

Mechanik-Seminar

Referent: **Prof. Dr.-Ing. Arild H. Clausen**

Department: Structural Impact Laboratory (SIMLab)
Department of Structural Engineering
Norwegian University of Science and Technology
NTNU), Trondheim

Datum: Dienstag, 30.11.2010

Uhrzeit: 14:00-15:30 Uhr

Ort: Raum 318, Geb. 10.81 (Altes BI-Hauptgebäude, Fak.-Sitzungszimmer)

Thema: **"Constitutive models for thermoplastics - calibration and validation"**

Abstract: This talk presents an overview of the research activity on modeling of polymers carried out at SIMLab, NTNU (Trondheim, Norway). A constitutive model for thermoplastics is outlined. It involves a hyperelastic-viscoplastic response due to intermolecular resistance, and an entropic hyperelastic response due to re-orientation of molecular chains. The 11 non-zero coefficients of the model are identified from uniaxial tension and compression tests on two materials; HDPE and PVC. Applying the model in numerical simulations of well-defined validation tests, it gives satisfactory predictions when compared to experimental behaviour.

Alle Interessenten sind herzlich eingeladen.

Prof. Dr.-Ing. K. Schweizerhof, Prof. Dr.-Ing. Thomas Seelig