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Invitation to inaugural lecture

Grethe Winther has recently been appointed Professor at DTU Mechanical Engineering. Therefore I would like to invite you to celebrate the appointment with an inaugural lecture by Grethe Winther on

Challenges in metal plasticity

The lecture takes place on **November 15th 2018 at 15.00** DTU Lyngby Campus Anker Engelunds Vej 1 Building 101A, meeting room 1 $(EIv'')''=q-\rho A\ddot{v}$

The lecture is followed by a reception.

Best regards Hans Nørgaard Hansen Head of Department

DTU Mechanical Engineering

Department of Mechanical Engineering



Inaugural lecture by Grethe Winther Abstract

Challenges in metal plasticity

Mechanical metal forming operations are widely used industrially. Process simulations of the mechanical forming steps can minimise expensive trialand-error sequences in the design of the production line. Such simulations require models for accurate prediction of metal plasticity, i.e. the behaviour of the metal during forming. Construction of these constitutes a major challenge as the properties of metals continuously change during processing. These changes are associated with microstructural changes in the metal at multiple length scales. To obtain the necessary understanding of the microstructural processes governing metal plasticity and construct accurate models, experimental data and simulations at several length scales must be coupled.