

特別講義

明治大学 国際交流基金事業

「研究者交流支援制度」

What drives molecular orientation in organic optoelectronics ?

2024年12月10日 火 17:10~
18:10

明治大学 生田キャンパス 第二校舎A館 A301教室

講演詳細（使用言語は英語です）

Molecular orientation has many different facets, leading to optical and/or electrical anisotropy in thin films, which are key for improving optoelectronic devices, such as organic light-emitting diodes. Over the years several approaches have been taken to understand and actively control molecular alignment. First and foremost, molecular properties like shape, size, molecular mass and chemical structure play a decisive role, opening a large arena for tailoring their properties. Additionally, in the process of physical vapor deposition of these materials to fabricate thin films, surface equilibration allows tuning their orientation by deposition rate or the substrate temperature. In this seminar, I will review the current understanding of the driving forces behind molecular orientation and show recent data on strongly aligned organic light emitters as well as unusually high spontaneous orientation polarization in organic host materials.

講師紹介 Prof. Wolfgang Brütting

Wolfgang Brütting is professor for experimental physics at the University of Augsburg, Germany. His focus lies on charge transport and photophysics of organic semiconductors and the devices based on them. In recent years, they have made important contributions to understanding and controlling molecular orientation, which can significantly boost light emission from organic LEDs. Further topics include charge-transfer doping in organic semiconductor mixtures, novel organic light emitters based on thermally activated delayed fluorescence and inorganic lead halide perovskite nanocrystals. He has also developed dedicated techniques to fabricate and investigate such effects in organic and hybrid optoelectronic devices.



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