

A Report on 38th Convention of Indian Association of Sedimentologists and National Conference on “Current Understanding from the Indian Sedimentary Basins and Road Ahead”

The 38th Indian Association of Sedimentologists (IAS) convention and National Conference on the “Current Understanding from the Indian Sedimentary Basins and Road Ahead” was organized from 9 - 11 December 2022 under the aegis of IAS at the Department of Geology, University of Delhi. In the backdrop of centenary year of the University of Delhi and Azadi Ka Amrit Mahotsav the conference was conceptualized to address the various aspects of earth surface processes including resource sedimentology (water, conventional and unconventional energy resources). Considering the diversity and veracity of research topics in the subject, eight scientific themes were identified by the scientific committee of the conference: 1. Continental and marine depositional environments (Clastic and Carbonate) 2. Tectonics and volcano sedimentary system 3. Archean-Proterozoic basins: clues from early hydrosphere, atmosphere and biosphere 4. Phanerozoic sedimentation and biological processes in sedimentation 5. Recent advances in sedimentology and stratigraphic techniques 6. Quaternary and modern sedimentation systems, Vedic Saraswati River 7. Deep-time climate and environment and 8.

Resource sedimentology: mineral, water, conventional and nonconventional energy resources. In order to expose young researchers to field-based sedimentology, a post-conference field excursion was organised in the Paleoproterozoic Bayana Basin in North Delhi fold belt. The participants were exposed to the products of different continental (alluvial fan, fluvial) and shallow marine (shoreface, shelf) products in the field, their identifying criteria and basin-scale development pattern.

The inaugural session of the 38th Convention of Indian Association of Sedimentologists (IAS) and the National Conference was held at the Conference Centre of the University of Delhi. Dr. Kalachand Sain (FNS, FASc, FNASc, FTAS, FAPAS, J.C. Bose Fellow) Director, Wadia Institute of Himalayan Geology, Dehradun, Uttarakhand was the chief guest, Prof. Rajeev Gupta, Chief Executive Officer (CEO) of the Institute of Eminence (IoE), University of Delhi the Guest of honour and Prof. G. N. Nayak, President Indian Association of Sedimentologists (IAS) graced the occasion., Professor P. P. Chakraborty, Head of the Department (in-charge) and Dr. Pramod Kumar (Convener) inaugurated the Convention and National Conference.



Inaugural session: Prof. G. N. Nayak (President-IAS), Prof. Rajeev Gupta (CEO-IoE), Prof. P. P. Chakraborty (Head) Dr. Pramod Kumar (Convener) from left to right.

Prof. G. N. Nayak (President, IAS) spoke about the philosophy of conducting the 38th Convention of the Indian Association of Sedimentologists (IAS-2022) along with the National conference on 'Current understanding from the Indian the sedimentary basins and road ahead' under the same umbrella, is to bring out synergistic growth of

the Association (IAS) and understanding the Indian sedimentary basins.

Dr. Kalachand Sain (Chief Guest) spoke on the climate change and its worse impact on water, energy, food and health securities. Water is life to living beings and energy is the driving force for socioeconomic growth of the country. Therefore, we need to

characterize numerous surface and subsurface processes/phenomena to provide a secured and climate-adapted future with a view to meet the overwhelming requirement of both resources and sustainability.

Prof. Anupam Chattopadhyay (Head of the Department) said it is a matter of pride for the Department of Geology, University of Delhi to host the 38th Convention of Indian Association of Sedimentologists (IAS) and the National Conference. It is a special occasion as the National conference and the IAS Cnvention coincide with the 'Centenary year celebration' of the University of Delhi and 'Azadi ka Amrit Mahotsav'.

Dr. Pramod Kumar (Convener) express his heartfelt gratitude to the Indian Association of

Sedimentologists (IAS) for giving us an opportunity to host the 38th Annual Convention and a National Conference. Apart from the normal academic sessions, we have dedicated separate theme on energy resources, to have an industry academia interaction. For the early career scientists and research scholars we are organizing two workshops.

The active response from the delegates from all the parts of the country remained the diving energy for the successful execution of the conference. Abstracts were received from all parts of the country. A total of 115 participants attended the conference; we received 95 abstract and 07 keynotes. During the two days of scientific technical themes a total of 57 oral presentation and 28 poster were presented in the conference.



Group Photographs: 38th IAS Conference Participants.

The convention address was delivered by Prof. S. K Tandon on "The evolving tale of the 'Lost' Saraswati River of northwest India: a sedimentological perspective". The Saraswati River has been described in the literature as a 'River par excellence' and in some other accounts as a 'Lost River' and a 'Prehistoric River'. Several questions surround the existence of this river with regards to its antiquity, and its association or otherwise with the different phases of the Harappan Civilization. There is also the unresolved question of when and how the decline of this large river took place through climate-driven aridity and/or tectonic processes. The causes, nature, and the timing of avulsion continue to be currently debated by researchers from different disciplinary backgrounds. Prof. Tandon discussed the key regional palaeoclimatic and tectonic evidences and their possible roles in a broad spatio-temporal framework of the Yamuna-Sutlej interfluvium. He emphasized on both tectonic and climatic factors for demise of the Saraswati River.

Prof. Santanu Banerjee delivered keynote address on "Distinguishing celadonite from glauconite for environmental interpretations: a

review". Celadonite and glauconite are comparable in terms of physical, chemical and mineralogical characteristics. Formation of both these minerals requires slightly oxygen-depleted depositional conditions in a semi-confined micro-environment, facilitating the uptake of Fe into the structure.

Other keynote addresses were delivered by Prof. Santosh Kumar on "Zircon typology and geochronology of magmatic and associated volcano-sedimentary lithounits from the Kumaun Lesser Himalaya: Constraints on basin depositional age and nature of provenance"; by Prof. Joydip Mukhopadhyay on "Oxygenation of atmosphere and hydrosphere: clues from Archean sedimentary rock record". Early atmosphere and hydrosphere of our planet were very much different during the Archean and Early Proterozoic; by Prof. Devesh K Sinha on "Evolution of Cenozoic Climate, Evidence from Deep Sea sedimentary Records and Polar Ice Cores". The Cenozoic Era has been a time of conspicuous waxing and waning of ice sheets and resulting ocean circulation changes; by Prof. Partha Pratim Chakraborty on "Debates and Constraints in early

atmosphere/ hydrosphere oxygenation: Clues from Indian Precambrian basins”.

A two-day field visit (11 - 12 December 2022) was conducted in the Bayana basin to expose

the participants to product of different sedimentary environments ranging from continental through shallow-marine to distal marine set-up beyond storm wave base.



Geological Field Excursion photographs: Paleoproterozoic Bayana basin.

**Pramod Kumar, Partha Pratim Chakraborty,
Vimal Singh, Ashutosh Singh and Pritam
Paritosh Paul**

Department of Geology, University of Delhi, Delhi-
110007, India