

# IGT-Kolloquium

**23. Mai 2016**

## **Rooting for sustainable performance**

Prof. Dr. David Muir Wood  
University of Dundee

10. 00 Uhr, ETH Zürich, Hönggerberg, HIL C 10.3

---

This is the theme of a current research project linking Dundee, Southampton and Aberdeen Universities and the Hutton (formerly Scottish Crop Research) Institute, Invergowrie. Centrifuge modelling, full-scale monitoring of slope deformation and hydrology, observations of root-soil interaction and constitutive modelling of root-soil mixtures will be combined.

The constitutive modelling draws on recent studies at Bristol University of the behaviour of fibre-sand mixtures. An established sand model is combined with the description of the fibres. Reliable modelling of the behaviour of the mixture is dependent on knowledge of the actual distribution of fibre orientations, and requires an appropriate allowance for the volumetric packing of the sand and the fibres.

We now have the potential to model and predict the pre-failure deformation of vegetated slopes.

**David Muir Wood** obtained his PhD in soil mechanics at Cambridge University in 1974. He has held academic posts at Cambridge, Glasgow, Bristol and Dundee Universities. His research interests combine laboratory investigations with development of associated constitutive models and macro element models of adequate complexity to throw light on the observed mechanisms of response. He is currently visiting professor at University of Innsbruck and at Chalmers University of Technology, Gothenburg. He has written books on Critical state soil mechanics, Geotechnical modelling, and a One-dimensional introduction to soil mechanics.