

13th May-2013, SPG Mumbai Chapter Organises Lecture by 2013 SEG Distinguished Lecturer Prof Gerard T. Schuster

Prof Gerald T. Schuster of King Abdullah University of Science and Technology, Saudi Arabia visited India to deliver 2013 SEG distinguished Lecturer Presentation (DLP) on “*Seismic Interferometry and Beyond- Harvesting Signal from Coherent Noise*”. SPG-India planned to organise this program at three locations on 13th, 15th and 17th May, 2013 at Mumbai, Vadodara and Ahemdabad respectively.

Dr. Schuster helped pioneer seismic interferometry and its practical applications in applied geophysics through his active research. He also has extensive experience in developing innovative migration and inversion methods for both exploration and earthquake seismology. Gerard was awarded SEG’s Virgil Kauffman gold medal in 2010 for his work in seismic interferometry. It was great opportunity for geoscientists from India to have interaction with Prof. Schuster.

SPG Mumbai chapter organised the first lecture by Prof Schuster at Vasundhara Bhavan, ONGC, Bandra on 13th May, 2013. More than eighty geoscientists from Mumbai/Navi Mumbai and students from IIT Mumbai attended the lecture. On behalf of SPG-India, Dr. S. Viswanathan, Chief, Geophysical Services, ONGC Mumbai welcomed Prof. Schuster with a bouquet.

He introduced the concepts underlying seismic interferometry and its implementation and practical applications. He showed several examples to illustrate the practical benefits of interferometry. Significant widening of the illumination zone of VSP data by transforming multiples into primaries, increased subsalt illumination by utilizing multiples for imaging. He also illustrated how seismic interferometry can be used for passive seismic imaging and surface waves.

Shri G. C. Katiyar, President SPG Mumbai Chapter and Block Manager, Mumbai Block, ONGC summed up the session. He emphasized the need of utilizing this new concept of Seismic interferometry to solve exploration challenges. Programme concluded with vote of thanks. Shri Pankaj Vyas, ONGC enthralled the audience by his patriotic songs.

The Glimpses of the Programme



Dr. S. Viswanathan welcoming Prof. Schuster with a Bouquet



Prof. Schuster delivering his talk and audience



Geoscientists interacting with Prof. Schuster



Shri G.C.Katiyar summing up the session and presenting a memento to Prof Schuster



Shri Pankaj Vyas reciting Patriotic songs and receiving a memento from Dr. S. Viswanathan

15th May-2013, SPG Vadodara Chapter organizes SEG Distinguished Lecture by Prof. Gerard T. Schuster

SEG Distinguished Lecture on “**Seismic Interferometry and Beyond- Harvesting Signal from Coherent Noise**” by Dr. Gerard T. Schuster, Professor of Geophysics, at King Abdullah University Science and Technology (KAUST), Saudi Arabia was organized on 15th May 2013 by SPG Vadodara chapter at ONGC Officers Club, Vadodara. The Lecture was attended by President SPG-India, Mr S K Das, members of SPG, geoscientists of ONGC and students of MS University, Vadodara.

Mr S.K. Das, ED-Basin Manager & President SPG-India welcomed Dr Schuster and briefed about the SPG Conference to be held between 23-25 Nov 2013 at Kochi. Mr Das encouraged geoscientists to contribute technical papers for the SPG Conference.

Dr Schuster elaborated the concept of seismic interferometry and presented the workflow for its implementation & practical application. Seismic Interferometry is a technique based on perceived non-usable seismic signal often discarded as coherent noise, which are suitably recombined to give usable signal for existing image algorithms. Multiples can be recycled as virtual primaries that can illuminate larger portion of the subsurface as compared to normal recorded primaries.

Mr U.S.D. Pandey, GGM & Vice President, SPG, Vadodara Chapter summarized the event and thanked SEG, SPG-India for giving the opportunity to hold the DL lecture at Vadodara. Mr Pandey appreciated Dr Schuster for nice presentation on the new emerging technology.

Dr Schuster interacted with the geoscientists of ONGC and students of Petroleum Geology from MS University, Vadodara.



SPG-India President, Mr S K Das welcoming Dr Schuster



Dr Schuster delivering his lecture



Interaction with audience during lecture



Mr S K Das making a point



Dr Schuster interacting with MSU students



Dr Schuster with SPG Team

17th May-2013, SPG Ahmedabad Chapter Organises Lecture by 2013 SEG Distinguished Lecturer Prof Gerard T. Schuster

SPG Ahmedabad chapter organised a lecture "Seismic Interferometry and Beyond - Harvesting Signal from Coherent Noise" by eminent geoscientist Gerard T. Schuster on 17th May, 2013 at Hotel Metropole, Ahmedabad.

It was attended by ONGC geoscientists and students from PDP University, Gandhinagar. The program was presided by Shri P. K. Upadhyaya, DGM (Geophy.) President SPG Ahmedabad Chapter.



In his lecture Prof. Schuster introduced the concepts underlying seismic interferometry and presented the workflows for its implementations and practical applications. He illustrated the theory with some interesting common examples of day to day life. His lecture was quite informative and introduced a new dimension to convert coherent noise like multiples into primaries. Various ways to harvest useful signal from portions of the data normally considered as noise in conventional processing was shown with examples like showing Ghosts were mirror imaged for panoramic view in OBS and VSP and several other examples to illustrate the practical benefits of interferometry.

Multiple imaging methods were shown Viz. increased/Uniform subsalt illumination by multiple reflections as signal, otherwise uneven illumination by primaries, tripling of the aperture of usable refraction arrivals by super virtual interferometry. Significant widening of the illumination zone of VSP data by transforming multiples into primaries, and reduction of the cost of imaging by multisource phase encoded migration and waveform inversion. During and at the end of the lecture, the interaction of the participants with Prof. G. Schuster was quite intense by virtue of the new subject of making use of noise to our advantage.



Shri P. P. Deo DGM(W) proposing vote of thanks



Dr. Archana Sharma, CG(S) presenting Memento to Prof. G Schuster

**23rd May,2013 SPG Kolkata Chapter Organises SEG Honorary Lecture by
Sh. D.P.Sinha**

Sh. D.P.Sinha from EnerGeo India Ltd. delivered SEG Honorary lecture on 23rd May 2013 at RCC, ONGC, Kolkata. The topic of the lecture *“Estimation of Earth Velocity Model- Bridging the Gap Between Geology and Geophysics”* was very interesting and well received by the Geoscientists from ONGC Kolkata. Seismic data is in time domain but the actual subsurface is in depth and the most important link between them is the velocity model, he emphasised in his one and half hour lecture. For accurate subsurface imaging in depth, estimation of velocity model is the most critical aspect while doing depth migration of 3D seismic data. Layered velocity model or non-layered velocity models or hybrid model generally provide best possible earth subsurface image which can very well bridge the gap between geology and geophysics, the speaker reiterated.

Sh. A.K. Diwedi, GGM-Basin Manager-MBA Basin, Patron of the SPG Kolkata chapter welcomed the speaker with flower bouquet. In his welcome address, Vice president-SPG Kolkata Chapter, Sh. Himadri Ghose-GM(Geophysics) spoke about Sh. D. P. Sinha's achievements and thorough knowledge in Geophysical prospecting.

The students from Kolkata University, Presidency College and Jadavpur University also attended the lecture along with more than 60 Geoscientists from ONGC Kolkata and interacted with the speaker, thus making the event vibrant and lively. The session concluded with a vote of thanks by Sh. Anand Prakash, CG(S) Secretary SPG Kolkata chapter.



Sh. D.P.Sinha delivering his lecture



Sh. A.K. Diwedi, GGM-Basin Manager-MBA Basin, presenting memento to Sh. D.P. Sinha