

David Roger Jones Owen
for the DScEng (honoris causa)

Professor David Owen currently holds the position of Research Professor in Civil Engineering at Swansea University. He is an international authority on finite element and discrete element techniques, and one of the researchers responsible for building the field of computational mechanics from nascence to maturity. This field sits at the intersection of applied mathematics, computing and engineering. It enables so-called *in silico* experimentation, in which material properties and behaviour are tested using computer-based simulation.

Professor Owen is globally recognised as having pioneered novel techniques that have led to major shifts in approaches to complex problems in mechanics. These contributions have had an enduring influence, which is evident from the large number of seminal and highly cited works among his publications, which number more than 400, and their direct impact on the development of computer codes used in research and engineering practice.

Professor Owen must also be noted for his equivalent skills as an entrepreneur. He founded a company, Rockfield Ltd, which functions at the interface between research and development in designing innovative computational approaches to the solution of complex problems in industry. Under his leadership, the company has twice received the Queen's Award for Innovation, and has allowed him to translate his significant research contributions directly into practice, thus benefiting both industry and society.

Professor Owen has been associated with UCT for more than 35 years, through his interaction with the Centre for Research in Computational and Applied Mechanics (CERECAM). He has been instrumental in the growth of computational mechanics as an area of research and postgraduate study at the university, that now enjoys a significant international profile. Further collaboration at UCT and elsewhere in South Africa has seen the launch and maintenance of regular conference series on computational mechanics, at national and continental levels.

Professor Owen's achievements have been recognised through a number of awards and honours, including the Gauss-Newton Medal, which is the highest award in his discipline.