

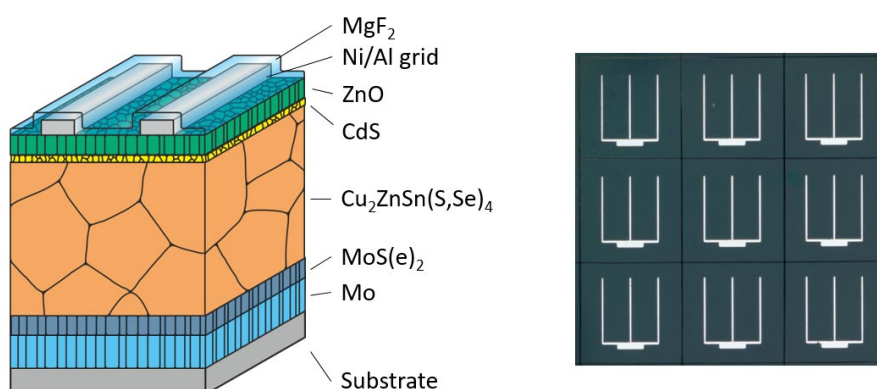
## Solution-processed kesterite solar cells

Kesterite is a class of alternative materials for light absorbers in thin film solar cells. These materials consist of earth-abundant elements, overcoming a limitation of other thin film technologies. Our laboratory at EMPA demonstrated the fabrication of solar cells by solution processing, delivering devices with close to 12% power conversion efficiency, one of the highest values worldwide.

We are always happy to discuss and define a project fitting the interests of the student as well as the needs of the lab. Potential topics could include:

- Implementation of alternative substrates (e.g. flexible stainless steel foil)
- Transparent back contact to foster the usage of kesterite in tandem solar cells
- Understanding the aging behavior and its related increase in open-circuit voltage ( $V_{oc}$ )
- Exploration of doping strategies, which have proven valuable for other PV technologies
- Development of instrumentation for home-made characterization tool (optics, automation)

For more details, please use the contact details below.



We are looking for a student in the field of Chemistry/Electrical Engineering/Materials Science/Physics. The ideal candidate is dedicated to both experimental based as well as analytical based work with a strong focus on applied research.

We offer you the opportunity to work in a motivated, multi-disciplinary team performing cutting-edge science in the field of thin film photovoltaics. You will get in touch with various deposition techniques such as spin coating, sputtering, chemical bath deposition and e-beam evaporation depending on the project. Additionally you get insights into PV characterization techniques such as JV and EQE measurements and you will not only learn how thin-film solar cells are fabricated, but also get a deeper understanding of the working principle of (thin-film) solar cells.

**Duration:** preferably 6 months (Master thesis)

**Starting date:** anytime

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