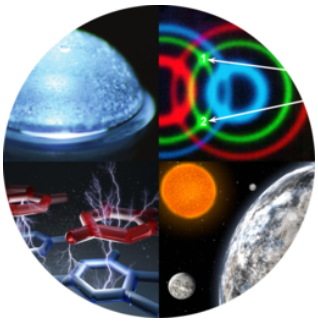

Münchner Physik-Kolloquium

Winter 2019/20

Molecular spins for quantum computing

Prof. Dr. Eugenio Coronado, *Universidad de Valencia, Paterna, Spain*

Monday, 27 January 2020, 17:15 h
Hörsaal 2, Physik-Department der TUM, James-Franck-Straße 1, Garching

Spins provide one of the simplest platforms to encode a quantum bit (qubit), the elementary unit of future quantum computers. Here I will discuss how molecular magnetism can contribute to the design of robust quantum spin systems [1]. Using molecular nanomagnets as key examples, I will illustrate the variety of paths that a chemistry-based bottom-up approach has recently opened for quantum technologies: from the design of molecular spin qubits with enhanced quantum coherence to the coupling of these for implementing quantum logic gates. Finally, I will describe how the integration of these molecular quantum units into devices might lead to scalable quantum computation architectures [2].

References
[1] E. Coronado, Nat. Rev. Mater. (2019). DOI: 10.1038/s41578-019-0146-8
[2] A. Gaita-Ariño, F. Luis, S. hill, E.Coronado, Nature Chem. 11, 301-309 (2019)

Student event: Meet the speaker

*We invite you to a **student-only** discussion-round with Prof. Dr. Eugenio Coronado before his Munich Physics Colloquium talk.*

Be curious and feel free to ask any question.

Monday, 27 January 2020, 16:00 h,
Seminar room PH 3268 (upper floor), Physik-Department der TUM, James-Franck-Straße 1, Garching