



Dr F C Schroeder
MEng ACGI PhD DIC CEng MICE
Senior Partner

Areas of expertise

Numerical analysis of tunnels, offshore and onshore foundations, deep excavations, retaining structures; offshore geotechnics; slope stability assessments

Experience with GCG

Dr Schroeder joined the Geotechnical Consulting Group in 2003 and has been a Senior Partner since April 2017. He has carried out advanced numerical analyses of many geotechnical problems, including tunnels and tunnel openings, cut slopes, deep excavations in stiff and soft clays, foundations for offshore wind turbine generators and offshore oil platforms, and he has assessed the effects of the construction of various structures on surface and sub-surface infrastructure as well as buildings.

Dr Schroeder has worked on, and on many occasions led, numerous projects requiring assessments of the effects of proposed developments on existing tunnels and services. These projects include the deep excavations for Terminal 5C at Heathrow Airport and the Francis Crick Institute, Land Securities' Nova development at Victoria and Canary Wharf Contractors' Spire London, Newfoundland Tower and the re-development of the Shell Centre. For other projects he assessed the potential for building damage due to proposed tunnelling and excavation works, including for the Crossrail, Bank Station Capacity Upgrade (BSCU) and NLE projects. He also analysed many deep excavations as part of the design process, including 100 Bishopsgate and BBC Broadcasting House in central London. Aiding a team of expert witnesses, he carried out analyses of the Nicoll Highway collapse in Singapore.

Building on his PhD work at Imperial College, Dr Schroeder developed an expertise in 3D FE analysis and applied this form of analysis to a wide range of projects, including those listed above. In addition, using 3D FE analyses, he assessed the effects of offshore well drilling on adjacent foundation piles and the behaviour of monopiles supporting offshore wind turbine generators. He also modelled openings created in new tunnel linings (Spheroidal Graphite Iron and Sprayed Concrete) at King's Cross/St Pancras to assess their suitability.

Dr Schroeder has been the technical lead and project manager on a large number of GCG projects, including the Nova Victoria development in central London where GCG fees exceeded £500k and design elements for BSCU where the fees were nearly £400k. Dr Schroeder has published a number of journal and conference papers, presented his work at international conference and the Institution of Civil Engineers in the UK and has been acting as a reviewer for international journals and conferences.

Areas worked

UK, Germany, Norway, Italy, Hong Kong, Singapore, Azerbaijan, Malaysia, Iran, Russia



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Previous experience

From October 1998 until August 2003 Dr Schroeder worked at first as a Research Student (10/98 - 07/00) and thereafter as a Research Assistant at Imperial College, London, undertaking research into the influence of bored piles on existing tunnels. The main focus of the research was the numerical analysis of this complex soil-structure interaction problem. However, the numerical results were complemented by field measurements taken in and around a tunnel on the LUL network. Dr Schroeder was heavily involved in extending the three dimensional capabilities of ICFEP and, as a part of this, developed shell elements for use in three dimensional soil-structure interaction problems. Dr Schroeder presented his research findings at numerous international conferences, in a number of journal papers and on a lecture tour of the Far East and Australia. As a result of his research Dr Schroeder was awarded a PhD in March 2003.

Prior to his research work, Dr Schroeder completed his undergraduate degree in Civil Engineering at Imperial College with First Class Honours in 1998.

Education/Research

PhD, Imperial College, London, 2003

MEng, Imperial College, London, 1998

Scholarships/Awards

ASCE's International Journal of Geomechanics Excellent Paper Award, 2008

BGA Cooling Prize, 2002

Imperial College Skempton Prize (for excellence in Soil Mechanics), 1998

Professional Qualifications & Memberships

Member of the Institution of Civil Engineers (ICE), 2009 – present

Member of the British Geotechnical Association (BGA)

Member of the Society for Underwater Technology (SUT)

Member of the Offshore Engineering Society (OES)

Affiliate member of the American Society of Civil Engineering (ASCE)

Service on Technical/Professional Bodies

BGA Executive Committee, 2012 – 2015

Languages (other than English)

German