

362nd Wilhelm- and Else-Heraeus Seminar

“Advances and Prospects in Molecular Magnetism”

Seminar Programme

Sunday, Nov. 13, 2005

from 17.00 Arrival at the Physikzentrum Bad Honnef
18.30 *Buffet dinner*

Monday, Nov. 14, 2005

7.45 *Breakfast*

8.50 Welcome note, introduction

9.00 W. Wernsdorfer (Grenoble):
“Quantum Dynamics in Single-Molecule Magnet”

9.40 A. Cornia, C. Zanardi, L. Zobbi (Univ. Modena), A. Caneschi, D. Gatteschi, M. Mannini, R. Sessoli (Univ. Florence), B. Jan Ravo, D. N. Reinhoudt, E. A. Speets (Univ. Twente), D. Barreca (Univ. Padova), E. Tondello (Univ. Padova):
“Organizing single-molecule magnets on surfaces”

10.20-10.50 *Coffee break*

10.50 Mark R. Pederson (Naval Research Laboratory):
“Density-Functional-Based Investigation of Molecular Magnets”

11.30 M.R. Wegewijs, C. Romeike, W. Hofstetter, H. Schoeller (RWTH Aachen): *“Electron transport through single-molecule magnets”*

12.15 *Lunch*

14.30 B. Barbara (Grenoble):
“Quantum Spin Dynamics in Rare-Earth Systems”

15.10 J. Kortus (TU Bergakademie Freiberg):
“First-principles DFT calculations of the magnetic anisotropy in transition metal compounds”

15.50 -16.15 *Coffee break*

16.15 L. Bogani, R. Sessoli, K. Bernot, L. Cavigli, A. Caneschi, D. Gatteschi (Univ. Florence):
“Interweaving Chemistry and Physics in Single Chain Magnets”

16.45 **Short oral contributions** – these contributions also presented as posters (12 + 3 min discussion)

V. Kataev (IFW Dresden):

“Tuning of the ground state of a tetranuclear Nickel cluster by strong magnetic field”

P. Lemmens (TU Braunschweig):

“Raman light scattering on molecular ferric star $[\text{Fe}\{\text{Fe}(\text{L}_1)_2\}_3]$ and cyclic hexanuclear clusters $[\text{Na}_x\text{Fe}_6\{\text{N}(\text{CH}_2\text{CH}_2\text{O})\}_6]^{+x}$ ”

H. Lueken (Aachen):

“Application of the high-temperature series expansion (HTSE) method to magnetically condensed molecular spin systems”

C. Mennerich (TU Braunschweig):

“High-field magnetization and ESR on a $S = 1$ spin ladder”

M. Murrie (Glasgow):

“Cobalt(II) single-molecule magnets”

E. Rentschler (Univ. Mainz):

„Structural and magnetic investigations of the mixed-valence iron(II,III) 2D layer complex $[\text{Fe}^{\text{II}}_2\text{Fe}^{\text{III}}_2(\text{HCOO})_{10}(\text{C}_6\text{H}_7\text{N})_6]_n$ above and below the ordering Temperature“

18.15 Dr. Ernst Dreisigacker (WE-Heraeus Stiftung, Hanau) –
“Introduction to the WE-Heraeus foundation”

19.00 *Dinner (Heraeus Evening, sponsored by the WE-Heraeus Stiftung)*

Tuesday, Nov. 15, 2005

8.00 Breakfast

9.00 H.S.J. van der Zant, H.B. Heersche, Z. De Groot (TUDelft), C. Romeike, M.R. Wegewijs (RWTH Aachen), D. Barreca, E. Tondello (Univ. Padova) L. Zobbi, A. Cornia (Univ. Modena):
"Three-terminal devices with the single molecule magnet Mn₁₂"

9.40 K. Kern (MPI Stuttgart)
"Local spectroscopy of magnetic atoms in molecular environments"

10.20-10.50 Coffee break

10.50 E. M. Chudnovsky, D. A. Garanin (CUNY), R. Schilling (Univ. Mainz):
"Spin-phonon Relaxation in Molecular Magnets"

11.30 H. Nojiri (Tohoku Univ.):
"Magnetization reversal in 0 and 1D spin systems in fast sweeping magnetic fields"

12.15 Lunch

14.00 M. Katsnelson (Univ. Nijmegen): *"Intramolecular magnetic interactions in molecular magnets"*

14.40 O. Waldmann (Univ. Bern): *"Elementary excitations in antiferromagnetic molecular nanomagnets"*

15.20 -15.50 Coffee break

15.50 J. Lehmann, D. Loss (Univ. Basel):
"Cotunneling current through magnetic molecules with phonon-assisted spin-flip processes"

16.30 T. Glaser and M. Heidemeier (Univ. Bielefeld):
"Rational Design of Single-Molecule Magnets"

17.00 A. Nakajima, K. Miyajima, M.B. Knickelbein, K. Kaya (Keio Univ, Yokohama): *"Electronic and magnetic properties of Organometallic sandwich clusters"*

17.30 F. Renz (Univ. Mainz): *"Magnetic interaction in tetra-, hepta-, and nona-nuclear compounds along with switching between 6 to 18, 6 to 30, and 8 to 40 unpaired electrons"(short oral contr.)*

17.45 J. Richter (Univ. Magdeburg): *"Frustrated spin systems in high magnetic fields" (short oral contr.)*

18.30 Dinner

20.00 - 21.30 Posters and Beer

Wednesday, Nov. 16, 2005

8.00 **Breakfast**

9.00 J. van Slageren, N. Kirchner, S. Vongtragool, F. El Hallak, M. Dressel (Univ. Stuttgart, Germany), A. Mukhin, B. Gorshunov (Russian Academy of Sciences, Russia):
"Frequency Domain Magnetic Resonance Spectroscopy on Molecular Magnets"

9.40 H. Rupp, B. Barbara, P. Müller, S. Brink, O. Fuhr, and M. Ruben:
"Quantum Tunneling in a Dysprosium Double-Decker Complex"

10.10-10.40 **Coffee break**

10.50 Chr. Schröder (FH Bielefeld):
"Exploring magnetic molecules with classical spin dynamics methods"

11.30 Concluding remarks

12.00 **Lunch and Coffee**

Afternoon Departure