

***From the desk of the Editor-in-Chief...***

*The purpose of presenting this Editorial Column is quite significant in the context of recent scientific advances in the fields of earth, climate and Environmental sciences, their interrelationship, hazardous and unfathomable effects and remedial measures. The rapid depletion of earth resources, unusual climate and environmental changes coupled with global warming have posed a great threat on the survival of the mankind in spite of the substantial research and action plans. The unprecedented heat waves and floods in different parts of our country and globe, intensive plastic, water air and land pollution, acute water shortage in rural and specifically urban areas, erratic rain falls, increase in arid lands, rapid deforestation, threat for the survival of the animal and plant kingdom, precarious conditions of the people of poor countries to maintain their livelihoods due to climate change effects have enhanced a critical scenario of our globe.*

Carbon sequestration is the process of capturing and storing atmospheric carbon dioxide. It is one method of reducing the amount of carbon dioxide in the atmosphere with the goal of reducing global climate change. There are three main types of carbon capture and storage (CCS) technology that could eventually help to reduce emissions from power stations and other industrial sites: pre-combustion, post-combustion and oxyfuel. Artificial processes have been devised to produce similar effects, including large-scale, artificial capture and sequestration of industrially produced CO<sub>2</sub> using subsurface saline aquifers, reservoirs, ocean water, aging oil fields, or other carbon sinks, bio-energy with carbon capture and storage, biochar, enhanced weathering, and direct air capture when combined with storage. Biological carbon sequestration through forests, kelp beds, and other forms of plant life absorb carbon dioxide from the air as they grow, and bind it into biomass. The best way of carbon sequestration is subject to substantial increase of the green cover throughout the world in the context of challenging and rapid urbanisation and global warming. Further, natural events, such as wildfires, deforestation, economic pressures and changing political priorities can result in the sequestered carbon being released back into the atmosphere. In this scenario, geological carbon sequestration i.e. capture and storage of carbon dioxide in the Earth's crust by injecting it into the subsurface, or in the form of insoluble carbonate salts (mineral sequestration) poses a good option. This is because they are removing carbon from the atmosphere and sequestering it indefinitely and presumably for a considerable duration (thousands to millions of years). More research and development can throw an advanced and economical feasible technology in this field. The Overuse, increasing demand, pollution, poor management, lack of infrastructure, and changes in weather patterns due to global warming are key stressors that affect the availability of fresh water. The top solutions for the water crisis are Education/Awareness, New Conservation Technologies, Recycling of Waste water, Improvement of Irrigation and agriculture, Water Use, Water Pricing, Energy Efficient Desal Plants, Rain Water Harvesting, Community Governance and Partnerships. The poor countries are at risk and are experiencing climate change and low levels of access to clean water. These are the countries that have done the least to contribute to climate change but are experiencing the impacts today. Recent researches, advances and developments in the field of climate, environmental and earth sciences have been dealt in a separate section "Earth System Science Panaroma" of this volume. Further, remedial measures in respect of global warming, climate change and environmental pollution have been dealt elaborately referring recent literatures. Further, recent advances and research in the field of Earth Science have been dealt. The readers are requested to go through this section to acquire a comprehensive knowledge on these topics of social relevance. The earth, climate and environment friendly community of our country and abroad are cordially invited to join this noble mission and to shoulder the responsibility of the execution of certain action plans and objectives of our trust in their respective areas in the context of Global warming and rapid climate change.

CM chondrites are organic-rich meteorites that preserve early solar system history and could be a source of water and organics on Earth. It is therefore critical, to study the process of this alteration in CM chondrites to better understand the formation and evolution of organics and water in the early solar system. One article on CM chondrites has been published in this volume.

I am thankful to our esteemed authors for their valuable contributions to our first issue of the July volume of the JOURNAL OF GEOINTERFACE covering earth, climate and environmental sciences. We have received thirteen research and review articles from eminent geoscientists of our country and abroad on varied topics of interest such as ground water contamination, rock magnetism, benthic foraminifera, morphometric analysis, infrared spectroscopic study of charnockite hosted bauxites, clinker characteristics, snowball earth, geospatial technology, sedimentology, chromite pollution, geological carbon sequestration; distribution of organic aerosols in different industrial areas; and planetary formation in solar system. I am specially thankful to Dr. T.R. Vital, Mrs. S. Mishra, President, CEHESH TRUST OF INDIA, Prof. R. Nagendra and Dr. A.N. Reddy, members, editorial Board; Dr. A. Sadangi and Dr. Nivedita Chakraborty for their constructive support and guidance to release this volume.

**LET US SAVE OUR MOTHER EARTH'S ENVIRONMENT TO GET OURSELVES SAVED.**

**Dr. B. Mishra**  
Editor-in-Chief