



# Münchner Physik- Kolloquium

Winter  
2017/18

## Molecular orientation as key parameter in organic optoelectronics

**Prof. Dr. Wolfgang Brütting**, *Institut für Physik, Universität Augsburg*

Monday, 18 December 2017, 17:15 h  
Hörsaal 2, Physik-Department der TUM, Garching

Almost three decades after the first publications on efficient light-emitting diodes and solar cells, organic optoelectronics has become part of our everyday life, e.g. as displays for smartphones or television screens. Furthermore, owing to their unique features, like low-cost large-area processing or the compatibility with various kinds of substrates in almost arbitrary shape, organic semiconductors can lead to new kinds of applications rather than being competitors to their inorganic counterparts. One of the remarkable differences between both classes of materials is that the majority of molecular semiconductors exhibit orientational degrees of freedom due their anisotropic shape. The microscopic orientation of molecules in thin films has strong impact on macroscopic properties such as charge carrier transport and optical properties as well as on the efficiency of optoelectronic devices. This talk will discuss the driving forces for molecular orientation in neat films and guest-host systems and give examples for the influence of molecular orientation on optoelectronic properties in different types of structures and the consequences for device functioning.

## Student event: Meet the speaker

We invite you to a **student-only** discussion-round with Prof. Dr. Wolfgang Brütting before his Munich Physics Colloquium talk.

*Be curious and feel free to ask any question.*

Monday, 18 December 2017, 16:00 h  
Seminar room PH 3076 (upper floor), Physik-Department der TUM, James-Franck-Straße 1, Garching

