



Seminar

“IRTG: Soft Matter Science “

## Mechanical Properties and Cell Response of Polyelectrolyte Complexes and Thin Films

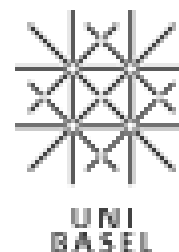
**Prof. Joe Schlenoff**

Department of Chemistry & Biochemistry, Florida State University and  
Gutenberg Chair 2011

**Wednesday, January 26, 14h15**

“Hörsaal Makromolekulare Chemie”,  
Stefan-Meier-Str. 31, Freiburg

You are welcome to meet Pr. Joe Schlenoff after the seminar. Do not hesitate to contact Christelle Vergnat ([softmattergraduate@physik.uni-freiburg.de](mailto:softmattergraduate@physik.uni-freiburg.de)) to organize a meeting.



# **Mechanical Properties and Cell Response of Polyelectrolyte Complexes and Thin Films**

**Joe Schlenoff**

**Department of Chemistry & Biochemistry, Florida State University  
and Gutenberg Chair 2011**

Polyelectrolyte complexes can be viewed as gels which are heavily physically crosslinked by ion pairing. Their mechanical properties show elastic as well as viscous responses, especially when the complex also contains micropores. (Photo)chemical crosslinking, in addition to the intrinsic ion pairing, makes these materials even tougher. In this talk, I will describe the quantitative relationship between ion pair crosslink density and mechanical properties of both ultrathin films, made by the “multilayer” process, and larger pieces of polyelectrolyte complex. Toxicity tests show minimal cytotoxicity of the polymer components when they are combined in complexes. The response of cells cultured on these biocompatible materials will be presented.