

Webinar Series on Advances in Geotechnical Engineering

A one-week webinar series starting from April 30, 2024, to May 4, 2024, was organized by the Civil Engineering Department, JUIT Waknaghat, in association with IGS Shimla chapter with the view of educating the civil engineering community, particularly field practitioners and researchers about the modern trends and challenges in the field of geotechnical engineering. The event was inaugurated through the outlook speeches from Dr. Anil Joseph, President-IGS, Dr. A.P. Singh, Secretary-IGS, Dr. N K Samadhiya, Ex-President IGS, Dr. Rajendra Kumar Sharma, Vice-Chancellor, JUIT, Dr. Ashok Kumar Gupta, Dean (Academics and Research), JUIT and Chairman, IGS Shimla chapter and Dr. Ashish Kumar, HOD-CED, JUIT.

The event witnessed renowned speakers from both academia and industry with a outstanding participation from faculty, engineers, research scholars and students from various parts of the country who shared their research and field experiences on various state-of-the-art topics in geotechnical engineering and civil engineering such as forensic studies in foundation failure and construction vibrations, influence of seepage forces, bearing capacity of soil on slopes, slope stability analysis using numerical modeling, landslide hazards in Himalayan region etc. All the events followed with a query session with considerable communication between the geotechnical engineering community.

The screenshot shows a Google Meet interface for an inaugural session. The main content area features a red banner with the following text: "CIVIL ENGINEERING DEPARTMENT JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY Solan Himachal Pradesh in Association with Indian Geotechnical Society (IGS) Shimla Chapter". Below this, it reads "Inaugural Session Webinar Series 'Advances in Geotechnical Engineering'" and "April, 30th 2024, 10:30 AM IST". A circular portrait of Dr. Anil Joseph is shown, with his name and title "MD, Geostructurals Pvt. Ltd., President-IGS" listed below. A topic description reads: "Topic : Forensic Studies of Foundation Failures and Monitoring Vibration in the Construction Industry". A "Live Streaming" link is provided: <https://www.youtube.com/watch?v=qNlIdnYsi4>. On the right, a video feed shows Dr. Anil Joseph speaking. The bottom of the screen displays a grid of participant avatars with names: google meet, Riddhi Jain, ASHOK DUVVURU, Thohidul Khan, Rishi Rana, Niraj Singh Pathar, ASHISH VERMA, and Thohidul Khan has joined. The bottom status bar shows the time as 10:23, the title "Webinar Series on ADVANCES IN GEOTECHNICAL E...", and system information including 21°C Sunny, 10:23, and 30-04-2024.

https://meet.google.com/tft-cqkn-bxe?authuser=0

9 google meet (Presenting)

Inaugural Session
Webinar Series "Advances in Geotechnical Engineering"
April, 30th 2024, 10:30 AM IST

Dr. Anil Joseph
MD, Geotechnicals Pvt. Ltd.,
President-IGS
Topic : Forensic Studies of Foundation Failures and Monitoring Vibration in the Construction Industry

Live Streaming <https://www.youtube.com/watch?v=qNliIdnYsI4>

ashok gupta

google meet

Riddhi Jain

ASHOK DUVVURU

Ashish Kumar

Anil Joseph

Niraj Singh Parihar

ASHISH VERMA

Ashish Kumar has joined

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Ashish Kumar

google meet

Riddhi Jain

Manas Kalyan Das

Sufi Md Gulzar

Anil Joseph

Niraj Singh Parihar

ASHISH VERMA


Sufi Md Gulzar has joined

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
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
Dr. Anil Joseph
 MD, Geostructurals Pvt. Ltd.,
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 Topic : Forensic Studies of Foundation Failures and Monitoring Vibration in the Construction Industry




Ashish Kumar




Riddhi Jain




Dr. Rewa Bochare




Sufi Md Gulzar




Anil Joseph




Niraj Singh Parihar



ASHISH VERMA



21 others



Rajesh Sahu

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Dr. Anil Joseph
 MD, Geostructurals Pvt. Ltd.,
 President-IGS
 Topic : Forensic Studies of Foundation Failures and Monitoring Vibration in the Construction Industry



Dr. A P Singh




Kaushal Kumar




Badavath Naveen



Ashish Kumar



Anil Joseph



Niraj Singh Parihar



Riddhi Jain



34 others



Rajesh Sahu

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Niraj Singh Parihar

g
google meet

Dr. A. P. Singh

Badavath Naveen

Ashish Kumar

Anil Joseph

R
Riddhi Jain

K
Kaushal Kumar

S
39 others


R
Rajesh Sahu

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 MD, Geostructurals Pvt. Ltd.,
 President-IGS
 Topic : Forensic Studies of Foundation Failures and Monitoring Vibration in the Construction Industry



Narendra Samadhiya

Anil Joseph

Dr A P Singh

Niraj Singh Parihar

Ashish Kumar

Badavath Naveen

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google meet

P
Pranjal Srivastava ...


64 others

R
Rajesh Sahu

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R.K. SHARMA



Anil Joseph, Dr. A. P. Singh, Anil Singh Palbar, R.K. SHARMA, Badavath Naveen, ashok gupta, Narendra Samach, 78 others, Rajesh Sahu

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Meeting controls: Mute, Video, Chat, Raise Hand, Help, End Meeting

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Prof. (Dr.) Ashok Kumar Gupta
DEAN (ACADEMICS & RESEARCH)

Rakesh Bassi

Anil Joseph, Dr. A P Singh, Niraj Singh Parihar, Ashish Kumar, Badavath Naveen, ashok gupta, Narendra Samachar, 80 others, Rakesh Sahu

Speakers / Headphones (Realtek Audio)

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MAJ. GEN. Rakesh Bassi
(RETD.) REGISTRAR & DEAN OF STUDENTS

Rakesh Bassi

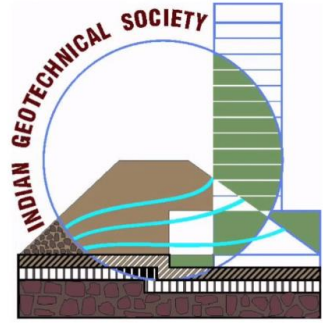
Anil Joseph, Dr. A P Singh, Niraj Singh Parihar, Ashish Kumar, Badavath Naveen, ashok gupta, Narendra Samachar, 78 others, Rajesh Sahu

10:45 | Webinar Series on ADVANCES IN GEOTECHNICAL E...

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R.K. SHARMA

Anil Joseph | Dr A P Singh | Niraj Singh Parihar | Ashish Kumar | Badavath Naveen | ashok gupta | Narendra Samadhiya | 82 others | Rajesh Sahu

10:48 | Webinar Series on ADVANCES IN GEOTECHNICAL E...

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R.K. SHARMA

Anil Joseph | Dr A P Singh | Niraj Singh Parihar | Ashish Kumar | Badavath Naveen | ashok gupta | Narendra Samadhiya | 87 others | Rajesh Sahu

10:51 | Webinar Series on ADVANCES IN GEOTECHNICAL E...

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11:08 | Webinar Series on ADVANCES IN GEOTECHNICAL E...

ashok gupta

113

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11:10 | Webinar Series on ADVANCES IN GEOTECHNICAL E...

Ashish Kumar

114

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11:12 | Webinar Series on ADVANCES IN GEOTECHNICAL E...

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11:17 | Webinar Series on ADVANCES IN GEOTECHNICAL E...

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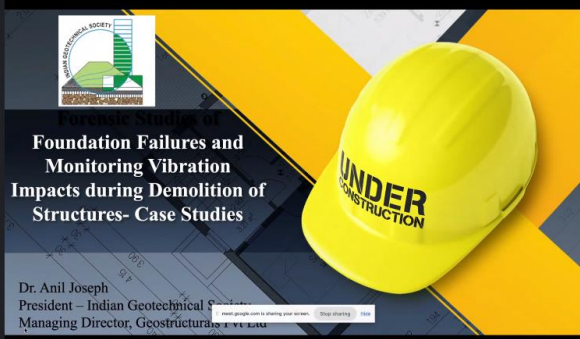
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Anil Joseph (Presenting)

Foundation Failures and Monitoring Vibration Impacts during Demolition of Structures- Case Studies

Dr. Anil Joseph
President – Indian Geotechnical Society
Managing Director, Geotechnical Services Pvt. Ltd.





Badavath Naveen | Niraj Singh Parihar | R.K. SHARMA | Narendra Samadh... | Ashish Kumar | Pranjal Srivastava... | ashok gupta | 122 others | Rajesh Sahu

11:29 | Webinar Series on ADVANCES IN GEOTECHNICAL E...

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Anil Joseph (Presenting)



Badavath Naveen | Niraj Singh Parihar | R.K. SHARMA | Narendra Samadh... | Ashish Kumar | Pranjal Srivastava... | ashok gupta | 124 others | Rajesh Sahu

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Session IV

Webinar Series "Advances in Geotechnical Engineering"

May, 3rd 2024, 11:00 Hours IST



Prof. Neelima Satyam
 Professor, Civil Engineering, IIT Indore

Topic : Combined landslide hazard in western himalayas

Gurtej Sidhu

cpai3012

RAJENDHIRAN CIVIL - A...

Nidhi

Gurtej Jain

vishal sharma


SATISH JAIN

13 others


Rajesh Sahu

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Niraj Singh Pantkar




Dr. Neelima Satyam



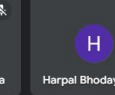
Dr. Rahul Kumar




homit pal



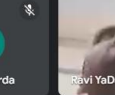
gaurav shrivastava



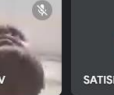
Harpal Bhoday



Yash Pal Sharda



Ravi YaDeV



SATISH

11:17 | Webinar Series on ADVANCES IN GEOTECHNICAL E...

Dr. Rahul Kumar has raised a hand. [Open queue](#)

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Dr. Neelima Satyam

11:20 | Webinar Series on ADVANCES IN GEOTECHNICAL E...

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Dr. Neelima Satyam

11:20 | Webinar Series on ADVANCES IN GEOTECHNICAL E...

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Dr. Neelima Satyam (Presenting)





Combined Landslide Hazards in Western Himalayas

Dr. Neelima Satyam D.
Professor
Department of Civil Engineering
IIT Indore

Financially Supported by:

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 DEPARTMENT OF
SCIENCE & TECHNOLOGY

Website: <http://people.iitb.ac.in/~neelima.satyam/index.php>




11:20 | Webinar Series on ADVANCES IN GEOTECHNICAL E...

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Dr. Neelima Satyam (Presenting)



Landslides and Land Subsidence in Joshimath Region, Uttarakhand

3 May 2024

- Over 1100 landslide incidents were reported in 2023 in Uttarakhand.
- Every year hundreds of small to large landslides are reported in Joshimath region.
- The Joshimath region has about 15 active landslide zones.
- In 2023, a total of 309 landslides, causing either complete or partial road blockages, were identified along the 247 km stretch between Rishikesh and Joshimath.


11:27 | Webinar Series on ADVANCES IN GEOTECHNICAL E...

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Dr. Neelima Satyam (Presenting)


Land Subsidence in Joshimath



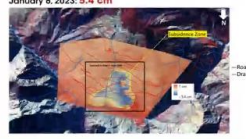
- Ground subsidence in Joshimath areas is a problem identified over four decades ago.
- Persistent sinking and subsidence in Joshimath areas underscore the ongoing nature of the concern. (GSI).

RAPID SUBSIDENCE IN 12 DAYS

Subsidence between April & November 2022: **8.9 cm**



Subsidence between December 27, 2022 & January 8, 2023: **5.4 cm**



Source: Subsidence in Joshimath(CSEINDIA Down To Earth)

3 May 2024

11:28 | Webinar Series on ADVANCES IN GEOTECHNICAL E...

Dr. Neelima Satyam

Dr. Rahul Kumar

Niraj Singh Parihar

gaurav shrivastava

Harpal Bhoday

Yash Pal Sharda

Prathamesh Patil

132 others

Rajesh Sahu

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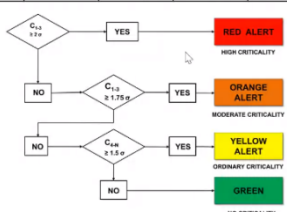
Dr. Neelima Satyam (Presenting)

SIGMA Model application for Chamoli

Objective 3

Table 9: Sigma values defining the optimized threshold for each reference region

Reference region	Former 1.5	Former 1.75	Former 2.0	N
R1	1.65	1.75	2.2	5
R2	1.7	1.9	2.25	7
R3	1.68	1.85	2.15	5
R4	1.72	1.9	2.15	5
R5	1.7	1.9	2.05	10
R6	1.65	1.85	2.25	-
R7	1.6	1.8	2.15	6



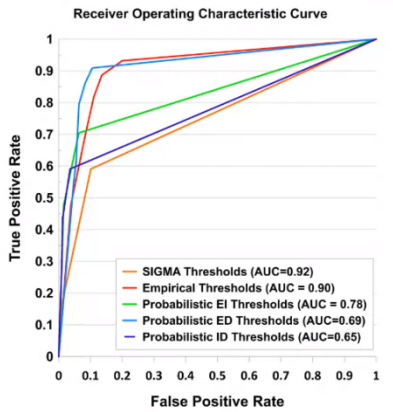


Figure 96. Algorithm developed for calibration of SIGMA Model for Chamoli region.

Figure 97. AUC analysis of different rainfall thresholds

11:40 | Webinar Series on ADVANCES IN GEOTECHNICAL E...

Dr. Neelima Satyam

Dr. Rahul Kumar

Niraj Singh Parihar

gaurav shrivastava

Harpal Bhoday

Dr. V. Mallikarjuna

Prathamesh Patil

140 others

Rajesh Sahu

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Soil Thickness Mapping Of Joshimath And Surrounding Region

Fig.29 Geographical Location of the Study Area in India; (A) India, (B) Chamoli (Uttarakhand), (C) Study Area

3 May 2024

Fig.30 Partition Of The Study Area Based On The Geologic Formations

Table 3: Details of Different Geological Formations of The Study Area (Modified From GSI, 2022 Database)

Geologic Formation No.	Main Geological Formation	Lithology
1	Yamunotri (YamJF)	Gneiss, Kyanite Schist, Quartzite, Calc. Silicates
2	Pithoragarh (PithJF)	Limestone, Dolomite, Slate, Carb. Phyllite/Slate, Phyllite with Chlorite, Graphite & Carbonaceous Metabase, Amphibolite and Micro Schist, Chlorite
3	Bering - Chamoli (BerChJF)	Basic, Meta-Volcanics, Quartzite and Slate with lesser Metachlorite, Amphibolite.
4	Mans - Dui (ManDuiJF)	Quartzite, Gneissiferous Schist and Paragneiss, Migmatite Gneiss with Marble Interb., Amphibolite, Phyllite with Chlorite, Graphite & Carbonaceous Metabase, Amphibolite and Micro Schist, Chlorite
5	Hiding - Nya (HidNyaJF)	Quartzite And Quartz; Micro Schist, Schist, Gneiss, Marble and Basic, Metagneiss, Calc. Silicates, Quartzite, Schist, Marble Interb. ZG

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24°C Mostly sunny

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Methodology

1. **GIST Modelling**: Data Collection and Preparation (Geospatial Data, Borehole Logs, Geotechnical Data, Geological Data) → Digital Elevation Model (DEM) → Profile Correlation → Slope Gradient (s) → Internal Friction Angle (φ) → Slope Angle Threshold (θ) → Maximum Soil Thickness → Thickness = K × P × C × S → Soil Thickness Map a

2. **GIST-MLCS Modelling**: Internal Friction Angle (φ) and Slope Angle Threshold (θ) → Parametric Tabular Data → GIST Model → Calibration Equations between Factor S, φ, and θ → Factor C, Factor P, Parameter K → Thickness = K × P × C × S → Soil Thickness Map b

3. **GIST-RF Modelling**: Soil Thickness Data from Boreholes → Factor P, C, and S from the GIST Model → Training Dataset → Random Forest Algorithm → GIST-RF Model → Leave-one-out-Cross Validation → Soil Thickness Map c

Result and Analysis: Comparison Between Predicted and Observed Data, Residual Analysis

3 May 2024

*GIST Model - Geomorphologically Indexed Soil Thickness Model

27

11:42 | Webinar Series on ADVANCES IN GEOTECHNICAL E...

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Validation

Fig.38 Pictures of The MASW Test Conducted at The Lambagad Landslide Zone: (A) Lambagad Landslide Zone, (B) Geographical Location Of The Test Site, (C) MASW Testing
3 May 2024

Fig.39 Shear Wave Velocity (V_s) Profile At Different Sections of The Test Site: (A) Section A-A, (B) Section B-B
32

11:45 | Webinar Series on ADVANCES IN GEOTECHNICAL E...

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Results

Fig.51 Factor of Safety (Fos)
3 May 2024

Fig.52 Pressure Head

Fig.53 Depth At Which The Fos Is Computed

11:47 | Webinar Series on ADVANCES IN GEOTECHNICAL E...

Browser tabs: Inbox, link - rajesh.sahu, Meet - tft-co, Home - Google D, Social Media Upd, Facebook, CIVIL ENGINEER, (2) Activity | CIVIL, +

URL: https://meet.google.com/tft-cqkn-bxe?authuser=0

Participants: Dr. Neelima Satyam, Niraj Singh Parihar

Participant Grid:

- Dr. Rahul Kumar
- Yash Pal Sharda
- gaurav shrivastava
- Deepti Hazari
- Dr. V. Mallikarjuna
- Ravi YaDaV

Notification: Dr. Rahul Kumar and Yash Pal Sharda have raised hands. [Open queue](#)

12:02 | Webinar Series on ADVANCES IN GEOTECHNICAL E...

System tray: 24°C Mostly sunny, ENG, 12:02 03-05-2024

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URL: https://meet.google.com/tft-cqkn-bxe

google meet (Presenting)

Logos: JAYPEE EDUSPHERE, Juit, NAAC, IGS - SHIMLA CHAPTER

CIVIL ENGINEERING DEPARTMENT
 JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY
 Solan Himachal Pradesh
 in Association with
 Indian Geotechnical Society (IGS) Shimla Chapter

Session V
 Webinar Series "Advances in Geotechnical Engineering"

May, 4th 2024, 11:00 Hours IST

Dr. Rohan Deshmukh
 Geotechnical Solution Engineer,
 Bentley Systems India
 Topic : Slope Stability Analysis using numerical modeling

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Participant Grid:

- Ashok kumar
- Surath Samanta
- RAJENDHIRAN CIVIL - A...
- Prof. Bashir Ahmed Mir
- google meet
- google meet
- santanu saha
- 3 others

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google meet (Presenting)

Session V
Webinar Series "Advances in Geotechnical Engineering"
May, 4th 2024, 11:00 Hours IST

Dr. Rohan Deshmukh
Geotechnical Solution Engineer,
Bentley Systems India
Topic : Slope Stability Analysis using numerical modeling

Niraj Singh Parihar

A
Ashok kumar

Rohan Deshmukh

Manish Kumar

RAJESH PATHAK

vijay rajoria

kiran vaghela

hari hari prasad

42 others

Rajesh Sahu

10:58 | Webinar Series on ADVANCES IN GEOTECHNICAL E...

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Session V
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Bentley Systems India
Topic : Slope Stability Analysis using numerical modeling

Rohan Deshmukh

A
Ashok kumar

Niraj Singh Parihar

Manish Kumar

RAJESH PATHAK

vijay rajoria

kiran vaghela

hari hari prasad

45 others

Rajesh Sahu

10:58 | Webinar Series on ADVANCES IN GEOTECHNICAL E...

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Rohan Deshmukh (Presenting)

Slope Stability Using Numerical Modelling

Dr. Rohan Deshmukh
PSE-Geotechnical

JUIT JAYPEE GROUP OF INSTITUTIONS BENTLEY

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11:02 04-05-2024

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Rohan Deshmukh (Presenting)

Introduction



Translational landslide in Japan

- Slopes are typically categorized in two types: natural and artificially-made slopes. Natural slopes are formed due to physical processes that include plate tectonics and weathering/erosion of rock masses that result in material deposition. Artificially-made slopes are established to facilitate infrastructure projects, ex., embankments, earth dams, road cuttings etc.
- The **stability of a slope** is of critical importance in Geotechnical Engineering applications. A slope movement (also referred as a landslide) can lead to severe issues including infrastructure damage or/and casualties.
- Slope stability depends on the capability of the soil mass to withstand its gravitational forces, the additional loads acting on the slope, as well as potential dynamic loads (such as that of an earthquake).

Bentley

Rohan Deshmukh

Manish Kumar Niraj Singh Parihar vijay rajoria Ashok kumar hari hari prasad Surath Samanta kiran vaghela 89 others Rajesh Sahu

11:05 | Webinar Series on ADVANCES IN GEOTECHNICAL E...


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Rohan Deshmukh (Presenting)

Introduction



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Manish Kumar Niraj Singh Parihar Ashok kumar vijay rajoria Rohan Deshmukh hari hari prasad kiran vaghela 89 others Rajesh Sahu

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Rohan Deshmukh (Presenting)

FLAXIS 2D Ultimate: Slope stability_123.p2dx

File Edit Phases Options Expert Help

Phases explorer

- Initial phase [InitialPhase]
- Deformation [Phase_1]
- Factor of safety [Ph]

Selection explorer (Phase_2)

Model explorer (Phase_2)

- Attributes library
- Geometry
- Groundwater flow BCs
- Soils
- Model conditions

Coordinates (0.5000 14.00) m

Command line

11:35 | Webinar Series on ADVANCES IN GEOTECHNICAL E...

24°C Mostly sunny

11:35 04-05-2024

Participants: Rohan Deshmukh, SAFEENA NAZEER 21910..., Niraj Singh Parihar, Mahaa Lakshmi N.K, Muvvala Rama Rao, sofiane bekakra, Sherbahadur Singh Pari..., 121 others, Rajesh Sahu

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Rohan Deshmukh (Presenting)

FLAXIS 2D Ultimate: Slope stability_123.p2dx - SERVER ACTIVE on port 10000 (SECURED)

File Edit Phases Options Expert Help

Phases explorer

- Initial phase [InitialPhase]
- Deformation [Phase_1]
- Factor of safety [Ph]

Selection explorer (Phase_2)

Model explorer (Phase_2)

- Attributes library
- Geometry
- Groundwater flow BCs
- Soils
- Model conditions

Coordinates (-3.0000 2.5000) m

Command line

11:40 | Webinar Series on ADVANCES IN GEOTECHNICAL E...

24°C Mostly sunny

11:40 04-05-2024

Participants: Rohan Deshmukh, SAFEENA NAZEER 21910..., Niraj Singh Parihar, Mahaa Lakshmi N.K, Ashok kumar, sofiane bekakra, Sherbahadur Singh Pari..., 119 others, Rajesh Sahu

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Rohan Deshmukh (Presenting)

FLAXIS 2D Ultimate Output - SERVER ACTIVE on port 10001 (SECURED) - [Slope stability_123 - Calculation results: Factor of safety [Phase_2] (2/137), Total:4]

Factor of safety [Phase_2] (Step 137)

Water load information
Applied volume strain
Volume information
Material information (all load cases)
Material information (current load case)
Deconfinement table
General information
Calculation information
Calculation info per phase
Calculation info per step
Step info
Structures per phase
Safety information

Command line
Session Model history
Commands can be called as follows:
Command

11:40 | Webinar Series on ADVANCES IN GEOTECHNICAL E...

24°C Mostly sunny 11:40 04-05-2024

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Rohan Deshmukh (Presenting)

FLAXIS 2D Ultimate: Soil Nailing for Road Embankment Stability.pptx

Phases explorer
Factor of safety
Apply top les
Factor of sa
Apply addit

Selection explorer (Phase_3)
Model explorer (Phase_3)
Attributes library
Geometry
Mesh
Embedded beams
Life loads
Groundwater flow BCs
Soils
Model conditions

Command line
Session Model history
Command

11:43 | Webinar Series on ADVANCES IN GEOTECHNICAL E...

Result 11:43 04-05-2024

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Rohan Deshmukh (Presenting)

FLAXIS 2D Ultimate Output - [Soil Nailing for Road Embankment Stability - Calculation results, Factor of safety of the road in summer conditions [Phase_0] R]

Factor of safety of the road in summer conditions [Phase_0]

Total displacements [m] (scaled up 0.500 times)
Maximum value = 5.993 m (Element: 479 at Node: 9497)

Command line
Session Model history
Commands can be called as follows:
Command
(39.906 13.803) Plane strain Soil 222 (cluster 2) [Soil_3_1]

11:45 | Webinar Series on ADVANCES IN GEOTECHNICAL E...

26°C Mostly cloudy 11:45 04-05-2024

Rohan Deshmukh

SAFEENA NAZEER 21910...

Niraj Singh Parihar

Mahaa Lakshmi N.K

Ashok kumar

sofiane bekakra

Sherbahadur Singh Par...

124 others

Rajesh Sahu

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Rohan Deshmukh

Niraj Singh Parihar

Amrendra Roy
Send feedback link please

PANKAJ GUPTA and Nimavat Ekta
have raised hands

PANKAJ GUPTA

Nimavat Ekta

Mahaa Lakshmi N.K

sufiyan mirza

sofiane bekakra

SAFEENA NAZEE...

11:54 | Webinar Series on ADVANCES IN GEOTECHNICAL E...

Air Moderate 11:54 04-05-2024

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Rohan Deshmukh Niraj Singh Parihar

PANKAJ GUPTA Nimavat Ekta Mahaa Lakshmi N.K suffyan mirza sofane bekakra SAFEENA NAZEE... Sherb

PANKAJ GUPTA and Nimavat Ekta have raised hands Open queue X

11:54 | Webinar Series on ADVANCES IN GEOTECHNICAL E... 125

Type here to search Air: Moderate ENG 11:54 04-05-2024

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Rohan Deshmukh Niraj Singh Parihar

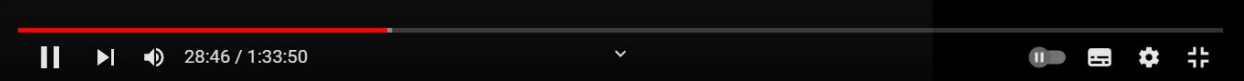
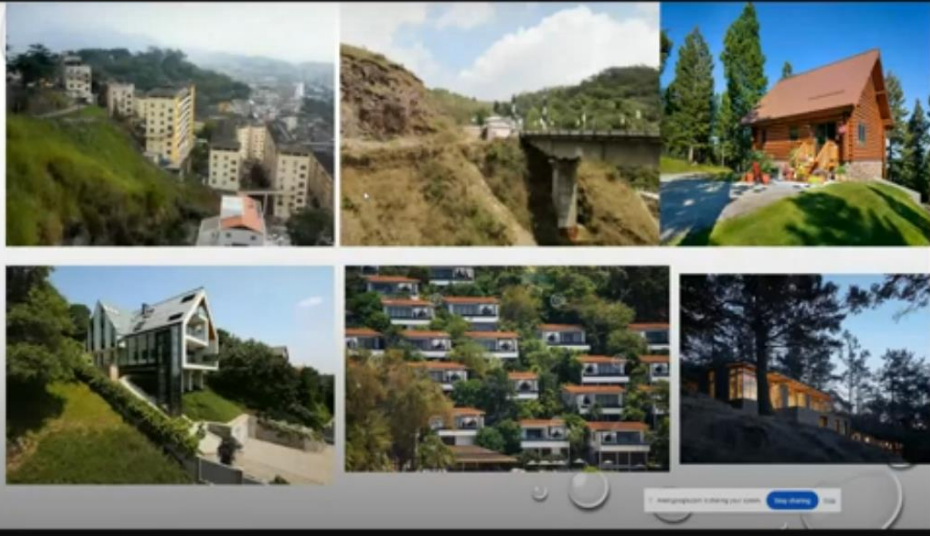
hari hari prasad Nimavat Ekta Ashok kumar suffyan mirza sofane bekakra SAFEENA NAZEE... Sherb

Nimavat Ekta has raised a hand Open queue X

11:59 | Webinar Series on ADVANCES IN GEOTECHNICAL E... 123

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Webinar Series on ADVANCES IN GEOTECHNICAL ENGINEERING Session 3: 2nd May 2024 11:00 Hrs. (IST) 



28:46 / 1:33:50

Webinar Series on ADVANCES IN GEOTECHNICAL ENGINEERING Session 2: 1st May 2024 12:00 Hrs. (IST) 

To exit full screen, press **Esc**



INFLUNCE OF SEEPAGE FORCE ON ACTIVE AND PASSIVE THRUST FOR DESIGN OF A RIGID CUT-OFF WALL

Dr. N. K. Samadhiya
Professor
Department of Civil Engineering
IIT Roorkee

Dr. A. K. Singh
Associate Professor
Department of Civil Engineering
NIT Jamshedpur



21:37 / 1:23:19

- It could be seen that for a cut-off wall of 4 m length, for small angle of wall friction ($\delta < \phi_v/3$), the passive earth pressure increases by 9 % whereas for $\delta > \phi_v/3$, the passive earth pressure increases by 26 %.

Table 7. Passive Earth Pressure and Seepage Force For Different Angle of Wall Friction

Angle of Wall Friction (δ) (Degree)	Angle θ with Horizontal (Degree)	Seepage Force (F_s) (kN/m)	Angle α with Vertical – Clockwise (Degree)	Passive earth pressure (p_p) (kN/m)
0	34	58.75	5.42	143.59
5	31	64.55	5.69	167.06
10	28	71.14	5.95	196.51



Narendra Samadhiya