



Dipl.-Phys. Sebastian Schellhammer
(Dresden University of Technology)

“Understanding and Designing Organic Materials for Solar Cell Applications Based on Multiscale Simulations”

About the lecture:

In recent years, organic solar cells have attracted growing interest from both academia and industry as they provide flexible, large-area devices with up to 13% efficiency that can be produced at room temperature and at low cost. Consequently, they allow versatile application in architecture and everyday life. As the efficiency of such technologies is strongly related to the molecular materials used, a connection between macroscopic device properties and molecular characteristics is essential for the design of optimized devices. Here, experiments are often limited in entering the molecular scale. In contrast, simulations of molecular properties and device phenomena can give insights that guide the production of improved organic solar cells.

About the speaker:

Already during his studies in physics at the TU Dresden, Mr. Schellhammer was fascinated by the computational analysis of organic materials for solar cell application. Over the years, his research activities have led to several publications in internationally renowned journals such as Nature Materials or Angewandte Chemie. In addition, he is a passionate educator and educationalist in STEM fields. Here, he aims at playing with the curiosity of the students to fascinate them for topics that do not appear fascinating at first sight.