

# School on Advanced Light Sources: Principles, Methods and Multidisciplinary Applications



**20 April - 01 May 2020**  
**Trieste, Italy**

Further information:  
<http://indico.ictp.it/event/9080/smr3439@ictp.it>

The School targets young scientists to introduce them to the exceptional research opportunities offered by synchrotron and free-electron-laser (FEL) facilities worldwide for exploring the properties of all types of matter.

## Directors:

M. Kiskinova, Elettra Sincrotrone Trieste  
A. Migliori, IAEA  
I. Swainson, IAEA

## Description:

The school will provide an overview of the production and characteristics of synchrotron and free-electron-laser light, its interaction with matter and the numerous experimental methods enabled by these interactions that have become indispensable tools spanning over all domains of basic and applied research. The school lecturers will demonstrate the multidisciplinary applications and the most recent instrumental developments and science breakthroughs in the fields relevant to their expertise. The program will also include discussions of the lecturers with the students, talks describing the open access to these facilities based on the merits of the proposed project and possible industrial application. Demonstration sessions will be organized at the beamlines of Elettra's synchrotron and FEL facilities.

## Topics:

- Production of Synchrotron and FEL Radiation
- Properties of Synchrotron and FEL Light
- Photon-Matter Interactions
- Photon Transport and Beamline Instrumentation
- X-ray Absorption and Fluorescence Spectroscopy
- Photoelectron Spectroscopy Methods
- X-ray Diffraction Methods
- X-ray Scattering Techniques - SAXS, WAXS, XPCS, RIXS
- Imaging Techniques using Synchrotron and FEL Light
- X-ray and IR Spectromicroscopy.
- Time-resolved Approaches and non-linear X-ray Optics

## Local Organizer:

N. Binggeli, ICTP

## How to apply:

Online application:  
<http://indico.ictp.it/event/9080/>

Female scientists are encouraged to apply.

## Grants:

A limited number of grants are available to support the attendance of selected participants, with priority given to participants from developing countries. There is no registration fee.

## Deadlines:

**15 January 2020**

For applications needing financial support and/or visa

**01 March 2020**

For applications not needing financial support and/or visa

