

Symposium Quantum Sensing and Decoherence in Solid-State and Photonics Systems (SYQS)

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As quantum technologies rapidly evolve, understanding and harnessing quantum coherence at the nanoscale is becoming increasingly vital. This symposium focuses on the most recent advances in the control and sensing of quantum systems in solid-state and photonic platforms, where interactions between light and material excitations play a central role in shaping and preserving their quantum behaviour.

The session will host a distinguished lineup of invited speakers, covering a range of topics from fundamental aspects of coherence and entanglement to practical designs capable of harnessing quantum dynamics. Implementations using platforms such as photonic cavities, nanomechanical resonators, and semiconductor or superconducting devices will be discussed to foster advances in quantum computation, quantum-enhanced imaging, nanoscale sensing and manipulation, and the development of novel hybrid quantum systems for future technologies.

Overview of Invited Talks and Sessions

(Lecture hall ZHG105)

Invited Talks

SYQS 1.1	Mon	10:45–11:15	ZHG105	Quantum Technologies for Sensing and Imaging in the Life Sciences — •MARTIN B PLENIO
SYQS 1.2	Mon	11:15–11:45	ZHG105	Quantum technologies with semiconductor color centers in integrated photonics — •JELENA VUCKOVIC
SYQS 1.3	Mon	11:45–12:15	ZHG105	Towards spin-based quantum sensing in hybrid nanomechanical systems based on silicon carbide — •EVA WEIG
SYQS 1.4	Mon	12:15–12:45	ZHG105	Quantum Sensing of Quantum Matter — •AMIR YACOBY

Sessions

SYQS 1.1–1.4	Mon	10:45–12:45	ZHG105	Quantum Sensing and Decoherence in Solid-State and Photonics Systems
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