

## Giorgio Lollino

### Biography

Giorgio Lollino was born in Bari and he graduated in Civil Engineering at Turin Polytechnic.

For some years, he worked, at the Geotechnical Laboratory of ISMES (Experimental Institute Models and Structures) in Bergamo. During these periods, his activity was in geotechnical laboratory and in-situ tests in order to define geo-mechanical behaviour of the soils for engineering constructions and landside studies.

After to 1981, he continued his research activity in Bari, at the Advanced Technology Application in the Field of the Hydrogeology Research Centre of Italian National Research Council (CNR). In this field, his great result was the development of complex hydraulic system to capture a submarine freshwater spring in the Mar Piccolo of Taranto, southern Italy, with mouth at 18m deep and with 0.8 m<sup>3</sup> /s discharge.

Since 1992, he worked at the Research Institute for Geo-hydrological Protection (IRPI) of CNR of Turin. He continued the studies on the landslides phenomena using innovative experimental monitoring systems with automatic, continuous and remote control of the slopes movements, to determine the time and the characteristics of the reactivation, useful to define the hypothetical scenarios of the phenomena evolution.

He developed and patented the " *Automated Inclino-metric System (AIS)*", a Robotized equipment for measurement of different parameters in deep soil perforations, in particular for inclinometric measurements. The results allowed defining an important relation between rain peaks, piezometric variations and time of the deep movement reactivation of the slope. Also in the field of surface displacements, with other colleagues, has developed and patented a " *Monitoring system in landslide areas with a motorized system based on an automatic image processing system (AIS)*".

Thanks to his great experience in technologically advanced monitoring, he founded the Geohazard Monitoring Group (GMG), a multidisciplinary, highly qualified Research Group of CNR. As the CNR-IRPI became a Competence Center of the National Department of Civil Protection, the GMG worked often for it. In that context, the GMG, registered an original Software titled " *3DA – Near real time three dimensional displacement analysis for early warning*".

Furthermore, he applied his technological knowledge also to the field of riverbed solid transport, with particular attention on the monitoring of the altimetric and planimetric changes. In this field, he experimented innovative survey methodology, including aerial laser scanning to realize high resolution DTM of the lateral sides of river, side-scan sonar techniques for the digital reconstruction of the riverbed, and electrical tomography to analyse river section.

In the advanced technological monitoring field, he coordinated several working groups of the IRPI-CNR in the national and international research projects. The last, regarded the use of Unmanned Aerial Vehicle (UAV) in the field of territory control and for the management of hydrogeological instability, in the project of the Piedmont Region: " *Advanced Territorial Monitoring and Monitoring System for civil purposes based on unmanned aircraft systems*".

In 2007, he was National Coordinator of the CNR Scientific Project " *Development and application of innovative technologies for characterization and monitoring, to predict,*

*mitigate and manage geo-hydrological instability phenomena related to civil constructions and infrastructural networks".*

The results of these research activities was been published on many scientific papers in Congress Proceedings as well as in national and international journals.

At the same time, he transferred these knowledge, teaching, some years, for the course of Geological Sciences: "Geological Exploration of the Subsoil" and "Geotechnics "at the University "G. D'Annunzio" (Chieti and Pescara), and at the Doctoral School on "Science and technology for forest management and environmental" at La Tuscia University, (Viterbo ).

#### Management activity

For 10 years, he was also, appointed Director of the CNR Research Area of Turin and then he was President of the Committee of the CNR Research Area of Turin. CNR Research Areas are communities of research institutes in territorial areas, aiming to realize a coordinated and rational management of infrastructures and synergies, and to share the expertise with local administrations and companies.

In that period, he was in charge of Turin CNR-IRPI Institute and was Representative of the CNR at the Committee for Research and Development of the Piedmont Region.

#### Activity for International Association of Engineering Geology (IAEG)

He was Congress Chairman of the XII IAEG Congress: "*Engineering Geology for Society and Territory*" in Turin, 2014 and Editor-in-chief of the Proceedings. The Congress registered more than 1200 participants from 58 countries. The Proceedings were published by Springer in 10 volumes for total number of 8643 printed pages and with more than 423,926 downloads (Springer 2018 data) and are completely indexed by Thompson Reuters and Scopus in their Web of Science database.

He dedicated this Congress to the memory of Marcel Arnould, a great international scientist, IAEG co-founder and Honorary President.

He was promoter, chair of the organizing committee and Editor of the Proceedings, of the CNR and IAEG National Congress GEOBEN 2000 on "*Geological and Geotechnical influences in the preservation of Historical and Cultural Heritage*" in Turin, 2000.

For several years, he was a member of IAEG Bulletin Editorial Board.

Was elected President of IAEG Italian National Group (2007- 2011).

He was also, appointed Representative of the Italian Research Council (CNR) in the IAEG.

Due to his important experience in the field of geotechnical monitoring, he was Chairman of the IAEG Commission C35: Monitoring methods and approaches in engineering geology applications.

Since 2010 in Auckland, after Niek Rengers, he was appointed Webeditor in Chief of the official IAEG website ([www.iaeg.info](http://www.iaeg.info)), and in 2019 Chair of IAEG IT Committee.

For the period 2014-2018, the Council Meeting elected him Vice President for Europe.

In 2016, for his appreciated service for IAEG and for his significant contribution to the promotion of Engineering Geology, he received the "Marcel Arnould Medal " by President

Scott Burns on 18 May 2018 at the École de Mines in Paris, the historical work-site of Marcel Arnould.