

## 5th WMRIF General Assembly and Symposium “Materials meet Life” 2013

### Program

May 13, 2013 Materials for Health and Environment

#### Session 1: Materials Challenges for Protection - Environment & Health

Chairman: René Rossi, Empa

08.45 **Welcome Address**

Thomas Böllinghaus – President of WMRIF  
WMRIF Past and Future



Gian-Luca Bona – Host Institute

Harald Krug - Organizing Team

09.15 Keynote: Emmanuel Delamarche, IBM Research  
*Biology at the microscale using open microfluidics*



09.55 Sheila Macneil, The University of Sheffield  
*Biomaterials for Wound Healing and Tissue Engineering*



10.20 Harald Fuchs, KIT, Uni Münster  
*Biomimetic surfaces by DPN-Lithography*

11.15 Wanida Janvikul, MTEC  
*Biodegradable Polyesters for Cartilage Tissue Engineering*



11.40 Anna Gorbushina, BAM  
*Reference Organisms in Materials Science: Why and How?*



12.05 Günter Tovar, IGB Fraunhofer-Institut  
*Polymer-based Biomaterials for Tissue Engineering by Chemical Design and Digital Processing*

12.30 Moderated Discussion

12.40 Sponsor's Talk: Reto Luginbühl, RMS Foundation  
*Do's and Dont's in characterizing scaffolds for tissue engineering*


#### Session 2: Sensors and Body Surveillance

Chairman: Harald Fuchs, KIT, Uni Münster

14.15 Keynote: René Rossi, Empa  
*Textile Sensors for Body Monitoring*






14.55 Ihtesham ur Rehman, The Kroto Research Institute  
*Spectroscopy of cancer: Raman spectroscopic analysis of different subtypes of breast cancer tissues and cell lines*

- 15.50 Patric Stayton, University of Washington  
*Opening the Intracellular Universe of Disease Targets to Biologic Drugs* 
- 16.15 Andreas Lendlein, Helmholtz Zentrum Geesthacht  
*From Molecular Architectures to Polymer Systems to Biomaterial-based Applications - CANCELED*
- 16.40 Moderated Discussion
- 16.50 Teruo Kishi, chairman of Tsukuba Innovation Arena Materials Research on structural materials and the Tsukuba Technology Initiative

May 14, 2013 **Medical Applications and Biological Safety**


**Session 3: Implants and Drug Delivery**

Chairman: Bernd Nowack, Empa

- 09.15 Huisuk Yun, KIMS  
*Biomaterials for Hard Tissue Regeneration*
- 09.40 Roberto Milani, VTT  
*Novel Biomimetic Approaches towards Biomedical Hybrid and 3D-Printed Materials* 
- 10.05 Takao Aoyagi, NIMS  
*Smart Nanofibers for Biomedical Applications*
- 11.00 Sheng Lin-Gibson, NIST  
*Material directed cell response: effect of chemical, physical, and mechanical properties*
- 11.25 Bernhard Weisse, Empa  
*Ceramic hip joint implants – risk assessment and design optimization* 
- 11.50 Moderated Discussion
- 12.05 Keynote: David Grainger, University of Utha  
*Comparing nanoparticle with classic microparticle interactions in vivo* 

**Session 4: Materials Safety and Risk Assessment**

Chairman: Harald Krug, Empa

- 14.15 Keynote: Laurie E. Locascio, NIST  
*Understanding the simple material in the context of a complex integrated system when considering materials safety*
- 14.55 Peter Wick, Empa  
*What are cells telling us about nanomaterial safety?* 

- 15.50 Nam Woong Song, KRISST  
*Standardization of PhysicoChemical Property Measurement on anomaterials for  
Nanosafety Evaluation*
- 16.15 Bernd Nowack, Empa  
*Assessing environmental release and risks of nanomaterials*
- 16.40 Moderated Discussion



End

May 15, 2013      Generaly Assembly