



Research into understanding and controlling interfaces lies at the confluence of nanoscience, biochemistry, microelectronics, and medicine. In recent years, significant progress in each of these fields has not only increased the importance of hybrid materials systems for applications ranging from renewable energy generation to biomedical implant technology, but also created new challenges in synthesis, measurement, and theory. The focus of this workshop will be on advances in functional interfaces, with a particular emphasis on multi-component and multi-phase materials systems for bioelectronic, biosensing, and biomedical applications. Furthermore, the workshop will highlight the roles and prospects for emerging materials, such as graphene, diamond, and compound semiconductors. Current challenges in determining the complex mechanisms of interaction at interfaces between biological and inorganic systems, precisely tailoring the chemical, structural, and electronic properties of these structures, and designing and synthesizing new molecular linkers and precursors to provide the desired functionality, will all be addressed.

**Organizing committee:**

G. Abstreiter, A. Cattani-Scholz, J.A Garrido, I.D. Sharp, M. Stutzmann  
Walter Schottky Institut (WSI) & Center for Nanotechnology and Nanomaterials (ZNN)

**Invited speakers:**

P. **Bergonzo** (CEA), F. **Bonaccorso** (Cambridge University), D. **Cahen** (Weizmann Institute), H. **Dietz** (TU Munich), P. **Fromherz** (MPI Biochemistry), A. **Holleitner** (TU Munich), E. **Johnston** (Genzyme), H. **Kawarada** (Waseda University), K. **Kern** (MPI Stuttgart), A. **Kruger** (Wurzburg University), R. **Netz** (FU Berlin), B. **Nickel** (LMU), J. **Schwartz** (Princeton University), M. **Tornow** (TU Braunschweig), A. **Turchanin** (Universität Bielefeld), D. RT **Zahn** (TU Chemnitz)

**Abstracts for oral and poster contributions will be accepted until September 2<sup>nd</sup>** (abstract submission to [garrido@wsi.tum.de](mailto:garrido@wsi.tum.de))

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## Preliminary Program

**Monday 12. September 2011**

Venue: Institute for Advanced Study (IAS)

<b>Session 1: Carbon Interfaces</b>		<b>9.00-12.30</b>
09.00-09.30	<b>K. Kern (MPI Stuttgart)</b>	Carbon interfaces in nanoelectronics
09.30-09.50		
09.50-10.10		
10.10-10.40	<b>H. Kawarada (Waseda University)</b>	to be announced
<b>10.40-11.00 Coffee Break</b>		
11.00-11.30	<b>F. Bonaccorso (Cambridge University)</b>	Carbon nanomaterials: from solution processing to applications
11.30-11.50		
11.50-12.20	<b>A. Kruger (Würzburg University)</b>	Less inert than expected : Surface chemistry of nanoscale diamond

**Lunchtime (Buffet): 12:30 - 14:30**

<b>Session 2: Molecular and Organic Electronics</b>		<b>14.30-18.30</b>
14.30-15.00	<b>D. Cahen (Weizmann Institute)</b>	Proteins are Remarkable Biomolecular Wires
15.00-15.20		
15.20-15.40		
15.40-16.10	<b>D. RT Zahn (TU Chemnitz)</b>	Metal/Organic Interfaces: from Tuning Optical Properties to Spintronic Applications
<b>16.10-16.40 Coffee Break</b>		
16.40-17.10	<b>M. Tornow (TU Braunschweig)</b>	to be announced
17.10-17.30		
17.30-17.50		
17.50-18.20	<b>B. Nickel (LMU München)</b>	Organic electronics for biosensing

**Buffet**

**19:00**

**Tuesday 13. September 2011**

Venue: Institute for Advanced Study (IAS)

<b>Session 3: Biointerfaces</b>		<b>9.00-12.30</b>
09.00-09.30	<b>P. Fromherz (MPI Biochemistry)</b>	The Signal Transduction from Ion Channels to Semiconductors
09.30-09.50		
09.50-10.10		
10.10-10.40	<b>P. Bergonzo (CEA-Saclay)</b>	to be announced
<b>10.40-11.00</b>	<b>Coffee Break</b>	
11.00-11.30	<b>E. Johnston (Genzyme)</b>	Focus on Bio-Interfacial Interactions: An Update on Plasma-Deposited PEO-like Films.
11.30-11.50		
11.50-12.20	<b>R.R. Netz (FU Berlin)</b>	Simulation approaches to water and biomolecules at solid surfaces

**Lunchtime (Buffet) & Poster Session: 12:30 - 14:30**

<b>Session 4: Self assembling and Surfaces</b>		<b>14.30-18.30</b>
14.30-15.00	<b>J. Schwartz (Princeton University)</b>	to be announced
15.00-15.20		
15.20-15.40		
15.40-16.10	<b>H. Dietz (TU Munich)</b>	A primer to DNA origami and what do with it
<b>16.10-16.40</b>	<b>Coffee Break</b>	
16:40-17.10	<b>A. Turchanin (Bielefeld University)</b>	Large-area free-standing molecular nanosheets for functional applications
17.10-17.30		
17.30-17.50		
17.50-18.20	<b>A. Holleitner (TU Munich)</b>	Optoelectronics of nanoscale circuits comprising individual photosynthetic proteins

**Buffet**

**18:30**