# Symposium Spins in Molecular Systems: Strategies and Effects of Hyperpolarization (SYMS)

jointly organised by
the Thin Films Division (DS),
the Magnetism Division (MA),
the Low Temperature Physics Division (TT), and
the Surface Science Division (O)

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Spin hyperpolarization in molecular systems describes the transient electronic or nuclear spin order that surpasses the Boltzmann distribution. There is an enormously increasing interest in the fundamental aspects of building-up, transport and relaxation of spin hyperpolarization. Strategies that have been tested for building-up spin hyperpolarization include the controlled realization of molecule-based interfaces, spin pumping, spin injection, intersystem crossing or the chiral induced spin selectivity in molecular solids, thin films or devices. On the other hand, significant efforts are being made on the experimental and theoretical side to understand the mechanisms of transport of spin hyperpolarization and the related relaxation processes. This interdisciplinary symposium brings together experts working on various experimental and theoretical aspects of thin films, magnetism, surface science as well as device physics, aiming to identify common mechanisms involved in different hyperpolarization strategies in order to push synergistic advances in this field.

## Overview of Invited Talks and Sessions

(Lecture hall H1)

### Invited Talks

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| SYMS 1.1 | Wed | 15:00–15:30 | H1 | **Exploring the Non-Perturbative Magnetic Resonance Drive Regime with spin selection rules in a $\pi$-Conjugated Polymer** — •Christoph Boehme |
| SYMS 1.2 | Wed | 15:30–16:00 | H1 | **The puzzle of spin and charge transport in the chirality induced spin selectivity effect** — •Bart van Wees |
| SYMS 1.3 | Wed | 16:00–16:30 | H1 | **Nano- and Microscale NMR spectroscopy with spin qubits in diamond** — •Nabeel Aslam |
| SYMS 1.4 | Wed | 16:45–17:15 | H1 | **Spin effects in adsorbed organometallic complexes** — •Richard Berndt |
| SYMS 1.5 | Wed | 17:15–17:45 | H1 | **Quantum Computing with Molecules** — •Mario Ruben |

### Sessions

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| SYMS 1.1–1.5 | Wed | 15:00–17:45 | H1 | **Spins in Molecular Systems: Strategies and Effects of Hyperpolarization** |