



SEMBENELLI

C O N S U L T I N G

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CV – 1/5

Curriculum Vitae DANIELE GUALCO

BIRTH: July 24th 1976, Genoa, Italy
NATIONALITY: Italian

PROFESSION: Junior Geotechnical Engineer
PROFESSIONAL SENIORITY: 8 years

UNIVERSITY STUDIES:

- Degree in civil engineering - Geotechnics, University of Genoa. Degree thesis on “*Examination of shear band formation in granular materials*”, 2001.
- PhD in Structural and Geotechnical Engineering, University of Genoa. PhD Thesis on: “*Experimental and numerical study on the performance of model strip footings on layered sand deposit with geosynthetic reinforcement*”, 2005.

MEMBERSHIP: Registered Engineer, Ordine degli Ingegneri della Provincia di Genova

LANGUAGES: **Italian:** mother tongue, **English:** very good, **French:** basic

PROFILE:

Mr. Gualco obtained his Degree in November 2001 disserting his thesis “Examination of shear band formation in granular materials”, prepared at the Department of Foundations and Soil Mechanics of the Ruhr University (Bochum, Germany), spokesmen prof. Riccardo Berardi, eng. Diethard König, eng. Henning Wolf.

During his studies, he has followed courses concerning structural engineering as well as geotechnical and environmental engineering.

Between January 2002 and January 2005 he merited a PhD scholarship at the Department of Structural and Geotechnical Engineering of the Genoa University. During said period he has extensively covered all the aspects relative to geosynthetic as well as shallow and deep foundations. In April 2005 he was awarded the title of Doctor in Research debating on his thesis “Experimental and numerical study on the performance of model strip footings on layered sand deposit with geosynthetic reinforcement”, prepared under the guidance of prof. Riccardo Berardi. Mr Gualco has been co-examiner of a few degree thesis and appointed for a few teaching tasks within the university courses of Civil and Environmental Engineering.

In about 8 years of professional activities, Mr. Gualco has actively participated in the geotechnical aspects of several geotechnical investigations, from their preliminary specifications to their field execution, including residence and field supervising activities for several projects.



PROFESSIONAL EXPERIENCE

Since **October 2006 – to date** Mr. Gualco is employed by **SC SEMBENELLI CONSULTING Srl** as Junior Geotechnician, in charge of all the geotechnical aspects including the performance analysis of investigations and direct in situ assistance.

Since March 2009 he is in charge of the geotechnical aspects relative to the **Hydroelectric Project El Chaparral (El Salvador)**, under construction by Astaldi, on the Torola River, a RCC dam 80 m high with underground pit power station equipped with two 34 MW turbines for hydroelectric power generation.

In 2008 he has followed the geotechnical aspects for the Bid Project of the **Third Set of Locks** relative to the **New Panama Canal**, in particular those relative to the excavations and stability of the cofferdams.

Since June 2008 he follows the geotechnical aspects (programs and technical specifications as well as investigations, supervision of field activities, intervention proposals and reports) relative to two landslides affecting the Lot 1 (Solignano-Osteriazza) of the **Pontremolese Railway Infrastructural Upgrading** (project for doubling the railway line La Spezia-Parma).

In the same period, he carries out the stability analyses for the ash pond dam relative to the **Coal Thermoelectric Power Station of Dnepropetrovsk (Ukraine)**.

Since April 2008 he follows the geotechnical aspects (programs and technical specifications for the investigations, reports on the site investigations as well as the laboratory ones, analysis of the existing piezometric instruments and upgrading proposal) relatives to the **Final Project** for the exceptional maintenance and environmental integration of the **San Valentino alla Muta Dam**. This earth fill dam is owned by Hydros Srl, in the province of **Bolzano**. In particular Mr. Gualco has supervised all additional in situ and laboratory investigations and the installation of additional piezometers.

In March 2008 he follows a few geotechnical aspects (foundation piles and reinforced soil embankments) relatives to the Final Project for the repair works relative to **Pan Landslide in Val Rabbia (Brescia Province)**.

In 2008 he follows the geotechnical aspects , in association with Gregotti Associati International and BCV Progetti, the **Preliminary Project** for the foundations of the **Nuova Torre della Ricerca**, building of 30 floors in **Padua**. The project has been retained as winning project.

Between the end of 2007 and beginning 2008 supervises, on behalf of Land Srl, the works for the construction of the **Helix Hill** for the **Portello Park** (Milan) with the technology of the reinforced soil embankments.

Between the end of 2007 and beginning of 2008 participates to the **Analysis of the railway embankments Project** for the **San Juan de Los Morros-San Fernando de Apure** and



Chaguaramas-Cabruta Railway System in the Estado Guarico Region, South West of Caracas (Venezuela).

In 2007 he follows the geotechnical aspects (program and technical specifications for the investigations and project of a railway underpass to be built by the jacked box tunnelling method, without interfering with the above ongoing railway traffic) relative to the **Preliminary Project** for the **Rehabilitation and Upgrading of the Ex Falck Areas in Sesto San Giovanni (MI)** within a team directed by RPBW International.

In the same year participates to the Preliminary Project Phase for the **El Dinero Dam in Venezuela**, belonging to Idrocapital (National Body for the Hydro Resources of Venezuela), as part of the Tuy IV Project, to enhance the capacity of the Caracas waterworks.

In 2007 participates to the analysis and preparation of the Conceptual Proposal **for lawfully upgrading the Lago Lungo Dam**, owned by Mediterranea delle Acque SpA near **Genova**. The masonry gravity dam has a maximum height of 47 m and a total length of 220 m.

In 2006 he carries out the investigations and analysis of the **Badana Dam**, owned by Mediterranea delle Acque SpA of **Genova**, and the **Preliminary and Final Design** of the relative works for the security of the Dam and extraordinary maintenance. The masonry gravity dam has a maximum height of 56 m and a total length of 216 m.

Between the end of 2006 and beginning of 2007 he follows the **Kerrada Dam**, in **Algeria**, caring for the analysis of the data relative to the grout injections to waterproof and consolidate the foundations. Mr Gualco extensively resides in the job site to supervise the ongoing experimental embankments. The dam is zoned earth fill, with a maximum height of 76 m, a total length of 768 m and a total volume of 4.5 Mm³.

From October 2004 to September 2006 he has worked with D'APPOLONIA SpA in charge of various projects in the geotechnical, maritime and offshore engineering. In particular, the activities performed at D'Appolonia have covered several analytical and design aspects: participation to geotechnical field investigations, both onshore and offshore; interpretation of the site and laboratory tests and geomechanic classification of soils; analysis and design of shallow as well deep foundations for industrial and civil buildings including aspects of bearing capacity and subsidence;

Among the **main projects of Offshore Geotechnics**, we mention: **Site Investigation Campaign in Italian and Croatian waters**, interpretation of geotechnical site tests, definition of design soil profiles, engineering analysis to position a platform on piles (Katarina) and of jackup unit (Drilling Rig Carl Norberg on Irena 1), as well as for the foundation project of a bridge (Peljesač);

In the same period he carries out a site investigation campaign offshore **Congo**, including interpretation of the geotechnical site tests, definition of design stratigraphy, engineering analysis in order to position two pile platforms (Ikalou and Awa-Paloukou) as well as site investigation campaign offshore **Kazakhstan (Kashagan East Field)** with interpretation of the site geotechnical tests, definition of the design stratigraphy, engineering analysis for the construction of two artificial islands (Island 5, Island 10) and connecting pipelines among them.



He carries on also the analysis on the driveability of tubular steel pipes for the foundations of a platform (Hasdrubal) offshore **Tunisia**.

Among the **principal Onshore Geotechnical Projects** can take place the engineering of maritime works and setting of geotechnical methods for the functional recovery of **Calata Oli Minerali** as well as widening of **Calata Bettolo** in the **Genoa Port** (geotechnical investigations design of the wharfs in cellular boxes, design of the underwater supporting embankment, of the lighthouse tower foundations, of the running beams for the containers handling cranes, and of the squares floors lining).

Engineering of the civil works for the new **Railway Park Rugna**, in the **Genoa Port** and analysis of interferences with the new viability to serve the new container terminal of Calata Bettolo (geotechnical investigations, design of the foundations for the lighthouse tower, and of the running beams for the rubber tyres of containers handling cranes).

Engineering of the geotechnical and maritime works related to the functional upgrading of the **Darsena Morosini** in the **Leghorn Port** (geotechnical investigations, design of the wharfs in cellular boxes or upon sheet piles).

Engineering of the geotechnical works related to restoring the ex **Railway Station F.S. Boschi** in **Parma**.

Engineering of the maritime and geotechnical works to rehabilitate the **Area del Triangolo** in the **Viareggio Port** in Lucca province.

In the same period, still concerning the onshore Geotechnics, Mr. Gualco has carried on the investigations and preliminary analysis for the heavy tamping intervention in Service Areas of the **Catania-Siracusa Highway**.



PUBLICATIONS

Gualco D. e R. Berardi, 2002, “Analisi Sperimentale della Formazione di Bande di Taglio Multiple in Terreni Incoerenti”. Atti dell’Incontro Annuale dei Ricercatori di Geotecnica - IARG 2002. Napoli, 19-21 Giugno. 4 pp. on CD-ROM.

Gualco D., 2003, “Comportamento all’Interfaccia Sabbia-Geosintetico: Valutazione di Parametri per l’Analisi di Fondazioni Rinforzate”, Atti dell’Incontro Annuale dei Ricercatori di Geotecnica - IARG 2003. Potenza, 18-20 Giugno. 4 pp. on CD-ROM.

Berardi R. e D. Gualco, 2004, “Experimental and Numerical Analyses on the Permeability of Reinforced Clay Barriers”, Proceedings of EuroGeo3 - Third European Geosynthetics Conference. Munich (Germany), 1-3 March, pp. 71-76.

Gualco D. e R. Berardi, 2004, “Studio del Comportamento di Fondazioni Rinforzate con Geosintetici”, Atti dell’Incontro Annuale dei Ricercatori di Geotecnica - IARG 2004. Trento, 7-9 Luglio, 4 pp. on CD-ROM.

Gualco D. e R. Berardi, 2005, “Effects of Geosynthetics Reinforcement on Bearing Capacity and Settlement of Shallow Foundations”, Proceedings of the XVIth International Conference on Soil Mechanics and Geotechnical Engineering, Osaka, September 2005, in print.

Passalacqua R., S. Podestà e D. Gualco, 2005, “A Case History on the Investigation Techniques for Large Diameter Pile Foundations”, Proceedings of the XVIth International Conference on Soil Mechanics and Geotechnical Engineering. Osaka, September 2005, in print.