
# Rare-earth single-molecule magnets: chemical design of spin qubits

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I will summarize how Chemistry can contribute to the study and design of nanosized smart elementary building blocks for quantum devices. Molecular nanomagnets are magnetic molecules which can be easily tailored, manipulated and assembled, and since spins behave quantum-mechanically, molecular nanomagnets can be employed as tuneable qubits.

Focusing on the case of mononuclear rare earth compounds, I will go over a variety of paths which Chemistry has recently opened for quantum technologies, a field which is generally dominated by Physics. This includes strategies to enhance quantum coherence in the solid state, approaches to prepare magnetic molecules with tailored spin energy levels and the current problems to making the transition to the device

**REMEMBER**

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Place: ICN2 Seminar Hall

Invited by: Prof. Stephan Roche

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