

# ICFO LECTURES | Ultrafast Measurement: What, why and how

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October 20, 2022

11:00 to 13:00

Blue Lecture Room and Online (Teams)

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This course will provide an overview on ultrafast measurement, covering why we do them, what information we can extract from them and how they are actually done. A survey approach will be taken to give an overview of the field and give a sense of how ultrafast measurement may be helpful in different applications.

**Ultrafast Measurement:** A very "top level" view of ultrafast, with emphasis on its relationship to static measurement. When do you really need it, and what does it really tell you about physical systems?

**Ultrafast probes:** Ultrafast measurement can be combined with a range of probes: optical spectroscopy, diffraction, multi-dimensional spectroscopy, photoelectrons, etc. This lecture will give an overview of different ultrafast probes and what information they can extract.

**Ultrafast sources:** How do you actually make all the beams needed to do the techniques from Lecture 2? Covers mode-locked lasers, ultrafast X-ray sources, THz and ultrafast photoelectron sources.

**Advanced topics:** A more detailed dive into exotic stuff like light-induced phase transitions and light-induced superconductivity.

The lectures will be held in the **BLR** and will also be broadcasted online on **October 6, 13, 20 & 27** from **11:00** to **13:00**.

Participation is open to all ICFOians

We strongly encourage you to attend the lectures in person. In case you are unable to attend in person, please, use the following link:

**ICFO lectures** are a series of introductory lectures covering topics on all main research area at ICFO, with an emphasis on topics relevant for experimental groups and/or not covered in other thematic lecture series

They will be held regularly on Thursdays in the BLR. Each series will include 4 lectures given

by ICFO group leaders and senior researchers from the different groups and external invite experts.

**Hosted by:** Academic Affairs