



As you may already be aware by now that the **15th Biennial SPG Conference and Exposition is to be held in Jaipur from October 26th to 28th, 2025**, it is about time when you all need to get your abstracts ready for submission. It will be your opportunity to present the work that you have been engaged in, in front of your peers, and that is always a win-win situation. On behalf of the editorial team, I suggest that after you have submitted your abstracts for presentation at the SPG conference, please think of expanding them into complete articles and submit them for publication in the Convention issue of GEOHORIZONS, which will be distributed at Jaipur. But for this you need to act early, as you are aware that the submitted papers need to go through a review process, which takes time.

Welcome to the June 2025 edition of GEOHORIZONS. This issue is filled with articles that cater to both technical and general interests of the GEOHORIZONS readership. It opens with an interview with **Mr. Biswanath Ghosh**, Director (E), Cairn Oil and Gas, Vedanta, and includes a memoir by **Mr. Debashish Purkayastha**, retired Executive Director of ONGC. Additionally, the Expert Answers column features insights from three international industry specialists, **John Lorenz**, **Scott Cooper** and **Stephen Laubach**, who clarify the definition of the terms such as *cracks*, *fissures*, *fractures*, and *faults* often used interchangeably in geoscientific discussions.

As you will notice, we have also introduced a new column, Editor's Corner, which will carry some current technical news, related in some way with the work that

we geophysicists carry out. Hopefully, it will meet your approval. We also introduce another regular column which is essentially a quiz on some technical topic. In this issue, we include a quiz based on rock physics. Try this quiz and test your rock physics knowledge.

In the feature article section, we present five technical papers spanning a wide array of topics. In the first paper entitled *Reservoir mapping and characterization: An integrated approach using geostatistical inversion for untapped reservoir identification*, **Deogharia et al.**, demonstrate how impedance inversion datasets are integrated with existing seismic vintage for improvement of overall interpretation of oil-bearing reservoirs while identifying an undrained pool in Lower Tarkeshwar level in the Cambay Basin on the west coast of India, with a good in-place and recoverable volumetric potential.

Shaw et al., in their paper entitled *Uncertainty quantification in seismic reservoir characterization using geostatistical inversion*, use real-data examples from Gulf of Mexico, Gulf of Thailand, Malay Basin and Cooper-Eromanga Basin, Australia to illustrate the process of uncertainty quantification in seismic reservoir characterization using deterministic and geostatistical inversion based on Bayesian inference.

In the paper entitled *Improvements in seismic data imaging in thrust-belt areas of northeast India – A case study from OIL's operational areas*, **Arpita Adhikary** first discusses the challenges faced while acquiring seismic data in thrust-belt areas in northeast India and then shares the details of the processing sequence

followed in order to get a reliable image of the subsurface in these areas.

Chakraborty et al., in their paper entitled *Integrated petrophysical evaluation and rock physics modelling of LBS sands in the Kuargaon Field, A&AA Basin, India*, demonstrate the application of a successfully developed rock physics modeling workflow for characterizing reservoirs within the Barail Coal Shale formation and low-barrier sands. High-quality shear logs were also derived using a combination of log conditioning, synthetic modeling, and calibration techniques. This workflow is adaptable for other fields in the region and similar geological settings globally.

Allu and Behera, in their paper "*Finite-difference full-wave modelling and imaging of different geological structures using staggered-grid approach*," present an acoustic finite-difference full-wave modeling method using a staggered-grid approach for modeling and imaging both simple (flat horizontal layers) and complex geological structures (such as synclines,

anticlines, and grabens). The synthetic seismic data generated is further used to demonstrate accurate imaging by using 2D wave-equation-based finite-difference pre-stack depth migration.

Our regular tutorial column features an article on '*Rock physics templates*' by **Chopra et al.**, which are essentially P-impedance versus V_P/V_S crossplots. The authors demonstrate their valuable aid in the interpretation of well data in terms of lithology and fluid content. When overlaid on seismically derived P-impedance versus V_P/V_S attributes, these templates enable effective interpretation and classification.

In the SPG news column, we cover the recent activities of various SPG Chapters.

We are grateful to the authors for their significant contributions and hope our readers find the articles both enlightening and engaging. We welcome your thoughts on this edition of our journal.

- **Satinder Chopra, Chief Editor**

Geo Snap



23 colour Earth in Mauritius. A geological phenomenon resulting from volcanic activity and subsequent weathering. It is a unique landscape where different shades of colors, (red, yellow, orange, purple, blue, etc.) are visible in the soil. The colors are a result of the cooling and solidification of lava from the Bassin Blanc volcano, combined with the chemical reactions and weathering of the volcanic ash and rock. (Photo courtesy: Ritesh Mohan Joshi)