

ADVANCED TOPICS



Advanced topics

FINAL PRESENTATION **January 19th, 2023**

- Text with **10pp** (max)
- Presentation **10 + 5'** (slides in english)
- Groups with **3** people
- Free **topic**

Advanced topics | possible topics 1

FUNDAMENTALS

Theoretical limit for efficiency of silicon solar cells

Theoretical limit for efficiency of n junctions

Up- and down-conversion of photons

Luminescent concentration

Advanced topics | possible topics 2

SOLAR CELL TECHNOLOGIES

DSSC solar cells

Organic solar cells

Perovskite solar cells

Silver-less solar cells

Texturing solar cells

Inkjet contact printing

CZTS solar cells

Multijunction solar cells

Spectral splitting solar cells

Bifacial solar cells

Coloured solar cells

Advanced topics | possible topics 3

SYSTEMS AND APPLICATIONS

Critical materials

Community solar – Bairro da Tabaqueira

Cleaning of PV systems

Batteries for PV

Smart grids with PV generation

Recycling

Pico solar

PV impact on the electricity grid

Crowd funding for PV deployment

Advanced topics | possible topics 4

SYSTEMS AND APPLICATIONS

Solar rover in the Antarctic

Concentrated solar energy

Solar thermal or PV power heat pump

PV adopters

PV in Portugal

BIPV products

PV forecasting

PV and climate change