

Prof. Geoff Maitland / Imperial College London

**“Smart chemistry for smart fluids – designing fluids for oilfield applications”**

Montag, 12. Dezember 2016, 16:00 Uhr

Carl Auer v. Welsbach Hörsaal der Fakultät für Chemie, Boltzmannngasse 1, 1090 Wien

The talk will demonstrate how the formulation of fluids for oil and gas recovery operations has become more systematic - 'molecular engineering' - often combining molecular modelling and experimental screening to optimise molecular structures or tune molecular interactions to give the functional properties required for specific applications. A particular challenge for the oilfield is to control fluid properties at high temperatures and pressures in remote, deep reservoirs, often several kilometres away from the from the injection location. Examples will be given of polymeric, surfactant and colloidal fluids which are increasingly 'smart', using local changes in operating conditions to act as triggers to give the desired property changes for optimal performance. The aim will be to show that fluid formulation combines fundamental chemical understanding with a sense of fun and achievement.