



e-conversion



# Seminarankündigung

**Dienstag, 15. Juni 2021  
17:00 Uhr**

**ONLINE via ZOOM**

<https://tum-conf.zoom.us/j/64773420871>

Meeting ID: 647 7342 0871

Passcode: 501999

## **“Tailoring semiconductor growth with light”**

Realizing new semiconductor materials and advanced electronic device designs requires exceptional control of epitaxial growth processes. Some degree of control is typically achieved by tuning two parameters: temperature and chemical potential. Yet, there are many cases where additional degrees of freedom are desired. In this talk, I will focus on the use of light as an independent and tunable energy source that can be applied to modify growth processes. Observed changes in semiconductor materials grown under illumination have largely been linked to modification of adatom desorption rates and defect formation enthalpies in the presence of photogenerated carriers. I will detail our understanding of these mechanisms gained through experiments by our group and others and will also discuss ways in which to use light to overcome growth challenges based on these findings.

*Bio*

Kirstin Alberi received a doctorate in materials science and engineering from the University of California, Berkeley in 2008, where she studied the optical and electronic properties of highly mismatched semiconductor alloys. She joined NREL as a postdoctoral researcher in the Silicon Materials and Devices group to investigate the design and performance of thin crystalline silicon (c-Si) solar cells fabricated on inexpensive substrates. In 2010, Kirstin joined the Materials Physics group to conduct basic research on the epitaxy and properties of electronic materials for photovoltaic, solid-state lighting and other energy-relevant technologies.

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