



Short Term Course
on

GROUND IMPROVEMENT TECHNIQUES

*(Innovative Designs of Landslide Control,
Foundation Designs, Underground
Construction, Road Design Etc.)*

12-14 Aug 2016 (Friday to Sunday)



Old Techniques of Ground
Improvement



New Techniques Gabion wall in Panchkula
(Designed by IIT-R)

Organized by -

THE INSTITUTION OF ENGINEERS (INDIA)

ROORKEE LOCAL CENTRE

IIT CAMPUS

ROORKEE - 247667

Telefax : 01332-272589

Convener -

Dr. Satyendra Mittal, FIE

Past Chairman, IEI, RLC

Department of Civil Engineering

Indian Institute of Technology, Roorkee,

Roorkee - 247667, Uttarakhand

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MACCAFERRI



SMEC-ROORKEE
(SOIL & FOUNDATION ENGINEERS)



**AECS Engineering &
Geotechnical Services Pvt. Ltd.**



BACKGROUND

The floods of Uttarakhand, devastation to a high magnitude in Jammu & Kashmir and earthquake of Nepal have taught us that conventional techniques of construction are not sustainable against disasters. Such constructions require thorough planning, alertness and innovative methods of design. In particular, special attention needs to be given to areas of concentrated population and centres of tourism and pilgrimage. Herbal horticulture zone need special attention in order to minimise loss of human lives and properties due to natural calamities. The principle behind such planning should be as the adage, "Prevention is better than cure"



A short term course is therefore proposed for researchers, students, teachers and practicing engineers at The Institution of Engineers (I) Roorkee Local Centre during 12-14 Aug. 2016 with the objective of imparting knowledge on state-of-the-art ground improvement techniques relevant to hilly challenging terrain and other plane areas. The speakers at this Workshop would include faculty from IIT Roorkee and practicing engineers from multinational companies who have successfully adopted innovative techniques. Many such innovations have been suggested from time to time by IIT Roorkee which prevented damages and loss worth crores of rupees.

There will be one interactive session between experts and participants. In the evening of 13 Aug. a cultural programme followed by banquet is also planned. All the function will be held in The Institution of Engineers Roorkee (Opp. CBRI) within premises of Earthquake Engg. Deptt. of IIT Roorkee.

August 15 is holiday, being independence day, which you can avail either in return travel or for excursions around Roorkee.



Themes which are proposed to be covered in course include:

1. Challenges in Hilly Terrain-Potential Threats.
2. Preparedness by local authorities and the governments to tackle natural floods and seismic disasters of great magnitudes; Disaster Management Plans and Systems. Advance Alarms systems.
3. Geocells as Three Dimensional Geosynthetic Innovations:
 - a) Theory of Geocells, Practical aspects of Geocells as:
 - i. Load bearing systems for roads and embankments,
 - ii. Erosion protection of slopes.
4. Hill Slope Stabilisation and Erosion Protection- New Techniques:
 - a) Soil nailing
 - b) Post-tensioned anchors
5. Wall systems:
 - a) Gabion walls
 - b) Reinforced soil structures
 - c) Hybrid walls
6. Flood protection systems, Bank erosion protection systems.
7. Innovative road construction techniques.
8. New material (synthetic and natural), suitable for use during natural calamities.
9. Any other suitable theme pertaining to course objective.

REGISTRATION FEES

- For Members of IE (I), IGS, ISET, IRC - 6900/-
- For spouse - Rs 1500/-
- For non-members - 7850/-

Payment may be made by Demand Draft or Electronic Transfer or Cash at Counter. Details of Electronic Transfer are as follows:

Name of Account:

The Institute of Engineers India Roorkee Local Centre
State Bank of India

SB A/c No: 10660281610

IFSC Code: SBIN0010635

MICR Code of Branch: 107002247

Delegate fee includes the Kit, Registration material, Entry fees for Cultural Programme, Tea, Lunch and Banquet. It does not include accommodation fee, which will be booked by the delegates themselves. (Spouses will not be entitled for registration material please).



ACCOMMODATIONS IN ROORKEE

Following accommodations may be available for participants during workshop but only with advance payment to organisers. Tarriff per day as on date is as follows:

Hotel	Contact No.	Rent (Rs.)
Hotel Krish Residency	098976331	2000/-
Motel Polaris	01332-272648 277701	3000/-
Hotel Sagar & Restaurant	01332-271600 09927094500	1800/-
Shourya Guest House	09690773663 9997449999	1500/-
Ambrosia Sarovar Portico	09720107171 09720107173	5500/-
Hotel Centre Point	09259740105 09690018824	2000/-
Hotel Royal Palace	01332-272678 09690018824	1500/-
Hotel Centrum	01332-242411 09756207194	2000/-
Hotel Deep Residency	01332-267111 08057494000	1800/-
Hotel Siddharth	01332-264112 09837058687	1500/-
Hotel All Season	01332-242444 09897774446	1500/-
Divine International	01332-272542	2500/-
Dynasty	01332-271428	2000/-
Grand Premdoot	01332-275143	2000/-
Hotel Prakash	01332-270260	2000/-

ABOUT ROORKEE

The city of Roorkee in District Haridwar is situated in the foothills of the Himalayas. It is considered to be the gateway to pilgrimage of many renowned places like Haridwar, Rishikesh and Mussoorie. It is well connected by road. Climate in Roorkee during August may be warm with rains. Hence please bring umbrellas with you. Roorkee has CBRI, NIH and other labs of national repute.

PLACES OF INTEREST

Haridwar(30 km)
Rishikesh (50km)
Dehradun(70 km)
Mussoorie(100 km)
Kedarnath(400 km)
Badrinath(400 km)



Badrinath Mandir

ADDRESS FOR CORRESPONDENCE



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ABOUT COURSE COORDINATOR

Dr. Satyendra Mittal is in the faculty of IIT Roorkee, where he is engaged in teaching, research and consultancy. He has designed foundations for almost all type of structure. Dr. Mittal has organised many training programmes and conferences on geotechnical investigation, foundation designs, ground improvement etc. He widely travelled abroad including UK, USA, Japan, including UK, USA, Japan, Bangladesh, Egypt, Malaysia, Italy, Switzerland, Netherlands, Srilanka, Indonesia, etc. Dr. Mittal has to his credit more than 800 technical reports besides books on Pile Foundation Designs and Construction, Ground Improvement Engg and Soil Testing for Engineers. His work on Soil Nailing got him 3 national awards, besides several other awards from IGS, ISTE etc. He was organising secy. of IGC 2003 and vice-chairman of IGC 2013.



Basement of Golden Temple Amritsar By Soil Nailing
(Designed by IIT-R)

Registration Form

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1. Name of Delegate : _____
2. Organization : _____
3. Contact Phones Nos. : _____
4. Mobile No. : _____
5. E-Mail Address : _____
6. Address for Correspondence : _____

7. Name of Society : _____ Membership No. _____
8. Details of Remittances :
 - (i) Registration Fee (Rs.) : _____
 - (ii) Spouse Registration Fee (Rs.) : _____
 - Total (Rs.) : _____Enclosed DD/ multicity Cheque No./ Cash: Rs. _____
Dated _____ drawn on (Bank's Name) _____

(Alternatively, Electronic Transfer may be made Details of which may be given)

Date : _____ Signature : _____

For more registration please take xerox of it.



Embankment protection on national highway using geocell (STRATA)

COURSE SPONSORS

MACCAFERRI

Founded in 1879, Officine Maccaferri has soon become a reference worldwide in the design and development of advanced solutions for erosion control and soil stabilization. Over time, Maccaferri has emerged as reliable partner with its extensive portfolio of top quality products, constant and intense Research & Department programs. Following the motto 'Engineering a better solution', Maccaferri aims to become a leading international provider of advanced solutions for the Civil Engineering and construction market, maintaining an optimal balance in environmental compliance.

STRATA GEOSYSTEMS INDIA

Strata Geosystems (India) Pvt Ltd. offers comprehensive geotechnical solutions. It was established in 2004 as a joint venture with Strata Systems Inc. USA, which has been leader in the geotechnical field in USA for more than 25 years. Strata India provides turnkey solutions from design to execution for geotechnical systems including reinforced soil walls/retaining walls, slope protection, erosion control, foundation improvement for structures and embankments, steep slope embankments, strengthening of paved and unpaved roads, storage yards, etc. for various sectors such roads and bridges, power, ports, canals, wastage management, mining, railways etc.

SMEC ROORKEE

'SMEC' is a group of engineers engaged in the business of soil and foundation problems for the construction industry. They execute Geo-technical Consultancy on land and flowing rivers, provide complete in depth feasibility studies and reports on the nature of sub soil strata on which the foundation of project rests and undertake deep foundations. SMEC is serving the nation since 1985 and undertakes the challenging problems in the fields of bored cast in situ piles, driven piles, pre cast piles, undreamed piles, multi bulb piles, micro piles, bored compaction piles, sheet piles etc.

TANTIA CONSTRUCTION CO., KOLKATA

A core infrastructure company and a true supporter of geosynthetic applications for road constructions, is a pioneer company in creating infrastructure in Eastern India and enjoying a wide and deep footprints across the region today. Started in 1964, the company is having projects of roads and bridge constructions in India.

KK ENVIRO TECH (P) LTD. KOLKATA

It is a leading company providing solutions to Geotechnical and Environmental problems using synthetic and natural geosynthetic products. The company has contributed to many prestigious projects by providing Design, Supervision, Materials and installation support to various top contractors.