 21/01/2023

Baccelli classroom Medicine School Via Roma 55

9:30-11:00

Lesson: Sample processing for TEM: Advanced specimens preparation (P. Lenzi)

MONDAY 23/01/2023

8:15 -11:00

Lesson/Practice: Trimming of the blocks and cut of semithin sections with the ultramicrotome (A. Falleni, P. Lucchesi) ES1 classroom Via Volta 4Bis

11:00-11:30

Practice: Fixation of samples for TEM (A. Salvetti, P. Lucchesi, G. Gambino) Lab Via Volta 4

11:30-11:40

Coffee break

11:45-13:00

Lesson: Morphological and ultrastructural studies in different experimental conditions: personal research experience (P. Lenzi) ES1 classroom Via Volta 4 Bis

Break

14:00-17:30

Practice: Sample processing for TEM I (dehydration and infiltration with epoxy resin) (A. Salvetti, P. Lucchesi, G. Gambino) Lab Via Volta 4

TUESDAY 24/01/2023

- 9:00-9:30 **Practice:** Sample processing for TEM II (infiltration with 100% epoxy resin) (A. Salvetti, P. Lucchesi, G. Gambino) Lab Via Volta 4
- 9:30-10:30 **Practice:** Sample processing for SEM I (Fixation and dehydration) (L. Modeo) Lab Via Volta 4
- 10:30-11:00 Coffee break
- 11:00-13:00 **Practice:** Sample processing for SEM II (Critical Point/Covering) (L. Modeo) Lab Via Volta 4
- Break
- 15:00-16:00 **Practice:** Sample preparation for TEM III (final embedding in epoxy resin) (A. Salvetti, G. Gambino) Lab Via Volta 4

WEDNESDAY 25/01/2023

- 9-10:30 **Lesson:** The role of electron microscopy in nanoparticles characterization and cellular uptake (G. Frenzilli) ES1 classroom Via Volta 4 Bis
- 10:30-11:00 Coffee break
- 11:00-13:00 **Practice:** Sample observation at scanning electron microscope (L. Modeo) Lab Via Volta 4
- Break
- 15:00-16:00 **Lesson:** The contribution of TEM to solving issues in the reproductive biology of lower invertebrates (A. Falleni) ES1 classroom Via Volta 4 Bis
- 16:00-17:30 **Lesson:** "Role of Electron Microscopy in the Modern Diagnostic" (V. De Tata) ES1 classroom Via Volta 4Bis

THURSDAY 26/01/2023

- 9:00-11:00 **Lesson/Practice:** The electron beam and image formation in electron microscopy (P. Lucchesi) ES1 classroom Via Volta 4 Bis
- 11:00-11:15 Coffee break
- 11:15-13:00 **Lesson/Practice:** Cut of ultrathin sections with the ultramicrotome equipped with a diamond knife and section collection on copper grids. Staining of ultrathin sections (A. Falleni, P. Lucchesi) ES1 Classroom, Lab Via Volta 4
- Break
- 15:00-17:00 **Practice:** Sample observation at transmission electron microscope (P. Lenzi, A. Salvetti) Lab Via Volta 4
- 17:00-17:30 **Practice:** Immunolabelling experiment I (P. Lenzi, A. Galgani) Lab Via Volta 4

FRIDAY 27/01/2023

9:30-10:30

Practice: Immunolabelling experiment II (P. Lenzi, A. Galgani) Lab Via Volta 4

10:30-11:00

Coffee break

11:00-13:00

Lesson: Dissecting cell-clearing systems in neurodegeneration through transmission electron microscopy. (P. Lenzi) ES1 classroom Via Volta 4 Bis

Break

14.30-15.30

Lesson: The use of SEM in paleopathology: the museal experience (V. Giuffra, G. Natale, S. Bertozzi) ES1 classroom Via Volta 4 Bis.

Farewell buffet

Guided tour of the Anatomy museum " Filippo Civinini" (G. Natale, S. Bertozzi)

SATURDAY 28/01/2023

9:30-10:30

Final evaluation test
Record of credits



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