

Speech for the opening session of the 4th IAEG European Regional Conference

(10th October 2024)



My first involvement with IAEG was in early 60's when I started my professional career at the Geotechnical Department of LNEC (National Civil Engineering

Laboratory) of Portugal. My first personal contacts with IAEG activities occurred during the attendance of the 1st International Congress, in Paris, in 1970.

At that time already existed in Portugal a Group for Soil Mechanics and Rock Mechanics. As its member, I proposed to present the candidature of Portugal to the International Association of Engineering Geology in the Council meeting at the occasion of the International Geological Congress, in Montreal, in 1972. Then, the Portuguese Group changed its name to Portuguese Geotechnical Society (SPG), which represents Portugal, since then, in all International Societies and Associations of the Geotechnical area.

My research activities in the first years were in the area of applied geology to civil engineering and have been very much supported by several scientific books published by many eminent authors in the 1950 decade (exception for Maurice Lugeon 1933 -Barrages et Geology) and Karl Terzaghi 1943-Theoretical Soil Mechanics) as well as reports of several large disasters, as it is the case of the rupture of the Malpasset Dam, in France, in 1979 and the overtopping of Vajont dam, in 1963 in Italy, as a result of a large landslide of the Toc Mountain in the reservoir. At the end of this period which followed the 2nd World War, when engineering construction and rehabilitation, mainly in Europe, was supported to a large scale by the Marshall Plan funds, I obtained the degree of Specialist in Engineering Geology in 1965(PhD level). After this early period, I extended my activities and research to areas of Engineering Geology, Soil Mechanics and Rock Mechanics related to Dams, Slopes, Tunnels, Caverns, Roads and Railroads, Bridges, Natural Hazards and Land use planning. In 1983 I obtained the degree of Research Director in Geo-Engineering (Full Professor level) and became LNEC Deputy Director for 7 years.

Simultaneously, I started in 1968 a Consultant Career at COBA, an important Portuguese Civil Engineering Consulting Company, working all over the world, first being responsible for its Geotechnical sector and later, from 1973 to 1988, as Director and from 1988 to 2015 as President of the Group.

At same time, I developed an academic career at UNL (New University of Lisbon) from 1974 until 2008, having organized in 1975 the first graduate courses offered in Portugal in the Geotechnical area (MSc courses in Engineering Geology and in Soil Mechanics).

As a result of the continuous development of my technical and scientific activity, I became an active member of IAEG, working in Commissions, presenting key-note Lectures, submitting scientific papers to international events and to the Bulletin and contributing to Newsletters.

Since 1970 to now, I kept a continuous cooperation with IAEG, attending all the 14 International Congresses and respective Council meetings, including the last one in Chengdu, in 2023. I have also attended all the IAEG European Regional Congresses, the first one in Liège (2004) the second in Madrid (2008), and the third in Athens

(2021). The fourth is this one in Dubrovnik, about to start. I have also attended many International Symposia and other IAEG Conferences.

I have been co-author and co-editor of the Memorial Book “50 Years of the International Association of Engineering Geology and the Environment” published in 2014. This book reports in detail all the relevant aspects of the first 50 years of IAEG (1964-2014) and it was distributed to all participants in the 12th International Congress, in Torino, 2014.

I have also been connected to the other International Geotechnical Societies and their activities, having been elected Secretary General of the ISRM from 1968 to 1974 and I am also member of the International Society of Soil Mechanics and Geotechnical Engineering (ISSMGE).

The Portuguese National Group became progressively involved in the IAEG activities, organizing very successful international events, namely the International Symposium on Engineering Geology and Underground Construction in 1983 and the 7th International Congress of IAEG in 1994, both in Lisbon, this one attended by about 700 participants.

I was elected Vice President of IAEG in Argentina in 1986, President in Amsterdam in 1990 and I have been elected IAEG Honorary President in 2018, in USA.

I received several scientific prizes along my career, the most rewarding being the IAEG Hans Cloos Medal in 1996, the Manuel Rocha Research Prize in 2002 and the degree of Doctor Honoris Causa by the Complutense University of Madrid in 1998. I have been elected effective member of the Portuguese Academy of Engineering in 1996 and of the Brazilian Academy of Engineering in 2015.

As a result of my continuous commitment with IAEG along those years and the close relationship with several National Groups, I have been invited by them to transmit my expertise resulted from the experiences of my work. I gave Lectures in many countries, namely by invitation of those National Groups, worth mentioning Soviet Union (Russia, Kazakhstan, Tajikistan and Georgia) in 1983; Cross Canada Lecture Tour (from Halifax to Vancouver) in 1990; MSc Course in Geological Engineering at the Complutense University of Madrid for 10 years (1990-2000), Brazil (Rio de Janeiro 1972 and São Paulo 1973) and China (Nanjing 1987). For that purpose, I travelled a lot around the world visiting 59 countries (28 from Europe, 12 from Asia, 12 from Africa, 2 from Australasia, 3 from Latin America and 2 from North América. Most of these visits were connected to my consultancy related to engineering projects. and teaching. As consequence of such travel over the years, I made many friends since the very beginning of IAEG (as Shadmon, Zaruba and Sergeev) until today. Many of these friends have already passed away, but they keep alive in my memory, namely Marcel Arnould and specially Paul Marinos.

In this last decade (2014 to 2024) IAEG experienced important evolutions which deserve to be mentioned in this short speech. A new and very complete Website

was established in Torino by Giorgio Lollino and Colleagues. The YEG group increased significantly and has organized several events in order to expand the activities of the Group. In the last Council meeting in Chengdu, it has been approved the establishment of a Women in Engineering Geology Group in order to promote the important role of our Women colleagues in the past and in the development of the IAEG in the future. In this decade is also important to highlight the effort done by the Executive Committees of the Association to increase the number of National Groups (70) and Individual members (now about 5.500).

A lot is expected from engineering geological activities in the future, in order to improve the characterization of the ground related to the design and construction of large engineering structures, the stability of natural slopes and the establishment the best possible land use in relation with the Environment. This implies the use of more sophisticated equipment for mechanical and geophysical site investigations and laboratory testing of the ground.

This information will allow the improvement of three dimensional geological and geotechnical models as well as the calculation models progressively more sophisticated as result of the evolution of the respective computer analytical tools.

Continuous improvements are expected in the monitoring of the ground stability of geotechnical and mining structures by the use of more sophisticated equipment (Drones, Laser scanning, Radar, Satellites, GPS).

Finally, it is already possible to see increasing cooperation between Academia and Industry related to research programs established in Universities and Polytechnic Institutes. The formula is the establishment of research contracts concerning subjects of interest for Enterprises and stimulate their staff to prepare MSc and PhD theses. Another way is the possibility of experienced staff from industry participate part-time in Academia, in order to contribute with their experience to the valorization of teaching in the respective courses.

Ricardo Oliveira

In Dubrovnik