Workshop WG2 and WG3: Quantum spin science and technologies

Bucharest, Novotel Bucharest City Centre Hotel

August the 31st to September the 1st 2017

Introduction and aim of the workshop:

The workshop aims to bring together specialists on spin qubits and single molecule spintronics, provide a relaxed atmosphere to promote fruitful scientific discussions of the two communities and help establishing collaborations that contribute to develop future quantum technologies.

Invited speakers

Richard Berndt (Kiel University, Germany)

Enrique Burzurí (IMDEA Nanociencia, Madrid, Spain)

Thomas Jung (Basel University, Switzerland)

Johannes Majer (Technical University of Vienna, Austria)

Roberta Sessoli (Florence University, Italy)

Programme of the workshop

Day 1: August the 31st

Session 1 (Chair: F. Luis)

15:00 R. Sessoli (invited), "Vanadyl-based molecules: a playground for rational design of molecular spin qubits"

15:40 A. Ariciu, "A unique Yttrium(II) complex showing Rabi oscillations at room temperature in single crystal"

16:05 L. Barrios, "Magneto-optical molecular device: entanglement of spin crossover, luminescence, Liesst effect and photochromism"

16:30 Coffee break

Session 2 (Chair: E. Coronado)

17:05 J. Majer (invited), "Hybrid Quantum Systems: Coupling Spins to Superconducting Resonators"

17:45 C. Bonizzoni, “Coherent coupling between vanadyl phthalocyanine spin ensemble and microwave photons: towards integration of molecular spin qubits into quantum circuits”

18:10 J. van Slageren, “Towards integration of molecular quantum bits”

18:35 E. Garlatti, “Portraying entanglement between molecular qubits with four-dimensional inelastic neutron scattering”

Day 2: September the 1st

Session 3 (Chair: H. van der Zant)

9:00 R. Berndt (invited), “Contacts to magnetic molecules and atoms”

9:40 C. Herrmann, “Pathways in spin-polarized molecular conductance and spin coupling”

10:05 S. Lumetti, “Spin flip induced by microwave pulses in a molecular spin transistor”

10:30 Coffee break

Session 4 (Chair: S. Loth)

11:05 T. Jung (invited), “Programming Electronic and Spin States in Surface Supported Supramolecular Arrays”

11:45 J. Baldoví, “Peptides as versatile scaffolds for molecular spins in the context of quantum technologies”

12:10 J. De Bruijckere, “Yu-Shiba-Rusinov bound states in hybrid superconductor-single-molecule systems”

12:35 M. Etzkorn, “Modifying magnetic properties of metalloporphyrins on surfaces”

13:00 Lunch

Session 5 (Chair: U. Schlickum)

15:00 E. Burzurí (invited), “Electron transport through individual all-organic polyradicals”

15:40 B. Borca, “Strong anchoring between molecular endgroups and metal surface electrode by a locally triggered chemical reaction”

16:05 Closing