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### **MASTERCLASSES IN ENGINEERING**

# The Role of Geotechnics in Civil Engineering

on Friday 19 November 2021

# The Exciting World of Engineers

on Monday 22 November 2021

#### **University of Exeter**



### Prof Akbar Javadi

Professor of Civil (Geotechnical) Engineering, Head of the Computational Geomechanics Group and Director of Global Development in the Department of Engineering

#### **University of Dundee**



#### **Prof Robert Keatch**

Professor of Mechanical and Electronic Engineering, School of Science and Engineering



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University of Exeter: The Role of Geotechnics in Civil Engineering

Date: Friday, 19 November 2021

#### **Masterclass brief:**

Join the University of Exeter for a taster lecture in Geotechnics in Civil Engineering to find out more about this subject area, and where a degree in Engineering could take you.

#### Presenter:

Prof. Akbar Javadi is a Professor of Civil (Geotechnical) Engineering, Head of the Computational Geomechanics Group and Director of Global Development in the Department of Engineering at the University of Exeter, UK. He has over 24 years of research, teaching and consulting experience in various disciplines of engineering. He is also an honorary visiting professor at the University of Shanghai for Science and Technology in China. He is a chartered engineer and Fellow of the Institution of Civil Engineers. His main research interests include development and applications of numerical modelling techniques and computer models for a wide range of engineering systems.

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University of Dundee: The Exciting World of Engineers

Date: Monday, 22 November 2021

#### **Masterclass brief:**

Explore the exciting roles of engineers in developing new materials for a variety of different applications, including sports, medicine, aviation and automotive among all sectors. Experience what a course in Mechanical Engineering entails through projects and research-led teaching; learn about the exciting opportunities to work with industry and institutes such as CERN.

#### Presenter:

Prof. Robert Keatch was Head of Mechanical Engineering, Biomedical Engineering and Electronic Engineering from 2005 until 2021 and Associate Dean of School and College Director of Admissions and Student Recruitment from 2013-15. Focussing his discipline's strength on the theme of medical-related research allowed for a new approach to multidisciplinary teaching across the Schools of Life Sciences, Business and Medicine. This multidisciplinary approach led to development of new postgraduate programmes in Biomedical Engineering, Medical Imaging and more recently Industrial Engineering with Management. This made the course as interesting, informative, industry-relevant and current as possible, giving the students the right environment to learn by developing state-of-the-art facilities and continually putting their new skills to the test.

Prof. Keatch's research expertise focussed on generating complex 3D scaffolds used in wound healing, surface and materials modulation, and systems biology modelling while promoting cross-disciplinary research interaction between Engineering, Life Sciences, Mathematics, and Medicine. Specifically, his research includes pivotal work on the synthesis and development of novel biocompatible scaffolds to use as in-vitro assays for fundamental studies of cell behaviour. He has extensive expertise in microengineering, fabrication techniques, materials and biomechanics and has applied his research interests to cover a wide range of biomedical activities, from designing miniature medical devices to investigating complex cell behaviour on microfabricated 3D structures.