CSIR-NGRI-IGU-DCO

Deep Carbon Cycle Symposium in Hyderabad

Extreme Physics and Chemistry, Reservoirs and Fluxes, Deep Energy, Deep Life

Date: **Thursday, 7 December 2017**
Time: **09:30 – 17:30 hrs**
Venue: **Ground Floor, Main Building, CSIR-NGRI, Hyderabad India**

Sponsors

Indian Geophysical Union (IGU)
CSIR-National Geophysical Research Institute (CSIR-NGRI)
Deep Carbon Observatory (DCO)

Symposium Goals

More than 90% of Earth's carbon may reside in the planet's deep interior but the vast majority of research on the global carbon cycle focuses on the atmosphere, oceans, and shallow crustal environments. The Deep Carbon Observatory (DCO) is a ten-year quest to discover the quantities, movements, origins, and forms of carbon in Earth, including the deep carbon cycle and the entire planet. DCO is a multidisciplinary, global research program that includes more than 1,000 scientists in over 40 countries. DCO activities are organized into four science communities each led by a Scientific Steering Committee with focused approach on a different aspect of deep carbon: (1) Extreme Physics and Chemistry; (2) Reservoirs and Fluxes; (3) Deep Energy; and (4) Deep Life.

The goals of the Deep Carbon Cycle Symposium in Hyderabad are to share research results and to strengthen and broaden mutually advantageous scientific collaboration between DCO and researchers in India. The symposium exemplifies DCO's strengths – the global nature of its collaborative research, the collegial exchange of information among experts from many different disciplines, major scientific accomplishments, and shared passion for uncovering the scientific secrets of deep carbon.

Registration – Free – Open

Program:

Overview		
Time	**Presenting Author**	**Presentation**
09:30–09:40	**Dr. V.M. Tiwari** Director, CSIR-NGRI and VP-IGU	*Welcoming Remarks*
09:40-10:05	**Dr. Craig Schiffries** Director, DCO Geophysical Laboratory, Carnegie Institution for Science	*Introduction to the Deep Carbon Observatory: Transformational Opportunities in Science and Technology*

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Session 1: Extreme Physics & Chemistry		
Time	**Presenting Author**	**Title of the Paper**
10:05–10:35	**Prof. Murli Manghnani** University of Hawaii	*Introduction to the DCO Extreme Physics and Chemistry Community*
10:35-10:55	**Dr. Sujoy K. Ghosh** IIT, Kharagpur	*Carbonated Magmas in Earth's Mantle*
10:55-11:15	**Dr. G. Vaitheeswaran** University of Hyderabad	*High Pressure Studies on Organic Energetic Solids: Insights from First-Principles Studies*
Tea Break: 11:15-11:30		
Session 2: Reservoirs & Fluxes		
Time	**Presenting Author**	**Title of the Paper**
11:30-12:00	**Dr. Brendan McCormick** University of Cambridge, UK	*Introduction to the DCO Reservoirs and Fluxes Community*
12:00-12:20	**Dr. EVSSK. Babu** CSIR-NGRI	*Kimberlites and Carbon from Deep Earth*
12:20-12:40	**Dr. B. Sreenivas** CSIR-NGRI	*Global Positive Carbon Isotope Excursions during Proterozoic: Artifacts of Gas Hydrate Stabilization*
Session 3: Deep Energy		
Time	**Presenting Author**	**Title of the Paper**
12:40-13:10	**Dr. Craig Schiffries** Director, DCO	*Introduction to the DCO Deep Energy Community*
Lunch Break: 13:10 – 14:00		
14:00–14:20	**Prof. V.P. Dimri** CSIR-NGRI	*Carbon Sequestration and Enhanced Oil Recovery*
14:20-14:40	**Dr. Vikram Vishal** IIT, Mumbai, Powai	*Multiphase CO_2 Behavior in Deep Carbon Sinks*
14:40-15:00	**Dr. P.S.R. Prasad** CSIR-NGRI	*Clathrate Hydrates: Materials for Scientific curiosity and challenges*
15:00-15:20	**Dr. Develeena M. Tiwari** CSIR-NGRI	*Thermal Transformation of Organic Carbon in the Deep Subsurface of Permian Shales*
15:20-15:40	**Dr. Sukanta Roy** Project Director, BGRL, MoES	*Koyna Scientific Drilling Project*
Tea Break: 15:40-16:00		
Session 4: Deep Life		
Time	**Presenting Author**	**Title of the Paper**
16:00-16:30	**Prof. Tom Kieft** New Mexico Tech	*Introduction to the DCO Deep Life Community*
16:30-16:50	**Dr. Pinaki Sar** IIT, Kharagpur	*Microbial Life in Deep, Dark Continental Crust Underneath the Deccan Traps*
Panel Discussion & Concluding Remarks		
16:50-17:30	**Prof. Harsh K. Gupta, Dr. V.M. Tiwari, Dr. Craig Schiffries, Prof. Tom Kieft, Dr. V.P. Dimri and Prof. Murli Manghnani**	