

第65回 新大先端化学セミナー

主催：自然科学研究科化学コース・理学部化学プログラム
共催：ユビキタスグリーンケミカルエネルギー連携教育研究センター

日時：2026年5月29日17:00-18:00

場所：物質生産棟161

演題：Characterization of Photoexcited Triplet and Quintet States by Time-Resolved EPR Spectroscopy

演者：Christopher W. M. Kay^{1,2}

1. Physical Chemistry and Chemistry Education, Saarland University, Saarbücken, Germany
2. London Centre for Nanotechnology, University College London, London, UK



概要：The Jablonski diagram lies at the heart of molecular photophysics, yet the use of EPR spectroscopy to elucidate the electronic structure, kinetics and dynamics of photo-excited triplet and quintet states is still often considered a niche experimental approach in comparison with optical spectroscopy, e.g. transient absorption, due to the intrinsically higher time-resolution and sensitivity of the latter. The key advantage of EPR is that it can directly detect and differentiate the spin-states of an ensemble of molecules. In this talk, I will discuss some of the highlights of our work using both time-resolved and pulsed EPR spectroscopy to investigate photoexcited states of porphyrins, porphycenes and pentacene both in frozen solution and in ordered thin films. I will show that the two techniques are highly complementary due to their different dependence on relaxation times.

問い合わせ先：理学部化学プログラム 生駒忠昭 (ikoma@chem.sc.niigata-u.ac.jp)