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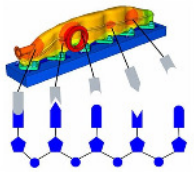

# Kolloquium für Mechanik / Graduiertenkolleg 1483

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Referent: **Prof. Daya Reddy**
University of Cape Town, South Africa

Datum: Mi., 26.10.2016
Uhrzeit: 11:30 Uhr
Ort: Geb. 10.50, R 702

Titel: **Some interesting features of dissipative strain-gradient plasticity**

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**Abstract**

Strain-gradient plasticity is an extension of the classical theory in which the plastic strain as well as its derivatives appear as variables. This extension has been motivated by the need to account for size effects at the mesoscale: the classical theory does not possess a length scale and is unable to model such effects. This presentation will focus on one version of the strain-gradient theory, in which the gradient terms appear in a generalization of the flow relation and normality law. The first interesting feature is that this flow relation, when expressed in terms of the Cauchy stress, is necessarily global. The second feature concerns behaviour in situations of non-proportional loading. As has been reported elsewhere, following loading well in the plastic range, a change in the boundary conditions can lead to an elastic response. This has been referred to as an elastic gap. The nature of the elastic gap is explored theoretically and computationally, with a view to gaining a better understanding of this response.

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Alle Interessenten sind herzlich eingeladen.

Prof. Dr.-Ing. Thomas Böhlke