

**Advanced Geomechanics Modelling with Applications in Petroleum Engineering****Professor Panos Papanastasiou**

School of Engineering, Department of Civil & Environmental Engineering, University of Cyprus

Wednesday, 25 November 2015 (16:00)

Social Facilities Center, Building 3, Room 105, UCY New Campus

Abstract:

Professor Papanastasiou will present advanced constitutive modeling based on higher order continua with microstructure and fracture mechanics that are capable of predicting the localization of deformation in zones of intense shearing or mode-I fracture that lead to failure of cohesive-frictional geomaterials (rock, soil, concrete, ceramics, porous metals). He will demonstrate how these developments of applied and computational mechanics are used for the solution of some practical problems in Petroleum Geomechanics related to wellbore stability, sand prediction and control and hydraulic fracturing.

Biography:

Dr. Papanastasiou is Professor in the Department of Civil and Environmental Engineering of the University of Cyprus. He served as the Dean of the Engineering School from 2009-2014, and he was the founding Head of the Department of Civil and Environmental Engineering from 2002-2008. He is also the founding Director of the Program Master in Petroleum Engineering. He worked for more than 15 years in the Oil & Gas industry in the Research Center of Schlumberger in Cambridge, England from 1991 to 2002 and as consultant to Schlumberger in U.K. and Russia from 2002-2007. Since November 2011 he is Advisor to the Government of Cyprus on Hydrocarbon exploration and development and gas monetization options. His expertise and scientific contributions are: a) Applied and Computational Mechanics: mechanics of cohesive-frictional materials, plasticity theories, micromechanics, fracture mechanics, flow in porous media, finite element analysis b) in Petroleum Geomechanics which includes problems on wellbore stability, hydraulic fracturing, sanding prediction and control, reservoir Geomechanics and CO₂ geological storage and c) in Oil and Gas management in upstream exploration and production and monetization of natural gas. He has published 53 articles in scientific journals and 64 in conference proceedings, 5 book chapters, he edited 3 books and he invented 3 patents and wrote more than 50 industrial reports in the field of Petroleum Engineering. He is editorial advisor for the International Journal of Geomechanics published by the American Society of Civil Engineers (ASCE).

