



### Professional summary

Lord Robert Mair is a geotechnical engineer with more than 50 years of experience in research and practice. He is a founding Director of GCG, a Fellow of the Royal Academy of Engineering, the Royal Society, and a Foreign Member of the National Academy of Engineering (USA). He specialises in geotechnical aspects of many types of underground construction and has advised on numerous projects both in the UK and worldwide. He was until recently Head of Civil Engineering at Cambridge University, where he was appointed to a Professorship after 27 years full-time in industry. He founded the Centre for Smart Infrastructure and Construction (CSIC) at Cambridge, which pioneers new techniques for sensing performance of infrastructure.

### Education and Career

Since 1983: GCG, London

1998-2016: Sir Kirby Laing Professor of Civil Engineering, Cambridge University

2001-11: Master of Jesus College, Cambridge

1998-2001: Fellow of St. John's College, Cambridge

1997-98: Royal Academy of Engineering Visiting Professor, Cambridge University

1994-97: Visiting Professor, Nottingham University

1971-83: Scott Wilson Kirkpatrick and Partners, UK and Hong Kong

1976-79: PhD, Cambridge University

1975: MA, Cambridge University

1968-71: BA, Cambridge University

### Memberships and Professional qualifications

Since 2019: Foreign Member, National Academy of Engineering (USA)

2015: Appointed Member of the House of Lords

Since 2007: Fellow, Royal Society

Since 1992: Fellow, Royal Academy of Engineering

### Experience with GCG

Robert Mair is the Emeritus Sir Kirby Laing Professor of Civil Engineering at Cambridge University. He took up this appointment in 1998, having been in industry since graduating from Cambridge in 1971, and he remains a Senior Partner of GCG. He was Master of Jesus College 2001-11. As one of the founding directors of GCG he has been responsible for specialist advice to consulting firms, contractors and public authorities on numerous projects involving soft ground tunnelling, deep excavations, retaining walls and foundations, both in the UK and overseas. He has been closely involved with the design and construction of the Jubilee Line Extension for the London Underground, and with the Channel Tunnel Rail Link (now HS1) and Crossrail projects, for each of which GCG were appointed Specialist Geotechnical Advisors. He has also been responsible for geotechnical aspects of the design and construction of many London Underground tunnelling projects. Recent international projects have included the Singapore Mass Rapid Transit (for 7 years he was co-Chair of the Singapore Government's International Advisory Board), railway tunnels in the cities of Barcelona, Bologna, Florence, Rome and Warsaw, motorway tunnels in Bolu, Turkey and the Westerschelde Tunnel in the Netherlands. He has been a member of many Expert Review Panels, including Crossrail and HS2, and he was a member of the French Government Commission of Enquiry into the collapse of a road tunnel in Toulon.

Since his appointment at Cambridge University his principal research interests have been in geotechnical aspects of underground construction. He is the Founding Head of the Centre for Smart Infrastructure and Construction, funded by EPSRC/Innovate UK and industry to a total value of £22m. He has delivered many keynote and named lectures, including the Unwin Memorial Lecture in 1992, the Sir Harold Harding Memorial Lecture in 1998, the Terzaghi Lecture in Vienna and Szechy Memorial Lecture in Budapest in 2001, the Jiminez Salas Lecture in Madrid in 2003, the Paviers Lecture in 2004, the Jennings Lecture in Johannesburg in 2005, the Rankine Lecture in 2006, the Muir

Since 1990: Fellow, Institution of Civil Engineers

1976-90: Member, Institution of Civil Engineers

### Scholarships / Awards

2006, 2008 & 2015: ICE Crampton Prize

2018: Honorary DSc, Imperial College

2018: Honorary DSc, University of Leeds

2013: ICE President's Medal

2011: Singapore Public Service Medal

2011: Honorary DSc, University of Nottingham

2010: CBE for services to Engineering

2004 & 2006: South African Institution of Civil Engineers Jennings Award

2004: ICE Gold Medal

1994: ICE Geotechnical Research Medal

1980: British Geotechnical Society Prize for work on tunnels

### Countries worked

UK, Belgium, France, Hong Kong, India, Italy, Poland, Singapore, Spain, Thailand, Turkey, United States

Wood Lecture, World Tunnel Congress, Helsinki, 2011, the Casagrande Lecture, Boston Society of Civil Engineers, USA, 2014, and the Royal Academy of Engineering Hinton Lecture in 2016.

He was Chair of the Royal Society/Royal Academy of Engineering Report on Review of Shale Gas and Hydraulic Fracturing, published in 2012. He was Chair of the Science Advisory Council of the Department of Transport (2014-2020). Following the tragic train derailment in Scotland in 2020, he was Chair of the Task Force Review of Network Rail's Earthworks Management (2020-21).

Robert Mair was appointed an independent crossbench peer in the House of Lords in 2015.

### Previous experience

On graduating from Cambridge in 1971, Robert Mair worked for 11 years for Scott Wilson Kirkpatrick and Partners (SWK), spending the first few years in the geotechnical and structural divisions before moving to their Hong Kong office. In Hong Kong he was engaged on design and construction of sea walls, reclamation projects and foundations for various industrial structures, including a major container terminal.

In 1976 he was seconded to Cambridge University to undertake research on the behaviour of tunnels in soft ground. On gaining his PhD in 1979 he returned to SWK's UK design office where he was responsible for geotechnical aspects of a wide variety of projects, involving highway schemes, tunnelling projects, and foundations for industrial structures. He became one of the founding Directors of GCG in 1983.

### Service on technical / professional bodies

2017-18: President of Institution of Civil Engineers

2020-2021: Member of House of Lords Select Committee on Risk Assessment and Risk Planning

2016 – 2020: Member of House of Lords Select Committee on Science and Technology

2008-2011: Senior Vice President and Member of Council of Royal Academy of Engineering

1996-2005: Chairman of the International Society of Soil Mechanics and Geotechnical Engineering (ISSMGE) Technical Committee on Underground Construction in Soft Ground

1997-2001: Member of the Board of the ISSMGE

1993-95: Chairman of the ICE Ground Board

1985-87: Chairman of CIRIA's Earthworks and Foundations Committee

1985-86: Member of ICE Commission on the Use of Sprayed Concrete Linings (NATM) for Tunnels in Soft Ground

1983-86: Member of Editorial Advisory Board of Tunnels and Tunnelling

1981-84: Member of Geotechnique Advisory Panel