

IN MEMORIAM

In Memoriam Luís Lopes (1964-2026)**Noel Moreira**

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Citation: Moreira, N., Martins, R., Peres, M., Frazão, J., Sousa, M., Kullberg, J.C., Álvarez Areces, E. (2026). In Memoriam Luís Lopes (1964-2026). *Boletín Geológico y Minero*, 137(1), 014. <http://dx.doi.org/10.21701/bolgeomin/137.1/014>

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Supplementary information ↓

Luís Lopes was born on 8th of October 1964 in a Land of Marble, a marble that accompanied him throughout his life and which he knew how to read in his own very particular way. It is in marble that he will rest; it is in marble that his name and legacy will remain engraved. Native of Bencatel (Vila Viçosa, Portugal), Luís Lopes grew up among the marble of the Estremoz Anticline, in workshops and quarries, surrounded by the sound of saws and pneumatic tools, in an environment that would shape him throughout his personal and professional journey (even before he was aware of it).

Geology became part of his life at an early age. As a child, he accompanied his grandfather to the local marble quarries, between Vigária and Lagoa, where he witnessed the extraction and sawing processes of the time, and experienced first-hand the hard work carried out in the marble quarries and workshops. Ornamental stones, and marble in particular, became part of his daily life, long before his academic and professional involvement with the natural stone sector. This connection continued through his father, who left Bencatel searching for better working and living conditions on the southern bank of the Tagus River (Setúbal Peninsula), where he learned the trade of stonemasonry in a small workshop.

This personal and emotional connection, together with the empirical knowledge gained from his life experience and his familiarity with the industrial language associated with extraction and processing, profoundly shaped his relationship with the marbles of the Estremoz Anticline. These experiences helped him develop an academic and technical perspective on natural stone, as well as a deeply human understanding of all the work associated with the natural stone industry. His interpretations and his keen and technical informed eye for detail facilitated, on several occasions, the understanding of complex structures and enabled the accurate definition of quarrying plans, as well as the sustainable exploitation of the unique resources offered by the Estremoz Anticline. Those who worked closely with him will never forget the professional and the human being he was.

It was within this primordial soup that the geologist Luís Lopes was ultimately shaped. He graduated in Geology from the University of Lisbon in 1988, where he also went on to complete his Master's degree in Internal Geodynamics in 1995. In 1990, he joined the Department of Geosciences at the University of Évora, initially as a Trainee Assistant. It was there that Professor Francisco Gonçalves challenged him to study the marbles of the Estremoz Anticline (Lopes, 2003), one of the most significant ornamental stone provinces in Europe and in the World. Accepting the challenge, Luís Lopes gradually absorbed the profound knowledge of the marbles from the Estremoz Anticline provided by Professor Francisco Gonçalves. This relationship ultimately culminated in Luís Lopes's doctoral thesis at the University of Évora (Lopes, 2003), completed several years after his mentor's death. The bond of friendship and admiration that Luís Lopes held for Professor Francisco Gonçalves is eloquently expressed in his doctoral thesis which, he not only dedicated to his memory, but also honoured with the following passage:

"I wish here to pay tribute to the memory of Professor Francisco Gonçalves. Not a day goes by without me reliving some of the time we spent together; today, it seems too short... Francisco Gonçalves taught me so much, yet so much more remained to be passed on. His knowledge of the geology and landscape of the Alentejo was unparalleled in anyone that I have ever known. His experience remains an example to me, and there is no doubt that, had the Professor and Friend still been alive, this thesis would have been completed a long time ago. As the saying goes, the longest journey begins with a single step; well, the Professor made us take that step and gave us a little 'push'. To you, Professor, my deepest thanks - always!"
– free translation of acknowledgments section.

Today, we can repeat similar words about Luís Lopes. Alongside Professor Francisco Gonçalves, Luís Lopes was one of the driving forces behind the development of geological knowledge of the Estremoz Anticline. Indeed, Luís Lopes's life and career became deeply intertwined with the recent geological and technical knowledge of the Estremoz Anticline and its marbles (e.g., Lopes, 2003; Pereira et al., 2012; Lopes & Martins, 2015; Menningen et al., 2018; Lopes et al., 2023), leaving an indelible milestone on our understanding of the geology of this territory. With his passing on 8th of July 2026, Portuguese geology has lost a remarkable figure; the Alentejo has lost one of his own; the Marble Triangle, the Estremoz Anticline and the Estremoz Marbles have lost one of their greatest advocates; the University of Évora, academia and the ornamental stone industry all lost someone of profound importance. The man is gone, but his legacy remains for all those whose lives, both personal and professional, crossed paths with his.

Integrated researcher at the Earth Sciences Institute (ICT) and, since 2004, Assistant Professor in the Geosciences Department of the University of Évora, Luís Lopes influenced and educated, with scientific and technical rigor and passion, several generations of geologists and geological engineers who dedicate themselves to geology and, in particular, to the natural stone sector. This is also reflected in his supervision of 11 Master's dissertations and 4 doctoral theses in the fields of applied geology and mineral resources.

His academic career, spanning more than three decades, was marked by a strong connection with industry, by the valorisation and sustainable exploitation of natural stone, and by the transfer of technical and scientific knowledge to this industry. In this field, Luís Lopes also promoted the traditional Alentejo pottery among local artisans, encouraging the use of waste from the marble industry, namely as a ceramic raw material (e.g., Martins et al., 2013; Afonso et al., 2024). As described above, the connection with the marble industry and the territory was more than professional: the connection was also deeply rooted in affection and culture.

Luís Lopes coordinated several projects based on the transferring knowledge from academia to industry, and produced an extensive body of scientific work (including technical reports), comprising of numerous book chapters, articles in indexed journals, and hundreds of presentations at national and international conferences. Through his work, he made a significant contribution to promoting Portuguese natural stone and, in particular, Estremoz Marble across the world.

Among his most significant contributions was his decisive role in the recognition of Estremoz Marble as a Global Heritage Stone Resource by the International Union of Geological Sciences (IUGS) in 2017. This international distinction is awarded to natural stones of global historical, architectural and cultural significance, and its recognition was rooted in one of his most important articles, published several years earlier (Lopes & Martins, 2015). Besides this, Luís Lopes developed a significant contribution to promoting geodiversity and geological heritage of Portugal beyond the country's borders, far beyond the role he played in the valorisation of the Estremoz Marble. He played a prominent role in the nomination of Arrábida Breccia as a Global Heritage Stone Resource (2022), as well as in the nomination that led to the Dinosaur Footprints Natural Monument of Ourém - Torres Novas to be recognized as one of the IUGS's Second 100 Geological Heritage Sites in 2024.

Luís Lopes shows his ability to bring together science, heritage, territory, industry and people, enhancing - scientifically, technically and economically - a strategic sector for the Alentejo and for Portugal as a whole. He helped connect the Portuguese natural stone industry and the geological and historical heritage associated with ornamental stones. Numerous landmark studies were developed within the framework of recognizing geological interest sites in the Estremoz Anticline, promoting their tourism and educational value, and exploring the use of Estremoz Marble and natural stone in the built historical heritage (e.g., Lopes et al., 2000, 2013; Cabral et al., 2001; Brilha et al., 2005; Taelman et al., 2013; Lopes, 2016; Moreira & Lopes, 2019; Martins et al., 2020; Moreira et al., 2020; Ontiveros et al., 2024). Indeed, this breadth of contribution is also clearly reflected in the work included in this Historical Quarries Monography published by the *Boletín Geológico y Minero de España* (Lopes et al., 2026).

Luís Lopes was also a passionate advocate of bringing geological knowledge to society, promoting countless science outreach initiatives for the general public and, in particular, for the educational community. He believed that knowledge had to move beyond the walls of academia and reach the wider world; he achieved this within industry, as mentioned above, and he did so for civil society

as well. Large dozens of initiatives were organized as part of “Geology in the Summer”, promoted by Ciência Viva (the Portuguese Agency for Scientific and Technological Culture), alongside training activities for elementary and secondary teachers. These activities brought geodiversity - particularly that of the Alentejo - closer to hundreds, and perhaps even thousands, of people.

His strategic vision for Portuguese ornamental stones, together with his proactivity and his organizational, leadership and management skills, led him to coordinate the organization of the Global Stone Congress in Portugal on two occasions (Borba, 2012; Batalha, 2023). This congress is one of the most prestigious international congresses dedicated to ornamental stones and stone heritage. His willingness to take action, his social engagement and his commitment to defending his professional community also led him to assume important institutional and associative roles, among which the following stand out:

- President of the Geosciences Department of the University of Évora between 2015 and 2019, and representative of the teaching and research staff on the Academic Senate of the University of Évora between 2017 and 2021;
- Member of the Portuguese Association of Geologists (APG) since 1986, he assumed the Presidency of the Executive Committee of the APG in 2020 and began his third term in 2026;
- Member of the Board of the VALORPEDRA Association between 2009 and 2015, and subsequently a member of its Executive Board between 2016 and 2019;
- Member of the Board of Directors of the Portugal Mineral Resources Cluster Association between 2020 and 2022 and, from 2023 to 2026, President of the General Assembly of the same association;
- Member of several national and international scientific organizations, including, among others, the European Federation of Geologists and the IUGS Subcommittee on Heritage Stones.

Anyone who knew Luís Lopes personally knows that he was so much more than geology, professional associations and science outreach. Luís had a profound passion for photography, and one of the images that best captures him is: Luís, properly equipped with his vest and hat, camera always ready in his hands, capturing not only natural landscapes, marbles and ornamental stones - naturally - but also the built heritage, animals, plants, and social moments of laughter, companionship and discussion.

Nevertheless, his greatest strength and source of inspiration were always his family: from his grandfather and father, who sowed within him the world of ornamental stone and stonework, to his wife and children, who were always by his side throughout his journey. To them, we extend our deepest solidarity and support at this time.

Luís was passionate about everything he did. He was a good man - and the world needs good men - as well as a joyful, kind and energetic person. He was an enthusiast, a curious mind, and a careful and conscientious man; professional, deeply committed to making knowledge accessible to everyone: from industry professionals and colleagues to civil society.

The Portuguese scientific community has lost a geologist of recognized distinction, whose dedication to research, teaching and the valorisation of the Earth Sciences has left an indelible mark. Yet the memory of Luís Lopes will remain engraved in the Estremoz Marble, in the work he produced on the Estremoz Anticline and in the promotion of Natural Stones and Geological Heritage of Portugal.

Much remained to be done, but Luís Lopes opened doors, and we will try to continue to move forward with the legacy he left us. Thank you for everything, Luís.

Supplementary information ↑

Authorship contribution statement

Noel Moreira: Writing – original draft, Writing – review & editing.

Ruben Martins: Writing – original draft, Writing – review & editing.

Marta Peres: Writing – original draft, Writing – review & editing.

Joana Frazão: Writing – original draft, Writing – review & editing.

Mónica Sousa: Writing – original draft, Writing – review & editing.

José Carlos Kullberg: Writing – review & editing.

Enrique Álvarez Areces: Writing – review & editing.

Competing interests

The authors of this article declare that they have no financial, professional, or personal conflicts of interest that could have inappropriately influenced this work.

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