

# 화학고 세미나

오준학 교수  
서울대학교 화학생물공학부

## Harnessing Multiscale Chirality for Advanced Optoelectronics

Harnessing multiscale chirality in chiral organic semiconductors ranging from molecular to supramolecular chirality will open new opportunities for next-generation optoelectronics and spintronics. I will present synthesis of chiral organic semiconductors, fabrication of supramolecular semiconducting materials, structure-property relationships, and their applications in various physicochemical sensors. In addition, a simple yet powerful method to fabricate chiroptical flexible layers via supramolecular helical ordering of conjugated polymer chains will be introduced. These findings provide guidelines for enhancing chiroptical properties using multiscale chirality and rational molecular design of organic semiconductors toward high-performance chiral optoelectronics. In addition, these results demonstrate an effective strategy to realize on-chip detection of the spin degree of freedom of photons necessary for encoded quantum information processing and high-resolution polarization imaging.

**Date : 2024년 9월 12일 (목) 오후 5시**

**Location : 과학관 B130호**

**Host : 연세대학교 화학고**

