



March 2019

- **Italian civil geotechnical engineer, P. Eng, 1989** (chartered)
- **Master of Science at the Imperial College, London, UK**
- **Experience in Italy, UK, Saudi Arabia, Australia, Kenya, Georgia and Ethiopia**
- Worked for consulting engineers and contractors
- Expert in the design and site supervision of complex geotechnical works
- Geotechnical engineering for climate changes oriented projects
- Civil, industrial and infrastructure construction industry
- Project and team management experience
- Relevant experience in river and road engineering
- Partnerships with engineering companies and university research centers for multidisciplinary projects
- **Experience with WB, ADB and Georgia Municipal Development Fund**
- CV approved by ADB, Asian Development Bank, ERA, Ethiopian Road Authority, United Water Supply of Georgia and Ministry of Transport of Tajikistan
- **Eureka network** external expert for EU funded project assessment

Skills and Experience

- **Geotechnical engineering**
- **Studies, design and works supervision**
- Ground investigation and soil assessment
- Deep foundations, ground improvement, excavations, retaining structures, geotextile engineering
- Roads, railways, flood defence schemes, metro, bridges, canals, dams
- Slope (soils and rock) engineering and monitoring plans
- Groundwater control, drainage schemes, seepage analysis
- Natural hazards risk management
- Project and team management, client liaison, project cost auditing
- Prefeasibility to life service studies
- International tender preparation and estimation, technical writing
- Disasters: prevention, preparedness, emergency, damage repairs
- Natural risk land planning

Professional record

■ Civil Geotechnical Engineer - International

- ◆ CAREC Corridors 2, 5 and 6, Dushanbe - Kurgonteppa Road Project, Kocks Ingenieure **Tajikistan** - ADB - *Road geotechnical site supervision and design review* Jan 19 - to date
- ◆ Eureka network external expert for **EU** funded projects Oct 18 - to date
- ◆ Poti new water treatment and sewage system - Safege Suez **Georgia** - ADB - *Geotechnical site supervision* Aug 18 - to date
- ◆ Afdera - Irebti Junction to Ahmedela Road - Eptisa **Ethiopia** - WB - *Geotechnical site supervision* Feb 18 - to date
- ◆ Col de L'Echelle - Italy to France international road, 20m high reinforced earth wall for rockfall protection Apr 18 - to date
- ◆ Zugdidi to Mestia mountain road, **Georgia** - ADB\MDF - *Road specialist, geotechnical study on natural hazards and risks* Aug 18 - to date
- ◆ Kimwarer & Arror dams, CMC - Itinera JV, **Kenya** - *Design coordinator* Oct 17 - Apr 18
- ◆ Wentworth House Partnership (WHP), Murphy and Central Piling, **UK** - *Geotechnical engineer and technical\design manager* Jan 16 - Oct 17
- ◆ Proger S.p.A., Riyadh, **Saudi Arabia** - *Geotechnical review team leader - KAP 3 Project* Jul 15 - Dec 15
- ◆ 3ti Progetti S.p.A., Riyadh, **Saudi Arabia** - *Project Manager, Riyadh metro Line 3 structural and geotechnical monitoring plan* Oct 14 - Jul 15
- ◆ AGECE Australia Pty Ltd, Perth, **Australia** - *General manager* Jan 13 - Jul 13

- **Riskope Italia Ltd, Turin, Italy** - President 2003 - 2007
A company specialised in the study of hazard and risks in natural and industrial environments. Now intermittently consulting for Riskope International Canada
- **Polithema Engineering Ltd, Turin, Italy** - *Owner, Vicepresident and Technical Director* 2000 - 2014
Office and project management, team mentoring, business development, client liaison, design & site supervision of geotechnical works for civil\industrial\infrastructure construction. Staff 18-20 people.
- **Angelino and associates, Turin, Italy** - *Chief Geotechnical Engineer* 1992 - 1999
Office and project management, business development, client liaison, design / site supervision.
- **Golder Associates, Turin, Italy** - *Junior Geotechnical Engineer* 1990 - 1992

Education

- **Master of Science in Engineering Rock Mechanics, M.Sc., D.I.C., 1990**
Imperial College of Science, Technology and Medicine, London
- **Civil Engineer, Roads (Transport) and Geotechnics, 1988**
Technical University (Politecnico), Turin, Italy (5 year course Master equivalent)

Languages

- Italian – Mother language
- English – Full professional efficiency
- French – Good (reading & understanding), Basic (speaking & writing)
- Spanish and Portuguese (basic technical reading)

Professional Associations

- **Professional Registration (chartered), Institution of Engineers, Turin, Italy, 1989**
- Official Consultant of the Turin Court of Justice, 1993

Postgraduate courses

- 15+ hours per year of professional courses for Chartership maintenance
- University of Trento, Italy. *Engineering aspects of mountain watersheds management and hydraulic protection, 1996*
- Technical University (Politecnico) of Milan, Italy. *River banks protection, 1995*
- CISM (International Center for Mechanical Studies), Udine, Italy. *Civil engineering works in high mountain environments, 1995*

Training and Publications

- International papers for conferences and magazines: Italy, UK, Canada and Algeria
- University of Parma, Italy. *Hazard assessment and risk management for natural risks, 2 day course*
- Institution of Engineers, Turin, Italy. *Risk management approach towards land planning and natural hazards*
- Piedmont Region, Italy. *Online course and tests for 95 employees on land planning with modern risk management techniques applied to natural hazards and risks.*



● **Geotechnical studies, design and site supervision**

- Consultancy and contractor roles
- 50+ piling projects in the UK-Ireland
- Design team leader and junior mentoring
- Piled foundations, retaining walls, sheet piles
- Jet-grouting, stone columns, cement injection, vibroflotation
- Active and passive anchors
- Settlements and bearing capacity
- Bridges, roads, railways, dams, metro, rivers
- Erosion control, embankments, cut slopes
- Groundwater control and seepage analyses
- Diaphragm and flexible multianchored walls
- Earth structures and geotextile engineering
- Geotechnical monitoring plans and pile testing
- Temporary works and excavation sequencing
- Civil, industrial, infrastructure construction
- Dynamic compaction
- Rock and soil slopes engineering, avalanches
- *Eurocodes and British Standards*
- *Paratie, Slide, Wallap, Oasys, Repute, In-house spreadsheets, Tekla software*

● **Management**

- Design coordinator for Kimwarer and Aror multipurpose dams, Kenya
- Technical/design manager at WHP, Murphy Ground Engineering and Central Piling, UK
- Project manager on the Riyadh metro line 3 construction monitoring plan, Saudi Arabia
- General manager at Agec Australia
- KAP3 project geotechnical reviewing team leader, Saudi Arabia
- Co-owner of Polithema Ltd, 13 years, staff 15+
- Team leader in major multi company projects
- Venue manager for the 2006 winter Olympics
- Emergency management during flood events
- Team manager for monitoring projects

● **International tendering for multilateral development banks projects**

● **Flood control schemes and bridges, design and work supervision**

- 50+ bridges consolidation after flood
- New and historical bridges, roads/railways
- 20+ flood mitigative schemes geotechnics
- Piling, jet-grouting, ground improvement
- Complex underpinning in restricted spaces
- Design and site supervision

● **Geotechnical monitoring plans**

- Complex alpine landslides up to 10Mm³
- The Riyadh Metro Line 3
- Limited access complex excavations
- Underground and slope projects

● **Site investigation**

- 200+ ground investigation design, supervision and geotechnical assessments

International Projects

◆ **CAREC Corridors 2, 5 and 6, Dushanbe - Kurgonteppa Road Project, ADB Tajikistan, Kocks Ingenieure, Site supervision and design review:** bridges (up to 330m long on the River Vaksh), slopes, embankments, swampy areas, rockfall, piling, difficult loess geology, etc., ADB funding, 90m\$, January 2019 ongoing.

◆ **Eureka network, 2018, external expert for EU funded project assessment (offshore site investigation).**

◆ **Zugdidi - Mestia road, ADB\MDF Georgia, road specialist, 2018 ongoing**

A geotechnical study on natural hazards and risks for this mountain road (70km section) leading to the tourist resort of Mestia in the center of the Svaneti National Park in the Georgian Caucasus. Technical and budget prioritization of the mitigative measures. ADB funding.

◆ **Poti water treatment and sewage network, Suez Safege Georgia, site supervision, August 2018 ongoing**

Geotechnical expert site supervision for these new plants in complex geotechnical soil with superficial ground water levels and strong liquefaction potential. 37 km of stone columns improvement against liquefaction. 15M€ ADB funding.

◆ **Afdera - Irebti Junction to Ahmedela road, Lots 1 & 2, Eptisa Ethiopia, site supervision, March 2018 ongoing**

Geotechnical expert for the site supervision of the 140km long new Afdera - Irebti junction to Ahmedela road in the desert of Danakil, Ethiopia. Interesting project with complex issues related to construction on lava soils, shifting sand dunes, swampy areas, deep lava cracking, difficult environmental flood issues for nearby salt producing lakes, salty soils and 45+ temperatures in a very dry and harsh climate. 95M€ World Bank funding.

◆ **Aror and Kimwarer multipurpose hydro schemes, Kenya, design coordinator, 2017-2018**

The two EC dams, Aror (101m and 292M\$) and Kimwarer (39m and 220M\$), will provide power, irrigation (4000ha) and potable water to the remote Kenyan highlands to improve the life quality of the local tribes.



- ◆ **Central Piling, Murphy, WHP, United Kingdom, technical manager and principal engineer, 2016-2017**
Managing the technical departments with the design of piles and retaining structures for permanent and temporary works, civil (up to 35-storey building) and infrastructure projects. 50+ projects in UK and Ireland.
- ◆ **Riyadh, Saudi Arabia, KAP-3 MOI project, design review, chief geotechnical engineer, 2015**
The KAP-3 project, from the Ministry of Interior, involves 3.400 new buildings on 610 sites all around Saudi Arabia. The total building area is in excess of 1.9Mm²; construction cost of 2.9bn€.
- ◆ **Riyadh, Saudi Arabia, metro line 3 monitoring, project manager, 2014-2015**
The Riyadh metro is a 168km long network. The surface (existing buildings) and underground (new tunnel) monitoring comprises ground levelling and total station readings on more than 850 buildings, 2.500+ control points, crackmeters (1.500 cracks) and geotechnical inclinometers, piezometers, tunnel convergence stations and vibrations for 150+ instruments. Managing a team of 20+ people.
- ◆ **AGEC Australia Pty, Ltd, Perth, Australia, general manager, 2013**
Office management, business development and client liaison for geotechnical works in Western Australia, including the new Atlas Iron stockyard (dynamic compaction in soft tropical soils) in Port Hedland.
- ◆ **Riskope senior geotechnical consultant, Vancouver, Canada, 2004-ongoing**
Natural hazards expert for a 10mm³ alpine landslide; Ferrero headquarters flood residual risk; landslide at the Combipel industrial facility; Province of Vercelli Masterplan natural risk management and risk study for the Mastallone Provincial Road. Risk studies for mountain roads in Canada and Chile.

Selected Italian Projects

- ◆ **Hydrogeological rehabilitation of the Balangero asbestos mine. European design contest victory. Project manager, chief designer/site supervisor.**
Restoration of the Balangero asbestos mine with new and innovative design methods to stabilize and environmentally restore a 60Mm³ slope with an overall 40% savings on the initial cost estimate.
Design risk management for natural (slides and flood) and industrial (asbestos fibers dispersion) risks.
The mitigative integrated works were designed in an environmentally sound area with an aerial cable-car hauling system implemented to minimize fibers dispersion pollution during construction.
Highly advanced environmental greening techniques to control erosion and improve revegetation.
Specifically oriented design to reduce exhaust emissions from heavy equipment with a cable car system to mobilize 300k m³ of debris and slope stabilization with natural construction materials (rock and wood) to avoid the use of high CO² emission raw materials like steel and concrete.
- ◆ **Cassas deep seated landslide risk management study. Project manager.**
Multi consulting risk study of the Cassas deep seated landslide (800+ m high, unstable volume of 10mm³) impinging on the Italy-France highway. Catastrophic potential in terms of loss of human lives and economic impacts (two international highways and railway, two villages and hydro facilities).
Activities performed: geotechnical studies and monitoring, stability analyses, data acquisition and interpretation, hazard and risk assessment, risk management, stabilization works design based on risk management techniques, design and works supervision of a 150 m long drainage tunnel built to stabilize the slide. Socio economic analyses in case of crisis. Early warning system and alert level definition.
- ◆ **Flood protection schemes and bridges. Design and site supervision.**
Geotechnical engineering for the related aspects on 15+ flood protection schemes and 45+ new or existing bridges, with complex underpinning and foundation restoration following damages from floods.
- ◆ **Turin 2006 winter Olympic Games. Design, site supervision and project management.**
 - ✓ Retaining walls for roads on slopes, Perosa viaduct piling (2.5m dia, 40m long bored piles in difficult lacustrine subsoil), reinforced earth structures (18m high) for the Luserna provincial road and skiing infrastructures: half pipe snowboard run, artificial snow reservoirs, ski runs slope stability assessment, etc.
 - ✓ Hydraulic design for flood control and mitigation structures along the ski slopes
 - ✓ Women downhill skiing site management during the event, 15 contractors and 100+ workers on site
 - ✓ Water basins for artificial snow to help the local skiing based tourism economy to strive with the higher temperatures and reduced snowfall at high altitude due to climate changes.
- ◆ **SAI FONDIARIA Insurances, Lux Complex, Turin. Design and site supervision.**
Massive rehabilitation works for the Lux Cinema complex: minipiles and anchors to underpin existing foundations up to 18 m below the street level with very limited access site conditions.
- ◆ **Vercelli Province: innovative risk management for land planning. Project manager.**
For the Vercelli Province an innovative risk management approach applied to three case histories of the general masterplan: a mountain road with natural hazards (25km), an industrial area with potential flood and a man made hazard case from a chemical plant in the city of Vercelli.
- ◆ **City of Bordighera: the River Borghetto flood mitigation works. Design.**
Experimental models from the Turin University and bidimensional computer simulation to design mitigative works (4 bridges, riverbed widening in the city center and an expansion area for flood peaks). Total cost 8m€.

