

# Symposium Light and Chirality: From Fundamentals to Applications (SYLC)

jointly organised by  
the Molecular Physics Division (MO) and  
the Quantum Optics and Photonics Division (Q)

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Molecular chirality is rapidly emerging as a frontier in ultrafast science and quantum technologies, and lies at the heart of many of nature's most fundamental processes such as chiral recognition, where enantiomers interact differently with their environment—shaping biological activity and molecular self-assembly. The electronic properties of chiral molecules are also attracting growing interest, exemplified by ultrafast, light-driven electronic responses that display enantioselectivity and by phenomena such as chirality-induced spin selectivity (CISS). These effects open new avenues for spin-selective applications and light-based molecular control. Beyond gas-phase studies, advances in the design of chiral nanostructures and the development of functional chiral materials are expanding the reach of chirality research into areas as diverse as photoswitches, optoelectronics, and enantioselective sensing. This symposium will bring together theoretical and experimental experts across these topics to explore the multidimensional nature of chirality and its role in shaping this key pillar of molecular science.

## Overview of Invited Talks and Sessions

(Lecture hall RW 1)

### Invited Talks

SYLC 1.1	Wed	14:30–15:00	RW 1	<b>Enantio-sensitive molecular compass</b> — P. M. FLORES, S. CARLSTROEM, S. PATCHKOVSKII, M. IVANOV, V. MUJICA, A. F. ORDONEZ, ●O. SMIRNOVA
SYLC 1.2	Wed	15:00–15:30	RW 1	<b>Conjugation, chirality and optical activity</b> — ●MATTHEW FUCHTER
SYLC 1.3	Wed	15:30–16:00	RW 1	<b>Gas-phase spectroscopy of chiral molecules</b> — ●ANNE ZEHNACKER, ETIENNE ROUQUET, VALÉRIA LEPÈRE, GUSTAVO GARCIA, LAURENT NAHON
SYLC 1.4	Wed	16:00–16:30	RW 1	<b>Toward a low-energy test of the parity symmetry via precise mid-IR spectroscopy of cold chiral molecules</b> — AGATHE BONIFACIO, SAHIL VIEL, RAPHAËL HAHN, MINH NHUT NGO, MARYLISE SAFFRE, YUHAO LIU, WENLING DONG, ETIENNE CANTIN, OLIVIER LOPEZ, ANNE AMY-KLEIN, MATHIEU MANCEAU, ●BENOÎT DARQUIÉ

### Sessions

SYLC 1.1–1.4	Wed	14:30–16:30	RW 1	<b>Light and Chirality: From Fundamentals to Applications</b>
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### Related sessions within the Molecular Physics Division

MO 19.1–19.3	Wed	17:00–19:00	Philo 1. OG	<b>Poster – Contributions to SYLC</b>
MO 23.1–23.6	Thu	11:00–12:45	P 110	<b>Contributions to SYLC I</b>
MO 26.1–26.6	Thu	14:30–16:15	P 110	<b>Contributions to SYLC II</b>