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Instructions for presenters:

Poster:
- 1 m width, 1.5 m height

Talks:
- duration: 20 min + 5 min discussion
- overhead, slide projector and beamer will be provided

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AUGUSTUSBURG CONFERENCE OF ADVANCED SCIENCE

Third circular

Molecular Nanotechnology 2001

September 05th - 07th 2001
Castle Augustusburg, Saxony, Germany

Organizers:
Dr. Wolfgang Fritzsche
IPHT Jena, Germany
Uwe Meinig
Castle Augustusburg, Germany

Scientific Committee:

W. Fritzsche
IPHT Jena, Germany
Chairman of Conference

J. M. Köhler
TU Ilmenau, Germany
Wednesday, September 5

13:00 Opening of the conference

**Introduction**

13:15 J. M. Köhler (Ilmenau, Germany)
Nanotechnology beyond genes and beads

**Nanoparticles**

13:40 A. P. Alivisatos (Berkeley, USA)
Inorganic Nanorods: Synthesis, Alignment Properties

14:05 G. Hacker (Salzburg, Austria)
Detection of single molecules by gold-silver and gold gold staining methods

14:30 J. Yguerabide (San Diego, USA)
Resonance Light Scattering Particles as Fluorescent Analog Labels for Ultrasensitive Analyte Detection

14:55 Break

15:30 W. Fritzsche (Jena, Germany)
Nanoparticle-based optical read-out for DNA-chip technology

15:55 A. Lazarides (Chicago, USA)
DNA-nanoparticle assemblies: structural basis for the optical and electrical properties

16:20 C. D. Keating (Penn State, USA)
DNA-directed assembly of metal particles for biosensing and nanomaterials synthesis

16:45 Poster Session

18:30 Castle Tour

19:30 Opening Dinner

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**Thursday, September 6**

**Molecular assemblies and machines**

9:00 V. Balzani (Bologna, Italy)
Molecular-Level Devices and Machines

9:25 F. Kremer (Leipzig, Germany)
Ferroelectric liquid crystalline elastomers: novel materials for nanomachines

9:50 E. Unger (Jena, Germany)
Development of biomolecular nano-step shuttles

10:15 T. Surrey (Heidelberg, Germany)
Physical properties determining self-organization of motors and microtubules

10:40 Break

**Nanotools for Characterization and Manipulation**

11:00 K. O. Greulich (Jena, Germany)
Manipulation of single DNA-molecules by laser tweezers

11:25 M. Miles (Bristol, UK)
Scanning Probe Techniques for Single Molecule Studies

11:50 E. Henderson (Ames, IA USA)
Nanoscale Biomolecular Arrays

12:15 Lunch

13:30 G. Bischoff (Halle, Germany)
Atomic Resolution Imaging of Nucleic Acid/Taxol Complexes

13:55 R. Zhdanov (Moscow, Russia)
DNA supramolecular complex - natural lipid-bound DNA as studied by single molecule imaging approach

14:20 Ch. Radehaus (Chemnitz, Germany)
Nanostructures for the characterization of nanoclusters & molecules

15:00 Sightseeing Tour

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**Friday, September 7**

**Biotemplated Nanostructures**

9:00 F. Bier (Potsdam, Germany)
Biomolecular nanostructures for analytical applications on the cellular level

9:25 J. Vesenka (Biddeford, USA)
Orientation of Quadruplex DNA (G-wires) and purported G-wire crystals on Mica

9:50 C. Niemeyer (Bremen, Germany)
Semisynthetic DNA-Protein Conjugates: Applications in Life-Sciences and Nanobiotechnology

10:15 Break

10:45 M. Mertig (Dresden, Germany)
Controlled heterogeneous nucleation of metal clusters on DNA: A novel pathway to fabricate nanowires with quantum behaviour

11:10 H. Brunner (Stuttgart, Germany)
Biofunctionalization at the interface of novel materials

11:35 D. Moll (Wien, Austria)
Crystalline Bacterial Cell Surface (S-Layer) Proteins, Secondary Cell Wall Polymers and Lipid Molecules as Building Blocks in Nanobiotechnology

12:00 Lunch

13:00 Conference end

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**Posters**

A. Csáki (Jena, Germany)
DNA-based constructions on gold surfaces
K.-H. Feller (Jena, Germany)
Ultrafast opto-optical logic elements on a nanoscale basis
I. Gössl (Berlin, Germany)
Structure of DNA/dendrimer complexes

G. Maubach (Jena, Germany)
DNA-based positioning of nanoparticles for a SET device
R. Möller (Jena, Germany)
Electrical classification of nanoparticle densities on chip surfaces
D. Silvano (Genoa, Italy)
Entrapping biological systems in polyelectrolyte nanostuctured capsules

A.A. Valyaev (Moscow, Russia)
Nanolithography processing of polymer films for molecular technology
K. Walter (Lyngby, Denmark)
Semiconductor nanocrystals for nanoelectronic
G.-J. Zhang (Wuhan, P.R. China)
Immobilization of HBV core gene and detection for genochips