Programme

1. Tag, Mi., 6.11.2013

09.00 **Registration**

09.30 **Opening of Conference**
M. Mühlburger - MU Leoben, Vice-Rectorate

Surface Structuring

09:50 **Next generation adhesives: From Geckos to Robots (KN)**
E. Kroner - Leibniz Institut für neue Materialien, Saarbrücken

10.20 **Biomimetic skin-like topography of biocompatible hard thin films on soft polymer substrates**
J. M. Lackner - Joanneum Research, Institute for Surface Technologies and Photonics, Niklasdorf

10.40 **Flow optimization by microstructured surfaces – identifications of opportunities and requirements (KN)**
A. Flanschger - bionic surface technologies GmbH, Graz

11.10 **Coffee Break**

Bio-based Materials I

11.40 **Wood functionalization (KN)**
I. Burgert - ETH Zürich, Institute for Building Materials & Empa Dübendorf, Applied Wood Materials Laboratory

12.10 **Hierarchical biotemplating with nanometer precision**
G. Popovski - MU Leoben, Institute of Physics

12.30 **Usage of tree bark as insulation material**
G. Kain - University of Applied Sciences Salzburg, Department of Forest Products Technology and Timber Construction

12.50 **Analogy between bone and wood**
D. Pammer - Budapest University of Technology and Economics, Department of Materials Science and Engineering

13.10 **Lunch Break**

(KN)...Keynote

Bio-based Materials II

14.40 **Fibrillated cellulose: Bio-based reinforcement for greener materials (KN)**
W. Gindl-Altmutter - University of Natural Resources and Life Sciences Vienna, Institute of Wood Science and Technology

15.10 **Bonding mechanisms in paper studied by atomic force microscopy based methods**
Ch. Ganser - MU Leoben, Institute of Physics

15.30 **Cellulosic aerogels: Bio-inspired synthesis of biopolymer-based open-porous and ultra-lightweight hierarchical structures**
N. Pircher - University of Natural Resources and Life Sciences Vienna, Department of Chemistry

15.50 **Polymerpapier auf Basis nachwachsender polymerer Rohstoffe**
J. Würfel - IM Polymer GmbH, Leoben

16.10 **Coffee Break**

Mechanical Concepts

16.40 **Bioinspired composites with extreme mechanical gradients**
R. Libanori - ETH Zürich, Department of Materials

17.00 **Design of fracture resistant materials by inserting soft interlayers**
M. Sistaninia - Erich Schmid Institute of the Austrian Academy of Sciences, Leoben

17.20 **Micromechanics and X-ray nanodiffraction analysis as powerful tools to enhance mechanical properties of nanocrystalline CrN-Cr coatings**
A. Riedl - Materials Center Leoben GmbH

17.40 **Smooth stress concentrations in natural objects**
A. Kalteis - Johannes Kepler University Linz, Institute of Polymer Product Engineering

18.00 **The role of sacrificial bonding on the mechanical properties of polymer chains - A Monte Carlo study**
S. Nabavi - MU Leoben, Institute of Physics

Evening

18.30 **World Cafe Discussion**
Future perspectives of bio-based and bio-inspired materials

2. Tag, Do., 7.11.2013

Sensors and Actuators

09.00 **Clever material for the fine tuning of spider mechanoreceptors (KN)**
F. Barth - University of Vienna, Faculty of Life Sciences

09.30 **Structural and compositional properties of spider`s vibrational sensing organs**
M. Erko - Max Planck Institute of Colloids and Interfaces, Department of Biomaterials, Potsdam

09.50 **Study of the human tooth using a CS-corrected TEM**
Z. Zhang - Erich Schmid Institute of the Austrian Academy of Sciences, Leoben

10.10 **A bioinspired microactuator based on humidity driven bending of a nanoporous bilayer structure**
H. Amenitsch - University of Graz, Institute of Chemistry

10.30 **Compliant Robotic – a bionic approach (KN)**
R. Naderer - FerRobotics Compliant Robot Technology GmbH, Linz

11.00 **Coffee Break**

Photonics and Self-X

11.30 **Bioinspired optical materials (KN)**
C. Zollfrank - TU München, Fachgebiet Biogene Polymere

12.00 **Hierarchically nanostructured Polyisobutylene-based ionic liquids as possible self-healing materials: A comparison to bone tissue**
H. Peterlik - University of Vienna, Faculty of Physics

12.20 **Analysis of bone structures based on bone graft substitutes by Raman spectroscopic imaging and µ-CT**
J. Charwat-Pessler - University of Applied Sciences Salzburg, Wood- and Biogene Technologies

12.40 **The sea urchin tooth formation: A micro Raman study**
Ch. Reisecker - Johannes Kepler University Linz, Institute of Polymer Science

13.00 **Closing**