

세미나 초록

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| 발표 주제 | Investigating ultrafast photoinduced processes of natural and model light harvesting systems through non-linear electronic spectroscopies |
| 발표 내용 | <p>Understanding the mechanism of photoinduced energy transfer and charge transfer involving excitonic states of multichromophoric assemblies is essential for understanding the high quantum efficiencies of natural photosynthetic complexes and developing design principles for artificial photosynthetic devices and organic photovoltaic materials. However, studying multichromophoric systems can be challenging due to their structural complexity and overlapping spectral features as well as temporal overlap of ultrafast processes happening in femtosecond (fs, 10^{-15}s) to picosecond (ps, 10^{-12}s) timescale. Two-dimensional electronic spectroscopy (2DES) can be used to help alleviate spectral congestion and gain insight into energy transfer pathways in multichromophoric assemblies. Another approach is to investigate structurally simpler model systems that mimic certain aspects of multichromophoric assemblies. In this talk, I introduce both approaches: applying 2DES to photosystem I (PSI), a large natural multichromophoric assembly, and investigating a structurally simpler model light harvesting system, a dimeric metallo-based dipyrin complex using fs and nanosecond (ns) transient absorption spectroscopies and 2DES.</p> |