



# Architected Biomaterials, Medical and Tissue Engineering

4<sup>th</sup> & 5<sup>th</sup> December 2014, French Embassy in Berlin  
Wilhelmstrasse 69, 10117 Berlin, Germany

## PRELIMINARY PROGRAM – 23.06.2014

Thursday 04/12/2014

**08:00 Registration**

**09:00 Welcome adress French Embassy**

Person to be confirmed

**09:10 Introduction : Public funding landscape in Germany in the field of biomaterials**

Régis Cartier (Project Management Agency for the Federal Ministry of Education and Research VDI Technologiezentrum GmbH- GER)

**09:30 Architected biomaterials - An Introduction**

Peter Fratzl (Max Planck Institute of Colloids and Interfaces in Potsdam – GER)

**09:50 Session 1: Architected ceramic biomaterials**

Chair : Wojciech Swieszkowski (Warsaw University of Technology – PL)

**09:50 *The answer of bioceramics to mechanical demands: towards complex microstructures and architectures***

Jérôme Chevalier (INSA Lyon - FR)

**10:10 *Architected Biomaterials Based on Bioactive Glasses for Tissue Engineering: Progress and Challenges***

Aldo Boccaccini (University of Erlangen-Nuremberg - GER)

**10:30 *Synthesis and selected applications in orthopedy of GoHAP - nano sized hydroxyapatite particles ideally mimicking the structure of bioapatite***

Witold Lojowski (Institute of High Pressure Physics, Polish Academy of Sciences, Warsaw - PL)

**10:50 Coffee Break**

**11:20** **Session 2: Multiscale polymeric biomaterials**

Chair : Denis Favier (University of Grenoble - FR)

**11:20** *Multifunctional biohybrid hydrogels*

Carsten Werner (IPF Dresden - GER)

**11:40** *New functional polymeric biomaterials for in situ forming implants*

Mirosława El Fray (West Pomeranian University of Technology, Szczecin - PL)

**12:00** *Innovative bioresorbable (co)polyesters as multiscale biomaterials*

Benjamin Nottelet (University of Montpellier 1 - FR)

**12:20** **Lunch**

**13:50** **Session 3: Materials for stem cell manipulation or regeneration**

Chair : Peter Fratzl (Max Planck Institute of Colloids and Interfaces in Potsdam – GER)

**13:50** *Materials stiffness and architecture influence cell fate in vitro*

Malgorzata Lewandowska-Szumiel (Warsaw Medical University - PL)

**14:10** *3D polymeric scaffolds for cardiovascular tissue repair*

Didier Letourneur (INSERM, University Paris 13 - FR)

**14:30** *Modeling the regenerative niche in vitro : application to Tissue Engineering*

James Kirkpatrick (University of Mainz - GER)

**14:50** **Coffee Break**

**15:20** **Session 4: Architected surfaces**

Chair : Wojciech Swieszkowski (Warsaw University of Technology – PL)

**15:20** *Layer-by-layer films as new engineered surface coatings: from bench to clinics*

Thomas Boudou (Grenoble INP- FR)

**15:40** *Approaches to dynamic biomaterials*

Aranzazu Del Campo (Max Planck Institute for Polymer Research, Mainz - GER)

**16:00** *Surface design for blood contacting medical devices*

Tomasz Ciach (Warsaw University of Technology - PL)

**16:20** **Poster Session**

**17:00** **Get together - Networking**

Friday 05/12/2014

**09:00** **Session 5: Metallic Biomaterials**

Chair : Denis Favier (University of Grenoble - FR)

**09:00** *Biodegradable Metals as emerging temporary biomaterials for load-bearing applications*

Frank Witte (Charité Medical University Berlin - GER)

**09:20** *Design of structural titanium and biodegradable magnesium alloys as biomaterials*

Jan Dutkiewicz (Institute of Metallurgy and Materials Science, Polish Academy of Sciences, Cracow - PL)

- 09:40** *Potentialities of the metastable beta titanium alloys for biomedical applications*  
Thierry Gloriant (INSA Rennes - FR)
- 10:00** **Coffee Break**
- 10:30** **Session 6: Systems approaches**  
Chair : Peter Fratzl (Max Planck Institute of Colloids and Interfaces in Potsdam – GER)
- 10:30** *Combined experimental and computational approach in development of biomaterials for regenerative medicine*  
Krzysztof Kurzydowski (National Centre for Research and Development, Warsaw - PL)
- 10:50** *Building on Biomimetics: a basis for medical devices*  
Donald Martin (University of Grenoble - FR)
- 11:10** *Structured Material for enhanced neural stimulation and regeneration in the auditory System*  
Thomas Lenarz (Medical University Hannover - GER)
- 11:30** **Round table discussion on the future prospects of architected biomaterials**  
Chair: Yves Brechet (CEA - French Alternative Energies and Atomic Energy Commission - FR)
- Maurice Bérenger (CEO PROTIPMEDICAL - FR)  
Heinrich Planck (CEO Polymedics Innovations GmbH - GER)  
Krzysztof Kurzydowski (Director National Centre for Research and Development - PL)  
Georg Duda (Director of Institute Julius Wolff, Charité Medical University Berlin - GER)  
Didier Letourneur (Director of Laboratory for vascular translational science, INSERM Paris - FR)
- 12:20** **Symposium closure**
- 12:30** **End of the Event**

We kindly invite all participants to register before **the 5<sup>th</sup> of November 2014**. The registration is on line:  
<http://www.wissenschaft-frankreich.de/de/formular/>. An acknowledgement will be sent to you.

Registration is obligatory but free of charge. The number of places is limited.

Participants attending the symposium have a possibility to submit an A0 poster, presenting the research activities in their host institution (team, department,...). Please submit a proposition of a poster including: title, authors, collaborations and very short description before **the 15<sup>th</sup> of September 2014** to [louis.thiebault@diplomatie.gouv.fr](mailto:louis.thiebault@diplomatie.gouv.fr)

Selection of posters will be done by the scientific coordinators (P. Fratzl, D. Favier, W. Swieszkowski).

You will be informed about the selection on **the 15<sup>th</sup> of October 2014**.

**For more information please contact:**

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