Polymers under Multiple Constraints

Polymer- & Soft-Matter-Seminar

Wednesdy, 11th July 2018

at: **5.15pm**

VDP4 1.27, Von-Danckel-mann-Platz 4, 06120 Halle

Prof. Dr. Melik Demirel

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“Mapping the Energy Landscape of Repetitive Structural Proteins"

Despite six decades of intensive studies in fibrous proteins, a viable approach for mapping the amino-acid sequences of these proteins to self-assembly and materials properties does not yet exist. New technologies are required to synthesize pooled libraries of repetitive genes that encode fibrous proteins, characterize the self-assembly behavior of these proteins in high-throughput, and discover sequences that form materials with novel physical properties. To address these challenges, we combined recent developments in synthetic biology and
femtosecond optics to create revolutionary fibers and materials. High-throughput screening of tandem-repeat libraries will enable the discovery of sequences with unprecedented physical properties and improve our understanding of self-assembly, leading to revolutionary advances in materials and life sciences.