PHYS-816 **Nanophotonics and its application for society**

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Cursus	Sem.	Type
Photonics		Opt.

Language of teaching	English
Credits	2
Session	
Exam	Oral
Workload	60h
Hours	**28**
Lecture	20
Exercises	8
Number of positions	**30**

Remark

July 10-14, 2023 Registration via http://nanophotonics4society23.epfl.ch/

Summary

The summerschool focuses on nanophotonics and its applications in energy, sensing and communications. World-leading expert in the field will address both fundamentals and state-of-the-art research topics, enabling participants to explore new opportunities for societal impact with nanophotonics.

Content

Nanophotonics, i.e. the science of light control and manipulation at the nanoscale, is a cross-disciplinary field that enables new functionalities and applications in very diverse technologies, from energy and sensing devices to computing and quantum systems. The summer school will focus on different applications each day combining seminars and discussions with the professors (morning sessions) with interactive activities (afternoons). In particular, this summer school covers the following broad topics, including fundamental concepts and state-of-the-art research results:

- Energy
- Sensing
- Communication

Additionally, there will be a dedicated workshop on computational techniques for nanophotonics.
Students will be challenged to brainstorm a topic for a collaborative research effort that explores nanophotonics-based solutions for current and future challenges in the 3 major fields: energy, health, and sustainability.

Keywords

Nanophotonics, energy, sensing, communication

Expected student activities

The students must attended all lectures and presentations.
Students have to bring a poster and pitch it on the first day. Additionally they must participate in a group project.

Resources

Moodle Link

- https://go.epfl.ch/PHYS-816