

#### 14:00 – 14:30 | Presentation

##### **Max Planck Institute of Microstructure Physics: A Tour of Experimental Department II – Science and Technology of Functional Nanomaterials**

Prof. Dr. Dietrich Hesse (Max Planck Institute of Microstructure Physics Halle)

#### 14:30 – 15:30 | Display and Presentation of Posters by Young Researchers

##### **Contributors:**

Dr. Somabrata Acharya (Indian Association for the Cultivation of Science Kolkata)

Dr. Oliver Clemens (TU Darmstadt)

Dr. Tamal Das (Max Planck Institute for Intelligent Systems, Stuttgart)

Dr. Dr. Michael Hirtz (Karlsruhe Institute of Technology)

Dr. Christiane Höppener (University of Münster)

Sunil K Makineni (IISc Bangalore)

Gayatri Paul (IIT Kharagpur)

Dr. Thomas Reisinger (Karlsruhe Institute of Technology)

Dr. Sri Sivakumar (IIT Kanpur)

Dr. Aneesh Tazhe Veetil (National Centre for Biological Sciences Bangalore)

#### 15:30 – 15:45 | Coffee Break

#### 15:45 – 16:30 | Round Table Discussion

##### **Moderators:**

Prof. Dr. Harald Fuchs and Prof. Dr. Indranil Manna

#### 16:30 – 16:45 | Concluding Remarks

Prof. Dr. Krishan Lal, President of INSA

Prof. Dr. Gunnar Berg, Vice-President of Leopoldina

#### 17:00 – 19:00 | Guided Tour (*Invitees only*)

**Max Planck Institute of Microstructure Physics, Halle**

Prof. Dr. Dietrich Hesse

### Wednesday, 27 November 2013

#### 10:00 – 12:00 | Guided Tour (*Invitees only*)

**Fraunhofer Institute for Mechanics of Materials, Halle**

Prof. Dr. Matthias Petzold and Prof. Dr. Thomas Höche

#### German National Academy of Sciences Leopoldina

The German National Academy of Sciences Leopoldina brings together the expertise of some 1,500 distinguished scientists to bear on questions of social and political relevance, publishing unbiased and timely scientific opinions. The Leopoldina represents the German scientific community in international committees and pursues the advancement of science for the benefit of humankind and for a better future.

#### Indian National Science Academy (INSA)

The Indian National Science Academy (INSA), established in 1935, is an apex body of Indian scientists representing all branches of science with the objectives of promoting science in India and harnessing scientific knowledge for the cause of humanity and national welfare, safeguarding interest of Indian scientists, establishing formal linkages with international bodies, promoting international collaboration and giving opinion on national issues after debate and discussions.



**Leopoldina**  
Nationale Akademie  
der Wissenschaften

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## Leopoldina-INSA Symposium on Nanoscience

25. – 26. November 2013

Nationale Akademie der Wissenschaften Leopoldina  
Jägerberg 1  
06108 Halle (Saale)

#### Scientific Organisation

##### **Prof. Dr. Harald Fuchs**

University of Münster, Germany

##### **Prof. Dr. Indranil Manna**

Indian Institute of Technology Kanpur, India

Joint Academies' Symposium of the  
German National Academy of Sciences Leopoldina  
and the Indian National Science Academy (INSA)

# Programme

## Monday, 25 November 2013

### 8:30 – 9:00 | Registration

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### 9:00 – 9:20 | Welcome Addresses

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Prof. Dr. Gunnar Berg, Vice-President of Leopoldina  
Prof. Dr. Krishan Lal, President of INSA

### 9:20 – 10:05 | German Keynote Speech

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**Nanostructured Amorphous Solids (Nanoglasses) –  
The Door to a New Generation of Technologies?**  
Prof. Dr. Herbert Gleiter (Karlsruhe Institute of Technology)

### 10:05 – 10:20 | Coffee Break

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## Session 1: Chemical and Materials

### 10:20 – 10:50

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**Nanometric Phase Dispersed Metal Matrix Composites for  
Structural Applications**  
Prof. Dr. Indranil Manna (Indian Institute of Technology Kanpur)

### 10:50 – 11:20

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**Organic Photovoltaics: With Tailored Nanomaterials on the  
Move to a Future Technology**  
Prof. Dr. Peter Bäuerle (University of Ulm)

### 11:20 – 11:50

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**Nanofabrication beyond Top-down and Bottom-up: Power of  
Self-Organization on Small Scales**  
Prof. Dr. Ashutosh Sharma (Indian Institute of Technology  
Kanpur)

### 11:50 – 12:20

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**Inorganic Cells/Nanocapsules: Reactions Inside and With  
their Environment**  
Prof. Dr. Achim Müller (University of Bielefeld)

### 12:20 – 13:20 | Lunch

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*(parallel: Posters by Young Researchers on Display)*

### 13:20 – 14:00 | Tour of Leopoldina Main Building and Signing of Leopoldina Guest Book

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## Session 2: Electronic and Functional

### 14:00 – 14:30

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**Nano-Scale Spintronic Devices for Logic and Memory  
Applications**  
Prof. Dr. Roland Wiesendanger (University of Hamburg)

### 14:30 – 15:00

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**Nano-Electro-Mechanical-Sensor-Systems for Healthcare and  
Homeland Security Applications**  
Prof. Dr. V. Ramgopal Rao (Indian Institute of Technology Bombay)

### 15:00 – 15:30

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**Surface Assisted Generation of Functional Organic Nanosystems**  
Prof. Dr. Harald Fuchs (University of Münster)

### 15:30 – 16:00

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**Silicon Hybrid Nanostructures for Electronic and Photonic  
Devices**  
Prof. Dr. Samit K. Ray (Indian Institute of Technology Kharagpur)

### 16:00 – 16:30 | Coffee Break

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## Session 3: Biomedical and Biotechnology

### 16:30 – 17:00

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**Biomicrofluidics**  
Prof. Dr. Suman Chakraborty (Indian Institute of Technology  
Kharagpur)

### 17:00 – 17:30

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**The Nanoscience Approach to Force and Function of Bio-  
molecules**  
Prof. Dr. Hermann Gaub (Ludwig-Maximilians University Munich)

### 17:30 – 18:00 | Wrap-up Day 1

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**Moderators:** Prof. Dr. Harald Fuchs and Prof. Dr. Indranil Manna

### 18:30 | Conference Dinner *(Invitees only)*

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MoritzKunstCafé | Friedemann-Bach-Platz 5 | 06108 Halle (Saale)

## Tuesday, 26 November 2013

### 9:00 – 9:45 | Indian Keynote Speech

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**Electronic and Opto-Electronic Measurements on Single  
Nanowire Devices**  
Prof. Dr. Arup K. Raychaudhuri (S.N. Bose National Centre  
for Basic Sciences Kolkata)

## Session 3: Biomedical and Biotechnology (continued)

### 9:45 – 10:15

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**Synthetic DNA Devices in Living Systems**  
Dr. Yamuna Krishnan (National Centre for Biological Sciences  
Bangalore)

### 10:00 – 10:45

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**Geometrical and Mechanical Cues Guide Collective Cell  
Migration**  
Prof. Dr. Joachim Spatz (Max Planck Institute for Intelligent  
Systems, Stuttgart)

### 10:45 – 11:00 | Coffee Break

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## Session 4: Mechanical and Structural

### 11:00 – 11:30

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**Tunable Nanostructures**  
Prof. Dr. Horst Hahn (Karlsruhe Institute of Technology)

### 11:30 – 12:00

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**Deformation and Fracture in Amorphous and Nano-  
crystalline Alloys**  
Prof. Dr. Upadrasta Ramamurty (Indian Institute of Science  
Bangalore)

### 12:00 – 12:30

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**Ultrafine Grained and Nanocrystalline Materials: a  
Pathway towards Materials with High Strength and Large  
Ductility?**  
Prof. Dr. Gerhard Wilde (University of Münster)

### 12:30 – 13:00

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**Development of Structural Materials through Newer  
Approaches**  
Prof. Dr. Kamanio Chattopadhyay (Indian Institute of  
Science Bangalore)

### 13:00 – 14:00 | Lunch

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*(Posters by Young Researchers on Display – continued)*

