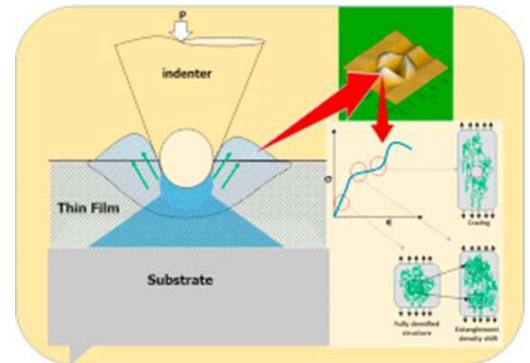


## Guest lecture – Institute of Strength of Materials

Assoc.Prof. Dipl.-Ing. Dr.techn. Manfred Ulz  
 Institut für Festigkeitslehre | *Institute of Strength of Materials*

**Speaker:**        **Associate Professor Pijush Ghosh**  
 Department of Applied Mechanics  
 Indian Institute of Technology Madras, India.  
 pijush@iitm.ac.in



**Title:**            **Probing into Polymer Thin Film Interfaces**

**Date:**            **Thursday, 6<sup>th</sup> June 2019, 3 – 4 p.m.**

**Place:**           **Seminarraum (BMT01046), Stremayrgasse 16, 1.OG**

### Abstract:

Single layer and multilayer polymer thin film (20-100 nanometer) coating on polymer substrate are gaining significant attention these days because of its wide range of applications. Optoelectronics, microelectronics, touch screen panels, wrinkled surfaces, stimuli-responsive films, polymer nanopillars for energy storage and contact lenses are some of the applications of these polymer thin films. In almost all of these thin films, the interface between the two films plays a major role in determining the overall performance of the coated system. Thus, the quantitative and qualitative estimation of interface response for thin film coating under different service conditions is significantly important from the perspective of modeling and designing of novel materials. Nanoindentation is one of the techniques which can be applied to characterize these interfaces. In this lecture, I will discuss about the fundamentals of nanoindentation; application of indentation in characterizing polymer-polymer interfaces of different strengths; the mechanism (such as pile-up) and challenges (such as substrate effect) involved in the characterization process. I will conclude with a discussion on how nanoindentation can be applied to generate polymeric nano-pillars of different shapes and sizes.

**Meet and greet: Thursday, 6<sup>th</sup> June 2019, 4 p.m.**

**Place:**            **Seminarraum (BMT01046), Stremayrgasse 16, 1.OG**

**Read more about Assoc. Prof. Pijush Ghosh:** <https://home.iitm.ac.in/pijush/>