

V^o National School Of Optical Biosensors & Biophotonics

Lecce
June 3-7
2024

BiO&B School

BiO&B stands as a biennial event organized by the Biosensors Working Group of the Italian Society of Optics and Photonics (SIOF), a national branch of the European Optical Society (EOS).

Through interactive lectures and collaborative group activities, the program offers a comprehensive learning experience in the development of optical biosensors. Starting from fundamental concepts and progressing to the latest advancements in bioreceptors and optical transduction methods, students will be guided to the exploration of their applications across various fields such as biomedicine, agri-food, and environmental sciences.

By the experience of prominent scientists working in different Italian research groups, the school will provide students with a deep understanding of the basic scientific principles and the ability to apply this knowledge to real-world challenges. They will also develop critical thinking skills and a solid foundation for further research and innovation in this exciting field.

We are delighted to welcome up to 35 participants to join us on this enlightening journey of knowledge and discovery.

<https://www.scuola-biob.it>

Directors of the School

- Ambra Giannetti, CNR - IFAC Firenze
- Maria Grazia Manera, CNR - IMM Lecce
- Ilaria Rea, CNR - ISASI Napoli
- Genni Testa, CNR - IREA Napoli



Topics

Fundamentals

- Optical biosensors based on fluorescence and absorption
- Fiber optic biosensors
- Plasmonic nanoparticles for biosensing
- Plasmon enhanced spectroscopies and magnetoplasmonics for biosensing
- Raman and Surface Enhanced Raman spectroscopy and imaging
- Molecular recognition elements: principles and applications
- DNA Nanotechnology for bio-sensing applications
- Optical Microscopy as a multiscale sensing platform
- Principles of microfluidics and optofluidics

Technology and Applications

- Point-Of-Care Ultra-Portable bioassays
- Single-Molecule Bioassays for One-Health
- Implantable optical sensors for in vivo tracking
- Lab-on-a fiber Technology for life science
- Optical sensing technologies in Lab-on a chip and Organ-on-chips devices
- New frontiers of optical biosensors in agri-food systems

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