



Prof. Luis Ignacio González de Vallejo

Professor of Engineering Geology.
Speciality: Geological Engineering and Geo-
Hazard Assessment.

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Education

After completing a BSc in Geological Sciences in 1970 from the Complutense University of Madrid (UCM), he was then awarded an MSc in Engineering Geology in 1975 from Imperial College, London. In 1979 he obtained his PhD at the UCM with a thesis on the geotechnical properties of volcanic soils of La Laguna (Tenerife).

In 1979 he was a postdoctoral student at the Universidad Nacional Autónoma de México (UNAM) researching on the geotechnical properties soils of Mexico and on seismic hazard. In 1980 he continued his post-doctoral studies in rock mechanics at Pennstate University, USA.

Academic post held

Emeritus Professor at UCM since October 2010. Professor of Engineering Geology at UCM since 1989. Director of the MSc Courses in Geological Engineering, UCM (1990-2008).

Lecturer at Universidad Autónoma of Madrid (1986-1989). Director of the Postgraduate Course in Engineering Geology at UCM 1980 - 1990.

Awards

2015: Honorary Member of the Spanish Society of Rock Mechanics (Spanish National Group of ISRM).

2013: E. B. Burwell Jr. Award; Geological Society of America.

2010: Manuel Rocha Lecture; Geotechnical Society of Portugal and the New University of Lisbon.

2010: Medal of the University Complutense of Madrid.

2009: Honorary Member of the Institution of Chartered Geologists of Spain.

2007: Ing. Mariano Ruiz Vázquez Memorial Lecture; Academy of Engineering of Mexico.

1981: Caja de Madrid Foundation PhD Prize.

1980: University Complutense Doctorate Prize.

Research-related activities

He has supervised 11 PhD thesis, 25 MSc thesis and 15 research projects for national and international scientific organisations.

President of the Joint Technical Committee (JTC3) for Education and Training of the Federation of International Societies in Geo-Engineering (ISSMGE, ISRM, IAEG), 2006-2010.

External Examiner for the degree of Master of Science in Engineering Geology at Imperial College, London.

External Member of the National Committee for the Evaluation of the degree of Geological Engineering of the Portuguese universities.

External Member of the Aristotle University of Thessaloniki, Engineering Geology, School of Geology.

Corresponding Scientist of the International Association for Promoting Geoethics.

Director of the Geohazard Division, Volcanological Institute of Canary Islands.

President of the Expert Committees for the Safety of Itoiz (Navarra) and Yesa (Navarra) dams, Spanish Ministry for the Environment and the Institution of Chartered Geologists of Spain.

Vice-president of the Spanish National Society of Rock Mechanics (ISRM) (2002-2010).

Expert witness of the *Audiencia Nacional* in cases of great relevance such as the failure of the Tous Dam in Valencia and the impact of the excavation of the high speed train tunnel underneath the *Templo de la Sagrada Familia* in Barcelona.

Associate Editor of the *Soils and Rocks* Journal. Member of the Editorial Committees of the *Revista de Geología Aplicada a la Ingeniería y al Medio Ambiente* of the Asociación Argentina de Geología Aplicada a la Ingeniería, and of the *Boletín Geológico y Minero de España*.

Main contributions

- *Engineering geology and rock mechanics:*

Rock mass classifications for tunnels under tectonic stress. The Surface Rock Mass Classification (SRC).

In situ stress amplification in tunnels induced by geological factors: Stress Amplification Factor (SAF).

In situ stress assessment in tunnel rock masses by empirical methods: Tectonic Stress Index (TSI).

Failure mechanism of the volcanic island flanks: The mega landslides of Güimar and La Orotava, Tenerife.

Geotechnical properties of volcanic rocks and soils of the Canary Islands.

Engineering geological mapping for urban planning.

- *Geological hazards:*

Mega-tsunami deposits in Canary Island.

Seismic hazard in Canary Islands.

The paleoseismic structures of El Médano, Tenerife, and related earthquakes.

Economic losses in Spain by geological hazards.

Seismic hazards analysis for critical facilities in Spain.

Publications and conferences

Author of over 160 publications in journals and conference proceedings, as well as 11 books including Geological Engineering (CRC Press, 2011) translated into Italian, Korean and Turkish originally written in Spanish. Participant in many international conferences as Panelist, Co-Chairman and Organizer, presenting Keynote Lectures at the 7th International Congress of the IAEG(Lisbon, 1994), International Symposium on Rock Mechanics organized by the Mexican Society of Rock Mechanics and ISRM (México D.F., 1999), and at the 1st International Conference on Education and Training in Geo-Engineering Sciences (Constantza, Romania, 2008). He has presented lectures in Italy, Turkey, Mexico, Costa Rica, Honduras, United Kingdom, Portugal and Spain.

Consultant activity

His consultant activity has included a large number of geological and geotechnical studies in Spain and Latin America for projects of tunnels, open-cast excavations, foundations, dams, highways, railways, nuclear power stations, storage facilities for CO₂, mining and radioactive waste disposals and studies of earthquakes and landslides in relation to engineering design projects.

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