

Dear students,

please find below some information regarding the **Physics of Solar Cells lecture**.

The lecture will be mostly held by me, while Lorena Perdigon and Francisco Peña-Camargo will do the exercises.

The suggested time and date for the lecture would be: 11:15-12:45, exercises: 13:00-13:45. However, we can also change the time to something else, where most of you would be available. I will send around a Doodle poll later to everyone who wants to participate in the course.

The lecture is planned as a recurrent Zoom meeting, a link will follow later.

If the time doesn't change, a first meeting is planned for Tuesday the 2<sup>nd</sup> November 11:15 am.

If you are interested in participating please contact me per email ([stolterf@uni-potsdam.de](mailto:stolterf@uni-potsdam.de)), or register in the platform Moodle, where we will upload all lecture and exercise notes. The Moodle link for the course is the following: <https://moodle2.uni-potsdam.de/course/view.php?id=30998>.

The password to register is:PVrocks

If you are an extern student (not from Uni Potsdam), you dont need any other official registration for the course (except for Moodle), however, Uni Potsdam students also need to register in PULS.

This lecture will discuss the physical processes in solar cells as well as recent developments in the field. Topics covered will include

- the solar radiation field
- physical limits to solar thermal energy conversion
- electrons and holes in semiconductors
- classic silicon solar cells
- physical limitations on energy conversion in solar cells (Shockley-Queisser limit)
- new concepts for efficient silicon solar cells
- drift diffusion simulations
- organic and hybrid devices
- perovskite solar cells
- tandem solar cells
- experimental technics: electro-optical and charge extraction measurement

Hope to see you soon and please just let us know if you have questions for now :)

Best regards,

Martin Stolterfoht

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