



Polymer- & Soft-Matter-Seminar

Tuesday,
3rd December
2013

at: 5.15 pm

VSP1 1.26,
Von-
Seckendorff-
Platz 1,
06120 Halle

Dr. Filipe Natalio

MLU, Institut für Chemie

“Inspired in Nature: A biomimetic approach”

Nature is a supreme complex system that has been fascinating and challenging Man's mind throughout centuries. The attempt for understanding Nature as a holistic system has led Man to reduce these natural components into small comprehensible fragments. Consequently, this has led to the concept of mimetics, i.e., understanding a system (fragments and its interactions) and reproduce/recreate it under controlled “artificial” conditions. Some prominent examples can be found in elements (e.g. architectural, molecular) that took inspiration from biological optimized structures. For example in architecture, the complex hierarchical structures of glass sponge spicules or radiolarians with unique mechanical properties have been prominent. Another example is the design of complex molecules that mimic enzyme's active site (inorganic active sites). In these particular systems – biomineralization and enzymatic driven catalysis – a great deal of basic grounded research has been carried out from the biological point of view and translated to biomimetics concepts.

