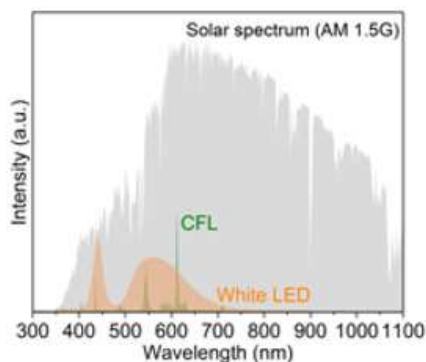
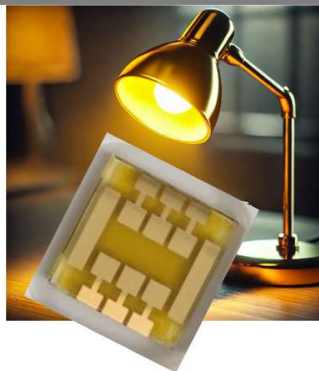




## Development of a Low-Light Illumination Setup to Evaluate Indoor Perovskite Solar Cells

Perovskite solar cells have garnered significant interest from the energy harvesting community as a promising alternative to silicon solar cells owing to their comparable power conversion efficiency of 26% in an impressively short span of time.

Traditional solar cells, like silicon-based ones, are more suitable for high-intensity sunlight using the AM1.5G spectrum (1000 W/m<sup>2</sup>). Indoor lighting, such as LEDs or fluorescent bulbs, provides much lower intensity (100–500 lux) and emits a narrower visible spectrum (400–700 nm). To assess perovskite solar cells (PSCs) for indoor applications like IoT devices, evaluating their performance under low-light indoor conditions is crucial.



### Tasks:

- Design and build a low-light illumination system to simulate typical indoor lighting (LED) at various intensities.
- Develop protocols for accurate evaluation of perovskite solar cells under low-light conditions.

### Requirements and What awaits you:

- Technical know-how of solar cells and familiarity with Python is a plus.
- Opportunity to contribute to sustainable science

Guo, Zhanglin. , et al ACS Energy Letters (2022)  
OpenAI. ChatGPT [Internet]. 2024 Oct 7.

Availability: **Immediate Start**

The report can be written **in German or in English.**

If you are interested, please attach your CV.

Supervisor: Sahana Suresh | Co-supervisor 1: Dr. Chittaranjan Das  
Co-supervisor 2: Matteo Schilirò

E-Mail: [sahana.sahana@ipv.uni-stuttgart.de](mailto:sahana.sahana@ipv.uni-stuttgart.de)

0711 / 685-69214

Raum 1.236, Pfaffenwaldring 47, 70569 Stuttgart

[www.ipv.uni-stuttgart.de](http://www.ipv.uni-stuttgart.de)

