Wednesday, 04 January 2006

From 10:00 Arrival and Registration at the Physikzentrum Bad Honnef

12:30 LUNCH

14:00 **Welcome,**
J. Fassbender, Forschungszentrum Rossendorf

LITHOGRAPHICALLY PREPARED NANOSTRUCTURES I

Chair: J. Fassbender

14:10 **C. A. Ross.** Massachusetts Institute of Technology, USA
Magnetic properties of lithographically patterned nanostructures

15:00 **M. Giersig,** Center of Advances European Studies and Research (CAESAR)
Fabrication of Nanoscale magnetic Rings, Dots, and Rods by Combining Shadow Nanosphere Lithography and Annealed Polystyrene Nanosphere Masks

15:30 **J. N. Chapman,** University of Glasgow, Glasgow, UK
Manipulating domain walls in magnetic nanostructures

16:00 – 16:30 COFFEE BREAK

LITHOGRAPHICALLY PREPARED NANOSTRUCTURES II

Chair: C. A. Ross

16.30 **R. P. Cowburn**, Imperial College London, UK
Patterned magnetic nanostructures for digital logic and ultrahigh density data storage

17:00 **M. Albrecht**, University of Konstanz
Magnetic multilayered films on nanoparticles

Wednesday, 04 January 2006

17.30	**R. Hertel**, Forschungszentrum Jülich *Finite-Element Modeling of Mesoscopic Magnetic Particles*
18.00	**A. Remhof**, Ruhr Universität Bochum *Collective behavior of artificial magnetic dipoles*
18.20	**G. Myszkiewicz**, Radboud University Nijmegen *Fabrication of magnetic nanostructures by laser manipulation of atoms*

19:00 - 20:00	DINNER *Followed by a social evening at the invitation of the Wilhelm und Else Heraeus-Stiftung in the "Bürgerstube" at the Physikzentrum*

Thursday, 05 January 2006

08:00 BREAKFAST

MAGNETIC NANOPARTICLES (General)

Chair: U. Nowak

09:00 **D. J. Sellmyer**, University of Nebraska, USA
High-Anisotropy Nanomagnets: Synthesis, Assembly and Properties

09:50 **C. Amiens**, CNRS Tolouse, France
From metal-organic complexes to organized magnetic nanocrystals

10:20 - 10:50 COFFEE BREAK

MAGNETIC NANOPARTICLES (FePt)

Chair: D. J. Sellmyer

10:50 **B. Rellinghaus,** IFW Dresden
Films of high anisotropy nanomagnets from the gas phase – chances and challenges

11:20 **K. Albe**, TU Darmstadt
Thermodynamic properties of FePt Nanoparticles

11:50 **U. Nowak**, University of York
Thermal switching of FePt nanoparticles

12:20 LUNCH

***NEW COMPLEX SYSTEMS* I**

Chair: C. M. Schneider

14:00 **H. G. Boyen**, University of Ulm
A micellar route to ordered arrays of magnetic nanostructures – from size-selected metal dots to metal/metaloxide core-shell systems

Thursday, 05 January 2006

14:30	**K. Nielsch**, MPI Halle *Tubular Magnetic Nanostructures:* *Single-layer, Multilayer and Multisegmented Nanotubes*
15:00	**M. Gruner**, University of Duisburg-Essen *Magnetomechanic properties of magnetic hollow microspheres*
15:30	**U. Wiedwald**, University of Ulm *Correlation of Orbital Magnetism and Exchange Bias in Co/CoO Core-Shell Nanoparticles*
15:50 – 16:30	COFFEE BREAK

MAGNETIC NANOPARTICLES;

NEW COMPLEX SYSTEMS II

Chair: M. Farle

16.30	**H. Brückl**, Austrian Research Centers Seibersdorf *Biomolecular diagnostics by a magnetic lab-on-a-chip*
17.20	**I. Ennen**, University of Bielefeld *Ligand stabilized magnetic nanoparticles for applications in 'bottom-up' granular structures and biotechnology*
17.40	**K. Potzger**, Forschungszentrum Rossendorf *Fe doped ZnO – a diluted magnetic semiconductor*
18.00	**D. Grundler**, TU München *Spin-wave interference in nanostructured rings*
18.20	**H. Wende**, FU Berlin *Importance of enhanced spin fluctuations in magnetic nanostructures*
19:00 - 20:00	DINNER
20:00 - 22:00	Poster Presentation

Friday, 06 January 2006

08:00 BREAKFAST

SELF-ORGANIZED NANOSTRUCTURES I

Chair: H. J. Elmers

09:00 **H. Brune**, Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland
Nanoscale Magnets Created by Self-Assembly at Surfaces

09:50 **K. Fauth**, MPI Stuttgart
Nanoscale magnetism – probed with XMCD

10:20 - 10:50 COFFEE BREAK

SELF-ORGANIZED NANOSTRUCTURES II

Chair: H. Brune

10:50 **W.-D. Schneider,** Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland
Adatom Superlattices Created by Surface State Electrons

11:20 **H. J. Elmers**, University of Mainz
Spin-polarized tunnelling microscopy of Fe/Mo(110) nanostructures

11:40 **O. Rader**, BESSY
Bottom-up fabrication of Au quantum wires and Ni nanomagnets using the R(15×3)-surface carbide of W(110) as template

12:00 **Summary:**
M. Farle, University of Duisburg-Essen

12:10 LUNCH

End of the Seminar / Departure

Posters

C. Antoniak
High-Temperature transformation in oxide-free FePt nanoparticles probed by x-ray magnetic circular dichroism

B. Beschoten
Magnetization switching by spin transfer torque in magnetic nanostructures

X. Chen
Interacting ferromagnetic nanoparticles in the superspin limit: from modified superparamagnetism to collective magnetic states

H. Ebert
Magnetic and spectroscopic properties of Ru and Mo clusters deposited on Fe(001) and Ni(001)

M. Daub
Magnetic nanotubes by atomic layer deposition

O. Dmitrieva
Structural characterisation of FePt-Nanoparticles from the gas-phase using HRTEM

A. Enders
Coordination effects in low-dimensional Fe-Pt alloys

C. Felser
From band structure to devices: Heusler and Half-Heusler compounds

M. Feygenson
Cobald nanoparticles synthesized in water-in-oil microemulsion

M. Fonin
Direct observation of isolated single-molecule magnets grafted on the functionalized Au(111) surface

A. Fraile Rodríguez
X-ray spectromicroscopy of individual nanoscale particles

I. L. Guhr
Control of magnetic anisotropy and magnetic patterning of perpendicular Co/Pt multilayers by laser irradiation

J. Hamrle
Brillouin light scattering microscopy investigations of quantized spin waves in mesoscopic magnetic rings

Posters

C. Hofer
Nanomagnet arrays fabricated on self-organized semiconductor templates

P. J. Jensen
Energy barriers, relaxation paths, and spin correlations in disordered magnetic nanostructures

Th. Kebe
In situ UHV SQUID magnetometry on ultrathin Fe films on GaAs(001)

E. Kentzinger
Depth-resolved investigation of lateral structural and magnetic correlations in multilayers. From µm to nm length scales

W. Keune
Magnetism and Phonons at Fe/InAs(001) interfaces

A. Kleibert
Magnetic spin and orbital moments of mass-filtered Fe Nanoparticles on Co/W(110) – and XMCD study

R. Klingeler
Carbon coated nanomagnets: Ferromagnetically filled CNT and endohedrally doped magnetic fullerenes

I. Knittel
Antiferromagnetic centers in Fe_3O_4 magnetite films

M. R. Koblischka
High-frequency MFM characterization of magnetic recording write poles

D. Korolkov
Nanostructure fabrication using diblock-copolymers

P. Kratzer
Theoretical investigations of ultrathin epitaxial transition-metal silicide films on Si(001)

A. Kubetzka
The influence of the W substrate and its symmetry onto the exchange interaction in ultrathin Fe nanostructures

K. Kuepper
Magnetic domains and magnetization reversal of ion-induced magnetically patterned RKKY-coupled $Ni_{81}Fe_{19}/Ru/Co_{90}Fe_{10}$ films

M. Laufenberg
Domain wall spin structure, depinning and dynamics in ferromagnetic nanostructures at variable temperature

Posters

R. Lehndorff
Current-induced switching and microwave excitations of nanomagnets made of single-crystalline iron

V. V. Maslyuk
Organometallic wires: one-dimensional half-metals

M. Münzenberg
Dynamics of spin currents in all-optical pump probe and spin torque experiments

F. Nolting
Determination of the antiferromagnetic spin axis of individual domains in $LaFeO_3$ thin films

K. Pappert
Transport studies on (Ga,Mn)As nanomagnets

O. Rader
On the problem of the “three-dimensional” Fermi surface on the Ni monolayer on Cu(100)

G. Reiss
Current assisted switching of magnetic tunneling cells with MgO barriers

E. Schuster
Preparation and characterization of epitaxial Fe(001) thin films on GaAs(001)-based LED for spin injection

H. Stillrich
Magnetic nanostructures by mask techniques

T. Ulbrich
Magnetic multilayers on nanospheres: Experiments and simulations

E. Y. Vedmedenko
Multipolar ordering and magnetization reversal in two-dimensional nanomagnet arrays

T. Weis
Magnetic bragg reflexes on resonant magnetic X-ray scattering on switchable magnetic structures

H. Zabel
Magnetic reversal of microstructured patterns

Kh. Zakeri
Magnetic anisotropy and magnetization of Fe monolayers on {4x6} GaAs(001)