

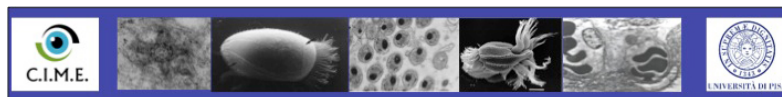
UNIVERSITÀ DI PISA

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 (4th Edition)

Pisa 2020 17th- 25th January

FRIDAY 17/1/2020

10:00-10:45	Welcome to the course (P. Lenzi)
10:45-11:00	Coffee break
11:00-13:00	Lesson: Introduction to transmission electron microscopy (TEM) (A. Falleni) Lesson: Introduction to scanning electron microscopy (SEM) (F. Verni, L. Modeo)
14:45-16:00	Lesson: Sample processing for SEM analysis (F. Verni, L. Modeo)
16:15-17:30	Lesson: Sample processing for TEM analysis (P. Lenzi)

SATURDAY 18/1/2020

9:30-11:00	Lesson: Sample processing for TEM: Advanced specimens preparation (P. Lenzi)
11:00-11:30	Coffee break
11:00- 13:00	Lessons: TEM applications in amphetamines effects (G. Lazzeri)

MONDAY 20/1/2020

8:15 -11:00	Lesson/Practice: Trimming of the blocks and cut of semithin sections with the ultramicrotome (A. Falleni)
11:00-11:30	Practice: Fixation of samples for TEM I (A. Salvetti, P. Lucchesi)
11:30-11:45	Coffee break
11:45-12:30	Practice: Sample processing for SEM I (Sample preparation for fixing (cell and tissue) (F. Verni, L. Modeo)
12:30-13:00	Practice: Fixation of samples for TEM II (A. Salvetti, P. Lucchesi)
14:00-17:30	Practice: Sample processing for TEM I (dehydration and infiltration with epoxy resin) (A. Salvetti, P. Lucchesi)

TUESDAY 21/1/2020

9:00-9:30	Practice: Sample processing for TEM II (infiltration with 100% epoxy resin) (A. Salvetti, P. Lucchesi)
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9:30-10:30 Practice: Sample processing for SEM II (Fixation and dehydration) (F. Verni, L. Modeo)

10:30-11:00 Coffee break

11:00-13:00 Practice: Sample processing for SEM III (Critical Point/Covering) (F. Verni, L. Modeo)

15:00-16:00 Practice: Sample preparation for TEM III (final embedding in epoxy resin) (A. Salvetti, L. Rossi)

WEDNESDAY 22/1/2020

9:30-11:00 Lesson: Immunolabelling techniques in transmission electron microscopy (P. Lenzi)

11:00-11:30 Coffee break

11:30-13:00 Practice: Sample observation at scanning electron microscope (F. Verni, L. Modeo)

15:00-17:30 Lesson: The contribution of TEM to solving issues in the reproductive biology of lower invertebrates (A. Falleni)

Lesson:
Morphological and ultrastructural studies in different experimental conditions: personal research experience (R. Ruffoli)

THURSDAY 23/1/2020

9:00-11:00 Lesson/Practice: The electron beam and image formation in electron microscopy (P. Lucchesi)

11:00-11:30 Coffee break

11:30-13:00 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)

15:00-17:00 Practice: Sample observation at transmission electron microscope (P. Lenzi, A. Falleni, A. Salvetti)

17:00-17:30 Practice: Immunolabelling experiment I (F. Fulceri)

18:30 Guided tour of the Anatomy museum "Filippo Civinini"

FRIDAY 24/1/2020

9:30-10:30 Practice: Immunolabelling experiment II (F. Fulceri)

10:30-11:00 Coffee break

11:00-13:00

Lesson: The use of SEM in paleopathology: the museal experience (V. Giuffra, G. Natale)

14.30-15.30

Application of microscopical anatomy in human neurodegenerative disease: an overview (F.S. Giorgi).

Free afternoon

SATURDAY 25/1/2020

9:30-10:30

Final evaluation test

10:30-11:00

Record of credits