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Introduction for the 46th Rankine Lecture

The 46th Lecture of the British Geotechnical Society was given by Professor Robert J. Mair at Imperial College London on 22 March 2006. The following introduction was given by Professor R. N. Taylor, City University

Mr Chairman, distinguished guests, ladies and gentlemen, it is both an honour and an immense pleasure to introduce this evening Professor Robert Mair, the British Geotechnical Association's 46th Rankine Lecturer.

Robert James Mair was born in 1950 and brought up in Cambridge, a place that has had a deep influence on his life and career. He read engineering at Clare College, and was inspired by the lectures on soil mechanics given by Peter Wroth. On graduating in 1971 he was determined to work for a company with geotechnical engineering prominent in its portfolio. That company was Scott Wilson Kirkpatrick and Partners, and it was a happy coincidence that on his first day in their offices he was given a desk next to David Hight, who was to become one of Robert's closest colleagues and influential friends. (And I would like to say now that David is very disappointed to have been called overseas and is not able to be here today.) It was not too long before Robert moved to the Hong Kong office of SWK, and in those heady days experienced a truly dynamic engineering environment, which proved to be a great beginning for an engineer fully tuned to learning quickly.

Robert's venture to Hong Kong came to an end with an offer from Andrew Schofield to undertake research at Cambridge University. Scott Wilson Kirkpatrick agreed to second Robert to the Cambridge Soils Group, where major research was being supported by Myles O'Reilly of the then Transport and Road Research Laboratory, who was keen to get some science into the understanding of tunnel stability and the development of ground movements. It started Robert's professional association with tunnelled excavations for which he is now world renowned.

Robert became the natural leader of the informal tunnelling and buried pipes research group at Cambridge, and created a strong sense of team responsibility, leading to sound, well-organised research. I count myself fortunate to have become part of that group, and to have got to know Robert at that time. They were great times, with Robert clearly the team leader, working hard to get the most out of people but also creating a fun atmosphere, including arranging cricket competitions with the Imperial College soil mechanics group. Robert's own research made use of the then relatively new technique of geotechnical centrifuge modelling. This resulted in seminal research on tunnel stability, perhaps remaining the best illustration of centrifuge modelling applied directly to geotechnical design, and which is still regularly cited today.

Robert returned to Scott Wilson Kirkpatrick in 1980, but it was not too long before he was seeking new challenges. In 1983 an opportunity arose for Robert to join forces with David Hight and Peter Vaughan, both then of Imperial College, to create a specialist geotechnical office known to us all now as the Geotechnical Consulting Group. There was no certainty then that this adventure could ever be successful, but we have witnessed the company grow from its origins in the small two-room office in Kendrick Mews to what is now one of the world's leading specialist geotechnical companies. It has always been a pleasure to visit the GCG offices. I find there a convivial atmosphere that so strongly reflects Robert's character, and have enjoyed many a picnic lunch in the kitchen, engaging in all manner of technical, sporting, political or personal discussions.

Professor R. J. Mair

Robert's professional expertise has seen him involved with a wide range of projects, and he has accomplished a great deal. With Chris Padfield he produced CIRIA Report 104 on the *Stability of retaining walls*, which became one of CIRIA's most used publications and was hugely influential. He was closely involved with the Jubilee Line Extension Project, Crossrail, the Channel Tunnel Rail Link, London Underground's Angel Station reconstruction project and the Waterloo escalator tunnel, the last leading to the development and use of a new technique for the control of tunnel-induced ground movements termed 'compensation grouting', a phrase coined by David Hight. In fact there is barely a tunnel in London that does not have Robert's name on it. Robert's breadth of expertise, sense of organisation and diplomatic skills have made him a natural choice for many expert review panels, advisory panels and other committees including, importantly for me, the Board of the International Society for Soil Mechanics and Geotechnical Engineering.

Throughout, Robert has retained an interest in teaching and education. He was a key contributor to the short courses on tunnelling in soft ground given at City University, and in 1997 became Royal Academy of Engineering Visiting Professor at Cambridge University. The lure of Cambridge was again taking hold, and in 1998 he moved back there, this time as Professor of Geotechnical Engineering. He quickly took charge of the Soil Mechanics Group and instilled a strong team spirit, ensuring a well-organised, highly motivated and committed research group. His own research projects focused on practical geotechnical engineering problems, and allowed the Centre for Construction Processes to be created in the Schofield Centre at the west Cambridge

site. He clearly made his mark elsewhere on the Cambridge scene, and it was not long before he came to the attention of the fellows at Jesus College, who elected him Master in 2001.

With all these responsibilities, it seems hard to imagine there is any time to relax. In his spare time he will enjoy a game of tennis or a round of golf and go sailing when the opportunity arises. But, more importantly, Robert always makes sure he has time for his family—his wife Margaret and children Julia and Patrick.

Robert is truly one of the good guys. He is always friendly and hospitable, always polite and generous, and always interested in the people he meets. He is invariably calm and relaxed, and puts people at ease. He is exceptionally well organised, a great team leader who naturally gets the best out of people, immensely supportive, and always prepared. To these talents he adds those of a fantastic mimic and regularly does 'takes' on many characters, a particular speciality being his wonderful impersonation of the late Bill Ward.

He is a brilliant communicator, and has a talent for simplifying problems while retaining the key issues. He has an undying enthusiasm for the subject of soil mechanics and its practice in engineering, and he is genuinely interested in understanding and solving problems that the ground throws up. With this he has established a reputation for thoroughness and professionalism in his reports, research and teaching. I am sure these characteristics will be evident in this evening's presentation, and with this in mind it is with great pleasure and anticipation that I call upon Professor Robert Mair to deliver the 46th Rankine Lecture.