

Preface

The December 2024 volume of *GeoChronicle Panorama* marks another milestone in our journey of exploring Earth and Environmental sciences and addressing contemporary issues through research and innovation. This edition is particularly special as it introduces a new section, "Profile of a Geo-Icon," celebrating the contributions of distinguished Earth and Environmental Scientists to their fields. Each paper in this volume deals with a unique aspect of geology, showcasing the breadth of the discipline and its relevance to societal and environmental needs.

K.N. Prakash Narasimha and R. Vishwanath open this volume with an insightful review of vermiculite, a versatile mineral with significant industrial applications. Their paper examines its geology, mineralogy, and economic importance, offering valuable perspectives on its role in addressing environmental challenges. **R. Nagendra** discusses the intricacies of rock properties and their implications for civil engineering, underscoring the need for comprehensive site investigations, emphasizing the mechanical and structural behavior of rock masses in construction projects. **D. Venkatesan and M. Suresh Gandhi** highlights the public health crisis of fluorosis in Salem District, Tamil Nadu. It explores the geological and anthropogenic factors contributing to fluoride contamination in drinking water, advocating for preventive measures to mitigate its impact. **Nipa Sen**'s exploration of stromatolites, Earth's ancient relics, takes readers through their geological significance, paleoenvironmental insights, and astrobiological implications. This study enriches our understanding of life's early history and its enduring mysteries. In an engaging primer on seismology, **K.S. Mohanty** sheds light on the science of earthquakes and seismic hazards and offers practical knowledge for aspiring seismologists, from career opportunities to the societal importance of earthquake preparedness. **A. Nayak** addresses the critical interplay of climate change and economic growth in India. This analysis emphasizes carbon sequestration as a sustainable strategy to mitigate climate impacts while fostering economic resilience. **G.P. Mohapatra**'s paper on the Athgarh Sandstone investigates its geoheritage significance and the threats it faces. This call to preserve a critical geological site resonates with broader efforts to conserve Earth's natural history. **M. Das** examines the controversial practice of cloud seeding, analyzing its potential benefits and risks. The paper provides a balanced perspective on its environmental implications, especially in the context of extreme weather events. **B. Mishra** highlights the nutritional and climatic advantages of ragi (finger millet), advocating for its role in sustainable agriculture and public health. The discussion positions ragi as a vital resource for addressing global food security challenges. **K.C. Sahu**'s reflective piece on Earth Science education discusses the field's crossroads amidst societal and technological transformations. His insights emphasize the need for ethical stewardship of Earth's resources.

A notable addition to this volume is the *Profile of a Geo-Icon* featuring the life and legacy of **Prof. K.C. Sahu**. This section celebrates his pioneering contributions to geology and his advocacy for sustainable practices, inspiring the next generation of geoscientists.

Together, these papers address pressing issues such as resource management, public health, climate resilience, and environmental conservation. By bridging science and society, this volume not only advances geological research but also underscores its critical role in building a sustainable future. We hope this edition will inspire readers to engage with the challenges and opportunities in Earth sciences and contribute to a harmonious coexistence with our planet.

And most importantly, this volume recognizes six recipients of the CEHESH Trust of India Awards 2024, showcasing the Trust's commitment to excellence and innovation in Earth, Climate, Environmental Sciences, and humanitarian service. We extend our heartfelt congratulations to the awardees for their outstanding contributions and commend their dedication to advancing the field and serving humanity.

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GeoChronicle Panorama