#### **About the Institutes:**



CSIR-National Geophysical Research Institute (CSIR-NGRI), a constituent research laboratory of the Council of Scientific and Industrial Research was

established in 1961 with the mission to carry out research in multidisciplinary areas of the highly complex structure and processes of the Earth system and its extensively interlinked subsystems. CSIR-NGRI has the mandate to conduct basic and applied research to provide knowledge base for enabling government agencies, public and private sector stakeholders to make informed decisions about use of geo-resources sustainably and improve preparedness and resilience to natural hazards. (http://www.ngri.org.in/)

Geological Survey of India (GSI) is devoted to a charter of activities that includes geological mapping of the whole



country on different scales, consolidation of geological database for the development of mineral based industries, energy and environmental resources, research activities and dissemination of knowledge on all Earth science related aspects. GSI Training Institute (GSITI), established in 1976, is engaged in conducting training programs focused on fundamentals and applied aspects of geoscience. (http://www.portal.gsi.gov.in)



The Indian Institute of Geomagnetism (IIG), Mumbai is actively engaged in basic and applied research in Geomagnetism and

allied areas of Geophysics, Atmospheric & Space Physics and Plasma Physics. It started out as a successor to the Colaba Magnetic Observatory, set up in 1826, where the first regular magnetic observatory in the country was established in 1841. In 1971 IIG became autonomous and is now under the Department of Science & Technology, Government of India. (http://www.iigm.res.in/)

# **About Hyderabad:**

Hyderabad, the capital city of Telangana state, is the fifth largest city in India and a major hub for IT sector. It is a cosmopolitan city with more than 500 year old history. The city represents a fascinating blend of the past and present. Hyderabad is



well connected from other Indian cities by a network of Air, Rail and Road links. The weather in Hyderabad during February is normally pleasant with average day temperature



of 25-30°C. There are many tourist attractions in the city -- Charminar, Golkonda Fort, Salarjung Museum, Birla Temple, Hussain Sagar Lake, and Ramoji Film City to name a few.

# **Organizing Committee:**

V.M. Tiwari, Director, CSIR-NGRI	Chairmar
P. R.Golani, Dy. D.G., GSITI	Member
D.S. Ramesh, Director, IIG	Member
Ajay Manglik, Chief Sct, CSIR-NGRI	Convener
M.J. Nandan, Head, PME, CSIR-NGRI	Member
S. Thiagarajan, S.T.O.(3), CSIR-NGRI	Member
B.K. Kar, COA, CSIR-NGRI	Member
Vijaya Kumari, CoFA, CSIR-NGRI	Member

#### Convener:

# Dr. Ajay Manglik

Chief Scientist CSIR-National Geophysical Research Institute Hyderabad, India

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# Distinguished Instructor Short Course (DISC2017)

on

Geophysical Electromagnetics: Fundamentals and Applications

and

Workshop on Applications of Geophysical Electromagnetics

February 27 - March 2, 2017

# Hosted by

CSIR-National Geophysical Research Institute Hyderabad, India

# Organized by

CSIR-National Geophysical Research Institute (CSIR-NGRI), Hyderabad, India

Geological Survey of India Training Institute (GSITI), Hyderabad, India

Indian Institute of Geomagnetism (IIG), Mumbai, India

Society of Exploration Geophysicists (SEG), U.S.A.

# Distinguished Instructor Short Course (DISC2017)

Feb.27-28, 2017

The aim of this course is to provide a fundamental understanding about EM geophysics so that practitioners can decide if an EM technique can help solve their problem, select which type of survey to employ, and set realistic expectations for what information can be gleaned.

The course will be delivered by Prof. Doug Oldenburg under the Aegis of Society of Exploration Geophysicists (SEG). He is a professor of Geophysics, Director of the Geophysical Inversion Facility (GIF) and world leader in geophysical inversions.

First day of DISC2017 will be devoted to lectures by the expert and second day will be a DISC Lab day (attendance optional) in which the expert will work with a smaller group of geoscientists to capture their problems, discuss them, and perhaps provide tutorials on EM computation and inversion.

Further details of the DISC2017 course are available at:

http://disc2017.geosci.xyz/schedule#hyderabad

# **Registration and Course Fee:**

Participation in DISC2017 is through prior registration. Interested participants may send their name and contact detail to the Convener. There is a registration fee of Rs.2,000/- for professional and Rs.1,000/- for students for participation in the DISC2017 which may be paid either in cash or as a demand draft drawn in the name of "The Director, NGRI".

# Workshop on Applications of Geophysical Electromagnetics

Mar.1-2, 2017

CSIR-NGRI along with GSITI, Hyderabad and IIG, Mumbai is hosting a two-day Workshop on Geophysical Electromagnetics after the DISC2017 course with the aim to provide a platform for the Indian EM Community engaged in Exploration and Research to get benefitted from the Lecture Series under DISC2017 and share their work carried out in different parts of the country.

The Workshop will focus on various geophysical applications of the EM theory covering a wide spectrum, from near-surface geophysics to deep earth structure, mineral and hydrocarbon exploration, water and environment, and natural hazards. There will be invited talks by Practitioners in Indian academia and industry followed by discussions.

Participation in the Workshop is by invitation and local hospitality shall be taken care of by the Host. We shall try to provide moderate accommodation in our Guest House.

To encourage participation of young researchers and students, we shall provide travel support, limited to maximum AC 3-tier train fare, to about 20 students and cover their boarding and lodging as well as Registration fee of the DISC course.

For further details, please contact the Convener.

#### **Registration Fee:**

There is no registration fee for participation in the Workshop.

#### **About the DISC2017 Instructor:**



Doug Oldenburg's forty-year research career has focused upon the development of inversion methodologies and their application to solving applied problems. He, with students and colleagues at the University of British Columbia Geophysical Inversion Facility (UBC-

GIF), have developed forward modelling and inversion algorithms for seismic, gravity, magnetic and electromagnetic data. The inversion techniques and software are widely used in resource exploration problems. In recognition for his work building collaborative interactions between industry and academia, he was awarded the NSERC Leo Derikx and the AMEBC Special Tribute awards as well as the J.Tuzo Wilson medal.

Doug's current research activities include: inversion of EM data and their application to a wide range of problems, development of practical methodologies for combined inversion of geophysical and geological data, development of software for unexploded ordnance discrimination, and the use of self-potentials for dam safety investigations.

# **Technical Program:**

It is planned to cover the following topics under the Workshop:

- Near-Surface Exploration (Ground Surveys)
- Near-Surface Exploration (Heliborne Surveys)
- Modeling Techniques
- Crustal Studies
- Geomagnetic Studies
- Panel Discussion