



Engineering Council of India

WEBINAR

## Advanced Geophysical Investigations for Infrastructure Projects

### Introduction

For the design of structures it is indispensable to procure comprehensive high-quality information about the subsurface, within very short periods. The study of diverse natural conditions predetermines a variety of methods and technical means which can be used for carrying out exploratory work. Application of tools and techniques that are helpful in enhancing efficiency of the geotechnical evaluation study is therefore preferable.

Engineering geophysics is an efficient means of subsurface investigation. The merit of application of this low cost aid lies in its ease of deployment and rapidity in providing a reliable knowledge of the underground over a large area, substantiating the requisite geotechnical evaluation studies thereby. Technological advancements and development of portable digital data acquisition instrument systems have increased the versatility in evaluating underground conditions and site characterization.

The state-of-the-art subsurface geophysical investigations are helpful towards minimizing involvement of the conventional direct exploration methods, aiding in accelerated and economic development of the construction projects.

The webinar will introduce various geophysical techniques with emphasis on their integration to provide unique solutions to subsurface challenges.

### About ECI

Engineering Council of India (ECI) is the apex body of the engineering profession in India. It is mandated to look after and develop the Indian engineering profession. As on date, it has 33 Indian engineering professional bodies as members representing practically all streams of engineering. It has representatives from 8 Government Departments on its Board. It is duly authorised by AICTE, CPWD, Niti Aayog etc, by MoUs or documents to interact with them, in specified areas. Further details can be had from its website [www.ecindia.org](http://www.ecindia.org).

E-certificate  
to all  
participants

**DATE:**  
September  
18, 2020

**TIME**  
1600 Hrs to  
1730 Hrs

**DURATION:**  
1.50 HR.  
TRAINING

Registration through email -  
[eci2020webinar@gmail.com](mailto:eci2020webinar@gmail.com)

For any query contact:  
B. R. Jain, Senior Advisor  
Mobile: 8750065714, 9313190011

**WHO CAN  
ATTEND:** Civil/  
Geotechnical  
Engineer/  
interested  
person

**3 CPD Credit Hrs.**

### Fee Details

#### **For participation**

- Rs 500 + 18 % GST for ECI's Registered Engineers
- Rs 750 + 18 % GST For unregistered Engineers
- Rs. 300 + 18% GST for Students

### Bank Details

#### **NEFT/RTGS in**

- Bank A/c No. 1220 10 000 197 56 of HDFC Bank Ltd.,
- IFSC code: HDFC 000 1374

### *Some of the unique advantages of geophysical survey:*

- *Geophysical methods are quick to apply, saving in terms of time and money.*
- *Light and portable equipment allows access to remotest of sites.*
- *Provides information on critical geological features like faults/ fractures/ weak zones/ shear zones, not visible from surface information*
- *Large areas mapped quickly and inexpensively*
- *Researchers can assess site conditions, and target specific locations for detailed investigations by drilling, while avoiding others.*
- *Geophysical methods can quickly produce subsurface geology avoiding delays during execution due to meeting the unexpected.*
- *Shear wave profiles can be quickly obtained for ascertaining liquefaction potential and earthquake response.*
- *Buried utilities, pipes and cables, can be detected before drilling/ excavation, avoiding damage to utilities and costly accidents.*
- *Concrete structures can be quickly scanned to ascertain integrity and detect defects like voids, honeycombing etc.*

#### **Introduction of speaker**

**(Dr. Sanjay Rana):**

Dr. Sanjay Rana is a geophysicist, working in the field of engineering geophysics for the last 30 years. Dr Rana is a graduate from IIT Roorkee, and also M Tech in Applied Geophysics.. Dr Rana after having a stint with UP State Government and then with Department of Atomic Energy, became an entrepreneur in 1995, starting the first ever engineering geophysics company in the private sector in India. pioneering in the private sector by providing services like seismic refraction, ground penetrating radar, electrical tomography, seismic tomography, Microgravity, magnetic etc. He has carried out geophysical investigations for more than 2000 projects including projects in India, Afghanistan, Bahrain, Singapore, Qatar, Saudi Arabia, Nepal, Bhutan, Kuwait etc.

Dr Rana has also brought various technologies in India including Ground Penetrating Radar, High Resolution Tomography, Dam Geophysics and Passive Seismic Tomography etc.

He is presently Managing Director, PARSAN Overseas Pvt. Limited (A geophysical company), Chairman, Aqua Foundation and Visiting Faculty, Amity University

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