

# In Memoriam Professor Vladimir JURAK (1942–2010)



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## Geologia Croatica



Professor Vladimir Jurak died after serious illness on March 4<sup>th</sup>, 2010.

He was born in Zagreb on August 4<sup>th</sup>, 1942, where he finished elementary and high-school. After that he started to study geology at the Faculty of Mining, Geology and Petroleum Engineering, University of Zagreb. He graduated in 1967 and finished his PhD thesis in 1983 at the University of Beograd.

Professor Vladimir Jurak started to work as Assistant in 1967 after graduation in the Department of Basic and Applied Geology at the Faculty of Mining, Geology and Petroleum Engineering in Zagreb. He was elected Assistant Professor in 1985, Associate Professor in 1992, Professor and finally Professor in Permanent Position. He was the head of the Department of Engineering Geology, Hydrogeology and Geology of Oil and Coal (1991–1995).

At the beginning of his work at the Faculty of Mining, Geology and Petroleum Engineering he was the Assistant on hydrogeological and engineering geology courses and the professor on the courses of engineering geology at undergraduate and post-graduate level. He was the founder and first lecturer of several new courses in the field of engineering geology at graduate, post-graduate and doctoral levels, where he combined his broad theoretical knowledge with great professional experience. For several years, he was the head of post graduate study in engineering geology. He also participated in lecturing at the Faculty of Civil Engineering for several years as well as at the Faculty of Geotechnics in Varaždin. His approach to lectures was very professional. Each year he updated his lectures with new knowledge from the literature and with concrete examples from professional practice.

Vladimir Jurak was an advisor for more than twenty BSc, 3 MSc, and 7 PhD theses, as well as a member of the evaluating committees for more than ten MSc and PhD exams. As the head, he took great care over the students' papers in order that they were more complete and substantial.

- He was a member of the Presidency of the Committee for Engineering Geology and Hydrogeology and a member of the Board for Landslide in that Committee in the former Yugoslavia.
- He was secretary of the Croatian Geological Society (1971–1972).
- He was a member of the Editorial Board of 'Geologia Croatica' (1991–1996)

Throughout his active life, he participated in numerous investigations and projects with the engineers and workers of the Civil Engineering Institute (IGH), Geophysical Department Andrija Mohorovičić, Faculty of Geodesy and Faculty of Agriculture in Zagreb.

Professor Vladimir Jurak was also very active in practical work, in addition to his lecturing duties. For ten years he was engaged in hydrogeological investigations in the karst terrains as co-operator with Professor Antun Magdalenić. Later, he devoted himself to work in the area of engineering geology where he became one of the leaders in the development of this branch of geology in the Republic of Croatia.

While teaching Engineering Geology, he introduced modern Rock Mass Classifications (Bieniawski, Burton) as well as the application of Geological strength index (GSI) and Hoek-Brown's criterion for rock fracture. He always pointed out that engineering geology could be applied and used only as a part of an interdisciplinary approach in the framework of geotechnical investigations.

Credit is due to him for teaching students the application of engineering geophysics (seismic, geo-radar and geoelectric measurements) in the frame of geotechnical investigations. He often used geophysics in his investigations and especially for evaluating the thickness of the different rock mass weathering belts, erosion properties of rock and in evaluation under the seismic conditions.

He studied a fascinating, broad range of problems in the area of engineering geology, but was also concerned with several characteristic ones. From a weathering aspect, he was interested in the different contactolite rocks (skarns, kornfels, orthoamphibolites) on Papuk Mountain. He was the co-author of the engineering geological study (1:10 000) for the design of the first motorway in Croatia (Zagreb – Rijeka). He participated in geotechnical investigations of the bridge site over the river Rijeka Dubrovačka. He studied clastic rock sediments in the Macelj sandstone complex for the design of micro accumulations. He participated in investigations for the design of remedial work on the revitalization of the old Medvedgrad ruins.

Based on their content, his studies can be placed into several groups: seismic and geotechnical zonation, mass movements and soil erosion. He willingly participated as the consultant on engineering geological problems during the design and building of numerous objects. In the last decade of his work he worked on the microzonation of slopes of the Sljeme – Medvednica Mountain in Zagreb. He also intensively investigated the erosion in the flysch areas of Istria and Kvarner as well as the instabilities of slopes at the contacts of carbonate and flysch rock complex in the same area. He specially focused his work on the area of extensive erosion in Vinodol Valley.

He always intended to collect as much data as possible that could be used in lectures. He was tireless in that, and did not consider geology as a profession, as it was his passion. Therefore, he often investigated the area he visited during his summer holidays, together with his wife Željka.

Almost during his whole working period Professor Jurak actively participated, with great enthusiasm, in domestic scientific projects. He was the leader of three scientific projects and at the same time co-worker on several other projects.

Several times he was the lecturer at professional seminars on Rock Mechanics and Soil Mechanics which were

organized by the Society of Civil Engineering Engineers and the Society for Rock Mechanics Croatia, with the aim of explaining to the civil engineers, the importance of geology in solving engineering problems during designing and building. He held public lectures in the frame of the Croatian Geological Society and Scientific Stand of the Civil Engineering Institute.

He took part in numerous scientific and professional meetings: over thirty national ones and over fifty international ones. At these meetings, he was often the co-organizer of the professional excursions and one of the co-authors of geological guides and he also participated in plenary and invited lectures.

For many years he was the scientific co-operator of the Croatian Geological Survey, as a member of review-commissions for the Basic Engineering Geological Map of the Republic of Croatia as well as in complex studies and scientific-professional designs. From 2001 he was the coordinator of the Scientific – Professional Design Council for leading and realization of the „Project of the complex geotechnical and seismic investigations for the needs of planning and building in the area of the town of Zagreb”.

He was also a reviewer for particular scientific projects financed by the Ministry for Science, Education and Sports.

Unfortunately he died on March 4th, 2010, and although it was known that he was seriously ill, it was still very painful news.

There is no doubt that Professor Jurak was one of the leading experts in the field of engineering geology. We will remember him as a man who always tried to connect the engineering experience and science. He gladly presented his great knowledge and experience to younger colleagues.

We will definitely remember Professor Jurak as a great friend and a great man who passionately loved his profession, his colleagues, his country, and his family.

Let him rest in peace!

Čedomir Benac, Snježana Mihalić and Tomo Novosel

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