IGS NEWS

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Contents

Message from the President

Dear Distinguished Members,

I hope you all are doing well with your family. Time truly flies, it's hard to believe that half the year has passed in the blink of an eye. As we reflect on the months gone by, we take great pride in the many activities and initiatives that have been successfully undertaken by the Indian Geotechnical Society (IGS) and its local chapters during this period. These accomplishments have been made possible, by the unwavering enthusiasm and commitment of our vibrant Executive Committee and sub committees, whose collective efforts continue to drive the society forward. From technical events and knowledge-sharing sessions to collaborative outreach across chapters, the energy and engagement within our community remain truly inspiring.

Under the convenorship of Prof. Murali Krishna, the SC1 team has been instrumental in ensuring the smooth functioning of the IGS website, effectively catering to the needs of IGS members. I sincerely appreciate the team's dedicated efforts, especially in collating and compiling valuable geotechnical resources for the IGS Virtual Library. The SC2 team, under the leadership of Prof. T. Thyagaraj, is actively striving to enhance ISSMGE membership. Prof. Chandresh Solanki and the SC3 team are carefully developing initiatives to grow IGS membership. Membership grew by 105 individuals over the past three months. I genuinely appreciate both teams for their committed efforts in expanding membership by highlighting the advantages of joining IGS and ISSMGE. The SC4 Committee on the IGS Foundation and Professional Forum, led by Dr. C.R. Parthasarathy, is proactively working with other professional forums to host creative joint initiatives that serve the interests of both groups. The team is consistently holding meetings to coordinate and advance these efforts. I appreciate the efforts of the team. Moreover, the SC5 Financial Committee, led by Er. Ravi Kiran Vaidya, is efficiently managing finances within the approved budget and offering grants to local chapters for organizing events within specified financial limits. I truly value their important contribution.

As part of IGS's ongoing international engagements, I participated in the TC 307 online meeting held on April 30, 2025, alongside Prof. Anand Puppala and his team. The discussion focused on planning the TC 307 workshop, which will be organized during the 1st Geotech Asia Conference 2025. Further advancing international collaboration, I had the privilege of visiting Kathmandu on May 28, 2025 where I met with Dr. Mandip Subedi, President of the Nepal Geotechnical Society (NGS), along with other office bearers of the Society. The meeting was highly productive, centering around preparations for the upcoming 1st Geotech Asia Conference. The NGS expressed enthusiastic support for the event, committing to contribute 10 technical papers and confirming the participation of 20 delegates. In addition to event planning, we engaged in thoughtful discussions on the future direction and collaborative opportunities within the Association of Geotechnical Societies of South Asia (AGSSA), underlining the vital role of regional cooperation in promoting geotechnical engineering across South Asia. A highlight of the visit was the release of NGS's annual publication, Geotechnical Reconnaissance Report on Geo-Disasters in

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Nepal – 2024, which presents critical insights into recent geohazard events in the region. This visit marked a meaningful step in strengthening professional relationships and fostering cross-border initiatives in the geotechnical field. I also had the privilege of holding an online meeting with representatives from the Brazilian Geotechnical Society and the Portuguese Geotechnical Society to discuss plans for a joint Portugal-Brazil-India preconference workshop as part of the 1st Geotech Asia 2025. This initiative aims to enhance the visibility of IGS within those regions and foster meaningful collaborations between the geotechnical societies of these three countries. During my upcoming visit to Almaty, Kazakhstan, to attend the 6th International Conference on GIS and Geoinformation Zoning for Disaster Mitigation (GIZ) from August 28–30, 2025, we plan to formalize a Memorandum of Understanding (MOU) with the Kazakhstan Geotechnical Society. This partnership aims to create a strong framework for knowledge exchange and foster mutual advancement in geotechnical engineering across the region. As part of the Heritage Time Capsule (HTC) Initiative under ISSMGE, Prof. Neelima Satyam has successfully launched the HTC Champions Podcasts Asia 2025 series to promote awareness and dialogue on geotechnical engineering across Asia. This innovative platform features insightful discussions with eminent professionals from academia and industry, focusing on real-world applications, collaborative efforts, and emerging trends shaping the future of the field. Congratulations to Prof. Neelima Satyam for her dedicated efforts in creating this impactful initiative that connects experts and inspires the geotechnical community. The International Cooperation Committees, SC6 (TC Activities) and SC7 (Networking), are being effectively managed under the guidance of Dr. S.K. Prasad and Prof. D. Neelima Satyam, respectively. I truly commend both teams for their unwavering dedication and efforts in advancing global technical partnerships.

The inauguration of a new IGS chapter in Lucknow is scheduled for 19th of August 2025. Meanwhile, plans to establish additional chapters in Dehradun, Rewa, Anantapur, Madurai, Gorakhpur, and Aligarh are underway, with Prof. Dasaka S. Murty leading the efforts through the SC8 team. The revival of local chapter activities is progressing well under the leadership of Ms. Aarti Bhargava and the SC9 team, thanks to the innovative outreach program initiated by Ms. Aarti Bhargava. During recent visits, productive meetings were held with key members of several chapters. On April 29, 2025, discussions with Dr. Ashok Kumar Gupta and Dr. Neeraj Singh Parihar of the IGS Shimla Chapter focused on revitalizing chapter initiatives and boosting membership. On May 22, I had a meaningful meeting with the Executive Committee of the IGS Indore Chapter, the visit to the IGS Thiruvananthapuram Chapter on May 27, offered valuable insights into preparations for Geotech Asia 2025 and the TSR lecture series, and also got opportunity to attend IGS Kochi Chapter's Executive Committee meeting on May 31, which highlighted their generous sponsorship and paper contributions to the 1st Geotech Asia Conference. I extend my heartfelt thanks to the office bearers of all chapters for their continuous dedication, coordinating those meetings and support in strengthening the IGS community. During this period, several new student chapters were established, and a variety of student activities were successfully organized. I sincerely appreciate the dedicated efforts of Prof. N. Unnikrishnan and the SC10 team in coordinating these initiatives. Notably, the IGS Student Chapter at IIT Tirupati was inaugurated on April 25, 2025. I extend my best wishes to the enthusiastic student members of this emerging chapter for their future endeavours. Additionally, had the pleasure of visiting SV University Tirupati, where we engaged in an interactive session with student members, further strengthening student involvement within the society. The SC11 team, led by Prof. G Madhavi Latha, is diligently planning events for the Young Geotechnical Engineering community.

Under the leadership of Prof. R. Ayothiraman, the SC12 team has finalized the IGS Awards guidelines, and the call for nominations is now underway. I deeply appreciate their commitment and hard work in bringing this to fruition. I would also like to acknowledge the SC13 team led by Prof. Anitha G. Pillai for their unwavering commitment to the timely publication of the IGS Newsletter, maintaining high standards through careful review and quality content. My sincere thanks go to the SC14 team, headed by Dr. Jaykumar Shukla, for their important role in BIS-related tasks and their significant contributions to the revision and advancement of geotechnical engineering codes. The SC15 team, under the guidance of Dr. G. Sridevi, is making noteworthy strides in launching new initiatives under the Women's Forum. Simultaneously, the SC16 Infrastructure Development Committee, under the leadership of Dr. A.P. Singh, is actively engaged in identifying a suitable location for the IGS headquarters in Delhi. Planning and discussions are well underway, and a few potential office spaces in Delhi NCR have already been shortlisted. The SC17 team for the Laboratory Testing Forum, under the convenorship of Dr. C.N.V. Satyanarayana Reddy, and the SC18 team for the Skill Development Forum, under the leadership of Prof. H.N. Ramesh are working diligently to maintain the momentum of ongoing activities and to enhance the quality and outreach of their respective initiatives within the geotechnical engineering community. With the leadership of Prof. B.K. Maheshwari, the SC19 team for software operations and the soil profile data bank is working to provide PLAXIS software to students seeking support from IGS for projects, while also initiating efforts to compile data from reliable sources.

As we move through this exciting year, the countdown has officially begun for the landmark event: the inaugural Geotech Asia conference 2025, the pride of Indian Geotechnical Society! This conference anticipates to be a milestone in our journey, bringing together experts, innovators, and practitioners from across Asia and beyond. Preparations are in full swing, and I am confident that, with your wholehearted support and active participation, Geotech Asia 2025 will be a grand success and a truly memorable experience for all. Let us come together to showcase the strength, unity, and excellence of the IGS community on this prestigious platform. I appreciate the meticulous planning of the SC20 team under the leadership of Prof. Ashish Juneja and Prof. Dasaka S. Murty for the 1st Geotech Asia 2025. Meanwhile, arrangements for the 12th ISFMG Conference, set to take place in Indore, are also progressing well under the leadership of Dr. D. Neelima Satyam. Abstract submissions are open until 31st August 2025, and I encourage all members to actively participate by submitting their work. I convey my best wishes for the success of both conferences.

I am concluding with the words of Phil Jackson: "The strength of the team is each individual member. The strength of each member is the team." We look forward to sustaining this positive momentum in the coming months and encourage all members to remain actively involved in the IGS activities as we continue to grow together. "Together We Can and We Will."

Wishing you all good health and happiness.

Dr. Anil Joseph

GeoSutra 10

Load Spread Angle – Time to Forget 2V:1H Rule

Madhira R. Madhav[1*] and Baadiga Ramu[2]
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[2]Assistant Professor, Indian Institute of Technology Indore, India

Geotechnical practitioners are concerned with the load spreading from the level of application to strata below to assess the impact of the applied load and to estimate the strains and settlements of the layers. Fig. 1 illustrates stress distributed at different levels beneath a uniformly loaded finite area of footing. The trend to distribute the applied load or stress more uniformly over greater widths can be noted very clearly.

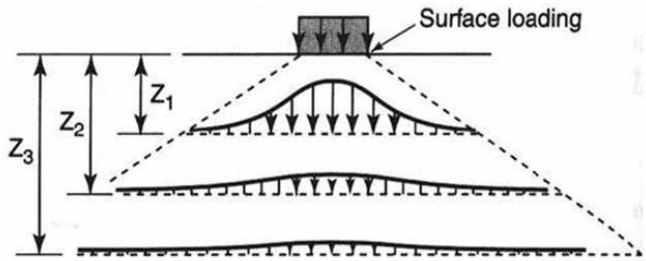

Fig. 1 Induced Stresses – Effect of depth

One of the simplest approaches has been the empirical distribution of load at the rate of 2V to 1H strictly supposed to be valid for depths from B to 4B.Fig. 2 depicts the conventional or classic load spread angle, 2V:1H, in use for ages.

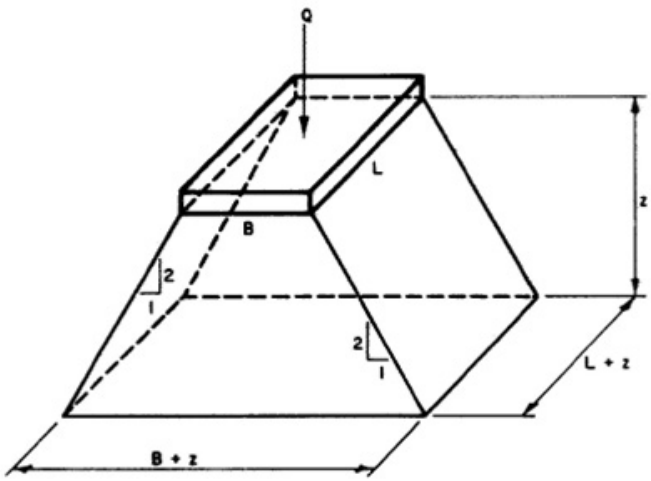

Fig. 2 Classic Load Spread Angle

Based on the concept, the average stress increment, $\Delta\sigma_z$, at any depth, z, below a rectangular footing of size, B by L and subjected to a load, Q, is

$$\Delta\sigma_z = Q/(B + z).(L + z) \quad (1)$$

It is presumed that this approximation agrees closely with Boussinesq solution for depths of B to 4B below the loaded area. It implies that induced stresses beyond (b + z) and (L + z) are negligible. Unfortunately, their contribution is not quantified, leading to a conservative estimation of average vertical stress.

Fig. 3 depicts the variation of load spread at different depths below a uniformly loaded circular footing for the depth range of 0.2a to 2.0a where a is the radius of the footing.

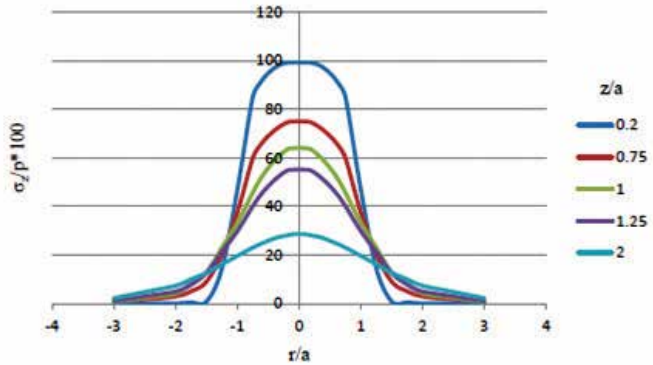

Fig. 3 Axisymmetric Pressure Distribution beneath a uniformly Loaded Footing

These distributions appear to be close to a 'bell' curve (Fig. 4) defined by the expression

$$\sigma_z = ue^{-\left(\frac{(r-v)^2}{2w^2}\right)} \quad (2)$$

where the constants u, v and w can be estimated by curve fitting.

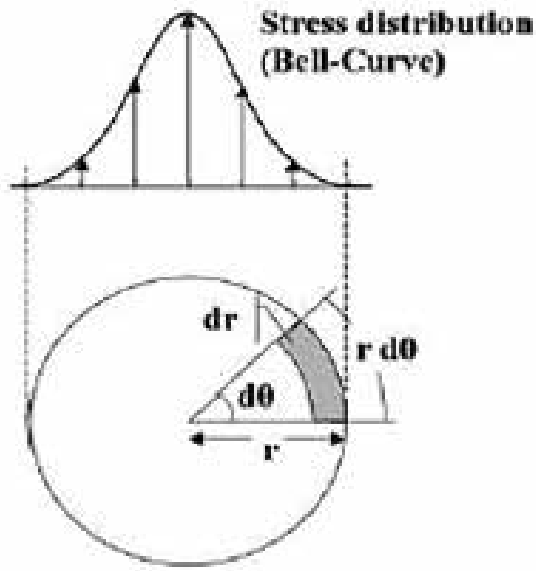

Fig. 4 Bell Curve

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The total load, P_α, transmitted over a radius, R_α (=α.a), where 'a' is the radius of the loaded circle, at any depth is

$$P\alpha = \int_0^{\alpha} \int_0^{2\pi} \sigma_z \, \alpha_a \, d\alpha d\theta \quad (3)$$

Normalizing P_α with the total applied load, P_0 (=π.a².q) one gets

$$\lambda_\alpha = \frac{P_\alpha}{P_0} = \frac{2 \int_0^{\alpha R} ue^{-\left(\frac{(r-v)^2}{2w^2}\right)} \left(\frac{r}{a}\right)\left(\frac{dr}{a}\right)}{q} \quad (4)$$

where $\lambda_\alpha = P_\alpha/P_0$ – ratio of the load, P_α over a radius αR with respect to the applied total load, P_0. Figure 5 shows the definition sketch of load spread angle.

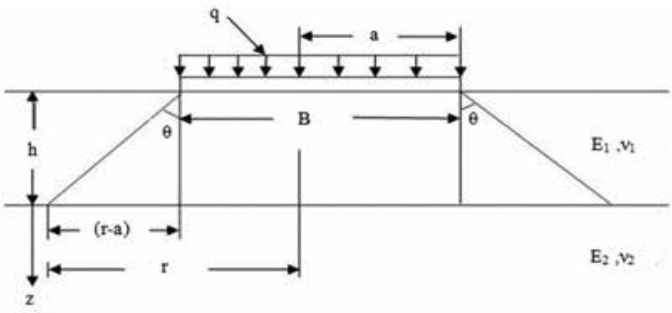


Fig. 5 Definition Sketch and Load Spread Angle

Load spread angle, θ, the deviation from the verticality is defined as

$$\theta = \tan^{-1}\left[\frac{(r-a)}{h}\right] \quad (5)$$

where z = h – the level at which the Bell-shaped stress distribution is integrated to arrive at the radial extent, R_α, that corresponds to a given load ratio or percentage, λ_α.

Homogeneous Ground

Figure 6 shows the variation of Radial Extent, R_α, with respect to Normalized depth, z/a.

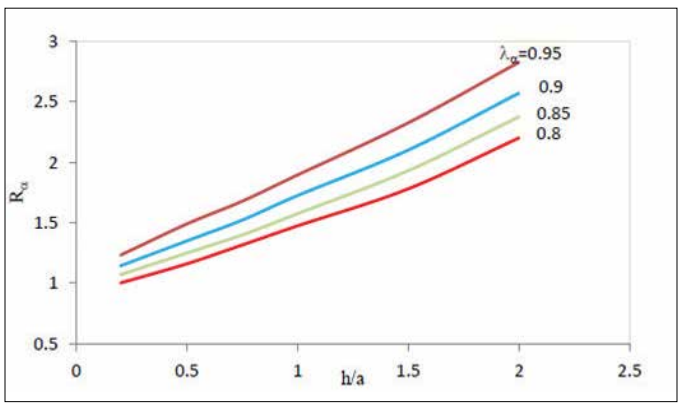


Fig. 6 Radial Extent, R_α, vs Normalized depth, z/a

Radial extent, R_α, increases with percentage of load λ_α (=P_α/P_0) and relative depth, z/a validating the common knowledge of load spread. Figure 7 shows the load spread angles for homogeneous soil as function of relative depth and percentage load.

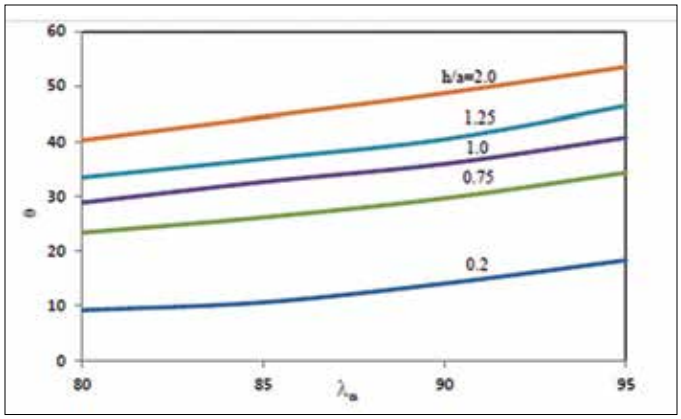


Fig. 7 Load Spread Angles for Homogeneous Soil as Function of Relative Depth, z/a, and Percentage Load, λ_α

Load spread angle, θ, is obtained from the values of R_α for different values of λ_α from Fig. 6 for the shallow depth range of z/a equal to 0.2 to 2.0 (z/B = 0.1 to 1.0). Load spread angle increases marginally with percentage of load from 80% to 95%. However, the load spread angle is much larger than 26.67° as for classic 2V:1H distribution the difference increasing with depth. For z/B of 1.0, θ increases from 40° for 80% of load to 53° for 95% of load attesting to the fact that the conventional load spread is very conservative.

Two-Layered Ground: Two-layer systems (Fig. 8) are common in Geotechnical Practice. The upper stratum of thickness, h, and with modulus of deformation, E_1, is a strong and stiff granular layercommonly encountered in alluvial sites or desiccated crust in many marine deposits overlies a soft deposit with modulus of deformation, E_2. As part of reclamation or improving the site granular layer without or with geosynthetic reinforcement is being often provided beneath embankments, reinforced soil walls and foundations in current Geotechnical Practice. In all such cases it is imperative the contribution of stiff upper layer is assessed for a more rational design.

Several solutions for the estimation of the ultimate bearing capacity of foundations of two-layered strata are available in Das (2015).

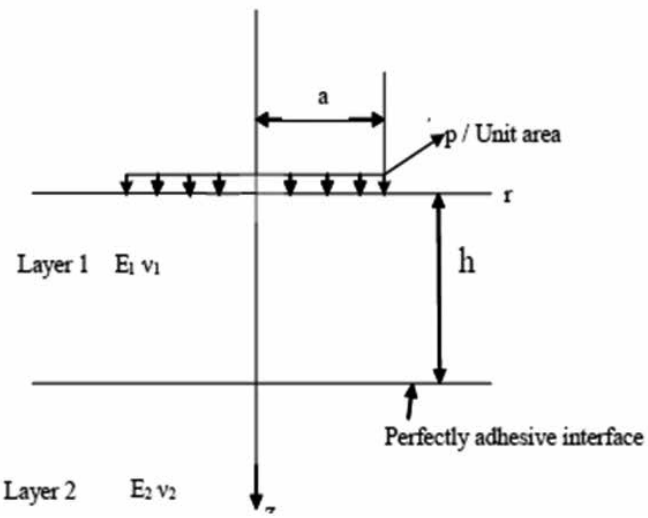


Fig. 8 Two-Layered Ground

Earliest solution for stresses at the interface between the two layers for h/a equal to 1.0 was provided by Fox (1948). Figure 9 shows the normalized vertical stress at the interface vs modular ratio at different radial distances. The vertical axis is logarithmic scale. The dramatic effect of modular ratio on reducing interfaces stresses is clearly discernible. The vertical stress beneath a circular load of radius reduces to 29% and 8% for modular ratios of 10 and 100 respectively. Stiff upper layer functions as semi-rigid and redistributes the applied stress over a wider area. This fact explains provision of granular bed below rail track and different layers, viz., bituminous concrete, WMM and GSB below pavements all of which reduce high applied stresses/loads to acceptable level on to the subsoil.

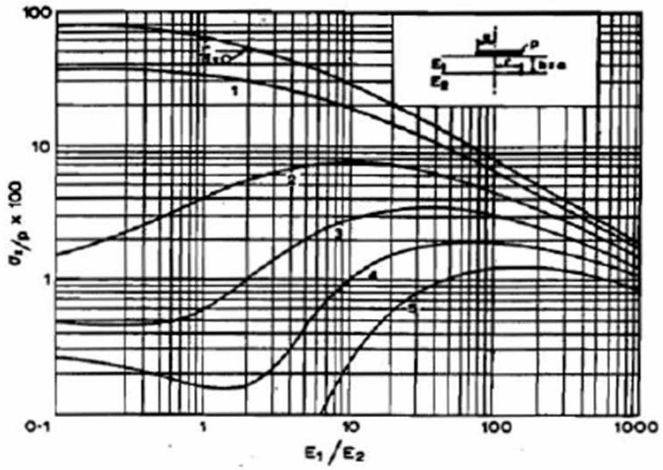


Fig. 9 Normalized Vertical Stress at the Interface vs Modular ratio at different Radial Distances (Fox, 1948)

Based on Fox's results the variations of vertical normal stresses at the interface as a function of modular ratio, $\mu(=E_1/E_2)$, are shown in Fig. 10. Significant reduction in peak normal stress below the center of the loaded area and increased lateral spread due to increasing modular ratio of the two-layered system are clearly discernable. The normalized peak normal stress, σ_z/p reduces from about 48% to about 13% for ten-fold increase in $\mu(=E_1/E_2)$ from 2 to 20.

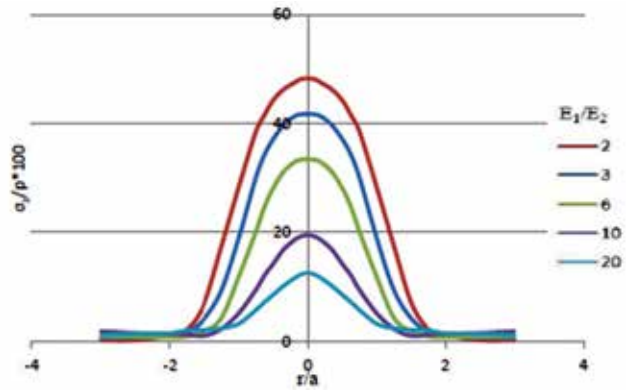


Fig. 10 Lateral Spread of Vertical Stresses at the interface – Effect of Modular Ratio (E_1/E_2)

The variations of radial extent, R_α, with modular ratio, $\mu(=E_1/E_2)$, for different percentages of applied load are given in Fig. 11. R_α increases almost linearly with both modular ratio, μ and percentage load, λ_α. Results presented in Fig. 12 indicate dramatic increase in load spread angle with modular ratio, μ, the values increasing to beyond 60° for modular ratios of 10 and above. Fig. 13 depicting the variation of load spread angle, θ, for different depths, h/a, for 90% load transfer and as a function of modular ratio, μ, can be used as a design chart.

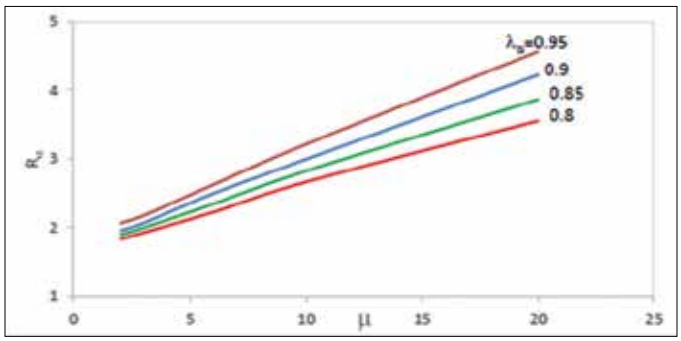
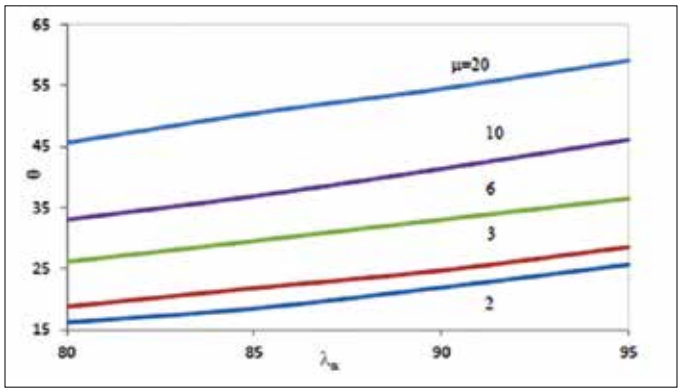
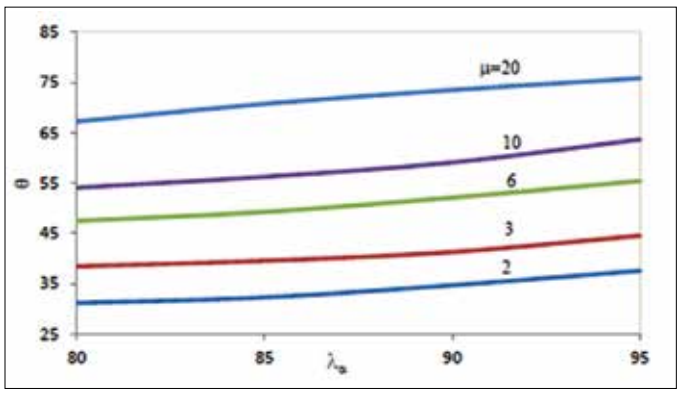


Fig. 11 Variation of R_α with Modular ratio, μ, for Different Percentages of Load, λ_α



(a)



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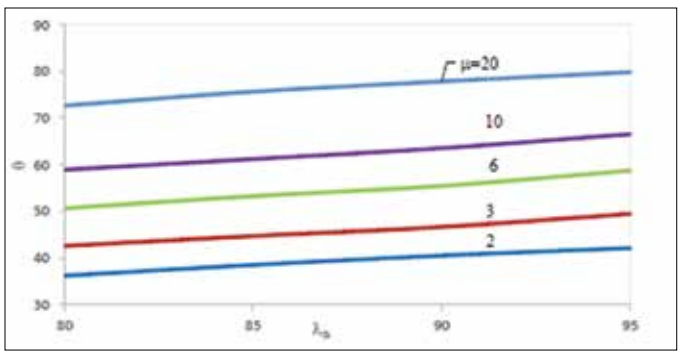

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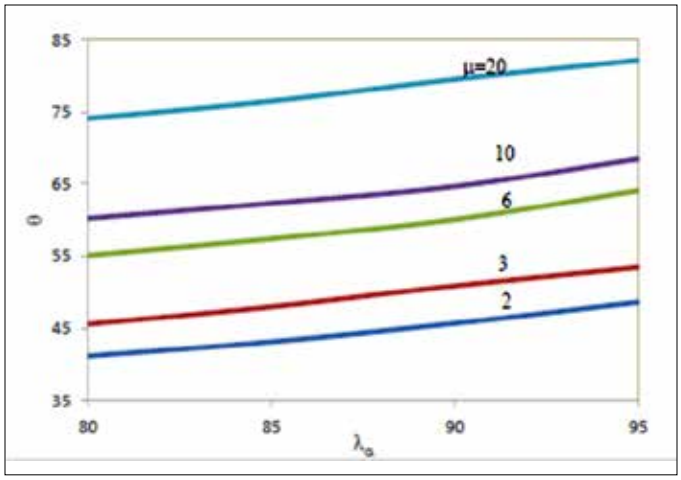
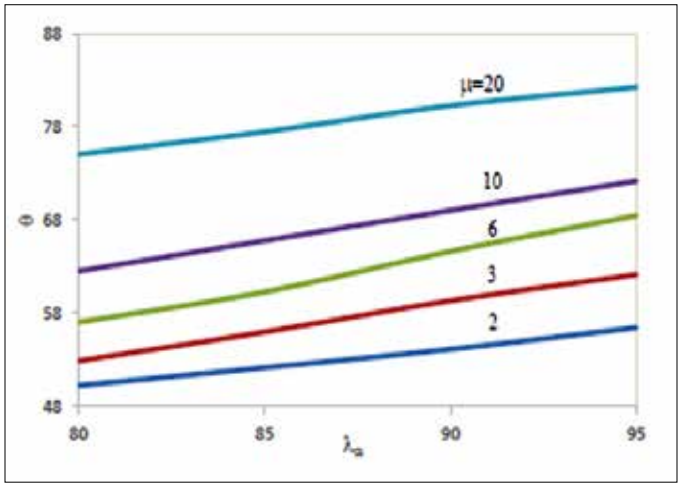


(d)



(e)

Fig. 12 Load Spread Angles, θ, vs λ_α for different Moldular ratios, μ, for h/a of 0.2 (a), 0.75 (b), 1.0 (c), 1.25 (d) and 2.0 (e)

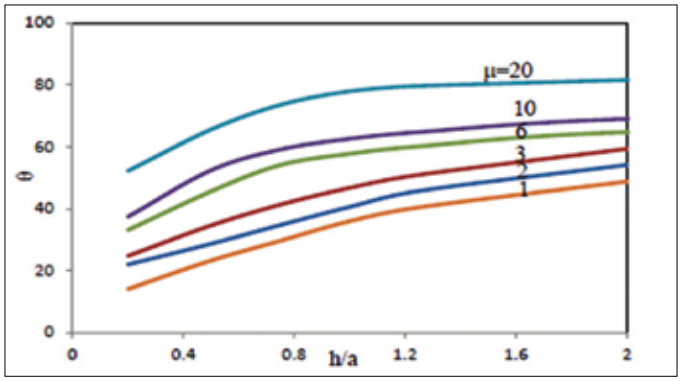


Fig. 13 Load Spread Angle, θ, vs h/a for 90% load transfer for different μ

Conclusions

The classical 2V:1H rule corresponding to load spread angle of 26.67° was in vogue in earlier times and used some time even now a days. The average vertical stress is over estimated. The actual load spread angle even for 90% of load accounted for is significantly larger than 26.7°. The load spread angle can exceed even 60° for a stiff layer overlying a softer one. Results can be applied to estimate the load transfer through unreinforced or geosynthetic reinforced foundation beds and thus ould encourage the application of the 'Third Alternative' – GRGB.

Acknowledgement

Ms. V. Sujana, former Postgraduate Student, calculated some of the results presented.

References

Das, B.M. (2016). Principles of Foundation Engineering. Cengage Learning.

Fox, E. N. (1948). Computation of Traffic Stresses in a Simple Road Structure. Proc. 2nd IC SM & FE, Rotterdam, 2: 236-246.

SUMMARY OF Ph.D THESES

Title of Thesis: **Numerical Analysis and Experimental Investigation of Ring Foundation**

Name of the Student: Dr. Dipendra Chandra Swarnkar

Supervisor: Dr. Akhileshwar Kumar Singh

Department & Institute: Department of Civil Engineering, National Institute of Technology Jamshedpur, Jharkhand

SUMMARY: In this study, 3D model of the ring foundation fixed laterally with geogrid strip has been analyzed for different ring radii ratio (n) resting on sand bed and vertically loaded on its central radius using ANSYS. Optimum value of ring radii ratio (n) lies between 0.35 to 0.4, where the deflection is minimum and bearing capacity become maximum. Geogrid strips is found to save construction material making the ring footing economical. Concentric double ring foundation has been also analyzed. Experimental investigations have been carried out to assess the load-settlement correlation of ring foundations subjected to vertical loads at central radius. The experimental findings of load settlement characteristics at ring radii ratio have been good in agreement with the numerical results. Various ANNs model has been developed based on different feed forward algorithm. Sensitivity analysis has been also conducted.

Title of Thesis: **A Study on the Methods for Accelerating the Effect of Lime Treatment on Cochin Marine Clays**

Name of Student: Dr. Rija Johny

Supervisor: Dr. Benny Mathews Abraham

Department & Institute: Cochin University of Science & Technology, Kochi, Kerala

SUMMARY: This study investigates methods to accelerate the strength gain of lime-treated marine clays by applying surcharge loading, inorganic salts (especially calcium chloride), and their combinations. Experimental results show that these methods significantly improve soil properties such as plasticity, strength, and compressibility in a shorter timeframe. Calcium chloride was the most effective additive for early strength gain, and microstructural analysis (SEM) confirmed the formation of cementitious compounds. The combination of lime, calcium chloride, and surcharge loading transformed the soil classification from CH to MH, indicating enhanced stability.

Title of Thesis: **Numerical and Experimental Study of Cyclic Loading Effects on Carbonate Sand**

Name of Student: Dr. Mohd Saqib

Supervisor: Prof. Arghya Das and Prof. Nihar Ranjan Patra

Department & Institute: Department of Civil Engineering, Indian Institute of Technology Kanpur, Kanpur

SUMMARY: This research begins with a detailed experimental investigation using undrained cyclic simple shear tests to study the effects of relative density, confining pressure and cyclic amplitude on shear response and particle degradation. Observations from these tests reveal severe crushing during initial cycles, significantly influencing excess pore pressure generation and cyclic resistance. To capture this behaviour, a particle breakage-enhanced version of the SANISAND08 constitutive model was developed and implemented in ABAQUS as a user-defined material (UMAT). The model was validated against both in-house experiments and published literature under diverse loading paths and then applied to realistic boundary value problems, including a monopile foundation subjected to earthquake loading. Additionally, a semi-analytical model was formulated to describe shear modulus degradation with cycle number, incorporating the influence of evolving particle gradation. This combined framework supports improved understanding and design of offshore geostructures in crushable sand environments.

Title of Thesis: **Performance Assessment of Geocell Reinforced Road Pavement**

Name of Student: Dr. Sayanti Banerjee

Supervisor: Prof. Bappaditya Manna and Prof. J.T. Shahu

Department & Institute: Department of Civil Engineering, Indian Institute of Technology Delhi

SUMMARY: This study investigates the effectiveness of geocell-reinforced pavements over weak subgrades through experimental, numerical, and field analyses. Large-scale model tests were conducted on reinforced and unreinforced pavements with varying geocell heights and weld spacings over clayey and sandy soils under various repetitive loading conditions. A 3D finite element model (PLAXIS 3D) was used to evaluate stress distribution, geocell wall strain, and settlement response of pavement sections. Field trials in Dholera, Gujarat, included ten unreinforced and geocell-reinforced pavement sections evaluating performance using plate load and falling weight deflectometer tests. Based on field data, a design chart was proposed for most economical geocell-reinforced pavement section for Dholera, India, offering sustainable solutions for pavement infrastructure in challenging soil conditions.

Title of Thesis: **Enhancing the Stability of Coal Ash Storage Facilities against Rainfall Induced Failures**

Name of Student: Dr. Chitti S.S.U. Srikanth

Supervisor: Dr. B. Janaki Ramaiah and Prof. A Murali Krishna

Department & Institute: Department of Civil and Environmental Engineering, Indian Institute of Technology Tirupati

SUMMARY: Coal ash storage facilities (CASFs) face growing instability risks from extreme rainfall intensified by climate change, threatening environmental and structural integrity. This research enhances CASF resilience by investigating rainfall-induced failure mechanisms using unsaturated soil mechanics. Through experimental characterization and finite element simulations, the study developed innovative stabilization strategies. It successfully evaluated a capillary barrier cover system and lime treatment, demonstrating their effectiveness in controlling water infiltration and improving coal ash shear strength. The combined application of these methods significantly boosts stability, offering a comprehensive, cost-effective framework to mitigate rainfall-induced failures and improve CASF safety.

Title of Thesis: **Seismic Fragility Analysis of Concrete Gravity Dams subjected to Mainshock-Aftershock Sequences**

Name of Student: Dr. Ashna K.N.

Supervisor: Prof. Priti Maheshwari

Department & Institute: Department of Civil Engineering, Indian Institute of Technology Roorkee

SUMMARY: Current seismic design typically considers only mainshock for the design of any structure. This study conducted the fragility analysis of concrete gravity dam-foundation-reservoir considering mainshock-aftershock sequences. Three failure modes were examined: cracking, sliding at base and sliding at lift joint. The fragility analysis of Koyna dam and Pine Flat dam was conducted using incremental dynamic analysis. Different limit states were defined for each failure mode and subsequently fragility curves were developed. These fragility curves help to assess how likely a dam is to sustain certain types of damage during mainshocks and aftershocks under different failure mode.

Title of Thesis: **Assessment of Liquefaction Potential of Saturated Cohesionless Soils using Machine Learning Techniques**

Name of Student: Dr. Kaushik Jas

Supervisor: Prof. G.R. Dodagoudar

Department & Institute: Department of Civil Engineering, Indian Institute of Technology Madras

SUMMARY: In this study, explainable machine learning (EML) models are developed for the sands, and gravelly soils using updated global in-situ test databases. Empirical correlation between two in-situ tests is developed for gravelly soils. The robustness of the EML-based models can be increased further by adding the excess pore water pressure ratio (ru) as an input. Thus, an attempt is made to predict the ru response of liquefiable sands using deep learning models. The databases considered for the model development are the cyclic laboratory tests data of sands. These models are also helpful for laboratory tests-based evaluation of liquefaction potential.

Title of Thesis: **Assessment of Liquefaction Potential of Cohesionless Soils through Analytical Methods**

Name of Student: Dr. Sharika S.

Supervisor: Dr. Anitha Kumari S.D

Department & Institute: Department of Civil Engineering, M.S. Ramaiah University of Applied Sciences, Bangalore

SUMMARY: The work investigates liquefaction potential using analytical methods focusing on Gangetic sand behaviour. The study comprises of experimental and analytical modelling. In experimental phase, Gangetic sand is subjected to static and dynamic loading for examining critical parameters affecting liquefaction. During the analytical modelling phase, a sophisticated soil model framed on bounding surface plasticity theory within critical state framework was revised. The base model version is modified for the constitutive laws, stress functions, strain limits and loading conditions and implemented in MATLAB to reflect the specific characteristics of Gangetic sands. The validation of the new model is done by simulating the experimental results of a liquefiable soil (Allahabad Sand), making it a valuable tool for predicting liquefaction potential in soils with similar characteristics. In addition, modified empirical equations for pore pressure generation are also introduced in the model.

Title of Thesis: **Hydraulic and Thermophysical Properties of Bentonite-Sand/-Fly Ash Composites for Thermal Backfilling in Underground Thermal Infrastructures**

Name of Student: Dr. Pawan Kishor Sah

Supervisor: Dr. Shiv Shankar Kumar

Department & Institute: Department of Civil Engineering, National Institute of Technology Patna, Bihar

SUMMARY: This study explores the hydraulic and thermophysical properties of bentonite-sand and bentonite-fly ash composites for thermal backfilling in underground energy infrastructures. Experiments assessed thermal conductivity, diffusivity, hydraulic conductivity, and shrinkage across varying fly ash and sand contents. Results show improved thermal performance, reduced shrinkage, and acceptable hydraulic conductivity with increased sand or fly ash content. Fly ash-bentonite mixture is recommended as cost-effective, sustainable alternatives for power cables and heat pump systems. The study also evaluates thermal conductivity prediction models, identifying dry density, saturation, and soil texture as key factors influencing heat transfer performance.

Title of Thesis: **A Numerical Framework Investigating the Influence of Stress-Dilatancy and Rate-Dependent Constitutive response of Sand on Load Capacity Estimation of Piles subjected to Jacking and Rapid Load Test**

Name of Student: Dr. Siddharth Pathak

Supervisor: Dr. Mousumi Mukherjee

Department & Institute: School of Civil and Environmental Engineering, Indian Institute of Technology Mandi

SUMMARY: This research investigates pile behaviour in sand by integrating rate-dependent constitutive modelling and large-deformation based finite element simulations. It addressed two critical aspects. First aspect is residual stress generation during pile jacking with focus on stress-dilatancy characteristics and subsequent effects on pile load capacity estimation and second aspect is load capacity enhancement under rapid loading due to rate effects. Both field and calibration chamber tests were simulated employing updated Lagrangian and ALE frameworks to assess pile load responses along with a Perzyna-type viscoplastic model for analysing rapid loading effects. The study offers a robust framework for evaluating pile performance under realistic field conditions, supporting design optimization and modern pile testing practices.

Title of Thesis: **Settlement and Slope Stability Behavior of Municipal Solid Waste Landfills**

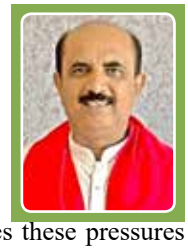
Name of Student: Dr. Lagudu S. Avinash

Supervisor: Prof. Anumita Mishra

Department & Institute: Department of Civil Engineering (Geotechnical Engineering), Indian Institute of Technology Roorkee

SUMMARY: This research investigates the long-term behavior of municipal solid waste (MSW) in landfills, focusing on settlement prediction and slope stability. It integrates laboratory-scale bioreactor experiments, kinetic modelling and machine learning for biogas and settlement forecasting. The study evaluates various leachate recirculation systems and their influence on moisture distribution, pore water pressure on the slope stability of landfills. Numerical simulations assess failure mechanisms under different configurations, including stepped slopes and clogging conditions. The research proposes an improved model for settlement prediction, contributing to sustainable landfill design and efficient waste management strategies.

Title of Thesis: **Reduction of Earth Pressure on Retaining Walls using Compressible Inclusion**



Name of Student: Dr. Vikas S. Patil

Supervisor: Prof. Dasaka S. Murty

Department & Institute: Department of Civil Engineering, Indian Institute of Technology Bombay

SUMMARY: Earth retaining structures face significant lateral earth pressures. EPS geofoam inclusion reduces these pressures through controlled yielding. This study integrates full-scale field tests on a 6 m wall instrumented with EPCs, LDTs and inclinometers, evaluating EPS15 and EPS20 at 250, 500 and 1000 mm thicknesses. It is confirmed by field test that thicker EPS reduces pressure and displacement. A finite element model, validated against field and literature data, analyses static and seismic scenarios, showing up to 44% pressure reduction. Design charts for EPS thickness, density and wall height guide optimal selection. An advisory framework is proposed for standardized field testing, supporting model calibration and practical EPS applications.

Title of Thesis: **Geotechnical Investigation of Nano Material Based Black Cotton Soil Stabilization: An Experimental and Predictive Modelling Studies**

Name of Student: Dr. Niraj Janardhan Sahare

Supervisor: Dr. Raheena M.

Department & Institute: Department of Civil Engineering, Indian Institute of Technology Ropar, Punjab

SUMMARY: This study investigates the stabilization of expansive Black Cotton soil using nano rice husk ash (nRHA), an eco-friendly material derived from agricultural waste. Two types of nRHA produced by different milling methods were evaluated for their impact on soil properties. Results showed that 0.4% of 7-hour milled nRHA significantly enhanced geotechnical behavior, durability, and environmental safety. Microstructural analysis confirmed the formation of CAO and CASH gels. A Polynomial Ridge Regression model, developed using key soil parameters, accurately predicted swelling potential. The study concludes that nRHA is a sustainable, cost-effective stabilizer and offers a reliable alternative for improving expansive soil performance in civil engineering.

Title of Thesis: **Classification Systems for Assessing Safe Height of Steep-Cut Rock Slopes in Garhwal Himalayas**

Name of Student: Dr. Lalhruaikima

Supervisor: Dr. Mahendra Singh and Dr. Sarada Prasad Pradhan

Department & Institute: Department of Civil Engineering, Indian Institute of Technology Roorkee

SUMMARY: The study focuses on stability assessment of 150 steep-cut rock slopes along NH-07 in the Garhwal Himalayas. Field surveys and scanline mapping were used to analyze joint properties and slope geometry. Stability was evaluated using RMR, SMR, CSMR, and Qslope, along with kinematic and limit equilibrium analyses. A new index, Jf_slope, was proposed to quantify slope instability based on joint frequency, orientation, and roughness. The Qslope system was modified by introducing continuous orientation ratings to reduce subjectivity. Both Jf_slope and the modified Qslope showed strong correlation with normalized slope height and were used to develop field-friendly classification charts.

Title of Thesis: **Geotechnical Characterization and Engineering Behaviour of Hybrid Granitic Rocks**

Name of Student: Dr. R.K. Yadav

Supervisor: Dr. R.P. Tiwari and Dr. A.K. Dube

Department & Institute: Department of Civil Engineering, Indian Engineering College Jabalpur (RGPV Bhopal)

SUMMARY: The research investigates how magma mixing and mineralogical hybridization influence the geomechanical properties of hybrid granitic rocks from Central India. Seven granite types were sampled from tectonically and geologically diverse regions and analyzed through petrographic, physical, and mechanical tests. The study found a strong correlation between mineral composition and engineering behaviour of granites hybridized with hard minerals like Jacobsite showed higher strength, while those with weaker minerals like Chromphyllite exhibited reduced strength. The findings establish a predictive link between petrographic features and rock behaviour, offering a robust framework for evaluating the suitability of granitic rocks in civil engineering applications.

Title of Thesis: **Dynamic Response of Marine Soils**

Name of Student: Dr. Ramesh Gangisetti

Supervisor: Prof. Sireesh Saride

Department & Institute: Department of Civil Engineering, Indian Institute of Technology Hyderabad

SUMMARY: The offshore structures, such as jacket platforms, wind turbines, and semi-submersibles, are subjected to dynamic offshore environmental loads, i.e., wind, wave, currents, seismic and installation loads. The marine soils therefore are subjected to continuous dynamic shear and lose the strength and stiffness which shall be estimated for safe foundation design of the offshore structures. This experimental study comprising cyclic shear tests primarily intended to focus on the stiffness degradation of marine sands and clays due to cyclic loading, and strength recovery of the same during post-cyclic reconsolidation. The Resonant Column tests on marine sands revealed that gradation parameters affect the stiffness degradation significantly. A new empirical formula incorporating the gradation parameters was proposed for estimating the stiffness degradation with cyclic shear strain. The cyclic simple shear tests on undisturbed marine clays revealed that shear strength gain depends on OCR and the strength recovered can be more than pre-cyclic shear strength for NC clays.

MEMBERS' NEWS

Dr. Pijush Samui
(LF-0649)

Dr. Pijush Samui have edited a book (Advancements in Underground Infrastructures) in CRC press. It presents the advanced modelling tools and experimental techniques applied in underground infrastructure development. It examines the usage of mathematical tools, experimental techniques, and data-driven models, as well as the latest technological advancements in underground engineering used to enhance the safety and stability of underground structures. It also addresses the application of the circular economy model in underground engineering.

- Provides modelling theories in an easy-to-read format verified by on-site models for various regions and scenarios
- Presents applications of soft computing tools and techniques in underground engineering
- Includes practical examples and case studies

IGC - 2026

IGC-2026
would be hosted by

IGS-Chennai Chapter

The venue, theme, scheduled dates etc. are being worked out and shall be announced soon.

Now Online Membership Available

The homepage of the Society has been updated and a new online membership platform has been created to facilitate joining of new members.

Just log on to:
www.igs.org.in

IGS Allahabad Chapter

The two-day International Conference on Innovations in Infrastructural Materials & Sustainability (IIMS-2025) held on April 18 to 19, 2025 brought together leading academicians, researchers, and industry professionals to address emerging challenges in civil infrastructure and sustainable materials. Organized by the Department of Civil Engineering at MMMUT Gorakhpur in association with the Indian Geotechnical Society, Allahabad Chapter, Prayagraj, the event featured keynote lectures, technical paper presentations, and panel discussions across five thematic sessions. Over 100 research papers were presented and deliberated, with the aim of fostering interdisciplinary collaboration and charting future research directions in green technology, smart infrastructure, and disaster-resilient design.

Prof. J. P. Saini, Vice-Chancellor, MMMUT Gorakhpur, delivered the opening address, emphasizing the conference's role in advancing resilient and eco-efficient infrastructure. Prof. A.K. Mishra, Chairman & Head, Department of Civil Engineering, welcomed delegates and underscored the importance of academia–industry partnerships. Conference Coordinators Dr. Vinay Kumar Singh and Dr. Sneha Gupta outlined the programme highlights and logistical arrangements.

Keynote lectures reflected diverse research perspectives. Prof. Ravindra Kumar (CSIR-CRRI) spoke on sustainable pavement materials and their environmental impacts. Prof. Sanjay Kumar Shukla (Edith Cowan University) addressed innovations in material characterization and nondestructive testing. Prof. Karunesh Kumar Shukla, Director, MANIT Bhopal, presented advances in geotechnologies for flood mitigation. Prof. Kumar Venkatesh (MNNIT Allahabad) discussed geotechnical solutions for smart cities, while Prof. C.S.P. Ojha (IIT Roorkee) explored eco-friendly designs in structural and hydraulic engineering.

Keynote Lecture by Prof. Kumar Venkatesh

During the valedictory session, Prof. V. K. Srivastava, MMMUT, praised the organizers and participants for the success of the conference. Certificates were awarded to over 150 delegates, who appreciated the interactive sessions and interdisciplinary insights. The event reaffirmed the importance of collaborative research and innovation in building sustainable, efficient, and disaster-resilient infrastructure for the future.

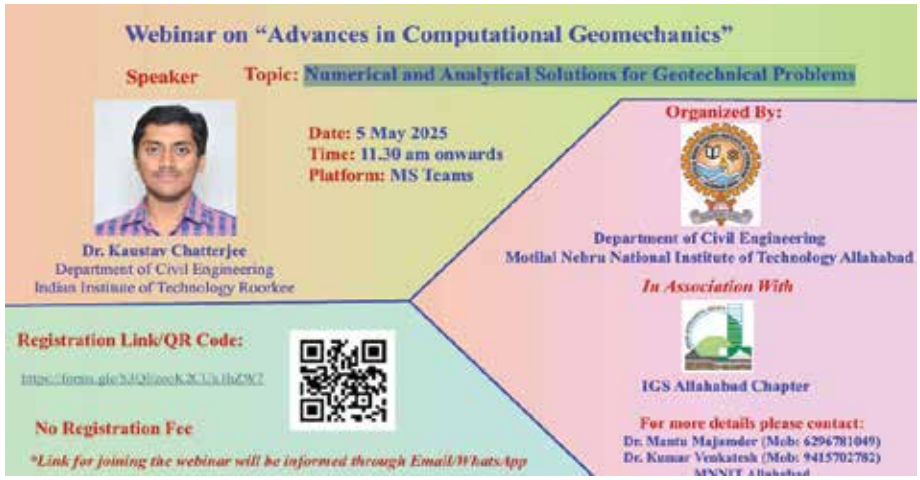
An expert lecture was delivered by Prof. Deepankar Choudhury from the Department of Civil Engineering, Indian Institute of Technology Bombay, Mumbai, on April 16, 2025 as part of a "Technical Interaction Session" organized jointly by the IGS Allahabad Chapter and the Department of Civil Engineering, MNNIT Allahabad, Prayagraj. Prof. Choudhury discussed various aspects of geotechnical and civil engineering, offering valuable insights drawn from his extensive research and professional experience. The session witnessed the participation of 70 attendees, including students, faculty members, professionals from academic institutions, and practicing engineers. The event was coordinated by Prof. Kumar Venkatesh and Dr. Bharat Rajan of MNNIT Allahabad.

Prof. R. M. Singh, Head, CED presenting memento to Prof. Deepankar Choudhury, IITB

A webinar series titled "Advances in Computational Geomechanics", organized by the IGS Allahabad Chapter and the Department of Civil Engineering, MNNIT Allahabad, Prayagraj, continued with its second lecture held on May 5, 2025. The lecture was delivered by Dr. Kaustav Chatterjee from the Department of Civil Engineering, Indian Institute

Prof L.K. Mishra Officiating Director, Prof. R.M. Singh Head, CED and faculty members with Prof. Deepankar Choudhury, IITB

of Technology Roorkee, on the topic "Numerical and Analytical Solutions for Geotechnical Problems." Dr. Chatterjee discussed in detail various geotechnical problems that can be addressed using advanced numerical techniques. The webinar registered 100 participants, with 55 attending, including students, faculty members, professionals from academic institutions, and engineers from the government sector and industry across different parts of the country. The session was coordinated by Prof. Kumar Venkatesh and Dr. Mantu Majumder of MNNIT Allahabad.



IGS Baroda Chapter

IGS – Baroda Student Chapter – Parul University

The Civil Engineering Department, PIET, in collaboration with IGS Baroda Student Chapter, organized a two-day Skill Development Program on "Digital Surveying Demystified" on July 8 & 12, 2025 for faculty members and 2nd & 3rd year students. Experts from Lawrence & Mayo, Ahmedabad, provided hands-on training in Total Station and DGPS. Practical sessions were conducted from Kathi Junction to the Main Gate of Parul University. The program effectively bridged theory with field practice, benefiting 120 participants and receiving positive feedback for its relevance and execution.

Two-day Skill Development Program on "Digital Surveying Demystified"

The Civil Engineering Department of PIET, in association with PIERC and the IGS Baroda Chapter, organized an industrial visit to the Vadodara Startup Studio for the third semester students on July 11, 2025. The visit provided valuable insights into startup culture, fostered innovation, and helped bridge the gap between academia and industry.

Visit at Vadodara Startup Studio for Innovation and Entrepreneurship Insight

The Civil Engineering Department, PIET-DS, in collaboration with the IGS Baroda Student Chapter, organized a site visit for the fifth semester students on February 14, 2025 the visit enhanced their understanding of load-bearing capacities and the structural advantages of different truss types, while also providing exposure to real-world construction techniques and material applications.

The Civil Engineering Department, PIET-DS, in collaboration with the IGS Baroda Student Chapter, organized a site visit for the fifth semester students on February 18, 2025. The visit provided students with insights into ensuring that construction work meets required quality standards and specifications, verifying compliance with safety regulations, and identifying potential issues or challenges that need to be addressed for the successful completion of a project.

Site visit of ongoing construction of hostel work at Parul University

The Civil Engineering Department, PIET-DS, in collaboration with the IGS Baroda Student Chapter, organized an industry visit for the fifth semester students on June 17, 2025. During the

site visit to Darshanam Twin Tower at Sun Pharma Road, Vadodara, students observed the foundation work in progress. The towers employ a reinforced concrete pile foundation system designed to support the heavy loads of the high-rise structures. These deep piles transfer the load to stable soil layers below, preventing settlement and ensuring stability. Proper reinforcement and curing processes are being followed to maintain structural integrity. This foundation approach is well-suited to the soil and seismic conditions of the area.

Site visit at Darshanam Twin Tower,Vadodara - Sun Pharma Road

The Civil Engineering Department, PIET-DS, in collaboration with the IGS Baroda Student Chapter, organized an industry visit for the third semester students on June 18, 2025. During the site visits to Atmosphere 360 Bhayli and Sorrento Rosette Bhayli in Vadodara, students examined the construction progress and foundation work. Both projects employ pile foundations to ensure stability for their multi-storey residential buildings. These deep reinforced concrete piles transfer structural loads to firm soil layers, minimizing settlement risks. Quality control measures, including proper reinforcement placement and concrete curing, are being strictly maintained on-site. The foundation designs take into account local soil conditions and seismic factors to provide a safe and durable base for the structures.

Site Visit to Atmosphere 360 Bhayli and Sorrento Rosette Bhayli - Bhayli ,Vadodara

The Civil Engineering Department, PIET-DS, in collaboration with the IGS Baroda Student Chapter, organized an activity for the third and fifth semester students focused on the role of trees in soil stabilization on July 3, 2025. Trees act as natural stabilizers, preventing soil erosion and enhancing ground strength—crucial factors in construction projects. Planting trees supports sustainable infrastructure by maintaining soil health and water retention. This initiative highlights the importance of greenery as a foundational element for safe and eco-friendly development. Together, one tree at a time, we build a stronger and greener Earth.

Activity on Sustainable Foundation – Sthayi Neenv: Ek Ped

A webinar on, *"Offshore Geotechnics"* was organized by TC 209 of ISSMGE in association with the Indian Geotechnical Society, Baroda Chapter on June 29, 2025. The session began with a welcome address by Dr. A. P. Singh, Honorary Secretary, IGS. Mr. Anil H. Kumbhare presented insights on the, *"Field Performance of Offshore Geotechnics"*. Prof. Sumanta Haldar delivered a lecture on the *"Principles and Applications of Offshore Geotechnics"*. Dr. Arpit Parikh, the moderator, concluded the webinar with closing remarks.

IGS Bhubaneshwar Chapter

The Indian Geotechnical Society (IGS) Bhubaneswar Chapter, in collaboration with the Lions Club of Brahmapur Techno, organized 'World Earth Day 2025' on April 22, 2025, at Padhy Celebrations, Berhampur, in a hybrid format. Professor Narayan Tiadi of Berhampur University delivered an insightful lecture on "Earth and Environment", while Professor B. Hanumanta Rao from Bhubaneswar presented virtually on, "Environmental Geotechniques". The event saw participation from members of the IGS Bhubaneswar Chapter, engineers from various industries, and technical members of the Lions Club of Brahmapur Techno, with over 80 attendees.

The program coincided with the Charter Night of the Lions Club Techno. The District Governor of Lions Club 322C4 ceremonially watered a plant to mark the occasion. Ln. Saraswati Patro presided over the meeting, attended by dignitaries including Dr. Sujit Kr. Nath, Senior Scientist, KVK, Ganjam District; Er. Bibhu Prasad Panda, Chief Engineer (Retd.), Department of Water Resources and Chairman, IEI Brahmapur Local Centre; Dr. Prabeir Kr. Dash, Consultant; Er. Akash Tripathy, Consultant, Build Lab; Er. Bijaja Chandra Mishra, Vice

President, Lions Club Brahmapur; Er. Uma Sankar Panigrahi, Proprietor, Rajarani Builders; Er. P. Mandal, CRO, Lions Club; Ln. Harihar Dash, PDG, Lions Club; and Er. Laxmikanta Tripathy, Honorary Secretary, IGS Bhubaneswar Chapter & President, Lions Club of Brahmapur Techno.

As a token of appreciation, Prof. Narayan Tiadi was honored with a memento after his lecture. The evening featured a cultural program and concluded with a gala dinner.

It was resolved to reconstitute the Executive Committee of the IGS Bhubaneswar Chapter to ensure its seamless functioning. Consequently, a meeting of the members was held on May 21, 2025 in a hybrid format, with approximately 30 participants in attendance. Following extensive discussions, the new committee was formed with Er. Laxmikanta Tripathy as Chairman, Dr. Sumant Haldar as Vice Chairman, Dr. Shantunu Patra as Honorary Secretary, and Dr. Kumuda Chandra Gouda as Treasurer. The Advisers include Dr. G. Sridevi, Er. Kishore Chandra Palo, and Dr. Benu Gopal Mahapatra, while Dr. Mohit Somani and Er. Puspanjali Pattnaik will serve as Executive Committee Members. A strategic plan of action was also outlined to facilitate the execution of forthcoming activities.

IGS Chennai Chapter

The Indian Geotechnical Society (IGS) – Chennai Chapter, in association with the Department of Ocean Engineering, IIT Madras, hosted "GeoMarine-2025", a one-day academic–industry symposium on Marine Geotechnics, on May 26, 2025. The event coincided with the inauguration of the Marine Geotechnics Laboratory at IIT Madras and brought together about 60 participants, including researchers, faculty, students, and industry professionals.

Inauguration of Marine Geotechnics Laboratory by Prof. S Nallayarasu, Professor and Head, Ocean Engineering, IIT Madras

Technical sessions featured expert lectures by Prof. Britta Bienen (University of Western Australia), Prof. Gopal Madabhushi FREng, FICE (University of Cambridge), Prof. Subhadeep Banerjee (IIT Madras), Prof. K. Muthukumaran (NIT Trichy), Mr. Rupam Mahanta (ONGC), Dr. Vijaya Ravichandran (NIOT), Mr. Charles Bloore (Fugro, UK), and Mr. Sandip Deshpande (Renuka Consultants). Topics included offshore site investigation, ground model development, field case studies, and offshore foundation design under challenging environmental and seismic conditions. The event fostered a rich exchange of ideas, underscoring the importance of geotechnical solutions for sustainable offshore and coastal infrastructure.

The chapter also organised an in-person lecture by Prof. Mrinal K. Sen, Professor at the Institute for Geophysics, Department of Earth and Planetary Sciences, and Shell Companies Foundation Centennial Chair in Geophysics, University of Texas at Austin, on June 16, 2025. The talk, titled "An Overview of Full Waveform Inversion for Subsurface Characterisation", focused on the advanced technology known as Full Waveform Inversion (FWI), which uses the entire seismic record to solve large-scale inverse problems with the aim of estimating unknown wave velocity distribution. Prof. Sen discussed the fundamental concepts, limitations, and recent developments in FWI, illustrating his points with several application examples. The lecture attracted a large audience, including many from the industry, and concluded with an engaging discussion that proved highly beneficial to all participants.

Prof. Mrinal K. Sen after the lecture (L-R, Prof. Srinagesh, Dr. Bithin, Dr. Abhijit, Dr. Subhadeep, Prof. Mrinal Sen, Dr. Chandra, Dr. Tarun and Dr. Ramesh)

IGS Coimbatore Chapter

The Division of Geotechnical Engineering, Department of Civil Engineering, Government College of Technology, Coimbatore, organized the 10th National Conference on "Recent Advancements in Geotechnical Engineering" on April 17, 2025. The event, held in association with the Indian Geotechnical Society (IGS) Coimbatore Chapter and the Indian Society of Earthquake Technology (ISET), was inaugurated by Chief Guest Dr. Chandresh H. Solanki, Professor of Civil Engineering, Sardar Vallabhbhai National Institute of Technology, Surat. The conference brought together industrial experts, researchers, and professionals, with 60 student participants and over 20 faculty members.

The inaugural session began with a welcome address by Dr. J. Jeyanthi, Head, Department of Geotechnical Engineering. Dr. S.P. Jeyapriya, Professor and Secretary, IGS Coimbatore Chapter, outlined the program, while Guest of Honour Dr. P.D. Arumairaj, Chairman, IGS Coimbatore Chapter, emphasized the importance of geotechnical investigations, the growth of the chapter, and the benefits of establishing a student chapter. Dr. S. Chithra, Associate Professor and Conference Coordinator, introduced Dr. Solanki, who delivered an inspiring address on geotechnical engineering's role in shaping future infrastructure. The session concluded with a vote of thanks by Dr. V. Satheeskumar, Associate Professor of Civil Engineering.

Release of Proceedings

Thirty-three technical papers were presented by student delegates. In the first session, Dr. Solanki delivered a keynote on "Identification of Weak Deposits", addressing problematic soils and suitable foundation systems. Parallelly, Dr. K. Elangovan, Professor, PSG College of Technology, Coimbatore, spoke on, "Landslide Hazard Assessment using GIS", sharing insights from his research. In the afternoon, Dr. Gowtham Padmanabhan, Assistant Professor, SRM University, Chennai, and National Executive Council Member, ISET, presented, "Physical Modelling Studies for Earthquake Geotechnical Engineering Applications", highlighting centrifuge modelling for earthquake-induced phenomena.

The conference successfully fostered knowledge exchange, collaboration, and innovation in geotechnical engineering.

IGS Hyderabad Chapter

The IGS–IITH Student Chapter hosted Prof. M.R. Madhav, a pioneer in geotechnical engineering, for an engaging talk titled "Engineering of Ground with PVD – Recent Advances in Theory and Analysis" on April 11, 2025. The session combined academic insights, professional experiences, and life philosophy, offering valuable lessons to both students and professionals. It was coordinated by Prof. B. Umashankar.

On April 15, 2025, the Department of Civil Engineering, in collaboration with the IGS–IITH Student Chapter, hosted Prof. S.R. Gandhi, a renowned geotechnical engineer and Visiting Professor at IIT Gandhinagar, for an invited lecture titled "Construction and Monitoring of Deep Excavation with Diaphragm Wall for Underground Metro Stations in Chennai." The session covered the intricacies of diaphragm wall construction, monitoring strategies for underground metro infrastructure, and challenges faced during the Chennai Metro Rail Project.

The Indian Geotechnical Society (IGS) and ASCE student chapters of the Department of Civil Engineering, Mahindra University, organized the *Second Academic Industry Interaction* on April 23, 2025 at Mahindra University. The event served as an important platform for fostering collaborations between academia and industry stakeholders, featuring vibrant discussions, insightful presentations, and constructive engagement among faculty members, industry professionals, and distinguished guests. As part of the programme, the Department of Civil Engineering hosted a keynote address by Prof. T.G. Sitharam, Chairman of AICTE, who delivered an inspiring talk on *"Innovations and Future Directions*

in Civil Engineering Education and Practice." He emphasized the importance of multidisciplinary learning, the role of academia in fostering innovation, and the growing integration of civil engineering with data science, artificial intelligence, and climate resilience. His address provided both an inspiring vision and a practical roadmap for institutions like Mahindra University to align with national educational reforms and global best practices.

IGS Indore Chapter

A lecture under the GeoHorizon Monthly Lecture Series was held on April 28, 2025, on the topic "Academic Writing: Essential Techniques for Journal Publications". Conducted online the session was led by Dr. Ankit Garg, an expert in academic publishing.

The lecture aimed to help researchers, faculty members, and students enhance their writing skills for successful journal submissions. Dr. Garg shared practical tips, essential techniques, and highlighted common pitfalls to avoid when preparing research papers. He provided valuable insights into structuring manuscripts, improving clarity, and meeting journal requirements.

The session saw active participation and was well-received for its relevance, practical guidance, and contribution to academic growth.

A theme meeting on "Advances in Geotechnical Investigations for Foundation Design of High Brilliance Synchrotron Radiation Source (HBSRS) Indus-3" was held on April 26, 2025, at the Raja Ramanna Centre for Advanced Technology (RRCAT), Indore, in hybrid mode. Organized by RRCAT with support from the Indian Geotechnical Society (IGS) Indore Chapter and the Indian Society of Particle Accelerators (ISPA), the meeting was presided over by ISPA President Shri Vijendra Prasad, who emphasized its objectives and importance.

Invited lectures by Dr. Neelima, Dr. Jaykumar Shukla, Dr. Kapilesh Bhargava, and Shri Govind Parchani addressed advanced geotechnical investigations and vibration isolation techniques. Dr. S. K. Sharma chaired the session, followed by a panel discussion on passive isolation solutions for HBSRS instrumentation. The program, coordinated by Shri B. K. Rawlani and Dr. Amit Sharma, also featured the felicitation of Shri Govind Parchani by ISPA and IGS Indore for his outstanding contributions.

The Department of Civil Engineering, IET SAGE University, Indore, launched the Student Chapter of the Indian Geotechnical Society (IGS), Indore Chapter, followed by an expert session. The event was held under the guidance of Dr. Manish Choudhary (Registrar and Mentor) and Dr. Rajat Bhandari (Head, Institute of Engineering & Technology), with the blessings of Dr. Atul Bhatore (Head, Department of Civil Engineering). Civil Engineering students participated enthusiastically.

The expert session was delivered by Dr. Neelima Satyam, Professor, IIT Indore; Chairperson, IGS Indore Chapter; and Consultant for the Geotechnical Society and Smart Cities Project, Indore. Her talk was highly informative and beneficial for the 50 student participants. The collaboration will enable students to engage in geotechnical activities organized by IGS and benefit from IIT Indore's support in conducting laboratory practices.

The Department of Civil Engineering organized an expert lecture on "Advancement in Geotechnical Engineering" on April 26, 2025, to showcase recent innovations, research developments, and practical applications in the field. The event also marked the formal inauguration of the Student Chapter of the Indian Geotechnical Society (IGS), Indore Chapter, establishing a collaborative platform for aspiring geotechnical professionals.

This initiative aims to bridge the gap between academic learning and industry practices while encouraging active student participation in professional society activities. By engaging with

IGS, students gain opportunities for knowledge sharing, industry interaction, and exposure to the latest advancements in geotechnical engineering.

The Department of Civil Engineering, IET SAGE University, Indore, in association with the IGS Indore Chapter, successfully organized a one-day plantation drive, expert talk, and poster presentation competition on June 5, 2025, to mark World Environment Day. The event was held under the guidance of Dr. Rajat Bhandari (Head, Institute of Engineering & Technology) and with the blessings of Dr. Atul Bhatore (Head, Department of Civil Engineering). It was coordinated by Prof. Prachi Gour and Prof. Priyanka Rajput.

Students and faculty members of the Civil Engineering Department of SAGE University participated with great enthusiasm, donating plants as a token of remembrance to the university, which were also distributed among students to promote environmental stewardship.

NEEV-2025, the annual national-level student paper presentation event organized by CIVILIPSA, was held from March 24 to March 29, 2025, under the banner of the Indian Geotechnical Society (IGS), Indore Chapter. With the theme "Sustainable Water Planning and Management", the event featured innovative, research-oriented papers addressing pressing environmental and geotechnical challenges.

A total of 27 papers were presented by students from the second, third, and fourth years. Highlights included a case study on Sanjay Sarovar Dam, greywater reuse techniques, integrated wetland and groundwater management, and flood risk mitigation using ecosystem-based solutions. Advanced research topics, such as nutrient removal from faecal matter and slope stability analysis, were also commended for their depth and practical relevance.

Top entries from each year were selected based on technical merit and presentation skills, with winners receiving awards. The event was coordinated by faculty members Mr. Lalitesh Sinha and Mr. Neeraj Mishra, supported by student coordinators from all years. Sessions were evaluated by eminent academicians and industry professionals, who ensured fair judgment and provided constructive feedback to participants.

NEEV-2025 reaffirmed its role as a platform for nurturing young engineering talent and fostering the exchange of innovative ideas. By engaging students in solution-driven research, it strengthened the commitment to sustainable engineering practices and the development of technically competent, environmentally conscious professionals.

On May 22, 2025, the Indian Geotechnical Society (IGS), Indore Chapter had the privilege of hosting Mr. Anil Joseph, President of the Indian Geotechnical Society, for an interactive meeting with its Executive Committee members and office bearers. His visit was a proud moment for the chapter, offering an excellent platform for meaningful discussions on the growth and future directions of geotechnical engineering in India.

During the meeting, Mr. Joseph shared valuable insights on recent advancements in the field, including innovative ground improvement techniques, developments in foundation engineering, and the importance of strengthening industry–academia collaboration. His vision for IGS, aimed at fostering technical excellence and professional growth, was warmly received and appreciated by all participants.

The chapter extends sincere gratitude to Dr. Mahavir Bidasaria, Past National President and Patron of the IGS Indore Chapter, for his continued guidance and support in facilitating such impactful interactions. Special thanks are also due to Prof. Neelima Satyam, Chairperson; Prof. Amit Sharma, Secretary; and all committee members and office bearers for their efforts in coordinating the visit and creating a warm, productive atmosphere for the exchange of ideas.

The visit by Mr. Anil Joseph left a lasting impression, further strengthening the chapter's commitment to IGS objectives through active participation, teamwork, and the pursuit of technical excellence.

IGS Jabalpur Chapter

A Seminar on, "Earthquake: A Natural Disaster" was organized by IGS Jabalpur–TIET Jabalpur Students' Chapter at the Department of Civil Engineering, Takshshila Institution of Engineering and Technology, Jabalpur, M.P. on May 22, 2025. Chief Guest Er. Sanjiv Verma, Chairman IGS Jabalpur Chapter, emphasized that like a strong tree withstands an earthquake, well-constructed buildings remain safe. Special Guest Er. Manish Dubey, President, Practicing Engineers' Association Jabalpur and IGS Life Member, urged engineers to adopt earthquake safety parameters. Chairman

Mr. R.N. Paharia highlighted the role of technical knowledge in nation-building. Dr. Sanjay Verma, Vice Principal, Head DoCE, and Honorary Secretary IGS Jabalpur Chapter, delivered a technical lecture recommending adherence to Indian standards such as IS 456, IS 1893, IS 4326, IS 13828, and IS 13920, mandatory soil testing, and quality control, along with strengthening techniques. On this occasion, the institution TIET Group Director, Dr. I.K. Khanna, all the Heads of the Departments, Faculty members of the Civil Engineering Department and about 40 Students were present. On the occasion, a documentary film on earthquake awareness was screened, and a photo exhibition showcasing seismic techniques was displayed for students. The program was appreciated by Mr. Sharad Gupta, Mr. Ratan Khard, and Dr. B.K. Sahu, members of the management and administration of Takshshila Group of Institutions, Jabalpur. Participation certificates were distributed to students at the end of the seminar.

IGS Jabalpur - TIET Students' Chapter Participants at Seminar on Earthquake: A Natural Disaster

IGS Jodhpur Chapter

The Indian Geotechnical Society (IGS), Jodhpur Chapter, in collaboration with JIET Universe, organised an interactive session on *"Education for Holistic Value-Based Development"* on April 10, 2025 at the JIET Universe campus, Jodhpur. The event drew academicians, researchers, and students from various institutions.

The keynote address was delivered by Prof. H.D. Charan, Chairman, School of Planning and Architecture, Bhopal, who stressed that education must go beyond technical knowledge to nurture ethical reasoning, empathy, and responsibility, fostering a conscious and sustainable society. Prof. Ajay Kumar Sharma, Vice Chancellor, MBM University, Jodhpur, attended as Chief Guest, commending the initiative and emphasising academia's role in shaping responsible citizens. Guest of Honour, Ar. Anu Mridul, Chairman, The Indian Institute of Architects, Jodhpur, highlighted the role of values in design education and professional practice.

The program was led by Er. Ashok Mathur, Chairman, IGS Jodhpur Chapter, and convened by Dr. Abhishek Arya, Convener and Honorary Secretary, IGS Jodhpur Chapter. The session proved enriching, inspiring participants to reimagine education through values, ethics, and holistic development.

The Indian Geotechnical Society (IGS), Jodhpur Chapter, in association with MBM University, Jodhpur, organised an expert lecture on "Advancing Understanding of Granular Piles in Soft Soils" on April 19, 2025. The event brought together academicians, professionals, and students from the civil engineering domain to enhance knowledge on ground improvement techniques, focusing on granular piles in soft soils.

The lecture was delivered by Dr. N.K. Samadhiya, Professor, Department of Civil Engineering, IIT Roorkee, who shared extensive research and practical insights into the behaviour, design, and applications of granular piles. His presentation included innovative techniques and field case studies, offering participants a comprehensive understanding of the subject.

Prof. Ajay Kumar Sharma, Vice Chancellor, MBM University, attended as Chief Guest, while Major General Sanjay Rihani (Advisor, IIT Jodhpur), Shri Anurag Tripathi (Divisional Railway Manager, Jodhpur), and Dr. Richhpal Singh (Principal, Government College, Jodhpur) were Guests of Honour.

The program was chaired by Er. Ashok Mathur, Chairman, IGS Jodhpur

Chapter, and Dr. S.K. Singh, Head, Civil Engineering Department, MBM University, and convened by Dr. Abhishek Arya and Shri Sanu Meena.

On April 27, 2025, the Indian Geotechnical Society (IGS), Jodhpur Chapter, in collaboration with Vivekananda Kendra, Kanyakumari, organised a symposium on "Challenges of Terrorism and Our Role" at Steel Bhawan, Jodhpur. The event brought together intellectuals, academicians, military veterans, and professionals to address terrorism's growing threats and the responsibilities of citizens in countering them.

Retd. Justice Vineet Kothari, in his keynote address, stressed the need for social harmony and national unity, stating that "there is no place for social hatred in the name of religion." He highlighted education's role, especially at the primary level, in fostering discipline, compassion, and patriotism. Air Marshal Jagdish Chandra (ADC to the President of India) underscored instilling societal and national responsibility in children, while Dr. Haridas Vyas identified naxalism and communalism as root causes of terrorism.

Er. Ashok Mathur, Chairperson, IGS Jodhpur Chapter, called for reviving value-based education and civic awareness. Over 50 distinguished guests, including Er. Girish Mathur and Dr. Abhishek Arya, also addressed the gathering.

IGS Kolkata Chapter

A full-day technical session, comprising two lectures and an open forum discussion, was held on June 21, 2025, at Prayukti Bhavan, Jadavpur University. The event was attended by 55 participants from various academic and industrial organizations. Following the welcome address by Immediate Past Chairman Prof. Jagat Jyoti Mandal, the session was coordinated by Joint Secretary Er. Chiranjib Sarkar. The first lecture, on "Dynamic Bearing Capacity of Shallow Foundation Under Earthquake Force," was delivered by Dr. Indrajit Chowdhury, a consulting engineer with over 40 years of experience. He presented a mathematical model based on modal response analysis, demonstrating that soil bearing capacity varies with mode. His findings challenge the codal recommendation of a 1.25 factor of safety for bearing capacity computation under seismic forces, suggesting that current code provisions may need reconsideration to ensure more accurate and reliable earthquake-resistant foundation design.

Dr. Obaidur Rahman, Assistant Professor, Department of Civil Engineering, Jadavpur University, delivered the second lecture on "Numerical Investigation of Collapse Potential in Unlined Rock Tunnels." He highlighted the infrastructural importance of tunnels and the need for robust design to ensure long-term stability and safety. The talk offered valuable insights for tunnel designers, particularly regarding the interaction effects of twin tunnels in rock masses, analyzed through precise limit analysis frameworks.

The session concluded with an open forum discussion moderated by Er. Sudip Nath, focusing on the probable causes of a road collapse in a widening section of a road in Manipur. Visual inspection indicated significant lateral spreading, cracking, and settlement, pointing toward subgrade failure and erosion-related distress. The panel concluded that the failure resulted from inadequate erosion protection and poor foundation execution. An immediate geotechnical investigation was strongly recommended. The programme ended with a warm vote of thanks by Chairman Er. Alok Roy.

IGS Mumbai Chapter

As part of the lead-up to GeoTechAsia 2025, a technical webinar was conducted on July 4, 2025, drawing over 50 participants, including industry professionals, researchers, and practitioners from India and abroad. The session aimed to preview the upcoming conference, share insights from experienced professionals, and foster networking and knowledge exchange.

The webinar featured Jon Sinnreich, Professional Engineer and Senior Engineer at GRL Engineers, Inc., who delivered a talk on "Theoretical and Practical Analysis of Bi-Directional Static Load Test Data." An engaging Q&A session followed, addressing real-world challenges and practical clarifications.

Looking ahead, the IGS Mumbai Chapter will host a two-day undergraduate student interaction program, including a site visit to the National High-Speed Rail Corporation Project and a technical visit to IIT Mumbai to explore laboratory facilities and research infrastructure. This initiative seeks to bridge the gap between academia and industry, inspiring young civil engineers to pursue careers in geotechnical engineering through first-hand exposure to construction practices and advanced laboratory techniques.

IGS Mysuru Chapter

The Department of Civil Engineering, ATME College of Engineering, Mysuru, in collaboration with the IGS Student Chapter, organised a technical talk on "Innovative Ground Improvement Techniques for Problematic Soils" on April 23, 2025. The session, attended by 4th and 6th semester civil engineering students, aimed to bridge academic learning with industry practices in geotechnical engineering. Dr. Vinod B. R., Assistant Professor, BMS Institute of Technology and Management, Bengaluru, and Life Member of IGS, delivered the talk, sharing valuable technical insights.

On June 5, 2025, Vidyavardhaka College of Engineering, Mysuru, celebrated World Environment Day with a technical talk titled "Shaping Our World: The Art of Civil Engineering." Guest speaker Er. Chandramouleeshwar S, Structural Consultant at M/s Compendious Pvt. Ltd., Bengaluru, inspired students with insights on sustainable structural design and highlighted the vital role of civil engineers in shaping a resilient and environmentally conscious built environment.

The 6th Executive Council Meeting of the IGS Mysuru Chapter was held on 30 June 2025 at Department of Civil Engineering, The National Institute of Engineering, Mysuru. The meeting focused on reviewing past events, planning upcoming technical activities, and strengthening coordination strategies among student chapters.

A technical visit was organised on July 12, 2025 focusing on the construction process, budget allocation, geotechnical challenges, and quality control practices for the ongoing projects—including the administrative block, lecture hall complex, and hostel block—worth over ₹100 crores. The event featured a presentation, an interactive discussion, and a site visit.

The visit was coordinated by Dr. H. S. Prasanna, Advisor to the Executive Council of IGS Mysuru Chapter. Distinguished participants included Dr. S. K. Prasad, Prof. Girish, Dr. Y. M. Manjunath, Prof. Umesh, Prof. A. S. R. Rao, and Prof. Chethan.

The Indian Geotechnical Society (IGS)

Mysuru Chapter had the honour of felicitating Prof. G. L. Sivakumar Babu during the GLS 2025 International Conference held at IISc Bangalore on July 18, 2025. The conference, titled "Ground Improvement, Landfills and Sustainability (GLS 2025)", took place from July 17 to 19, 2025 and brought together researchers and industry experts from around the world to discuss sustainable geotechnical solutions. A key highlight was the gathering of friends, supporters, and students of Prof. G. L. Sivakumar Babu to recognise his distinguished career and lasting contributions to shaping the future of geotechnical engineering in India.

IGS Patna Chapter

The Department of Civil Engineering, National Institute of Technology (NIT) Patna, in association with the IGS Patna Chapter, successfully organized the International Conference on Innovations and Sustainability in Civil Engineering: Shaping Tomorrow's Infrastructure (ISCESTI-2025) from May 14 to 16, 2025.

The event brought together academicians, researchers, industry professionals, and policymakers to deliberate on emerging technologies, sustainable practices, and innovations in civil engineering. It served as a dynamic platform for knowledge sharing, collaboration, and the showcasing of the latest advancements in the field.

The conference witnessed an enthusiastic participation of over 150 delegates from across India and abroad. A keynote address was delivered by Prof. Sarat Kumar Das from IIT (ISM) Dhanbad on "Geomechanics in Smart Infrastructure Development," highlighting the integration of smart sensing technologies and advanced geotechnical modeling.

Several Executive Committee members of the IGS Patna Chapter played an active role in organizing the event, including Dr. Anil Kumar Sharma, Dr. Shiv Shankar Kumar, Dr. Lini Dev K, Dr. Shiva Shankar Choudhary, Prof. Sunita Kumari, and Prof. Lal Bahadur Roy, all faculty members of NIT Patna.

IGS Pune Chapter

The IGS Student Chapter of the Department of Civil Engineering, RIT, Rajaramnagar, organized a five-day webinar series on "Recent Advances in Highway Engineering" from April 7 to 11, 2025. The series featured expert speakers who addressed various critical topics. Dr. A. P. Singh, Honorary Secretary of IGS and Director at Explore Engineering Consultants Pvt. Ltd., spoke on "Challenges in Bridge Foundation Design for Highways." Er. Lakhi Chavan from Tec4 Ingenieros India Pvt. Ltd. presented on "Laying of Flexible Pavement by Multiplex Automated Sensor." Er. Manjiri More, Assistant Engineer at ATKINS, discussed the "Road Transport System in India and UK." Dr. Sariput Nawghare, Assistant Professor at COEP, delivered a lecture on "Introduction and Applications of Geosynthetics." Finally, Er. Dhananjay Erande, Deputy General Manager at Dhruv Consultancy, covered "Flexible and Rigid Pavement Design."

The IGS Student Chapter of the Department of Civil Engineering, Trinity Academy of Engineering, Pune, organized a seminar on "Practical Aspects of Foundation Design" on April 8, 2025. Dr. Ashwini Chavan, Managing Director of Geostrata Consultants, was the expert speaker and explained foundation design based on field conditions and relevant parameters. The seminar was attended in person by over 70 students along with their faculty members.

The IGS Student Chapter of the Department of Civil Engineering, AISSMS, Shivajinagar Pune, organized an expert talk on "AI in Geotech" on April 17, 2025 at their campus. Dr. Sachin Jain, Director of Jain Associate and Executive Committee Member of IGS Pune Chapter, was the expert speaker. The session covered the applications of AI in geotechnical engineering, including mining and site investigations. A total of 118 students attended the event.

The IGS Student Chapter of the Department of Civil Engineering, Ajeenkya D.Y. Patil School of Engineering, Pune, organized a guest lecture on "Introduction and Application of Geosynthetics" by Dr. Sariput Nawghare, Assistant Professor at COEP

on April 29, 2025. He explained the types of geosynthetic materials, their uses, and applications in slope stability, highways, roads, and other infrastructures. The lecture was attended by more than 50 students along with faculty members.

The IGS Student Chapter of YSPM's Yashoda Technical Campus, Satara, Department of Civil Engineering, arranged a guest lecture on "Plastic and E-Waste Management." The session was conducted by Mr. Soham Kulkarni from Sagar Mitra Abhiyan, Satara on June 5, 2025. He explained waste management practices, focusing particularly on plastic waste and e-waste disposal.

The Indian Geotechnical Society Pune Chapter, in collaboration with BAI Pune Centre and IEI Pune Local Centre, organized a technical talk on "Making of the World's Highest Chenab Bridge – Technical and Social Challenges," delivered by renowned geotechnical expert Dr. K.S. Rao on June 26, 2025. Dr. Rao, who played a key role in the bridge's geotechnical investigations and arbitration processes, provided a detailed overview of site-specific studies, seismic analysis, and the engineering challenges involved in the project. He also discussed the socio-political hurdles that resulted in a Supreme Court case and a two-year construction halt. Dr. Rao strongly defended the scientific recommendations and decisions made by his team and the expert committees. The session concluded with his felicitation and an interactive discussion.

The Indian Geotechnical Society (IGS) Pune Chapter, in association with MSIDC, BAI Pune Centre, and IEI Pune Local Centre, successfully organized on June 27, 2025, a one-day seminar on "Chenab Railway Bridge – An Engineering Marvel," celebrating the engineering excellence behind the world's highest railway arch bridge. Renowned experts from AFCONS, including Dr. G. Madhavi Latha and Dr. Sunil Basarkar, along with Er. Annapoorni Iyer and Er. Siddharth Kulkarni, shared their technical insights and experiences from the project. The seminar was graced by Er. Vikas Ramgude, Joint Managing Director of MSIDC, as the Chief Guest and witnessed an overwhelming participation of over 200 attendees, marking a significant milestone for the IGS Pune Chapter.

The Indian Geotechnical Society (IGS) Pune Chapter recently conducted elections for the 2025–2027 term to

appoint members to various committee positions. All eligible members were invited to submit their nominations by May 29, 2025, and the selection was carried out based on recommendations received, in accordance with the prescribed election guidelines. The election process was overseen by Er. Ramesh Kulkarni and Er. Annapoorni Iyer, who served as the Returning Officers. The results will be officially announced during the upcoming Annual General Meeting (AGM).

For the 2025–2027 term, the elected members are as follows: Er. Suman Jain as Chairperson; Dr. Vikas Patil as Immediate Past Chairman; Er. Deepali Kulkarni as Honorary Secretary; and Dr. R.D. Nalawade along with Dr. Sariput Nawaghare as Honorary Treasurers. The Mentors and Executive Committee (EC) Members include Er. Ramesh Kulkarni and Er. V. R. Phadake. The Executive Committee Members are Dr. Krishnaiah Chevva, Er. Annapoorni Iyer, Er. Vidya Joshi, Dr. Raviraj Sorate, Dr. Sachin Jain, Dr. Sudarshan Bobade, Prof. Rohit Pote, Dr. Saurav Kar, Dr. Shikant Shinde, Er. Baba Jagtap, Er. Aparna Joshi, and Er. Sudarshn Shinde.

IGS Raipur Chapter

The Indian Geotechnical Society (IGS) Raipur Chapter, in association with the Civil Engineering Department, NIT Raipur, organised an offline expert lecture by Dr. Anjaneya Dixit, Assistant Professor, Civil Engineering Department, IIT Roorkee, on "3D Printed Concrete Using Stabilized Earth" on June 3, 2025 at NIT Raipur. The programme was attended by members of IGS Raipur Chapter, Ph.D. and M.Tech scholars, and faculty members.

More than 55 participants attended the lecture, which focused on the application of soil in 3D printing. Dr. Dixit explained the role of soil in the process and presented research findings on the types of soil suitable for 3D printing, their selection criteria, and performance. In the concluding session, he addressed queries from the audience in detail.
Prof. Laxmikant Yadu, Hon. Secretary, IGS Raipur Chapter, and Prof. S.V. Deo, Head, Civil Engineering Department, NIT Raipur, felicitated Dr. Dixit with a memento as a token of gratitude.

The office bearers of the IGS Raipur Chapter had the opportunity to interact with Prof. Deepankar Choudhury,

Professor, Civil Engineering Department, IIT Bombay, during his visit to NIT Raipur on May 14, 2025. The discussion focused on various aspects of geotechnical engineering, particularly the foundations of high-rise buildings and bridges, as well as the dynamic behaviour of soil. Activities of the IGS Raipur Chapter were also discussed during the meeting.

Prof. Samir Bajpai, Chairman; Prof. Laxmikant Yadu, Hon. Secretary; Prof. G.D. Ramtekkar, Executive Member of IGS Raipur Chapter; Prof. S.V. Deo; Prof. M.K. Verma; Prof. U.K. Dewangan, Professors of the Civil Engineering Department, NIT Raipur; and other esteemed members of the chapter were present during the interaction. The IGS Raipur Chapter and the Department of Civil Engineering, NIT Raipur, felicitated Prof. Choudhury with a memento as a token of gratitude.

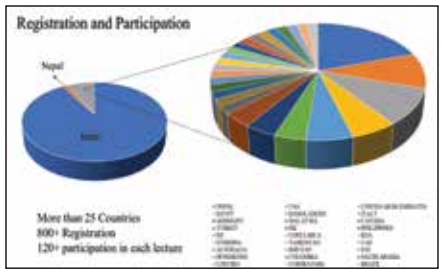
IGS Roorkee Chapter

The Indian Geotechnical Society Student Chapter Roorkee, in association with the Department of Civil Engineering, IIT Roorkee, successfully concluded an online lecture series titled "Earth Engage: Bridging Academia and Industry" from February to May 2025. The series aimed to foster interaction between leading industry professionals and academia, focusing on current practices, emerging challenges, and innovative solutions in the field of geotechnical engineering.

The series commenced on February 7, 2025, with Dr. Ratnakar R. Mahajan, who delivered a talk on rockfall and debris-flow mitigation. On February 28, 2025, Dr. Sebastian Lobo-Guerrero presented advanced slope stabilisation strategies using deep foundations. Dr. Jaykumar Shukla (March 21, 2025) shared insights on soil-structure interaction for tall building foundations, while Dr. Xiaoyan Long (April 11, 2025) addressed geotechnical challenges in marine environments through global case studies. The series concluded on May 9, 2025, with Dr. Neeraj Kr. Das, who discussed the dynamic response of machine foundations under vibratory loads.

This initiative provided a valuable platform for knowledge exchange, exposing students and researchers to practical industry perspectives and enhancing their understanding of real-world geotechnical applications.

Event Speakers



Global Registration and Participation Overview

Industry–Academia Lecture Series by Dr. Anand Hulagabali, Head (Design), Terre Armée India, was held on April 8, 2025, organised by the Department of Civil Engineering. The lecture aimed to bridge industry practices with academic learning.

The event began with a corporate presentation by Mrs. Anchal Rawat, introducing the scope and projects of Terre Armée India. This was followed by a series of highly technical and insightful talks by Dr. Hulagabali on topics such as the construction of the world's tallest reinforced earth retaining wall, applications of multilinear drainage geocomposites in mining, landfills, and roads, and advances in fabric form concrete mattress technology for embankment and canal protection.

The session also covered relevant BIS and IRC codes concerning geosynthetics and concluded with a deliberation on the proceedings.

IGS Roorkee Chapter team with the speaker, Dr. Anand Hulagabali

Prof. Gopal Ranjan Memorial Lecture on, "Lessons Learnt from Geotechnical Practice" by Prof. Sarvesh Chandra, Professor (Retired), Department of Civil Engineering, IIT Kanpur, was held on April 16, 2025. The session offered a profound reflection on the evolution of geotechnical engineering practices, enriched with decades of academic and professional insights shared by Prof. Chandra. His lecture provided practical takeaways and lifelong lessons from the field, inspiring faculty members, research scholars, and students in attendance.

The event was further graced by the presence of Mr. Ishan Ranjan, son of the late Prof. Gopal Ranjan, who shared heartfelt remarks on his father's legacy. The session served as a memorable tribute to a stalwart in geotechnical engineering and was deeply appreciated by all present.

Prof. Sarvesh Chandra with dignitaries at the Gopal Ranjan Memorial Lecture

On April 21, 2025, the Department of Earthquake Engineering at IIT Roorkee organised a One-Day Workshop on "Physical and Numerical Modelling of Geohazards in the Himalayan Region", hosted by the newly established Earthquake and Geohazard Characterization (ECG) Lab. The event was inaugurated by Prof. K.K. Pant, Director, IIT Roorkee, who also officially launched the ECG Lab.

The workshop featured distinguished speakers including Dr. H.S. Negi (Scientist, DGRE DRDO), Prof. Neelima Satyam (IIT Indore), Prof. S.P. Pradhan (IIT Roorkee), Prof. Y.A. Pulpadan (IISER Mohali), Prof. S.S. Subramanian (CoEDMM, IIT Roorkee) and Mr. Rajnish Nath (Geobrugg).

Sessions addressed advanced techniques in physical and numerical modelling, case studies of high-altitude geohazard events, and evolving challenges in risk assessment and mitigation. Topics such as debris flows, landslides, and related geohazards were explored through interactive discussions and hands-on activities, offering participants practical exposure to real-world challenges and innovative solutions.

A lively panel discussion fostered dialogue on future research directions and collaborative opportunities. The event successfully brought together researchers, students, and industry professionals, creating a vibrant platform for knowledge exchange.

The workshop received an enthusiastic response from the geohazard research community, reflecting the growing importance of interdisciplinary approaches to understanding and mitigating geohazards in the Himalayan region. Congratulations to the organisers and contributors for making the event a resounding success.

Industry Expert Lecture on "From Instability to Integrity: Reducing Risk Through Targeted Chemical Grouting Techniques" was delivered by Er. Jay Joshi, Senior Geotechnical Engineer, GeoConstech Pvt. Ltd., on May 2, 2025. The session focused on advanced chemical grouting methods to mitigate geotechnical instabilities and enhance ground integrity. Drawing from practical case studies and field experiences, Mr. Joshi shared valuable insights into effective risk-reduction strategies in geotechnical projects. The lecture was well-received by faculty, students, and industry professionals.

ISSMGE BULLETIN

Vol. 19, Issue 2, June 2025

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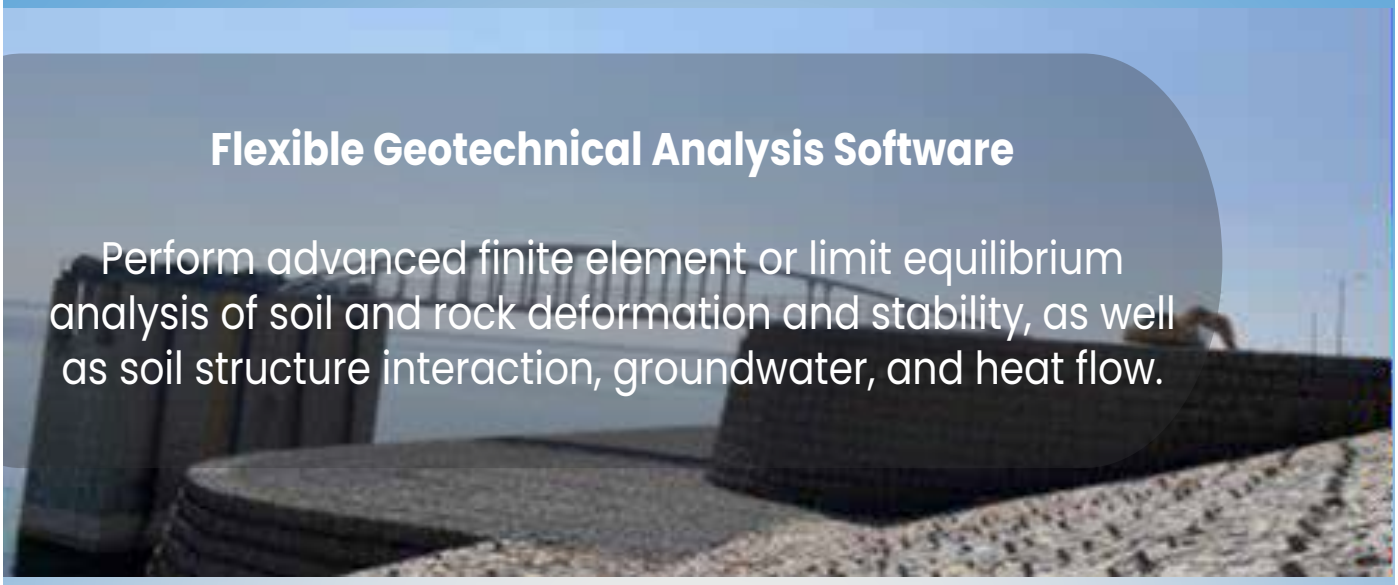

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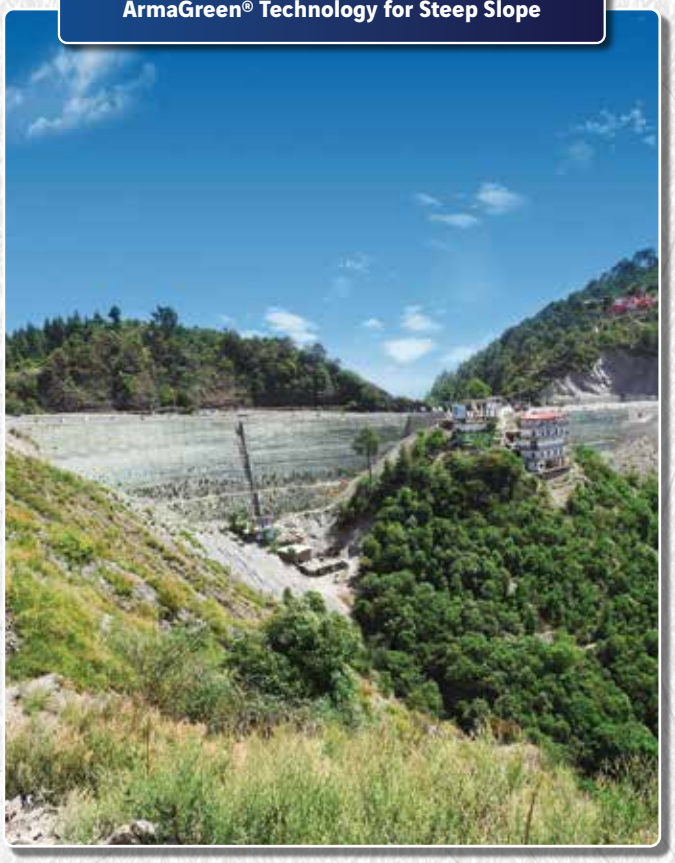

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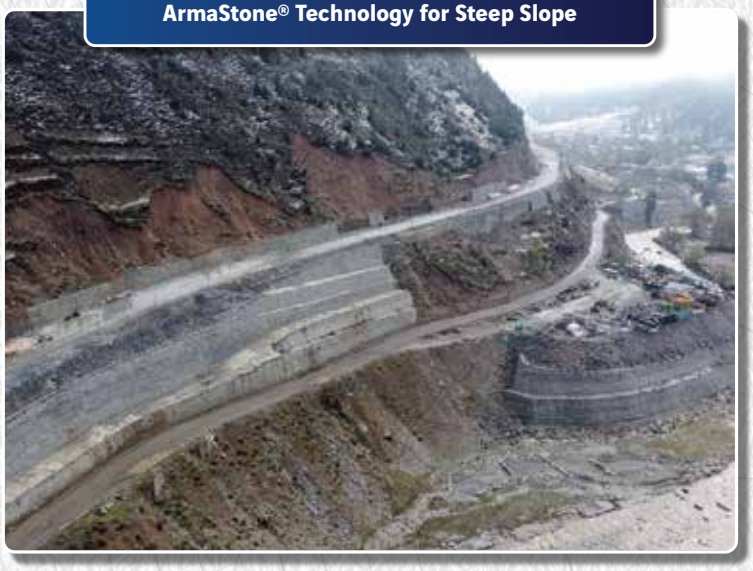

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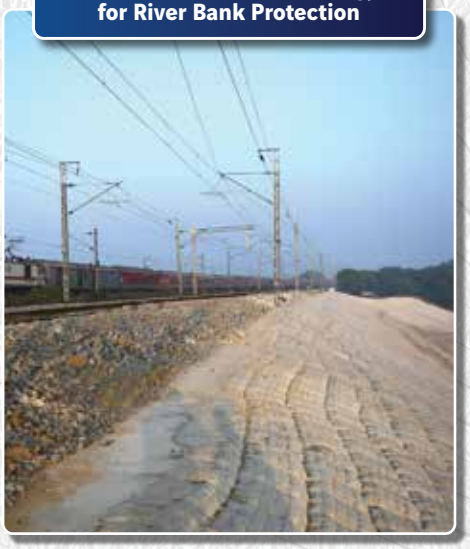

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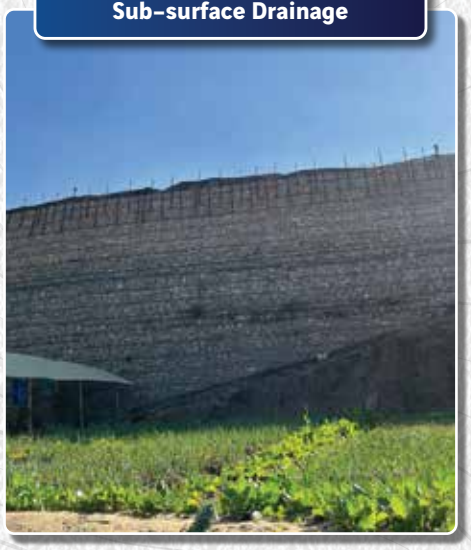

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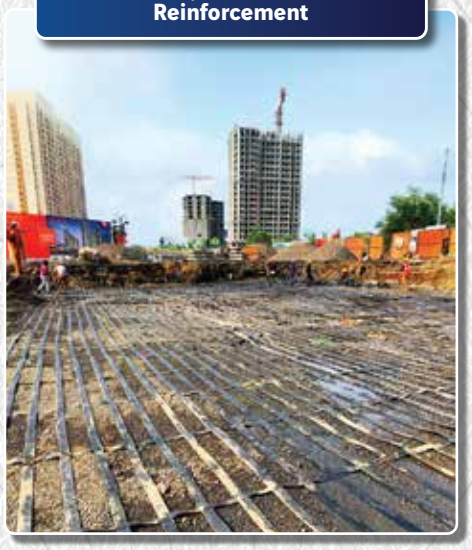

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1st GEOTECH ASIA 2025

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Organized by

INDIAN GEOTECHNICAL SOCIETY

7th – 10th October, 2025

Venue

Taj Cidade de Goa Horizon, Goa

Website: www.geotechasia.org

Email : info@geotechasia.org

Invitation

It is with great pleasure that we extend a warm invitation to you for the **1st Geotech Asia International Conference (Geotech Asia)**, to be held in **Goa, India**, from **October 7th to 10th, 2025.**

About 1st Geotech Asia 2025, Goa, India

Asian Regional Conferences occur every four years through a competitive bidding and voting process among the 90 ISSMGE Member Societies, representing around 20,000 professionals. Due to high competition, hosting rights are difficult to secure. At the Asian Council Meeting in Astana during the 17th Asian Regional Conference, the idea of "Geotech Asia" was introduced. India won the bid to host the 1st Geotech Asia in 2025 with an 18–3 vote, marking a milestone for the Indian Geotechnical Society, which also hosted the 1st Asian Regional Conference in 1960. We are pleased to announce that the board meetings of Fed IGS and ISSMGE will be held in conjunction with the 1st Geotech Asia 2025. The event will feature distinguished keynote and invited speakers from around the world, along with two pre-conference workshops: the Portugal-Brazil-India Workshop and the Indo-US Workshop. A highlight of the event will be the inaugural ISSMGE Asian Lifetime Service Award ceremony, where Prof. M.R. Madhav will be honored as the first recipient.

Conference Sub-Themes

- TH-01: Academic and Professional Practices in Geotechnical Engineering
- TH-02: Cold Region Geotechnics
- TH-03: Deep Excavation and Retention Systems
- TH-04: Earthquake Engineering and Soil Dynamics
- TH-05: Embankments and Dams
- TH-06: Environmental Geotechnics
- TH-07: Foundation Engineering
- TH-08: Geosynthetic Engineering
- TH-09: Geotechnics of Unsaturated Soils
- TH-10: Marine and Coastal Geotechnics
- TH-11: Risk and Reliability in Geotechnical Engineering
- TH-12: Rock Mechanics and Rock Engineering
- TH-13: Site Characterization
- TH-14: Slope Stability, Erosion and Landslides
- TH-15: Soft Computing and AI/ML in Geotechnical Engineering
- TH-16: Soil Stabilization and Ground Improvement
- TH-17: Theoretical and Computational Geomechanics
- TH-18: Transportation Geotechnics
- TH-19: Tunneling and Underground Structures

Important Dates

Board Meeting – Fed IGS	06.10.2025
Portugal-Brazil-India joint preconference Workshop	06.10.2025
Indo-US joint preconference Workshop	06.10.2025
1st Geotech Asia conference 2025	07-10.10.2025
Board Meeting – ISSMGE	11.10.2025

Registration Details

To register and explore the full conference program, visit the official Geotech Asia 2025 website at www.geotechasia.org

With over 450 academicians and industry professionals already registered—and attendance expected to exceed 800—the conference promises a dynamic environment for meaningful engagement. Attendees will have the opportunity to explore cutting-edge innovations at the **technical exhibitions**, build valuable connections through **networking events**, and experience the rich cultural heritage of Goa through curated **local experiences**.

For travel and accommodation details—including exclusive rates at the conference venue and a curated list of nearby hotels—please visit the **Travel & Accommodation** section on the official **Geotech Asia 2025** website.

Sponsorship and exhibition opportunities are available for organizations looking to showcase their brand, products, and services to a global audience of geotechnical professionals. For further information or specific inquiries, please feel free to contact the undersigned.

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IGC - 2025

INDIAN GEOTECHNICAL CONFERENCE

'GEOTECHNICAL PRACTICES FOR INNOVATIONS AND SUSTAINABILITY'

JALANDHAR CHAPTER

18th – 20th December, 2025 | Website: https://igc2025nitj.com/

Venue:

Dr. B.R. Ambedkar National Institute of Technology (NIT), Jalandhar, Punjab, India

Jointly Organized by :

Indian Geotechnical Society, Jalandhar Chapter

Civil Engineering Department, Dr. B.R. Ambedkar National Institute of Technology (NIT), Jalandhar, Punjab

Invitation

Indian Geotechnical Society, Jalandhar Chapter and Civil Engineering Department, Dr. B.R. Ambedkar National Institute of Technology (NIT), Jalandhar, Punjab extends you a warm invitation to the IGC-2025 to be held at NIT Jalandhar.

Conference Themes

The main theme of the Conference is 'Geotechnical Practices for Innovations and Sustainability'.

Conference Sub-Themes

- Foundations – Shallow and Deep
- Geoenvironmental Engineering
- Site Investigations and Explorations
- Earth Retaining Structures
- Geosynthetics and Reinforced Soil Structures
- Forensic Geotechnical Engineering
- Soil Dynamics and Geotechnical Earthquake Engineering
- Ground Improvement Techniques
- Physical and Numerical Modelling
- Geotechnics for Sustainable Cities
- Rock Mechanics, Tunneling and Underground Structures
- Slope Stability and Landslides
- Transportation Geotechnics
- Soil Structure Interaction
- Uncertainties, Risk and Reliability in Geotechnical Engineering
- AI/ML/DL Application in Geotechnical Engineering
- Geomaterial Characterization
- Case Studies

Important Dates

Abstract Submission	April 30, 2025
Decision on Abstract	June 15, 2025
Full Paper Submission	August 15, 2025
Decision on Full Paper	October 15, 2025
Submission of Camera Ready Paper	October 31, 2025
Regular Registration	October 31, 2025
Late Registration	Nov. 1 - Dec. 15, 2025
Spot Registration	After Dec. 15, 2025

Sponsorship Details

Sponsorship	Fee (Rs. in Lakh)	Free Delegates	Free Ad	Corporate Presentation	Corporate Presentation
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Diamond	5.00	4	Full Page Color	Yes	9' x 9'
Gold	2.50	3	Full Page Color	NA	NA
Silver	1.00	2	Full Page B&W	NA	NA
Bronze	0.50	1	Half Page B&W	NA	NA
Well Wisher	0.25	1	Qr Page B&W	NA	NA

Registration Fees

Delegate Category	Upto 31.10.2025 (Rs.)	After 31.10.2025 Upto 15.12.2025 (Rs.)	After 15.12.2025 (Rs.)	Foreign Delegates (USD)
IGS Member	7000	8000	9000	450
Non-IGS Member	7500	8500	10000	500
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Spouse	2500	3000	3000	250

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FIELD MONITORING IN GEOMECHANICS

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Abstract Submission is Open Now

Venue

Indian Institute of Technology, Indore,
Madhya Pradesh, India

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SIMSG ISSMGE

Field Monitoring in geomechanics TC220

Invitation

It is with great pleasure that we extend a warm invitation to the 12th International Symposium on Field Monitoring in Geomechanics **(ISFMG 2026)** that will take place in **Indore**, from **August 6th to 10th, 2026**.

Symposium Theme

The main theme of the symposium is "Advances in Field Monitoring for Geomechanics".

Symposium Sub-Themes

- Tunnels and Underground Spaces
- Bridges and Transport Infrastructure
- Dams and Embankments
- Slopes and Earthworks
- Buildings and Foundations
- Mining and Landfill
- Environmental Monitoring
- The Observational Methods
- Specifications and Standards
- Excavation and Retaining Structure
- Inverse Modelling
- Advanced Design Technology

Key Dates

Open for submission of abstracts	20 Feb 2025
Deadline for abstracts submission	15 Sep 2025
Notification of abstracts acceptance	07 July 2025
Submission of full manuscripts	01 Aug 2025
Deadline for final paper submission	31 Dec 2026
Notification of paper acceptance	01 Jan 2026

Registration Fees

Registration Type	By 24.11.2025	After 24.11.2025	Onsite 24.02.2026
	$	$	$
Standard Registration	600	700	900
Student Registration	300	350	500
SAARC Country Delegates	500	600	800
SAARC Country Students	250	300	400
Registration fee for IGS members		₹ 15000	

2nd Dunnicliff Honor Lecture

Dr. (-Ing) Giorgio Pezzetti

Keynote Speakers

Per Sparrevik
(Expert advisor, Field testing and Offshore Instrument at NGI)

Prof. Ikuo Towhata
(Professor, Department of Civil Engineering, University of Tokyo)

Prof. Jamie Standing
(Professor, Imperial College London)

Arushi Bhalla
(Managing Director: Encardio Rite Group)

Address for Correspondence

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Welcome to New Members

The Executive Committee of IGS extends hearty welcome to the following members who have been admitted to the Society recently/ elevated to Fellowship.

LIFE FELLOWS

AMBRISH G	LF-0678
SHILPI MAHAPATRA	LF-0679
SHESH MANI SONKAR	LF-0680

LIFE MEMBERS

RAJIV LOCHAN SAHU	LM-5969
SAHIN AHMED	LM-5970
SAMAY KUMAR ATTARA	LM-5971
MOHAMMAD JAMAL	LM-5972
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RAMAVATH SREENU	LM-5992

STUDENT MEMBERS

RIYA RASHEED	SM-0418
ASWATHY KUNNUMMAL	SM-0419
ARKACHARI PRASAD	SM-0420
GOURI NANDANA	SM-0421
ADWAITHA S.R.	SM-0422
ADITHYA P. P.	SM-0423
RAJYESHWAR R.	SM-0424
AHMED K. P.	SM-0425

47th IGS ANNUAL LECTURE 2025

The prestigious

47th IGS Annual Lecture 2025

will be delivered by Prof. Deepankar Choudhury, Professor, Department of Civil Engineering, Indian Institute of Technology Bombay, Powai, Mumba.

The topic of his lecture is

"Advances in Geotechnical Earthquake Engineering for Geo-Structures: Transformative Research into Practice"

OBITUARY

We are deeply saddened to announce the passing of **Prof. Ajaya Chandra Ray**, born on *2nd May 1943*, who left for his heavenly abode on *24th April 2025*. Prof. Ray was a visionary educator and a pillar of the engineering community. As one of the founding figures of *CET College*, he played a pivotal role in shaping technical education in Odisha. His contributions extended far beyond academics—he actively participated in numerous social initiatives, always striving to uplift and inspire those around him.

As the *Chairman of the Indian Geotechnical Society (IGS), Bhubaneswar Chapter*, Prof. Ray was a respected leader whose commitment to the advancement of geotechnical engineering was unwavering. He was not only a renowned academician but also a mentor and guide to countless students and professionals. His wisdom, humility, and gentle nature left an indelible mark on everyone fortunate enough to know him.

His passing is an irreplaceable loss to the *IGS Bhubaneswar Chapter*, the academic fraternity, and the engineering community at large. We extend our heartfelt condolences to his family, friends, colleagues, and students

May his noble soul rest in eternal peace.

Let us honor his memory by continuing his legacy—with the same dedication, compassion, and integrity that he demonstrated throughout his remarkable life.

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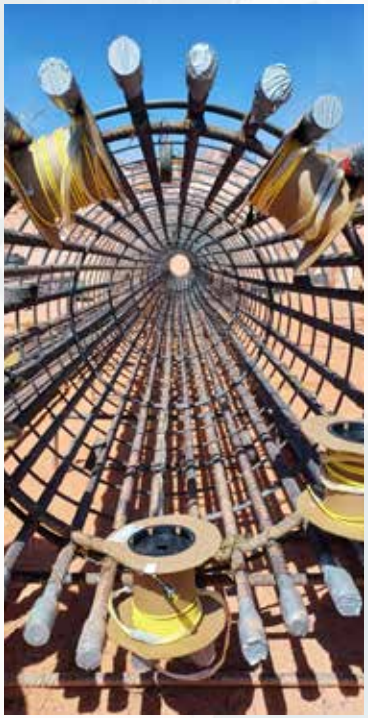



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OBITUARY

Prof. (Dr.) Y. S. Golait

Prof. (Dr.) Yadav Sambhaji Golait was born in May 1943 in a poor, almost illiterate village farmer family of Mandgaon (District Wardha). He had his early schooling upto 5th standard at his hometown and then moved to Sindi. He was the student of Municipal Nehru Vidyalaya during 1955-60. From this school, he passed SSC exam of the Vidharbha Board of Secondary Education in April/May 1960 and topped the list of successful candidates. This glory was widely acclaimed in the region and by illuminaries like Dr. Panjabrao Deshmukh, Dr. V. B. Kolte and state government ministers Bar. Sheshrao Wankhede, Balasaheb Desai, Narendra Tidke, Dr. T. R. Narwane etc. With this beginning, Dr. Golait has a brilliant academic career to his credit.

He graduated in Civil Engineering in 1965 from Visvesvaraya National Institute of Technology (Formerly VRCE) Nagpur. He had his higher education in Indian Institute of Technology (IIT) Bombay where he studied for six years and got M.Tech (Soil Engineering) in 1967 and Ph.D (Geotechnical Engineering) in 1985. He is privileged to have 6 years long close association with a world renowned geotechnologist and his guide Late Prof. (Dr.) R. K. Katti of IIT Bombay during his study period thereat.

He worked in Maharashtra Engineering Research Institute (MERI) Nasik in the beginning of his career and then was with Bombay Port Trust as Assistant Executive Engineer (1968-70). After his 3 years research and professional experience, he served for 20 years till December 1990 as senior faculty member (Maharashtra Engineering Education Service, Class – I) in Government Engineering Colleges at Pune, Aurangabad and Karad. He opted for voluntary retirement from govt. service and joined a reputed institute in Nagpur i. e. Shri Ramdeobaba College of Engineering and Management in January 1991 as Professor and Head of Civil Engineering Department. After his 12 years service, he retired on superannuation in May 2003. Immediately thereafter he was reappointed in the same college as Professor Emeritus to conduct M.Tech and Ph.D programs in Geotechnical Engineering. He continued this service till July 2015.

Dr. Golait did noteworthy original research in expansive black cotton soils, soft clay ground improvement, lightweight geomaterial and geotechnical aspects related to foundations of Bombay High Offshore structures. His doctoral research work on offshore pile foundation was highly acclaimed by an eminent, world renowned professor of Texas University (USA) Dr. Layman C. Reese. Dr. Reese, as a reviewer of Golait's Ph.D thesis, vividly remarked, "I have seen several such Ph.D documents from India and this is THE BEST I have seen. The quality and amount of the work done is more than we would expect of our Ph.D candidates…." Thus, this originally naïve village boy's educational career started with 'FIRST CLASS FIRST' in the SSC exam of 1960 and culminated with unique glory in Ph.D of 1985.

Dr. Golait as a sole or main author has published 25 original research papers in prestigious conferences and journals. 8 of these were presented and discussed in first grade prestigious international conferences abroad viz. Australia, Japan, USA, Mexico, Austria, Thailand etc. He has also co-authored an important research report on "Foundations of Bombay High Offshore Structures" along with Prof. Katti and others which was submitted to the Department of Science and Technology (DST), Govt. of India in 1981. A major consultancy project for Vidarbha Irrigation Development Corporation Nagpur is also completed single handedly by him in 2009.

Dr. Golait was a life member of Indian Geotechnical Society and was the member of International Society for Soil Mechanics and Geotechnical Engineering (UK) for long time and participated in number of national conferences, seminars and workshops. He was also Chairman IGS Nagpur Chapter (2019-2024). He delivered numerous invited expert lectures at several technical institutes and forums. He was a recognized Ph.D guide for R. T. M. Nagpur University. He, with his initiative and concerted pursuance has been instrumental in starting the first-ever P.G. Program in Geotechnical Engineering in the history of Nagpur University academics. He was involved in this course at RCOEM Nagpur for 15 years by sharing almost 70% of the total teaching load of the course. He guided more than a dozen PG students in their M.Tech thesis projects.

Dr. Golait's name was included in "Asia's Who is Who" volume published by Rifacemento International in 1987. He was also honored by the American Biographical Institute, North Carolina USA which included his name in the 'International Dictionary of Distinguished Leadership' publication. The same organization had nominated him for the 'Man of the Year Award – 1998' and '2000 Millinium Medal of Honor' in recognition of his contributions in academics and research in geotechnology.

In 2016, Dr. Golait received the honor as a "reviewer" of International Journal of Geomechanics, ASCE (Science Citation Indexed Journal).

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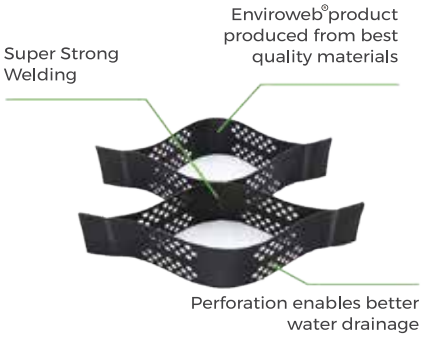

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OBITUARY

Prof Andrew Schofield FRS FREng
(1930-2025)

Emeritus Professor Andrew Noel Schofield FREng FRS died on 27 January 2025 at the age of 94. He was a pivotal figure in the science of soil mechanics through his development of Critical State Soil Mechanics and the Cam Clay model of soil plasticity. And he was a leading international champion for the testing scale models of geotechnical engineering constructions in centrifuges in order to infer full-scale behaviour under matched stress conditions.

Andrew was the son of an army Chaplain, the Rev John Noel Schofield, who later became a lecturer in the Faculty of Divinity at Cambridge University. Andrew went to Mill Hill school, gaining admission to Christ's College Cambridge to read engineering, or Mechanical Sciences as it was then known in Cambridge. On graduation in 1951 he decided to get work experience in Civil Engineering, and took the advice of the head of Department, Sir John (later, Lord) Baker, to work under the direction of Henry Grace in the office of Scott and Wilson Ltd. He was posted to the Nyasaland Protectorate (now Malawi) to work on low-cost road construction, performing CBR (California Bearing Ratio) tests on cement and lime stabilised lateritic clay soils that could be used in road bases, and using air-photo interpretation to propose locations for borrow pits.

He returned to Cambridge to work with Professor Kenneth H. Roscoe on his PhD, studying the passive earth pressures developed when a plate rotates in sand about its top edge: this he completed in 1961 when he was also appointed as an Assistant Lecturer. Andrew had become excited about the application of plasticity theory to soils, having seen its successful use in Baker's structures group. With Ken Roscoe and Peter Wroth in 1958 he published "On the Yielding of Soils", which showed how the concepts of a yield surface and critical states could be used to describe the coupled volumetric and shear behaviour of any soil experiencing any loading path from any initial condition. With the additional assumption of the normality rule for plastic strains and the introduction of an elementary energy dissipation function, this led to the development of a constitutive model known as Cam Clay that was formalized in 1968 by Schofield and Wroth in their textbook Critical State Soil Mechanics. Cam Clay lent itself to a variety of modifications which have been adopted by many Finite Element Models of soil behaviour, but Andrew remained faithful to the original version which has been taught thereafter to generations of undergraduates at Cambridge and elsewhere.

In the early 1960s Andrew took an interest in the Russian literature on soil mechanics, such as the solutions by V.V. Sokolovski for a soil body which is everywhere in a limiting stress state. There he found a footnote about G.I. Pokrovski's method of centrifuge modelling which could generate correctly distributed full-scale stresses in a small, correctly scaled, model. Pokrovski's 1937 paper at the Harvard Conference showed that the technology was sound and after initial proof-of-concept tests on small samples Andrew submitted a successful research proposal to further pursue centrifuge modelling. Initial tests from 1966 used the British Aircraft Corporation centrifuge in Luton to model the drawdown failure of slopes in clay, but in 1968 Andrew was invited to become Professor at the University of Manchester Institute of Science and Technology (UMIST) and went there in January 1969 with funds to establish the UK's first purpose-built geotechnical centrifuge. Working in cooperation with Druck Ltd he also developed a miniature pore pressure transducer that enabled the researcher to conduct effective stress analyses of saturated soil bodies.

Following Roscoe's death in 1970, Andrew returned to Cambridge in 1974 and was appointed a Professor in the Engineering Department to lead the Soil Mechanics group. Working with the mechanical design engineer Phillip Turner, he developed a 5-m radius geotechnical centrifuge with swinging arms to facilitate the deployment of model packages. Remarkably it remains heavily used; a 50 year jubilee celebration is planned for March 2025. A succession of novel equipment developments followed: a sand deposition hopper that could create embankments in flight, the "bumpy road" earthquake simulator, the "cold black sky" package that used a suspended tray of solid carbon dioxide to promote freezing of sea water or prevent the thawing of a soil package mounted below, a 2 m diameter drum centrifuge that obviated the edge effects that could be a concern with models retained in boxes and which permitted in-flight model building, an 850 mm drum centrifuge with a central turntable that permitted a research worker to create and manipulate models in flight, and many others. Andrew collaborated with two companies that designed, manufactured and sold centrifuges that were optimised for geotechnical testing: Acutronic France (now Actidyn) and Broadbent Ltd. These collaborations encouraged geotechnical centrifuge centres to be established at City University and Dundee University in the UK, University of Western Australia, ETH in Zurich, and at the USA Corps of Engineers' Waterways Experimental Station in Vicksburg.

Andrew particularly enjoyed developing centrifuge equipment to work on industry problems. To achieve this and further popularise the technology he created two companies in the 1980s, CIEL (Cambridge Instrumentation and Equipment) Ltd and ANS&A (Andrew Noel Schofield and Associates) to provide testing services and advice. These enabled him to recruit and support exceptional colleagues, research students and technicians to perform cutting-edge research, and also to earn the money whichfunding that allowed him to extend the centrifuge centre and make further investments in novel equipment. In recognition of these outstanding entrepreneurial achievements the Cambridge centrifuge centre was renamed the Schofield Centre on his retirement in 1998.

Andrew was elected a Fellow of the Royal Academy of Engineering in 1986 and a Fellow of the Royal Society in 1992. Schofield retired from the university in 1997, but he continued his passionate critique of Terzaghi's advocacy of the Mohr-Coulomb equation to represent the strength of remoulded soils as comprising friction and cohesion, rather than friction and dilation which Andrew's work and all subsequent research has shown it to be.

Malcolm Bolton

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