



Vadodara Chapters of SPG and APG host 2023 Annual Technical Meet

The Vadodara Chapters of the Society of Petroleum Geophysicists (SPG), India, and the Association of Petroleum Geologists (APG), hosted their Annual Technical Meet jointly on 22nd July 2023 at the ONGC Officers' Club, Vadodara. A large number of geoscientists including retired senior officers from ONGC and students from MS University also attended the event. ED-Basin Manager, Mr. P. R. Mishra presided over the meet. The event featured two distinguished geoscientists as speakers: Prof. M. G. Thacker, HOD, Department of Earth and Environment Science, KSKV Kachchh University and Prof. Dhananjay Sant, Faculty of Science, Maharaja Sayajirao University of Baroda.



Glimpse from the auditorium



Registration desk



Commencing the session with the ONGC song

The afternoon session witnessed delivery of two thought-provoking, and interactive talks. The first one was by Prof. M.G. Thacker on the topic "Geo-tectonic evolution of Kachchh paleo-rift Basin". It was followed by another very enlightening talk by Prof. Dhananjay Sant on the topic 'Kachchh Basin: New Insights'.



Welcoming SPG Patron ED-Basin Manager Mr. P. R. Mishra, and speakers Prof. Thacker and Prof. Sant

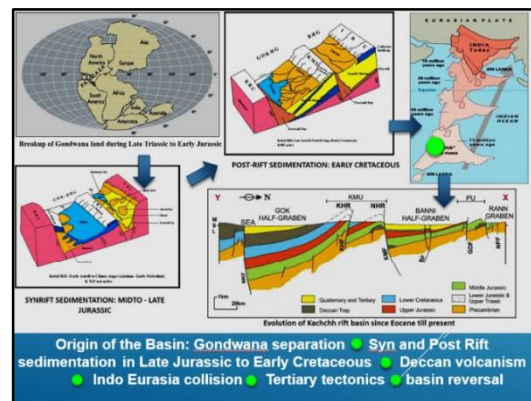


Kindling the lamp of knowledge and wisdom, invoking Goddess Saraswati

In the first presentation, Prof. Thacker explained in great detail the evolution of Kutch (Kachchh) Basin from Late Triassic onwards. Kutch basin is a rift basin which formed when India separated from Gondwanaland in Late Triassic. Synrift sedimentation took place in half-grabenal settings during Mid to Late Jurassic. Post-rift sedimentation took place during Early Cretaceous. This was followed by Deccan volcanism and Indo Eurasian collision. Quaternary tectonics are still active in Kutch and signs of that can be observed in terms of fault cuts, folds, etc.

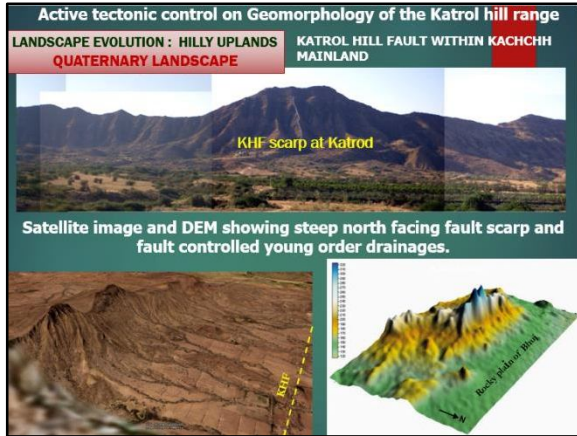


Prof. M. G. Thacker, Kachchh University



Evolution of Kachchh Basin

He also stressed upon how Kutch is one of the few places in India where great number of geological features have been preserved in pristine conditions due to its arid climate. Sequence boundaries of various horizons are also clearly observed in Kutch. As ONGC forays into new plays to further explore new regions, Kutch Basin has come up as the front runner.



Quaternary geomorphology of Kachchh area



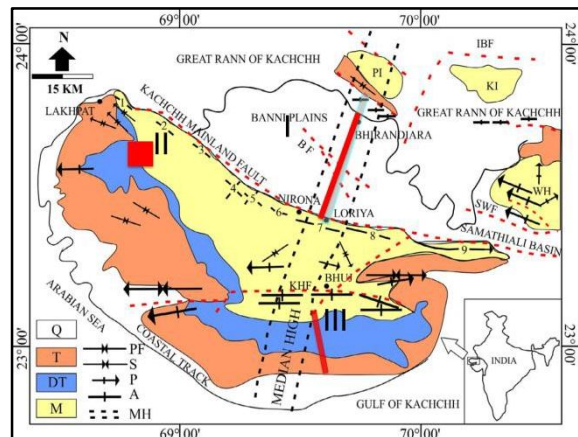
Various geomorphological landscapes of Kachchh

Recently APG VRC has also conducted two field trips to the Kutch Basin to better understand its geology. Kutch has also been an integral region for studying fossil evolution. Many fossils like dinosaur bone fragments, corals, trace fossils, as well as completely preserved Ichthyosaurus have been discovered here.

The second talk was delivered by Prof. Dhananjay Sant on the topic 'Kachchh Basin: New Insights'. He discussed Kachchh basin in context of major structural elements in the Indus basin. He also elaborated on shallow subsurface mapping of major and minor faults and seismicity along Kachchh mainland fault.

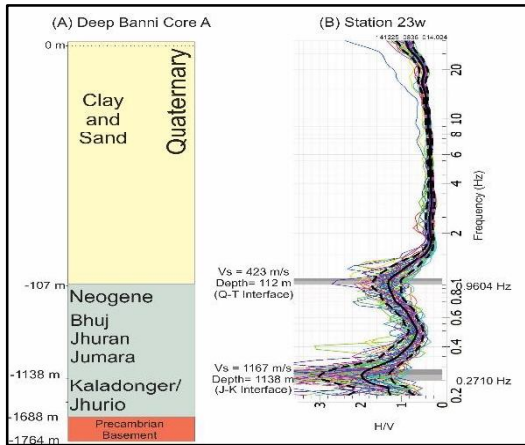


Prof. D. Sant, MS University

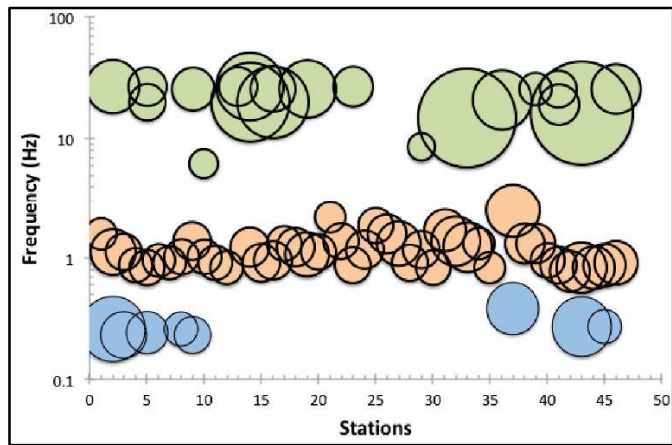


Geological and geomorphological map of Kachchh Peninsula

He elucidated his research work on HVSR (horizontal-to-vertical spectral ratio) technique, as a tool to map the extension of rock outcrop/features in the subsurface, and to demarcate distinct rheological contrasts up to a depth of 2000 m. Microtremor surveys use ambient noise as the signal. The ability of the survey to generate rapid single station records at required resolution and cost effectiveness of the operations, are some of the incentives of using a microtremor survey.



Comparison of fundamental resonant frequency 0.9604 Hz and 0.271 Hz with Q-T and J-K interface along Deep Banni Core



Layered model represented by bubble diagram

Prof. Sant then presented his research work in the Kachchh region, a maiden attempt to map shallow subsurface rheological interfaces laterally across the Banni Plains and to decode geometry of the antecedent faults associated with the Kachchh Mainland Fault using the microtremor method. Prof. Sant further clarified that the ambient noise encapsulates fundamental resonant frequency of the sediment layers. These resonant frequencies derived from the microtremors show strong correlation with the velocity of the Rayleigh waves and the thickness of the sediments.

The technical event garnered significant participation and engagement from SPG and APG members of WON Basin. ED - Basin Manager Mr. P.R. Mishra highlighted the importance of such technical sessions and encouraged the continuation of such programs.



Glimpses of the interactive session and active participation by members



Glimpse of the cultural program in the evening

Patron SPG and Vice President APG ED-Basin Manager Mr. P. R. Mishra, President SPG Mr. Mithai Lal, Vice President SPG Mr. A. K. Bakshi, Secretary APG Mr. Harshvardhan Dave and Secretary SPG Ms. Sangeeta Savanur were instrumental in making the event successful. The technical event was ably compered by Mr. Snehanjan Mishra, executive member, SPG Vadodara. The vote of thanks was proposed by Mrs. Sangeeta Savanur, Secretary, SPG, Vadodara Chapter. Special appreciation is also due to the members of the organizing committee, Mr. Rishabh Shukla, Mr. Vishal Pandey, Mr. Sameer Bhardwaj, Mr. Shashank Sangewar, Mr. Indrajit Dalui, Mr. Sharat Shekhar and Mr. Vipul Chawla, who worked tirelessly behind the scenes to ensure the smooth execution of the event. [G](#)