

RIKEN Seminar

Time & Date : Thursday, February 10, 2011 PM 4:00-5:00

Place : Seminar room, 2nd floor, The Nanoscience Joint Laboratory

Language: English

**“Two topics in organic semiconductor research:
light-emitting organic field effect transistors and
graphoepitaxy aiming for oriented thin film growth on
amorphous substrates”**

Prof. Susumu Ikeda

*WPI Advanced Institute for Materials Research,
Tohoku University*



Organic semiconductors have attracted wide interest due to their flexibility, low energy and production costs, and large area electronics applications. This talk will introduce our two basic studies toward applications of organic semiconductors to electronic devices; one is ambipolar carrier transport leading to light emission and the other is a technique for making oriented thin-films.

[Light-emitting organic field effect transistors (LE-OFETs)]

Ambipolar carrier transport is a unique property of organic semiconductors as well as the merits such as flexibility mentioned above. Some organic semiconductors show simultaneous injection of electrons and holes into a crystal and light emission. Recently, light-emitting organic field effect transistors (LE-OFETs) using the ambipolar characteristics have extensively been studied as one of the candidates to realize an electrically-driven organic laser. I will introduce the LE-OFETs and our research being in progress.

[Graphoepitaxy]

Graphoepitaxy, oriented crystal growth on artificial microstructures, of inorganic materials was discovered about 30 years ago and has been investigated as a technique to control in-plane orientation of thin films on amorphous substrates. If this technique is also applicable to organic semiconductors, performance of organic devices such as thin film transistors (TFTs) is expected to be improved. I will talk about our experimental results of organic graphoepitaxy and an interesting phenomenon which has not been reported in inorganic systems.

日時：平成23年2月10日(木) 16-17時

場所：ナノサイエンス実験棟 2階 セミナー室

使用言語：英語

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graphoepitaxy aiming for oriented thin film growth on
amorphous substrates”**

池田 進 准教授

東北大学 原子分子材料科学高等研究機構



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問い合わせ：湊文俊(Kim表面界面科学研究室) 内線 8713 tminato@riken.jp