



TECHNISCHE UNIVERSITÄT
CHEMNITZ

Institut für Physik Physikalisches Kolloquium



Mittwoch, 19.04.2023, um 11:15 Uhr

**Ort: Reichenhainer Str. 90;
Zentrales Hörsaal- und Seminargebäude,
Raum C10.013**

Dr. Selina Olthof

Universität zu Köln



GAEDE-PREISTRÄGER 2019

Fundamental investigations of halide perovskite properties - what have we learned so far?

Novel semiconducting materials for application in optoelectronic devices have been a prominent research topic in the past decades. Recently, this has been especially true for halide perovskites, which show extraordinary efficiencies when used as absorber material in solar cells. Here, the current rapid improvements in performance are impressive, however much remains to be learned about this material class.

After a short overview over the exciting research field of halide perovskites, I will introduce photoelectron spectroscopy as well as reflected electron energy loss spectroscopy as powerful tools to gain deeper insight into device relevant material properties. In particular, we are interested in probing the positions of the charge transport levels and figuring out how these can be tuned by changing the perovskite composition or its dimensionality.

In addition, we are also investigating the interface chemistry between halide perovskites and the adjacent transport layers used in solar cell devices. We find that the perovskite composition and film formation can be significantly influenced by chemical reactions taking place at these interfaces. Understanding and mitigating these processes is crucial for the development of efficient and stable optoelectronic devices.

Alle Zuhörer sind ab 11:00 Uhr zum Kaffee vor dem Hörsaal eingeladen.



Informationen zum Vortrag erteilt:
Prof. Dr. Dr. h.c. Dietrich R. T. Zahn, Tel. 0371 531 33036

www.tu-chemnitz.de/physik