Topics

Electron optics and spectroscopy instrumentation developments in the last 20 years have considerably widened the range of applicability of electron beam techniques to nano-optics: meV beam energy spread, single atoms imaging capabilities, electron wavefunction shaping, fs pump probe experiments, and efficient light coupling to and from samples are a reality. This has enabled the study of a variety of excitations (plasmons, phonons, excitons...) at extreme spatial, temporal and spectral resolutions. Therefore, new theories have blossomed to explain exciting results coming from electron energy-loss spectroscopy (EELS), cathodoluminescence (CL) and photon induced near-field electron microscopy (PINEM), and central concepts of nano-optics or quantum optics have been shown to be applicable to electron-based spectroscopies.

For this reason, it is high time for a school aiming at spreading knowledge about these new concepts and techniques and at fomenting the interest of a new generation of academics in this blooming field. That is the object of the eBEAM school, focused on electron spectroscopies for nano-optics.

Courses will cover: the basics of electron instrumentation and spectroscopies; electron-matter-light interaction; electron spectroscopies of optical material; time, space, and quantum coherence in electron spectroscopy: advanced EELS, CL and PINEM; photoemission ...

Venue & fees

The school will be organized at the Island of Porquerolles, in the french mediterranean sea. All participants will be accommodated at IGeSA.

The fees will include a single room, all meals (from dinner on Sunday 11th night to lunch on Friday 16th), gala dinner, and boat trip to and from the island.

School style

The school is aimed at Ph. Ds, Post Docs and any researchers willing to dive in this new field. Due to the limited number of places (80), applicants will be selected with a CV and motivation letter at pre-registration time.

A series of 8 lectures lasting 2 hours (broken by a 30 min. pause) will be given. Each lecturer is asked to give a 30 min. seminar on their own research topic in addition to the lecture.

2 posters sessions will be organized.