



Dr Z Cabarkapa  
Dipl.Ing. MSc PhD CEng MICE FGS  
FSRASA  
Visiting Professor  
Senior Partner

#### **Areas of expertise**

Forensic engineering and site characterisation, rock mapping, ground investigation, rock slope stability, slope stabilisation, retaining wall design, groundwater flow, earthworks, embankments over soft soil, ground improvement, reclamations, foundation design, tunnel construction, seismic design and hazard evaluation, numerical analysis, and partially saturated soils.

#### **Experience with GCG**

Dr Zeljko Cabarkapa joined GCG in February 2000 and became a Director in 2010, then a Senior Partner when the company became an LLP in 2011 and a Managing Partner in 2015.

Dr Cabarkapa has advised on a wide range of civil engineering works which have included the stabilisation of large rock landslides, dams, port structures, foundations for buildings including piles, and deep excavations in both soft ground and hard ground conditions. Dr Cabarkapa has frequently been retained as an expert to assess mechanisms of failure and to design remedial works, and has given evidence in Court. Dr Cabarkapa has been involved in adjudication, mediation, the International Court of Arbitration and in the High Court of Justice processes. Expert witness cases have included the examination of excessive settlement, dewatering, failure of a dam, soil and rock slope stability, reclamation, building foundations and earthworks slope failures, unforeseen ground conditions and an embankment over soft soil. Recent arbitration works include claims relating to foundation project in UAE, a container terminal in Saudi Arabia, a container terminal in Jordan, stability of a cofferdam in Panama, a dam failure in Russia and the design and construction of a bridge in South East Europe. Since joining GCG Dr Cabarkapa has been involved in advanced finite element analyses of various geotechnical problems. He carried out a number of analyses of the Nicoll Highway collapse in Singapore aiding a team of expert witnesses.

Dr Cabarkapa has also been involved with various projects, including geotechnical aspects of near-shore and offshore developments, technical due diligence in respects of major investment in South East Europe and Turkey. Dr Cabarkapa advised recently on the ground investigation for a Nuclear Power Station in Turkey. Dr Cabarkapa has designed and analysed foundations of all kinds including rafts and piles in various locations worldwide. His design or review work has included: design, the stabilisation of rock landslides in Peru, specification and interpretation of site investigations, groundwater flow, heave and settlement analyses, and a slope stability assessment for a coal terminal over very soft clay in Indonesia.

Dr Cabarkapa's publications cover soil behaviour of unsaturated soils, soil-structure interaction and the performance and analysis of retaining structures and slopes. He has reviewed technical papers for Geotechnique and acted as external examiner for a PhD project at Imperial College London.



**GEOTECHNICAL CONSULTING GROUP**

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### **Areas worked**

UK, Turkey, Saudi Arabia, Bahrain, United Arab Emirates, Iraq, Algeria, Malaysia, Hong Kong, Singapore, Indonesia, Italy, Netherlands, Republic of Ireland, Greece, Romania, Croatia, Slovenia, Serbia, Montenegro, FYR Macedonia, Russia, Belorussia, Azerbaijan, Armenia, Kazakhstan, Peru, Georgia, Nicaragua, Ecuador.

### **Previous Experience**

Dr Cabarkapa started his career with Energoprojekt. His work in the office was combined with fieldwork both in Serbia and abroad. He was engaged in static and dynamic analyses of an arch dam in Algeria (Tichi Haff). His projects included basic and detailed design and construction of concrete dams, reservoir storage and multipurpose schemes such as: Badush I and II, Iraq – Concrete dam, Beckhme – Iraq – Earth dam, Rovni – Serbia – Earth dam, Bajina Basta – Serbia - Hollow gravity dam, Barje- Serbia – Earth dam, Kozjak – Macedonia – Earth dam, numerical analyses of tunnels, grout curtains and stability analyses of several dams.

In 1991 Dr Cabarkapa was employed as an academic staff member at the University of Belgrade, where he was involved in teaching, research and consultancy. He taught the undergraduate course in Soil Mechanics and Earthworks. Research activities involved mainly theoretical and numerical considerations of non-linear failure envelopes for soils. His MSc thesis was related to the theory of bearing capacity of shallow foundations on sand. His consulting work was concerned with site investigation, laboratory testing and foundation design for different structures such as sports arenas, historic monuments, bridges and silos.

In 1996 Dr Cabarkapa joined London South Bank University to undertake research on Mechanical Behaviour and Modelling of Unsaturated Soils. This work involved experiments using a new triaxial apparatus equipped with local strain transducers and bender elements for testing unsaturated soils. Suction controlled triaxial tests were performed to investigate the shape of the yield surface for unsaturated silt sample with particular stress history. A numerical model was applied to the simulation of coupled moisture, air and heat transfer in unsaturated soils and used for dynamic measurements of soil water retention curves.

### **Education/Research**

PhD, South Bank University, London 1996 - 2000

MSc (Distinction), University of Belgrade, 1996

MEng, University of Belgrade, 1988

### **Scholarships/Awards**

Fleming Award – Dublin Port Tunnel Project, 2003

Award from Publishing Company for exceptional academic achievements during undergraduate studies, 1988

### **Professional Qualifications & Memberships**

Member of the Institution of Civil Engineers, 2005 - present

Member of the Serbian Institution of Civil and Structural Engineers,

Chartered Engineer, 1990 - present

Fellow of the Geological Society, 2006 - present

Member of the British Geotechnical Association, 1996 – present

Member of the Serbian Royal Academy of Science and Arts, 2016-present

### **Service on Technical/Professional Bodies**

Member of Geotechnique Editorial Advisory Panel, 2011 - 2013

British Geotechnical Association: Executive Committee Member, 2006 – 2009