

# Program

## Sunday, 30 June 2013

14:30 – 20:00 Registration

18:00 – 19:30 *BUFFET DINNER* / Informal get together

19:30 – 20:00 Joachim Spatz                      **Welcome and opening**  
Christof Wöll

20:00                      Aldo R. Boccaccini      **Developing bioactive scaffolds for bone tissue engineering**

## Monday, 1 July 2013

08:00                      *BREAKFAST*

### **Session 1:**

### **General biophysical concepts: Physics of soft condensed matter**

08:45 – 09:00 Ernst Dreisigacker      **About the Wilhelm and Else Heraeus Foundation**

09:00 – 09:10 Joachim Spatz                      **Introduction**  
Christof Wöll

09:10 – 09:50 Michael Grunze                      **Nanostructured surfaces in environmental and biomedical applications: Beyond the Lotus effect**

09:50 – 10:30 Dave Weitz                      **tba**

10:30 – 11:00 *COFFEE BREAK*

11:00 – 11:40 Jacques Prost                      **The physics of cell cortex and cell division**

11:40 – 12:00 **Poster flashes**

12:00 – 13:00 **Poster session (odd numbers)**

13:00 – 13:05 **Conference Photo** (in front of the Physikzentrum)

13:05                      *LUNCH*

# Program

**Monday, 1 July 2013**

## **Session 2:**

### **Nanotechnology and Nanosciences: Role of spatial organization for the biological signal transduction**

14:30 – 14:40	Joachim Spatz	<b>Introduction</b>
14:40 – 15:20	Jay T. Groves	<b>Mechanisms of signal transduction in membranes at the single molecule level</b>
15:20 – 16:00	Michael Dustin	<b>Correlative light and electron microscopy to uncover novel structures in immunological synapse</b>
16:00 – 16:20	<i>COFFEE BREAK</i>	
16:20 – 17:00	Viola Vogel	<b>How can cells exploit forces to recognize nanoscale templates and topographies</b>
17:00 – 17:40	Eduard Arzt	<b>Bio-inspired micropatterned surfaces for interaction with soft matter</b>

17:40 – 18:00	<b>Poster flashes</b>
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18:30 – 20:00	<i>DINNER</i>
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20:00	<b>Round table discussions</b>
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# Program

**Tuesday, 2 July 2013**

08:00            *BREAKFAST*

## **Session 3:**

**Super resolution microscopy and new optical methods for the characterization of micro and nanostructured interfaces**

09:00 – 09:10    Christof Wöll            **Introduction**

09:10 – 09:50    Rainer Heintzmann        **Structured illumination microscopy**

09:50 – 10:30    Gerd Ulrich  
                      Nienhaus                **Optical nanoscopy of (bio-)molecular structure and dynamics**

10:30 – 11:00    *COFFEE BREAK*

11:00 – 11:40    Markus Sauer                **Fluorescence localization microscopy – the transition from concept to biological research tool**

11:40 – 12:00    **Poster flashes**

12:00 – 13:00    **Poster session (even numbers)**

13:00            *LUNCH*

14:30            **Excursion**

19:00            *HERAEUS DINNER*  
                      *(cold & warm buffet, free beverages)*

20:00            **Pls Pub**  
                      **(Drinks and Snacks in the poster exhibition)**

# Program

**Wednesday, 3 July 2013**

08:00            *BREAKFAST*

## **Session 4:**

### **Relicating Nature: Engineering biomimetic materials for biological and medical applications**

09:00 – 09:10	Cornelia Lee-Thedieck	<b>Introduction</b>
09:10 – 09:50	Molly M. Stevens	<b>New biomaterials-based approaches for biosensing and regenerative medicine</b>
09:50 – 10:30	Martin Bastmeyer	<b>Taking cell adhesion to the third dimension: Direct laser writing and biocompatible click chemistry for defined 3D cell culture scaffolds</b>
10:30 – 10:50	<i>COFFEE BREAK</i>	
10:50 – 11:30	Peter Fratzl	<b>Deformation, actuation and growth of biological tissues</b>
11:30 – 12:10	Prasad Shastri	<b>Design principles for synthetic extracellular matrices</b>
12:10 – 12:30	<b>Poster flashes</b>	
12:30 – 13:00	<b>Poster award and farewell</b>	
13:00	<i>LUNCH</i>	

**End of the seminar and departure**