Seminar

Developing high performing ladder-type materials for organic electronic applications

講師：Professor Martin Heeney
Department of Chemistry, Imperial College London

日時：2019年11月20日 (水) 14:30～16:00

場所：工学部117講義室

講演概要：

Ladder type fused aromatic monomers have been at the forefront of conjugated semiconductor development, finding use as the active component in both transistor and solar applications. Here I discuss our recent efforts to develop flexible synthetic routes to a range of such monomers which allow the ready manipulation of the solubilizing sidechains, as well as the aromatic heterocycle in the fused unit. We show that the nature of the sidechain is important for both donor polymers and non-fullerene acceptors. Changing from commonly used arylalkyl to simple alkyl sidechains is shown to have a positive impact on the performance of materials in single junction solar cells. We also demonstrate that the nature of the fused heterocycle has an important impact on the optoelectronic properties and device properties, highlighting that fused electron rich heterocycles are attractive building blocks for both donor and acceptor materials.

連絡先：工学研究科 応用化学専攻　尾坂 格（TEL: 7744, E-mail: iosaka@hiroshima-u.ac.jp）