

## IN MEMORIAM

# GHEORGHE OAIE



On the 18-th of July 2016 we said farewell to a dear friend and colleague, Gheorghe Oaie, who was totally committed to the institute and the profession he served unconditionally. His sudden death was a shock for the geological community and for all who knew him. We celebrated his 60 anniversary just 12 days before. We've lost a great friend and the Romanian scientific community has no longer such a representative, a bright figure through its dedication to our institute.

He used all his energy and skill to solve the particularly difficult management of an institute that has a very specific and complex field of activity, but also the possibility to grow and ensure the progress in its scientific field. It is an institute difficult to maintain in equilibrium, but Gigi Oaie managed to do it, with huge efforts and, eventually, with the price of his health.

Gheorghe Oaie (Gigi for friends and colleagues) was born on the 6-th of July 1956 in Grădiștea, a village now in Giurgiu County, 40 km from Bucharest. His elder sister, Ileana, studied polytechnics. The parents wanted a better life for their children and encouraged them to learn and have a higher education. Gigi attended primary and secondary school in Grădiștea, then went to high school in Bucharest. In 1983 he graduated the section of Geology of hydrocarbon deposits at the Faculty of Geology and Geography, the University of Bucharest, specialization of geological and geophysical engineering.

During his freshman year, Gigi started his field practice with the Danube and Danube Delta research team of the Geological Institute of Romania, coordinated by Nicolae (Țuțu) Mihăilescu. He continued to work each summer with the Danube and Delta team, where he was assigned the respon-

sibility to prepare the boat for field work. From the very beginning he became the leader of the students group. A highly organized person, he was the last to come to dinner after returning from the field, after making sure that all samples collected, as well as field and laboratory equipment, were put back in place.

He graduated in 1983 and received assignment for employment to the Institute of Geology and Geophysics (now the Geological Institute of Romania), after two years of compulsory training in production. He did this training at the Prospecting Enterprise in Bucharest (now Prospeccțiuni S.A.), where he shared the office with Iuliana Stratulat. At the Prospecting Enterprise he worked as a geological engineer, performing geological prospecting and mapping in North Dobrogea, in the team of Magda Radu, as well as exploration drilling for coal in Baraolt basin.

On 1-st October 1985 he was employed as geological engineer at the Marine Geology laboratory of the Institute of Geology and Geophysics and became a scientific researcher on March 1-st 1988. In the Marine Geology lab he conducted sedimentological studies on modern deposits of the Danube-Danube Delta system, sedimentological studies of fluvial and marine systems, geoecological monitoring on the Danube River and environmental studies. At the Geological Institute he was also involved in the mapping activities for the geological map of Romania sc. 1:50.000, as well as in studies of borehole cores, addressing the sedimentology of ancient deposits (Neoproterozoic and Paleozoic) in Dobrogea. In the nineties, he started sedimentological studies of the Mesozoic covers in the Danubian Window of the South Carpathians (Retezat, Vulcan, Godeanu, Mehedinți and Cernei Mountains), working with a team of petrologists and mineralogists. He

also contributed to elaboration of reports, atlases and field trip guidebooks.

In 1993 the Marine Geology laboratory became first the Romanian Centre for Marine Geology and Geoecology, then, in 1996, the National Institute of Research and Development for Marine Geology and Geoecology – NRD GeoEcoMar, as result of Nicolae Panin's initiative and general direction. From 1993-2000, Gigi was senior researcher II and chief of the Marine Geology and Sedimentology laboratory at GeoEcoMar. In 1998 he was appointed president chairman of the reception committee for building the first Romanian vessel for multi-disciplinary marine studies. In 2002 the R/V Mare Nigrum was inaugurated in Constanța. From 2000 through 2008 Gigi was fulfilling his duties as scientific director and president of the scientific council of GeoEcoMar, with an essential contribution to the elaboration of the strategy of the institute.

As scientific director, he was involved in the task of obtaining the status of national objective for R/V Mare Nigrum, as the only marine research vessel of Romania, this way ensuring funding from the state budget for the ship and crew. In the meantime, he coordinated and directed national and international research programs and projects.

As the result of the competition at the end of 2008, he became managing director of GeoEcoMar. In 2012 he was granted a new mandate in this position, held until his untimely death. As senior researcher he continued to be involved in the monitoring the Danube River and in the studies of marine hazard. As managing director, along with elaborating the development strategies of the institute, he succeeded to keep the balance and team spirit necessary for the survival and progress of the institute.

As managing director, he was totally committed to the institute and the profession he served unconditionally. He used all his energy and skill to solve the particularly difficult management of an institution with a very specific and complex field of activity, but also the possibility to grow and ensure the progress in its scientific field. GeoEcoMar is an institute difficult to maintain in equilibrium with a very complex scientific activity, but Gigi Oaie managed to do it coordinate it well, with huge efforts and, eventually, with the price of his health. He knew that he needed to work hard on the image of the institute which he wanted to promote. Therefore he created a PR office, commissioned promotional movies about GeoEcoMar, developed a new website, and responded to media invitations for interviews on radio and TV.

Knowing that environment protection means also taking action, he encouraged a team of GeoEcoMar researchers to compete for the custody of three marine protected areas in the Black Sea: the sulphurous springs in Mangalia, the Marine area at Cape Tuzla and the Metagenic structures at Sfântu Gheorghe.

As managing director, he was member of several committees and boards: the Scientific Council of the Danube Delta Biosphere Reserve Administration (since 2009), secretary of the Secretariat of the Council of the Doctoral School of Geology, University of Bucharest (since 2012), member of the Advisory Board (CCCDI) of the Ministry of Education and Scientific Research (since 2014), where he served as vice president of Energy, Environment and Climate Change Commission and member of the Committee for Scientific Events. Since 2013 he was among the chief editors of Geo-Eco-Marina.

While still at the Geological Institute of Romania, with Titi Costea in a post-conference trip of the Danube Delta Institute in Tulcea.



He enjoyed shearing his experience by teaching and became associate professor of the University of Bucharest since 2006 and of the University Ovidius from Constanța. Later, he became vice-president of the Doctoral School of the Faculty of Geology and Geophysics, University of Bucharest. In the academic year 2015-2016, Gigi Oaie taught master classes on global changes, paleo environment, modern coastal and marine geological processes and on geological indicators of global climate and sea level changes.

In 2007 Gigi initiated the annual conferences of GeoEcoMar, in order to stimulate young scientists to share their results and experience. In the beginning of 2016, he wanted a wider involvement of GeoEcoMar in educational activities and supported a project proposal on education for schools and general public for the core program of the institute. This project is in progress and will continue in 2017, involving presentations in schools, public conferences, organization of various events in order to promote earth sciences, as well as internship projects for undergraduate students.

Interested to promote earth sciences and attract young children toward geology, Gigi involved GeoEcoMar in organizing temporary or travelling exhibitions, like exhibition “Dobrogea between land and sea, the imprint of time and man”, organized in a larger partnership and supported by the French Embassy in Romania. This exhibition opened in Bucharest in May 2012 and in Tulcea in 2013. Gigi also supported the initiative of Transylvania Dinosaur Museum, a project dedicated to reconstruct all the dwarf dinosaurs that lived on the Hațeg Island, as well as their Late Cretaceous ecosystems. This project is in progress, and GeoEcoMar sponsored the reconstruction of Balaur bondoc for the exhibition “Dragons, griffins and dinosaurs”, from the Visitor Centre of the Hațeg Country Dinosaur Geoparc in Hațeg.



In August 2006, at the 17th International Sedimentological Congress in Fukuoka, Japan.



Sampling sand bars in the Danube Delta in project Profet.

In 2013, preparing for sampling, with Remzi Bectaş and two crew members, in an expedition on-board R/V Mare Nigrum. Photo Bogdan Croitoru.





At The kick-off starting meeting of project MARINEGEOHAZARD.

Besides the monitoring activities on the Danube River and involvement in mapping the Black Sea continental shelf, in 2006 he became preoccupied started to study of marine hazards and especially the tsunami-type events in the Black Sea. His interest in marine geohazards started materialized in the with a national CEEX project, PROFET – *Multidisciplinary research on natural hazards. Case study: occurrence of the tsunami-type phenomenon in the Black Sea*. Following the completion of this project, in 2010 Gigi continued with a Romania-Bulgaria Cross-Border Cooperation project, directing the project MARINEGEOHAZARD – *Set-up and implementation of key core components of a regional early warning system for marine geohazards of risk to the Romanian-Bulgarian Black Sea coastal area*. The result of this project was the accomplishment of the Black Sea Security System and of the National Centre for Marine Natural Hazards Monitoring-Early Warning - Alarming Euxinus (), which includes the Black Sea Security network. After its completion in 2013, Gigi prepared the documentation to include the Black Sea Security System, including EUXINUS centre, on the list of national objectives of the Ministry of Education, financed from the budget. In 2014 the EUXINUS centre became the second objective of national interest of GeoEcoMar.

Starting with 2013 since the system became functional, the EUXINUS centre and the Black Sea Security Network became the most complex system of monitoring and early warning for marine natural hazards for the entire Mediterranean, Black Sea and adjacent areas. This led to including GeoEcoMar, and implicitly the EUXINUS Centre, in the highest spheres of marine research, such as: Intergovernmental

In 2013, discussing a sediment core with Acad. Marian Traian Gomoiu, Dr. Octavian Dului and Dr. Tatiana Begun in an expedition on-board R/V Mare Nigrum. Photo Bogdan Croitoru.



Oceanographic Commission of UNESCO (IOC-UNESCO), the Pan-European Project EMSO (European Multidisciplinary Seafloor and Water Column Observatory), and the European Commission through Joint Research Centre (Ispra, Italy), GE-OSS (Global Earth Observation System of Systems). EUXINUS also became an educational centre, as each year students from the Constanța Maritime University are trained here.

In parallel with sedimentological research in the monitoring program of the Danube, and the program of sedimentological maps of the Black Sea continental shelf, since 1985 Gigi was involved in the activity of mapping for the geological map of Romania scale 1:50.000, approaching the sedimentology of ancient deposits. He started with the Paleozoic formations from North Dobrogea, which were strongly deformed in the Variscan orogeny. Although sedimentary structures in such deposits are rare, Gigi managed to find them both in outcrops and in loose samples. Some of the samples he found are exposed in the National Museum of Geology from Bucharest. Most sedimentary structures have been found in the Carapelit Formation from the Măcin Unit, but also in the Horia and Beștepe Formations from the Tulcea zone.

In the Carapelit Formation he identified sedimentary structures visible on the surfaces of slaty cleavages that highly obliterate bedding: normal grading, parallel or cross-bedding, ripple laminations, flame structures. In the red sandstones of the Late Paleozoic Carapelit Formation, Gigi identified sedimentary structures on the bedding surfaces: mud cracks and rain drop imprints, representing reliable evidence for the continental origin of this succession. In the sandstones from the Carapelit Hill, Gigi identified trace fossils of *Planolites* type. Based on the sedimentary facies and facies associations, he elaborated the sedimentological model for the Carapelit Formation, as a continental succession, evolving from alluvial fan – alluvial plain facies to a braided river facies dominated by longitudinal bars. This enabled to establish a new lithostratigraphy for the Carapelit Formation. The first paper he co-authored, published in 1986, was “The Carapelit Formation: sedimentary facies and structure”. This was followed by a paper dedicated to the sedimentology of the pebbly red sandstone of the Carapelit Formation, which was deposited by a braided river with fluctuating discharge, dominated by cross-bedded sand bars in the lower part and by longitudinal bars in the upper part.

Another contribution to the geological knowledge of Dobrogea is represented by the study of ichnofauna of the Paleozoic deposits of the Tulcea zone. In the distal turbidites of the Beștepe Formation ascribed to the Devonian, he identified a rich ichnofaunal association of the Nereites zone which indicates deep water depositional environment, consistent with the sedimentology of the distal turbidites. He publishes the paper on the Paleozoic ichnofauna in 2001, entitled “Biogenic sedimentary structures in the Paleozoic deposits of North Dobrogea”.



With Dr. Boyko Rangelov from Varna, Bulgaria, in a meeting of project MARINEGEOHAZARD.



In May 2012, at the opening of exhibition “Dobrogea between land and sea, the imprint of time and man”, at the Grigore Antipa Museum of Natural History, Bucharest.



In 2013, signing the memorandum of understanding between GeoEcoMar and IFREMER, France.

In 1992 Gigi started to work on his PhD thesis on the sedimentology of the Ediacaran turbidites of Histria Formation (also known as “grenschists”) from Central Dobrogea, which he defended in 1999. Here he discovered the first imprint of a soft-bodied organism in the Ediacaran deposits and identified it as *Nemiana simplex* Palij. This is the oldest fossil found at outcrop in Romania. He publishes his first paper on this fossil in 1992.

The scientific work of Gheorghe Oaie is represented by 160 papers and abstracts presented at various scientific meetings. In 2013, a paper he co-authored received the Gheorghe Munteanu-Murgoci prize of the Romanian Academy.

Gheorghe Oaie published 80 papers, chapters in books and extended abstracts, 93 abstracts presented at various scientific meetings, including meetings of the International Association of Sedimentologists and the International Geological Congress. He also co-authored 4 guidebooks for geological field trips and 8 geological maps in Dobrogea, scale 1:50.000.

Leaving behind a valuable scientific legacy, Gigi will always be remembered by his intellectual and human qualities. Highly intelligent, charismatic, diplomat and persistent in defending the interests of the institute and promoting its achievements both nationally and internationally, good natured, with an innate common sense and with a fine sense of humour, he was called by many colleagues from abroad a „true gentleman“.

Inventive and with an inquisitive mind, he was always searching for new project ideas, new solutions to improve and diversify the activity of the institute.

Never one to shun the hard physical work, even in harsh conditions, Gigi was the best person to be with in the field or at sea. Especially at sea, where, sometimes, quick and correct decisions may make the difference between success and failure. And Gigi was the best to find them when apparently there were none. Working in a confined environment, seeing each day the same persons for fairly long periods, combined sometimes with lack of sleep and always with a degree of physical fatigue, may often lead to tensioned, conflicting relations among the members of a team working at sea. Gigi knew so well how to defuse such situation, how to warm up the atmosphere with a good joke, a story or just a few sensible words, that we will always be missing him during our cruises.

His selflessness, sensitivity and keen understanding of the human nature made him also a true „friend in need“, always ready to listen to everyone and anyone, always ready to give spiritual, material or physical help.

Passionate scientist, dedicated to his research body and soul, Gheorghe Oaie has left behind not only valuable studies and papers, but also essentially contributed to the establishment of the an institute whose reputation and stability of the institute GeoEcoMar are connected in good measure to his name. But more than that, through his way of being and inspire, he contributed to the sedimentation in those who had the chance to be his colleagues, friends or work and life partners, human and professional layers that form a very special “geology”. Its beauty transcends the physical boundaries of the field, leaving inscribed in us and in this world’s crust the story full of meaning of a man’s life.

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