

# ICFO Schools on the Frontiers of Light

## Emerging Photovoltaics

### Description

Emerging solar cell technologies will play a key role in energy generation, and advanced technologies such as electrical vehicles, zero emission buildings, wearables or a new generation of smart devices. Harnessing energy from the sun is a rather complex interdisciplinary challenge that has been based on advances made both in material and photonic sciences.

This course, co-organized by researchers from ICFO and ICMAB, and delivered by leading international experts, will introduce the fundamentals of photovoltaic energy conversion both from an electronic as well as photonic point of view and will emphasize on the interplay of photonics with recombination and loss mechanisms, within the framework of the device physics for emerging photovoltaic cells.

The school includes advanced lectures, lab tours, research seminars, group discussion sessions covering cutting-edge topics in research and industry, and is ideally designed for **master-level** and **first year PhD students**.

### Lecturers & Topics

**Eli Yablonovitch**, University of California Berkeley. *Photonics of photovoltaics.*

**Thomas Kirchartz**, University of Duisburg-Essen. *Measuring and Understanding Recombination in Solar Cells*

**Jenny Nelson**, Imperial College London. *Understanding loss mechanisms in organic solar cells.*

**Juan Bisquert**, Universitat Jaume I, Castellón. *Device physics of perovskite solar cells.*

**Maria Antonietta Loi**, University of Groningen. *Quantum Dot solar cells.*

**Gregory Kozyreff**, Université Libre de Bruxelles. *Classical electromagnetism for ultra-thin solar cells.*

Organizing Committee: Prof. Jordi Martorell (ICFO), Prof. Gerasimos Konstantatos (ICFO), Prof. Valerio Pruneri (ICFO), Dr. Mariano Campoy Quiles (ICMAB) and Dr. Robert Sewell (ICFO).

Hosted at ICFO - the Institute of Photonics Sciences in Barcelona, Spain, ICFO Schools on the Frontiers of Light aim at giving talented young researchers and students worldwide a first introduction to a thematic research area and a taste of an international research environment. Supported by the **Ignacio Cirac Program Chair** and the **Fundació Catalunya - La Pedrera**, ICFO Schools are open to a limited number of students, selected on the basis of academic merit. International Travel Fellowships are available to outstanding applicants.



**Deadline: Friday 16 March 2018**  
**International Travel Fellowships Available**  
**2-6 July 2018, Barcelona**  
[frontiers.icfo.eu](http://frontiers.icfo.eu)

#### Trustees



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