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OBITUARY

# H.M. Ramachandra (1954-2024) - A Gem of a Geologist and a Perfect Gentleman

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Dr. H.M. Ramchandra, Retd. Director of the Geological Survey of India (GSI), a many-splendored personality with a compliant human face, passed away on April 17, 2024, in Bengaluru. He had been bravely battling with cancer and was on prolonged therapy and medication for over 5 years, while otherwise he silently and diligently worked on his book-writing projects for the Geological Society of India until his last breath. He is immortalised as even death couldn't disturb his work until he completed his avowed mission as RAMACHANDRA, till he himself took the call to say good bye on the auspices day of Sri Ram Navami!

HMR, as he was affectionately called by his fellow GSIans, and nicknamed 'Ramu' by his loving parents (Late Mr H.V. Madhava Rao and Late Mrs. H.M. Shakunthala Bai), was born on October 12, 1954, in Mysore city, Karnataka. Right from his school days, he excelled academically and participated in many extracurricular activities.

Dr. H.M. Ramchandra obtained his M.Sc. degree in Geology (specialisation in Petrology) with first class from the University of Mysore in 1975 and went on to earn his PhD degree in 1978 under the guidance of Prof. A.S. Janardhan for the study of the structure, metamorphism, and geochemistry of the Sargur Schist Complex. He submitted a thesis titled "Structural and Petrological Studies of the 'Sargur Schist Complex' around Sargur, Mysore District, Karnataka State" to the Dept. of Postgraduate Studies and Research in Geology, University of Mysore, Manasagangotri, Mysore. In college, too, he was diligent, hardworking, and academically brilliant. He played hockey and basketball for his college teams.

He joined the Geological Survey of India, Nagpur, in 1978 as Geologist (Jr.) and carried out Palaeomagnetic studies of Deccan traps in western Maharashtra and Madhya Pradesh. He attended the training course of GSI during 1979–80, and was subsequently transferred to GSI, Raipur, where he carried out systematic mapping of amphibolite and granulite facies rocks and cover sediments in the Bastar Craton. He was transferred to the Petrology division of GSI in Nagpur, in 1984 and, from 1984 to 1995, carried out research projects including the study of older supracrustals and tungsten mineralization in the Sakoli Belt, the study of mafic dyke swarms in Bastar Craton, the study of supracrustals and Cu-Pb-Zn mineralization in the Betul Mobile Belt, the study of basement and intrusive granitoids in Central India, and the study of the granulite belt at the margin of the Sausar Mobile Belt. From 1995 to 1999, he was involved in remote sensing and GIS studies in central India, including obtaining a diploma in the subject at BRGM, France.

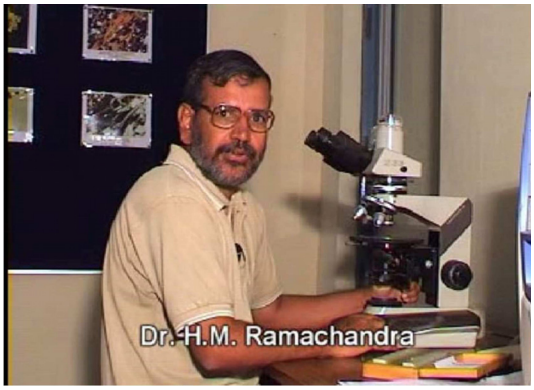
He was transferred to the AMSE Wing (presently Remote Sensing and Aerial Surveys -RSAS) of GSI, Bengaluru, in 1999, and from 1999 to 2003, he carried out the compilation of a digital aeromagnetic map of Peninsular India and the modelling of aeromagnetic data for the interpretation of subcrustal geology in Dharwar and Bastar Cratons. From 2003–2006, on his transfer to the Petrology division, AMSE, he was involved in the study of the junction of WDC and EDC and of the Chitradurga Granite. He was promoted to Director in December 2006, and headed the PGRS division for integrating geophysical anomaly data with remote sensing, geological, and geochemical data in search of different kinds of mineralization in parts of the EDC. On another transfer, he headed the training centre of GSI from 2008–2010 at Chitradurga before opting for voluntary retirement in February 2010. During his two-decade tenure in the Central region, he gained authority over Precambrian geology and developed a thorough understanding of the Bastar Craton, which served as a window into Archean Paleoproterozoic crustal evolution. His posting to Bengaluru threw open another opportunity for him to understand the Dharwar Craton as well. Thus, he could gain unique insights into both the cratons of Peninsular India on which he could attempt a comparative study and reveal the results.

Although he was new to the AMSE setup when he joined, his associates vividly remember how, in a short period of time, he could grasp the concept of aerogeophysical data and its applications to a better understanding of geological aspects. Soon, he developed interpretation skills for aerogeophysical data, which involved a multi-dimensional approach to inferring the concealed geology and subsurface features of geological interest. His understanding and his own version of interpretation of magnetic and gravity data used to astound and inspire the geophysicist community of AMSE as well. The significance of aerogeophysical data and its bearing on regional subsurface geology were daunting tasks and posed challenges for meaningful interpretation. He had conviction in his data analysis and interpretation, and it was extremely difficult to counter the hypothesis that he put forward with his sound knowledge and deep understanding of geology.

He was person of high intellect, talented, and a down-to-earth

geoscientist. He was an extremely well-informed, erudite scholar, and knowledgeable in many fields of geosciences and their frontiers. He could articulate on any branch of geology, say from origin of the universe to micro-mineral structures, but also on any diverse, non-geological topics with ease, alacrity, and authority—a rare acumen.

Dr. H.M. Ramchandra was an accomplished geologist of international repute, who served the GSI for about three decades with great distinction and made numerous seminal contributions, which will inspire younger generations and help perpetuate the legacy left behind by him. In his prolonged and eventful experience in geological mapping and research, he has identified a few mineral potential zones. As a versatile geologist, his works on geophysical modelling, geological mapping, structure, petrology, and mineralization have been highly appreciated on various platforms and in high-quality publications. He has an extensive record of working in Central India and has been instrumental in research projects on base metals and other industrial minerals in the region.




Dr. Ramachandra was a renowned geologist with a deep commitment to and passion for geological research. He recently, authored a book on the geology of Chhattisgarh, published by the Geological Society of India. He had also completed the manuscript for his second book on the geology of Madhya Pradesh, just before his demise, also slated for publication by the Society.

He was an inspiring teacher and an excellent field trainer, especially on aspects of Precambrian petrology, geochemistry, and petrogenesis. No doubt, he occupied a pride of place among the select band of doyens of geoscience in GSI and won the hearts of many students and professional geologists.

Personally, I had the special privilege of participating in a field-based, week-long training course in 2007 on second generation mapping, organised by the GSI Training Institute from Ananthapur camp, and where I learned a lot about the nuances of petrological and minerological aspects right on the field outcrops amidst the classical Archaean-Precambrian terrain of southern India. The theme-based training readily helped me steer a similar theme-based, prestigious accredited thematic mapping (STM) GSI project. Additionally, I had many stimulating interactions with him on many themes, such as mapping of aeromagnetic anomalies, geomorphology, Precambrian geology, etc.

Dr. Ramachandra was an outlier, a maverick with strong views, and he called a spade a spade. As per a *Sanskrit shloka*, *"Vajraadapi kathorani mrudooni kusumadapi, Lokottaraanaam chethaamsi kohi vijnaathumarhathi"*, meaning, as firm like the '*vajra*', the weapon of God Indra, and as gentle as a flower, a trait of eminent people, depending upon the situation. He was a soft-spoken, kind-hearted, and compassionate person who was always ready to extend a helping hand and donate money to the cause of education and the health of needy and underprivileged children, field labourers, and colleagues. On an occasion, he hasn't gone home, not taken food, or slept properly, while doing hospital duty to help a cancer-ailing colleague at Nagpur. He was known for his wit and, at times, was very stubborn on field geological issues and was uncompromising on social norms and good public behavior. It was difficult to win arguments with him, including on a crucial personal decision of his premature VRS, though he definitely missed a chance of becoming Deputy Director General of GSI and lost consequential, positional and monetary benefits. As a mature and responsible citizen, Dr. Ramachandra embraced a simple life, often seen in his trademark jeans and t-shirt, not out of frugality but out of a desire to help those in need. His unwavering principles, shaped by a profound understanding of life and his environment, defined his character. He believed in the value of hard work over ostentation, a philosophy that guided his actions.

Dr. Ramachandrandra was the winner of the prestigious National Mineral Award 1999 for Geology by the Government of India, Ministry of Mines, in recognition of his distinguished services in the field of Basic Geosciences (to evolve a tectono-magmatic model for unravelling the complex evolutionary history of Central India). The Geological Society of India, Bengaluru, conferred on Dr. Ramachandra the "Bellur Rama Rao Birth Centenary Award-2022" in recognition of his valuable contributions to the field of Precambrian geology in India.

He leaves behind his wife, Smt. Seetha, and daughter, Seema. We, at the Geological Society of India, pay our sincerest tributes to HMR, and our deepest condolences go to the bereaved family, his relatives, and numerous beloved students and friends. Pray to God to grant him sadgathi and eternal peace for the departed noble soul. Dr. Ramachandra, a celebrated geologist, will be ever remembered for his exemplary achievements and outstanding contributions to the field of geology, and as a fine human being, he will be greatly missed by the discerning global geological community and numerous admirers and followers.

"Om Shanthi Shanthi Shanthihi"