# SPG- India, Organizes SEG Honorary lecture by Dr. JSSN Murty

A lecture on "Passive Seismic Tomography for Enhanced Seismic Imaging" by Dr JVSS NarayanaMurty.was organized by SPG-India in the mini conference of KDMIPE, ONGC Dehradun on 16-06-2017.

Sri C V Rao, Vice President SPG-India, welcomed Dr. Murty and gave his brief introduction. It may be pertinent to mention here that Dr. Murty obtained his Ph.D. in Physics from IIT, Madras. He joined the Oil and Natural Gas Corporation (ONGC) as a geophysicist and gained knowledge in seismic and G&G software development skills. He was adjudged as Geophysicist of the Year in 1989. For his contributions in induction of new technologies and R&D efforts, he received the National Mineral Award 2001 from the government of India and Corporate Innovation Award from ONGC. Dr. Murty has long association with SPG, during his long professional career. Dr.Murty is currently SEG Honorary Lecturer for South & East Asia and G&G software development domain expert for ONGC.


Dr. JVSS Narayan Murty delivering the lecture

Passive seismic tomography (PST) method uses both P-wave and S-wave travel times from naturally occurring low-intensity earthquakes recorded over a period of time. The data of selected good seismic events are collected to derive 3D VP and VP/VS models of the area in addition to finding active fault locations and local tectonic stress distribution.

Due to low cost and relative ease in operation, PST has made inroads into hydrocarbon exploration, especially in

Glimpses of Participants during lecture of Dr. Murty

Sri CV Rao Presenting Momento

Team SPG-India with Dr. JVSSN Murty

difficult terrains, by inferring structural and lithological information from the VP and VP/VS volumes as well as incorporating the velocity models in seismic imaging projects in areas of poor quality seismic data where determining the initial velocity is difficult.

The success of PST depends on the natural seismicity in the area and sufficiency of data recorded for estimating depths of the hypocenters and velocity fields using tomographic inversion. In the process of tomographic inversion, errors get accumulated to those grid cells through which adequate ray paths do not traverse and leads to uncertainty in the estimations. These can be reduced only by recording additional events (more time) and or at additional stations that contribute to the grid cells with less ray coverage. Therefore, the results are to be quality controlled and carefully evaluated.

Sri T.R. Murlimohan, Group General Manager-ONGC, summarized the lecture, and thanked Dr. Murty for sparing time the lecture. Joint Secretary SPG-India, Sri M S Rana, presented vote of thanks and the program was compared by Secretary-SPG-India Dr. N P Singh.