RESUME

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Academic Qualifications

Examination	Institution	Year of passing	Marks	Division
B.E. (Civil Engg.)	Indira Gandhi Institute of Technology Sarang	1993	79%	First (Hons.)
M.E. (Soil Mechanics & Foundation Engg.)	National Institute of Technology Rourkela	1996	75%	Not awarded
PhD in Geotechnical Engg.	Indian Institute of Technology Madras	2001	Degree by Research	

Professional Experience

- Professor, Department of Civil Engineering IIT Kharagpur, since January 2018.
- Associate Professor, Department of Civil Engineering IIT Kharagpur, May 2012-Jan 2018.
- Associate Professor, Department of Civil Engineering IIT Guwahati, May 2007-May 2012.
- Visiting Fellow, Centre for Geomechanics and Railway Engineering at University of Wollongong, Australia, Dec. 2009-June 2010.
- Assistant Professor, Department of Civil Engineering IIT Guwahati, August 2003 – May 2007.
- Lecturer, Department of Civil Engineering University College of Engineering Burla, India, September 2002 - August 2003.
- Post-doctoral Research Associate, Department of Civil Engineering, Indian Institute of Science Bangalore, November 2001 - August 2002.
- Project Associate, Department of Civil Engineering, IIT Madras, Chennai, February 1996 - July 1996.

Research Interests

Reinforced soil structures, Shallow foundations, Railway Geotechnical Engineering, Seismic soil liquefaction.

Courses Taught

Design of Reinforced Soil Structures, Soil Mechanics, Advanced Foundation Engineering, Rail Track Engineering

List of Publications

Scopus: *C*itations: 2419, *h*-index: 24

Google scholar: Citations: 3628, *h*-index: 27, *i10*-index: 42

Refereed Journals

1. Banerjee L., B., Chawla, S., **Dash, S.K.** (2023). Investigations on cyclic loading behavior of geocell stabilized tracks with coal overburden refuse recycled as subballast material. *Transportation Geotechnics, Elsevier,* Vol.40, pp.1-15 (doi.org/10.1016/j.trgeo.2023.100969)
2. **Dash, S. K.** and Majee, A. (2023). A study on CBR of railway track foundations with geosynthetics reinforcement. *Indian Geotechnical Journal, Springer* (doi.org/10.1007/s40098-023-00710-x).
3. Choudhary, A.K., and **Dash, S.K.** (2023). Failure mechanism of geocell reinforced vertical plate anchor subjected to lateral loading. *International Journal of Physical Modelling in Geotechnics*, Elsevier, Vol.23, No.2, pp.58-76 (doi.org/10.1680/jphmg.21.00009).
4. Agrawal, N., Gupta, L., Dixit, J. and **Dash, S. K.** (2023). Geospatial-based seismic risk assessment for the North Eastern Region of India by integrating seismic hazard and social vulnerability. *Sustainable and Resilient Infrastructure,* Taylor & Francis, Vol.8, pp.102-132. (DOI: 10.1080/23789689.2022.2133764)
5. **Dash, S. K.** (2022). Closure to "Geogrid reinforcement for stiffness improvement of railway track formation over clay subgrade " by Sujit Kumar Dash and Anjan Majee. *Int. Journal of Geomechanics*, ASCE, Vol.22, No.10, pp.07022011_1-2 (doi.org/10.1061/(ASCE)GM.1943-5622.0002577)
6. Barman, D., and **Dash, S. K.** (2022). Stabilization of expansive soils: A review. *Journal of Rock Mechanics and Geotechnical Engineering*, Elsevier, Vol.14, No.4, pp.1319-1342. (doi.org/10.1016/j.jrmge.2022.02.011).
7. **Dash, S. K.** and Majee, A. (2021). Geogrid reinforcement for stiffness improvement of railway track formation over clay subgrade. *Int. Journal of Geomechanics*, ASCE, Vol. 21, No.9, pp. 04021163-1-19 (doi:10.1061/(ASCE)GM.1943-5622.0002128)
8. **Dash, S. K.** (2021). Closure to "Pullout Behavior of Geocell-Reinforced Vertical Plate Anchors under Lateral Loading" by Sujit Kumar Dash and Awdhesh Kumar Chaudhary" *Int. Journal of Geomechanics*, ASCE, Vol. 21, No.2, pp. 07020007-1.
9. Choudhary, A.K., and **Dash, S.K.** (2020). Influence of relative density of soil on performance of geocell reinforced vertical plate anchor in sand. *Geosynthetics*

International, Journal of International Geosynthetics Society. (doi.org/10.1680/jgein.20.00047)

10. Banerjee L., B., Chawla, S., **Dash, S.K.** (2020). Application of geocell reinforced coal mine overburden waste as subballast in railway tracks on weak subgrade. *Construction and Building Materials,* Elsevier, Vol.265, 120774, pp.1-18, (doi.org/10.1016/j.conbuildmat.2020.120774).
11. Banerjee L., B., Chawla, S., **Dash, S.K.** (2020) "Performance evaluation of coal mine overburden as a potential sub-ballast material in railways with additional Improvement using geocell" *Jn. of Materials in Civil Engg, ASCE,* Vol. 32, No. 8, pp. 1-13.
12. **Dash, S. K.,** and Choudhary, A.K. (2019). "Pullout behaviour of geocell reinforced vertical plate-anchors in sand" *Int. Journal of Geomechanics*, ASCE. (*DOI: 10.1061/(ASCE)GM.1943-5622.0001452*).
13. **Dash, S.K.**, Saikia, R., and Nimbalkar, S. (2019). Contact pressure distribution on subgrade soil underlying geocell reinforced foundation beds. *Frontiers in Built Environment*, Vol. 5, pp. 1-8 (doi.org/10.3389/fbuil.2019.00137).
14. Halder, K., Chakraborty, D. and **Dash, S.K.** (2019). Bearing capacity of a strip footing situated on soil slope using a non-associated flow rule in lower bound limit analysis. *International Journal of Geotechnical Engineering, Taylor and Francis.* Vol.13 No. 2, pp. 103-111 *(*DOI.org/10.1080/19386362.2017.1325119)
15. Choudhary, A.K.,and **Dash S.K.** (2018). Pullout Behaviour of Vertical Plate Anchor in Granular Soil. *Proceedings of the Institution of Civil Engineers - Geotechnical Engineering.* (https://doi.org/10.1680/jgeen.17.00174).
16. Nimbalkar, S, **Dash, S.K.,** and Indraratna, B. (2018). Performance of ballasted track under impact loading and applications of recycled rubber inclusion" *Journal of Geotechnical Engineering, SEAGS & AGSSEA,* Vol. 49, No.4, pp.79-91.
17. **Dash, S. K., and** Choudhary, A.K. (2018) "Geocell reinforcement for performance improvement of vertical plate anchors in sand" *Geotextiles and Geomembranes*. Journal of International Geosynthetics Society, Vol.46, pp.214-225.
18. Choudhary, A.K.,and **Dash, S. K.** (2017)"Load carrying mechanism of vertical plate anchors in sand" *Int. Journal of Geomechanics*, ASCE, Vol.17, No.5, pp. 04016116-1-12 (DOI: 10.1061/(ASCE)GM.1943-5622.0000813).
19. Biswas, A., Krishna M. A. and **Dash, S.K. (**2016**)** "Behavior of geosynthetic reinforced soil foundation systems supported on stiff clay subgrade" *Int. Journal of Geomechanics*, ASCE. (10.1061/(ASCE)GM.1943-5622.0000559).
20. Prashanth, V., Murali Krishna, A. and **Dash, S.K.** (2016). "Pullout test using modified direct shear test setup for measuring soil-geosynthetic interaction parameters" *International Journal of Geosynthetics and Ground Engineering, Springer* (DOI.org/10.1007/s40891-016-0050-x).
21. Hussain, M. and **Dash S.K.** (2016) "The influence of lime on the compaction behaviour of soils." *Environmental Geotechnics,* Journal of Institution of Civil Engineers London, Vol. 3, No.5, pp. 346-352 *(*doi.org/10.1680/envgeo.14.00015).
22. **Dash, S.K.** and Hussain, M. (2015) "Influence of lime on shrinkage behaviour of soils." *Journal of Materials in Civil Engineering, ASCE, Vol. 27 (12)*, 04015041 1-9.

23. Biswas, A., Ansari, M.A., **Dash, S. K.** and Krishna, M. A. (2015) "Behavior of geogrid reinforced foundation systems supported on clay subgrades of different strengths." *International Journal of Geosynthetics and Ground Engineering, Springer* (DOI 10.1007/s40891-015-0023-5).

24. Deka S., **Dash, S. K.** and Sreedeep S., (2015). Strength of lime-treated fly ash using bentonite. *Geotechnical Engineering,* Journal of the South East Asian Geotechnical Society, Vol.46, No.3, pp.73-81.

25. Ravi K., **Dash, S.K.,** Vogt S. and Braeu, G. **(**2014**) "**Behaviour of geosynthetic reinforced unpaved roads under cyclic loading" *Indian Geotechnical Journal,* Journal of Indian Geotechnical Society, Springer, Vol.44, No.1, pp.77-85.

26. Biswas, A., Krishna, M. A. and **Dash, S.K**. (2013) "Influence of Subgrade Strength on the Performance of Geocell-Reinforced Foundation Systems" *Geosynthetics International,* Journal of International Geosynthetics Society, Vol. 20, No.6, pp.376-388.

27. **Dash, S.K.** and Bora, M.C. (2013) "Improved Performance of Soft Clay Foundation using Stone Columns and Geocell-Sand Mattress" *Geotextiles and Geomembranes*. Journal of International Geosynthetics Society Vol. 41, pp. 26-35.

28. **Dash, S.K.** and Bora M.C. (2013) Influence of geosynthetic encasement on the performance of stone columns floating in soft clay." *Canadian Geotechnical Journal*, Journal of National Research Council Canada, Vol. 50, No.7, pp. 754-765.

29. **Dash, S.K.** and Amol, S. (2012) "Performance improvement of railway ballast using geocells" *Indian Geotechnical Journal*, Journal of Indian Geotechnical Society, Springer, Vol.42, No.3, pp.186-193.

30. Nimbalkar S., Indraratna, B., **Dash, S.K.** and Christie, D. (2012) Improved Performance of Railway Ballast under Impact Loads using Shock Mats. *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE, Vol.138, No.3, pp.281-294.

31. Dash, S.K. (2012) Effect of geocell type on load carrying mechanisms of geocell-reinforced sand foundations. *International Journal of Geomechanics, ASCE*, Vol.12, No.5, pp.537-548.

32. Dash, S.K. and Hussain, M. (2012) Lime Stabilization of Soils: Reappraisal. *Journal of Materials in Civil Engineering, ASCE,* Vol. 24, No. 6, pp. 707-714.

33. Raghukanth, S.T.G., Dixit, J. and **Dash, S.K.** (2011) Ground motions for scenario earthquakes at Guwahati city. *Acta Geodaetica et Geophysica Hungarica,* Vol.46*,* No.3, pp.326-346.

34. Dash, S.K. (2010) Influence of relative density of soil on performance of geocell reinforced foundations. *Journal of Materials in Civil Engineering, ASCE,* Vol. 22, No. 5, pp. 533-538.

35. Raghukanth, S.T.G., and **Dash, S.K.** (2010) Evaluation of Seismic Soil-Liquefaction at Guwahati City. *Journal of Environmental Earth Sciences*, Vol. 61, No.2, pp. 355-368.

36. Raghukanth, S.T.G., and **Dash, S.K.** (2010) Deterministic Seismic Scenarios for North East India. *Journal of Seismology*. Vol.14, No.2, pp.143-167.

37. Latha, G.M, **Dash, S.K.** and Rajagopal, K. (2009) Numerical Simulation of the Behaviour of Geocell Reinforced Sand in Foundations. *International Journal of Geomechanics, ASCE,* Vol.9, No.4, pp.143-152.

38. Sireesh, S., Sitharam, T.G**.** and **Dash, S.K.** (2009) Bearing Capacity of Circular Footing on Geocell-Sand Mattress Overlying Clay Bed with Void. *Geotextiles and Geomembranes*, *Journal of International Geosynthetics Society*, Vol.27, No.2, pp.89-98.

39. Deka S., Sreedeep S., and **Dash, S. K.** (2009) Re-evaluation of Cone Penetration Liquid Limit Based on Free Swell Property of Soil. *Geotechnical Testing Journal, ASTM*, Vol.32, No.6., pp.1-6.

40. Dash, S.K., Reddy, P. D. and Raghukanth, S.T.G. (2008) Subgrade modulus of geocell-reinforced sand foundation. *Ground Improvement*, *Journal of Institution of Civil Engineers London*. Vol.161, No.2, pp. 79-87.

41. Latha, G. M, **Dash, S.K.** and Rajagopal, K. (2008) Equivalent Continuum Simulations of Geocell reinforced Sand beds Supporting Strip Footings. *Geotechnical and Geological Engineering An International Journal,* Springer, Vol. 26, No.4, pp.387-398.

42. Raghukanth, S.T.G., and **Dash, S.K.** (2008) Stochastic modeling of SPT-N value and evaluation of probability of liquefaction at Guwahati city. *Journal of Earthquake and Tsunami*, World Scientific Publishing, Vol.2, No.3 pp.175-196.

43. Raghukanth, S.T.G.**,** Sreelatha, S. and **Dash, S.K.** (2008) Ground motion estimation at Guwahati city for a M_w 8.1 earthquake in the Shillong plateau. *Tectonophysics*, International Journal of Geotectonics and the Geology and Physics of the Interior of the Earth, Elsevier, Vol.448, pp. 98-114.

44. Dash, S. K., Rajagopal, K. and Krishnaswamy, N.R. (2007) Behaviour of geocell reinforced sand beds under strip loading. *Canadian Geotechnical Journal,* Journal of National Research Council Canada, Vol. 44, No. 7, pp. 905-916.

45. Sitharam, T.G., Sireesh, S. and **Dash, S.K.** (2007) Performance of surface footing on geocell-reinforced soft clay beds. *Geotechnical and Geological Engineering An International Journal,* Springer, Vol. 25, No. 5, pp. 509-524.

46. Sitharam, T.G., Sireesh, S**.** and **Dash, S.K.** (2005) Model studies of a circular footing supported on geocell-reinforced clay. *Canadian Geotechnical Journal,* Journal of National Research Council Canada, Vol.42, No.2, pp.693-703.

47. Dash, S.K., Rajagopal, K. and Krishnaswamy, N.R. (2004) Performance of different geosynthetic reinforcement materials in sand foundations. *Geosynthetics International*, Journal of International Geosynthetics Society, Vol.11, No.1, pp. 35-42.

48. Dash, S.K., Sireesh, S. and Sitharam, T.G. (2003) Model studies on circular footing supported on geocell reinforced sand underlain by soft clay. *Geotextiles and Geomembranes,* Journal of International Geosynthetics Society, Vol. 21, No.4, pp.197-219.

49. Dash, S.K., Sireesh, S. and Sitharam, T.G. (2003) Behaviour of geocell reinforced sand beds under circular footing. *Ground Improvement,* Journal of International Society of Soil mechanics and Geotechnical Engineering Vol. 7, No. 3, pp.111-115.

50. Dash, S.K., Rajagopal, K. and Krishnaswamy, N.R. (2001) Strip footing on geocell reinforced sand beds with additional planar reinforcements. *Geotextiles and Geomembranes,* Journal of International Geosynthetics Society, Vol. 19, No. 8, pp.529-538.

51. Dash, S.K., Krishnaswamy, N.R. and Rajagopal, K. (2001) Bearing capacity of strip footings supported on geocell-reinforced sand. *Geotextiles and Geomembranes,* Journal of International Geosynthetics Society, Vol. 19, No. 4, pp.235-256.

52. Latha, G.M., **Dash, S.K.**, Rajagopal, K. and Krishnaswamy, N.R. (2001) Finite element analysis of strip footing on geocell reinforced sand beds. *Indian Geotechnical Journal,* Journal of Indian Geotechnical Society, Vol.31, No.4, pp.454-478.

Refereed Conference Proceedings

International

1. Banerjee, L., Chawla, S., and **Dash, S.K.,** (2021), "Finite Element Analyses of Geocell Reinforced Tracks over Clayey Subgrade", *4th International Conference on Transportation Geotechnics*, Chicago, Illinois, September 30–October 2, 2021**.**
2. Halder, K., Chakraborty, D. and **Dash, S. K.** (2018) Seismic bearing capacity of a strip footing situated on soil slope using a non-associated flow rule in lower bound limit analysis. *ASCE* Geotechnical special publication, 292 (G-I GEESD Austin 2018) pp. 454-463. (*https://doi.org/10.1061/9780784481479.047*)
3. Halder, K., Chakraborty, D. and **Dash, S. K.** (2016) Behaviour of reinforced soil slopes under strip loading. Proceedings of the *International Geotechnical Engineering Conference on Sustainability in Geotechnical Engineering Practices and Related Urban Issues, September 23-24, 2016, Mumbai, India pp.1-3.*
4. Dixit, J., Raghukanth, S.T.G., **Dash, S.K.** (2014). Spatial distribution of seismic site coefficients for Guwahati city**.** *Proc.16th Int. Association for Mathematical Geosciences - Geostatistical and Geospatial Approaches for the Characterization of Natural Resources in the Environment: Challenges, Processes and Strategies*, IAMG 2014- 117654.
5. Hussain, M. and **Dash, S.K.** (2012) Compaction characteristics of lime treated soils. Proceedings of the *International Conference on Ground Improvement and Ground Control, Wollengong, Australia,* pp. 1095-1100, doi:10.3850/978-981-07-3560-9 04-0410.
6. **Dash, S.K.**, Dutta, S., Sreedeep, S. and Rao, G.V. (2011) Design of a bank protection system on river Brahmaputra at Jamuguri. Proceedings of the *International seminar 'Geosynthetics India' 11,* IIT Madras, Chennai*,* India, September 23-24, pp. 3-8.
7. **Dash, S.K.** (2008) Study on performance of geocell reinforced foundation beds with different type of geocells. Proceedings of the *Fourth European Geosynthetics Conference, EuroGeo4, Edinburg, Scotland,* September 7-10, Paper No.294 (CD proceedings).
8. Sireesh, S., Sitharam, T.G., **Dash, S.K.** and Puppala, A.J. (2007) Geocell reinforced sand mattress spanning over an underground circular void in soft clays:

Model studies. Proceedings of the *13th Asian Regional Conference on Soil Mechanics and Geotechnical Engineering*, December 10-14, 2007, Kolkata, India, Vol. 1, Part II, pp. 1017-1020 (paper no. 241 in CD).

9. **Dash, S.K.** (2007) Effect of Soil dilation on performance of geocell reinforced sand beds. Proceedings of *5th International Symposium on Earth Reinforcement (IS Kyushu 07)* Fukuoka, Kyushu, Japan, November 14-16, pp. 629-632.

10. S.T.G. Raghu Kanth, S. Sreelatha and **Dash, S.K.** (2007) Ground motion estimation at Guwahati city from M_w 8.1 earthquake in the Shillong plateau. Proceedings of the *3rd Indo German Workshop and theme meeting on Seismic Safety of Structures, Risk Assessment and Disaster Mitigation,* Mumbai, March 12-13, pp.35-44.

11. Ramanjaneyulu, C., Hussain, M. and **Dash, S. K**.(2006) Mechanism of Volume Expansion in Soil. Proceedings of the *2nd International Congress on Computational Mechanics and Simulation*, Guwahati, December, CD Proceeding, P21.

12. Jyostna, P., Sreedeep, S. and **Dash, S. K.** (2006) A study on controlling mechanisms and critical evaluation of methods used for determining liquid limit of active fine-grained soil. Proceedings of the *2nd International Congress on Computational Mechanics and Simulation*, Guwahati, December, CD Proceeding, P26.

13. **Dash, S.K.**, Madhavi Latha, G. and Rajagopal, K.(2006) Numerical Modeling of Geocell Reinforced Soil Foundations. Proceedings of the *2nd International Congress on Computational Mechanics and Simulation*, Guwahati, December, Vol.2, 1895-1898.

14. **Dash, S. K.,** Rajagopal, K. and Krishnaswamy, N.R. (2004) Load carrying mechanism of geocell reinforced earth slabs supporting a strip footing. Proceedings of the *Third European Geosynthetics Conference*, Munich, Germany, March, Vol.2, pp. 681-682.

15. **Dash, S. K.,** Rajagopal, K. and Krishnaswamy, N.R. (2004) Geocell reinforced sand - A composite material. Proceedings of the *International e-Conference on Modern Trends in Foundation Engineering: Geotechnical Challenges and Solutions,* IIT Madras, January 26-30, Paper No.3.2.

16. **Dash, S. K.,** Krishnaswamy, N.R. and Rajagopal, K. (2001) Comparison of geocell, planar and randomly reinforced earth slabs. Proceedings of the *International Conference on Civil Engineering*, Bangalore, July, pp.870-877.

17. Krishnaswamy, N.R., Pitchumani, N.K., Rajagopal, K. and **Dash, S.K.** (2000) Geocell-reinforced foundation beds. Proceedings of the *2nd Asian Geosynthetics Conference*, Kualalumpur, May, Vol.2, pp.85-90.

18. Krishnaswamy, N.R., Rajagopal, K. and **Dash, S.K.** (2000) Behaviour of geocell-soil composite system in foundations. Proceedings of the *45th Congress of the Indian Society of Theoretical and Applied Mechanics* - an International meet, Sivakasi, December, pp. 17-24.

National

1. Banerjee, L., Chawla, S. and Dash, S.K. (2018). Three dimensional finite element analyses of geocell reinforced railway tracks. *Proceedings of Indian Geotechnical Conference*, Bangalore.
2. Choudhary, A.K. and Dash, S.K. (2014). Pullout behavior of vertical plate anchor embedded in sand. *Proceedings of Indian Geotechnical Conference*, Kakinada.
3. *Bora, M. C. and **Dash, S.K.** (2014).* Regression model for floating stone column improved soft clay. *Proceedings of Indian Geotechnical Conference*, Kakinada.
4. Biswas, A., Krishna, A.M., **Dash, S.K.** (2013). Applicability of planar geogrid reinforcement in geocell-reinforced foundation systems. e-Proceedings of Indian Geotechnical Conference, Roorkee, Paper No. 175, *pp.1-6.*
5. Priyadarshee, A., **Dash, S.K.** (2013). Behaviour of geocell reinforced granular soils. e-Proceedings of Indian Geotechnical Conference, Roorkee, Paper No. 178, *pp.1-6.*
6. Baglari, D, **Dash, S.K.** (2013) Improvement of expansive soil by lime and reinforcement. Proceedings of Indian Geotechnical Conference, Roorkee, Paper No. 207, *pp.1-6.*
7. Choudhary, A.K, **Dash, S.K.** (2013) Uplift behaviour of horizontal plate anchor embedded in geocell-reinforced sand. Proceedings of Indian Geotechnical Conference, Roorkee, Paper No. 235, *pp.1-5.*
8. Bora, M. C. and **Dash, S.K.** (2012) Floating stone columns in soft clay with unreinforced and geocell reinforced sand cushion. *Proceedings of Indian Geotechnical Conference,* Delhi, pp.255-260.
9. Biswas, A., **Dash, S.K.** and Krishna, M. A. (2012) Parameters influencing the performance of geocell-reinforced foundation system: A brief review. *Proceedings of Indian Geotechnical Conference*, *Delhi, pp.365-368.*
10. *Hussain, M. and **Dash, S.K.** (2012)* Shrinkage behaviour of soils. *Proceedings of Indian Geotechnical Conference*, *Delhi,* pp.388-391.
11. Hussain, M. and **Dash, S.K.** (2011) Swelling behaviour of soils. Proceedings of *Indian Geotechnical Conference, Kochi*, December.
12. Bora, M. C. and **Dash, S.K.** (2010) Load deformation behaviour of floating stone columns in soft clay. *Indian Geotechnical Conference, Bombay*, December, pp.251-254.
13. Hussain, M. and **Dash, S.K.** (2010) Influence of lime on plasticity behaviour of soils. *Indian Geotechnical Conference, Bombay,* December, pp.537-540.
14. Hussain, M. and **Dash, S.K.** (2009) Influence of lime on compaction behaviour of soils. *Indian Geotechnical Conference, Guntur,* December, pp.15-17.
15. Raghukanth, S.T.G., Dixit, J. and **Dash, S.K.** (2009) Estimation of site amplification factors for Guwahati city. *Indian Geotechnical Conference, Guntur,* December, pp.527-530.
16. Dixit, J, Raghukanth, S.T.G. and **Dash, S.K.** (2009) Influence of local soil deposits on the ground response at Guwahati city. Proceedings of the National conference on

computer modeling and simulation in computational mechanics, NERIST Itanagar, March, pp.200-210.

17. Hussain, M. and **Dash, S.K** (2008) Bearing Capacity Improvement of Liquefiable Soil using Lime Stablisation. Proceeding of the *National seminar on earthquake hazard and disaster management of North Eastern states of India*, NIT Silchar, October, pp. 131-136.
18. **Dash, S. K.,** Rajagopal, K. and Krishnaswamy, N.R. (2008) Contact pressure on subgrade soil underlying geocell mattress. Proceedings of *Indian Geotechnical Conference, Bangalore,* December, pp.226-229.
19. Ravi, K., Braeu, G., Vogt, S**.** and **Dash, S.K.** (2008) Behaviour of Geosynthetic reinforced unpaved road subbase under cyclic loading. Proceedings of *Indian Geotechnical Conference, Bangalore,* December, pp.214-217.
20. **Dash, S. K.,** Rajagopal, K. and Krishnaswamy, N.R. (2008) Contact pressure on subgrade soil underlying geocell mattress. Proceedings of *Indian Geotechnical Conference, Bangalore,* December, pp.226-229.
21. **Dash, S. K.** and Rajagopal, K. (2006) Influence of soil density on the performance of geocell reinforced sand foundations. Proceedings of the *Indian Geotechnical Conference, Chennai,* December, pp.581-582.
22. Sireesh, S., Sitharam, T.G. and **Dash, S.K.** (2006) Influence of footing size on behavior of geocell reinforced sand foundations. Proceedings of the *Indian Geotechnical Conference, Chennai,* December, pp.591-592.
23. Sireesh, S., Sitharam, T.G. and **Dash, S.K.** (2005) Load tests on geocell reinforced soft clay foundations. Proceedings of the *Indian Geotechnical Conference, Ahmedabad*, December, pp.261-264.
24. Sabat, A.K., Behera, S.N. and **Dash. S.K.** (2005) Effect of flyash-marble powder on the engineering properties of an expansive soil. Proceedings of the *Indian Geotechnical Conference, Ahmedabad*, December, pp. 269-272.
25. **Dash, S. K.,** Krishnaswamy, N.R. and Rajagopal, K. (2005) Influence of geocell material on performance of geocell reinforced sand foundations. Proceedings of the *National Symposium on Prediction Methods in Geotechnical Engineering*, Chennai, June, pp.A2.1-4.
26. **Dash, S.K.,** Lenka, B.P., Sahoo, T., Senapati, O., Mishra, S., Patra, M. and Patro**,** A. (2005) Tensile strength of cement stabilised flyash-a material for highway construction. Procedings of the *National Conference on Advances in road Transportation*, Rourkela, February, pp. 502-508.
27. **Dash, S.K.,** Sireesh, S., Sitharam, T.G. and Vinod, J.S. (2005) Improvement of bearing capacity of layered soil beds using geocell reinforcement. Proceedings of the *All India Seminar on Advances in Geotechnical Engineering*, Rourkela, January, pp.71-77.
28. **Dash, S. K.,** Rajagopal, K. and Krishnaswamy, N.R. (2004) Load dispersion in geocell reinforced sand foundations. Proceedings of the *National Symposium on Advances in Geotechnical Engineering*, Bangalore, July, pp.151-154.

29. Sireesh, S., Sitharam, T.G., Vinod, J.S. and **Dash, S.K.** (2003) Behaviour of circular footing on geocell reinforced sand underlain by soft clay. Proceedings of the *Indian Geotechnical Conference,* Roorkee, December, pp.355-358.

30. **Dash, S.K.,** Sireesh, S. and Sitharam, T.G. (2002) Bearing capacity of circular footing on geocell reinforced sand beds. Proceedings of the *Indian Geotechnical Conference*, Allahabad, December, pp.577-578.

31. **Dash, S. K.,** Rajagopal, K. and Krishnaswamy, N.R. (2001) Influence of additional planar reinforcement on the behaviour of geocell mattress. Proceedings of the *Indian Geotechnical Conference*, Indore, December, pp.278-279.

32. Krishnaswamy, N.R., Rajagopal, K. and **Dash, S.K.** (2000) Bearing capacity tests on geocell-reinforced sand. Proceedings of the *Indian Geotechnical conference*, Bombay, December, pp.333-334.

33. **Dash, S.K.** and **Dash, P.K. (**1996) Influence of strain rate on shear parameters of sand. Proceedings of the *Indian Geotechnical Conference*, Madras, December, pp.162-164.

Technical Report

1. Sitharam T.G., Govindaraju L. and **Dash, S.K.** (2002) Dynamic properties of soils and liquefaction behaviour of sands. *Research report* submitted to the Department of Science and Technology, Seismology Division, Government of India, NewDelhi.
2. **Dash, S.K.** (2006) Effectiveness of Reinforcement in Highway Subbase under Cyclic Loading. *Research report* submitted to Center for Geotechnical Engineering, Technical University Munich, Germany.
3. **Dash, S.K.**, Dutta, S., Sreedeep S. and Rao, G.V. (2008) Bank protection of terminal/inland port of river Brahmaputra at Jamuguri. *Design Report* # IWAI/GHY/Terminal/3(13)/General/2006-07/965a, submitted to the Inland water ways authority of India, Guwahati, Ministry of Shipping, Govt. of India.
4. Dutta, S., **Dash, S.K.**, Sreedeep S. and Rao, G.V. (2008) River Training Work for Maintaining Navigational flow depth in Brahmaputra at Garimari. *Design Report* # IWAI/GHY/Terminal/3(13)/General/2006-0/965b, submitted to the Inland water ways authority of India, Guwahati, Ministry of Shipping, Govt. of India.
5. **Dash S. K.** (2009) Geocell-reinforced sand foundation on soft clay: Behaviour under Cyclic Loading. *Research report* (SR/FTP/ETA-23/2005) submitted to Department of Science and Technology, SERC Division, Government of India, New Delhi.
6. **Dash S. K.** and Babu GLS (2011) Soil nailing for slope stabilization in the section Ch 119/100 to Ch 119/595 in Lumding-Silchar gauge conversion project of North East Frontier Railway. *Design Report* # W/29/CON/L-S/TUNNEL, submitted to Chief Engineer/CON/I, North East Frontier Railway, Maligaon, Guwahati.

Book

Dash, S. K., Vieira, C. S., eds. (2021). Geosynthetics for Development of Transportation Infrastructures. *Lausanne: Frontiers Media SA*. doi: 10.3389/978-2-88966-741-3.

Book chapter

1. **Dash, S.K.** (2019). "Geocell reinforced foundation beds" *Geocells Advances and Applications*, Springer, pp.131-152 (https://doi.org/10.1007/978-981-15-6095-8)
2. Krishna M. A., Biswas, A., Prasath, S. B. and **Dash, S.K.** (2019) "Performance of geocell-reinforced sand foundations with clay subgrades of varying strength" *Geocells Advances and Applications*, Springer, pp. 153-172 (https://doi.org/10.1007/978-981-15-6095-8)
3. Banerjee, L**.**, Chawla, S., and **Dash, S.K**., (2021), "Finite Element Analyses of Geocell Reinforced Tracks over Clayey Subgrade", In *Lecture Notes in Civil Engineering*, *Advances in Transportation Geotechnics* IV**,**Vol. 165, (*Springer)*, Singapore.
4. Banerjee, L., Chawla, S. and **Dash, S.K.,** (2020). "Three-Dimensional Finite Element Analyses of Geocell-Reinforced Railway Tracks," In *Geotechnical Characterization and Modelling*(pp. 741-749). (*Springer)*, Singapore.

Awards and Recognitions

1. ***Indian Geotechnical Society – Z-Tech. Biennial award*** for the paper **"**Madhavi Latha, G., Dash, S.K., Rajagopal, K. and Krishnaswamy, N.R. (2001) Finite element analysis of strip footing on geocell reinforced sand beds. Indian Geotechnical Journal Vol.31, No.4, pp.454-478.**"** Adjudged as the ***best paper*** on "Geosynthetics and Allied Construction Products" published through Indian Geotechnical Society for the years 2000-2001.
2. ***Indian Geotechnical Society – Z-Tech. Biennial award*** for the paper **"**Sireesh, S., Sitharam, T.G., Vinod, J.S. and Dash, S.K. (2003) Behaviour of circular footing on geocell reinforced sand underlain by soft clay. Proceedings of the *Indian Geotechnical Conference,* Roorkee, December, pp.355-358.**"** Adjudged as the ***best paper*** on "Geosynthetics and Allied Construction Products" published through Indian Geotechnical Society for the years 2002-2003.
3. ***German Academic Exchange Service (DAAD) Fellowship*** 2006, for research work at the Technical University Munich, Germany.
4. ***Endeavour Research Fellowship of Government of Australia*** 2009, for research work in the Centre for Geomechanics and Railway Engineering, University of Wollongong, Australia.
5. ***Cited in the list of top 2% of the best researchers of the world*** with highest academic impact, based on the list prepared, released by Stanford University and Elsevier, for the years 2021 and 2022 (doi:10.17632/btchxktzyw.3, doi:10.17632/btchxktzyw.4)

Professional Activity

1. ***Editorial board member***, *Geotextiles and Geomembranes*, Journal of International Geosynthetics Society (2022 Jan-continuing)
2. ***Associate Editor*****,** Transportation and Transit Systems (specialty section of Frontiers in Built Environment, Frontiers in Environmental Science and Frontiers in Mechanical Engineering), published by Frontiers, Switzerland (March 2021-continuing)
3. ***Lead Guest Editor*** "Geosynthetics for Infrastructure Development" Special issue of the *Journal of Geotechnical Engineering, SEAGS,* Vol. 49(4), Dec. 2018.

4. ***Lead Guest Editor*** **"**Geosynthetics for Development of Transportation Infrastructures" Special issue of the journal, *Transportation and Transit Systems*, published by Frontiers, Switzerland.

Reviewer

- *Journal of Materials in Civil Engineering, ASCE*
- *American Journal of Engineering and Applied Sciences*
- Journal of Testing and Evaluation, American Institute of Physics
- Geosynthetics International, Journal of International Geosynthetics Society.
- Soils and Foundations, Journal of Japanese Geotechnical Society
- Geotextiles and Geomembranes, Journal of International Geosynthetics Society
- Ground Improvement, Proceedings of the Institution of Civil Engineers London.
- Engineering Geology, Elsevier.
- Journal of Hydraulic Engineering, ASCE
- Journal of Advanced Research，Elsevier
- Applied Clay Science, Elsevier
- Canadian geotechnical journal
- Transportation Geotechnics
- Journal of Geotechnical engineering, *SEAGS*
- International journal of Geomechanics, *ASCE*
- Journal of Hazardous, Toxic, and Radioactive Waste, *ASCE*
- Geotechnical Testing Journal, *ASTM*
- Geotechnical and Geological Engineering, Springer
- Engineering Mechanics, *ASCE*
- International Journal of Geotechnical Earthquake Engineering
- Journal of Rock Mechanics and Geotechnical Engineering
- Journal of Environmental Geology, *Springer*
- International Journal for Numerical and Analytical Methods in Geomechanics, *Wiley*
- *Natural Hazards and Earth System Sciences, Journal of the European Geosciences Union*
- *Geomechanics and Engineering, An International Journal; Techno-press*
- Indian Geotechnical Journal, Springer

Project

Sponsored Research

1. Geocell-reinforced sand foundation on soft clay: Behaviour under Cyclic Loading, Department of Science and Technology Govt. India. Cost Rs. 11.64 Lakhs, Status: completed (Principal investigator).
2. Analysis of water balance in rice agriculture system using distributed hydrologic model, ISRO Ahmedabad-IIT Guwahati collaboration project. Project Cost: Rs. 20.117 Lakhs, Status: completed (Co-investigator).
3. Application of geocell reinforcement for performance improvement of anchored foundations under uplift, SRIC, IIT Kharagpur. Cost Rs. 5 Lakhs, Status: completed (Principal investigator).

Consultancy

1. Investigations on soil for coffer-dam of Mangdechhu Hydroelectric Project, Bhutan. Sponsoring Agency: NHPC Govt. of India, Project Cost: Rs. 4.445 Lakhs, Status: Completed - (Principal investigator).
2. Investigations on the bridge foundation over river Killing on NH-37 regarding the accident on 17th May 2007. Sponsoring Agency: NHAI Govt. of India, Project Cost: Rs. 0.449 Lakhs, Status: Completed - (Principal investigator).
3. Bank protection of terminal/inland port on river Brahmaputra at Jamuguri, Sponsoring Agency: IWAI Govt. of India, Project Cost: Rs. 12 Lakhs, Status: Completed - (In collaboration with IIT Delhi)
4. River training work for maintaining navigational flow depth in river Brahamaputra, Sponsoring Agency: IWAI Govt. of India, Project Cost: Rs. 20 Lakhs, Status: Completed - (In collaboration with IIT Delhi).
5. Slope stabilization measures in Lumding-Silchar gauge conversion project in Northeast Frontier Railway. Sponsoring Agency: Northeast Frontier Railway, Govt. of India, Project Cost: Rs. 18.858 Lakhs, Status: Completed - (In collaboration with IISc. Bangalore).
6. Recommendation for foundation of the zonal office building, Doordarsan, Guwahati. Sponsoring agency: Prasar Bharati, Guwahati, Project cost: 1.1 Lakh, Status: Completed - (Principal investigator).
7. Evaluation of Modulus of Elasticity of Rail Track Formation. Sponsoring agency: HMBS Textiles Pvt Ltd. Delhi, Project cost: 7 Lakhs, Status: Completed - (Principal investigator)
8. Laboratory scale evaluation of Ev2 for a railway formation at Agartala. Sponsoring agency: C.E. Testing Company Pvt. Ltd. Kolkata. Project cost: 7.865 Lakhs, Status: Completed- (Principal investigator).
9. Estimation of bearing capacity and settlement for flyover at km 215.264 of BSRP at Jharpokharia, Mayurbhanj, Odisha. *Sponsoring agency*: Larsen and Toubro Limited, Value: 5.9 Lakhs. (Co-PI).
10. Third party inspection of geotechnical design report of Keller for piling work at Vishakhapatnam. *Sponsoring agency*: Keller Ground Engineering India Pvt. Ltd., *Value*: 3.54 Lakhs, (Co-PI).
11. Characterisation of soils for construction of pile foundation at intake well for Pakur urban water supply scheme. *Sponsoring agency*: Drinking Water and Sanitation Division, Pakur, Jharkhand, *Value*: 1.77 Lakhs (PI).
12. Geotechnical design of foundations for campus development of Jawahar Navodaya Vidyalaya, Gangadharpur, Howrah, WB., *Sponsoring agency*: U.P Projects Corporation Ltd., Value: 5.9 Lakhs (Co-PI)

Short Course/Workshop Conducted

1. Short course on 'Heavy-haul railways: Towards, safe, efficient, and sustainable design' Jointly conducted with Dr. S. Nimbalkar, University of Technology Sydney. 2nd -12th August 2022.

2. Workshop on 'Heavy-haul railways: Towards, safe, efficient, and sustainable design' Jointly conducted with Dr. S. Nimbalkar, University of Technology Sydney. 22nd Feb 2022.
3. Short course on 'Modern Trends in Railway Track Geotechnologies', 25-27th Feb. 2020
4. Short course on 'Geotechnical Earthquake Engineering', under *NPEEE,* 31st May to 4th June 2004.

Professional Body membership

- Life member of the Indian Geotechnical Society – LM 2463
- Life member of the Institution of Engineers, India – A512895/2
- Member of International Society of Soil Mechanics and Geotechnical Engineering - IND060147

PhD Guidance

1. Monowar Hussen "A Study on Performance Improvement of Expansive Soil Using Residual Soil and Lime" – *Status: **Awarded*** (Independent Guidance)
2. Meenaxi Rai "Geocell-sand mattress overlying soft clay subgrade: behaviour under circular loading" –*Status: **Awarded*** (jointly with Dr. T. Lyngdoh)
3. Mukul Bora "Performance improvement of weak clay foundation using stone column and geocell-sand mattress." *Status: **Awarded*** (Independent Guidance)
4. *Shailen Deka* "Performance enhancement of expansive soil by application of flyash and lime" *Status: **Awarded*** (jointly with Dr. S. Sreedeep)
5. *Akash Priyadarshee "*Strength and Deformation Characteristics of Geocell-Fiber Reinforced Granular Soil*" Status: **Awarded*** (Independent Guidance)
6. *Awdhesh Kumar Choudhary "Pullout* b*ehaviour of* v*ertical* p*late* a*nchors in g*eocell* r*einforced* s*and" Status: **Awarded*** (Independent Guidance)
7. *Kousik Halder "Behaviour of R*einforced Soil Slopes under Different Loading Conditions" Status: ***Awarded*** (Joint Guidance)
8. *Lalima Banerjee, IIT (ISM) Dhanbad "Study on the behavior of geocell reinforced tracks with recycled mine spoils as sub-ballast material"* Status: ***Awarded** (External Guide)*
9. *Anjan Majee "Settlement Analysis of Reinforced Soil Foundation Beds" Status: **Awarded*** (Independent Guidance)
10. Rupam Saikia "Behaviour of geocell reinforced embankment over soft clay" *Status: in progress* (Independent Guidance)
11. *Dharmendra Barman "Stabilisation of expansive soil using additives" Status: in progress* (Independent Guidance)

M. Tech. Guidance

1. C. Ramanjaneylu "Swell-Shrink behaviour of fine grained soils" *Status: Awarded*. (Independent Guidance)
2. J. Pegu "Re-evaluation of plasticity characteristics of fine grained soils" *Status: Awarded* (jointly with Dr. S. Sredeep)

3. Ravi K. "Effectiveness of reinforcement in highway subbase under cyclic loading" – *Status: Awarded.* (jointly with Prof. N. Vogt, TU Munich Germany)
4. Sakhare Pravin V. "Behaviour of reinforced soil beds under cyclic loading: Large scale tests". *Status: Awarded*. (jointly with Prof. N. Vogt, TU Munich Germany)
5. Jagabandhu Dixit "Seismic site coefficient at Guwahati city" *Status: Awarded*. (jointly with Dr. Raghukanth)
6. Syam P.S. "Bearing capacity of geocell reinforced foundation" *Status: Awarded.* (Jointly with Dr. Rajib Bhattacharjee)
7. Sindhe Bhusan Vilas "Modulus of elasticity of geocell reinforced foundation beds" *Status: Awarded.* (Jointly with Dr. Rajib Bhattacharjee)
8. S. Amol "Performance improvement of ballasted rail track using geocell reinforcement" *Status: Awarded* (Independent Guidance).
9. Prabhudutta Pradhan "Development of a constitutive model for geocell encased soil" *Status: Awarded* (Independent Guidance).
10. Harinarayan N.H. "Study of cohesionless soils reinforced with randomly distributed fibers." *Status: Awarded.* (Independent Guidance).
11. Ansari A. "Bearing capacity of foundations on layered soil with geogrid reinforcement" *Awarded.* (Independent Guidance).
12. Dipjyoti Baglari "Behaviour of lime stabilized reinforced expansive soils" *Awarded.* (Independent Guidance).
13. P. Satyapraksh (2013) "Mechanical behaviour of fiber reinforced soils" *Status: Awarded* (Independent Guidance).
14. Hemanth P. (2014) "Performance improvement of expansive soil stablised with lime and cement: A comparative study." *Status: Awarded* (Independent Guidance).
15. Ranjan Halder (2014) "Performance evaluation of fiber reinforced flyash." *Status: Awarded* (Independent Guidance).
16. Sajmi S. (2015) "Strength characteristics of fiber reinforced cement stabilized flyash" *Status: Awarded* (Independent Guidance).
17. Sittanandan M. (2015) "Strength deformation behavior of geocell reinforced granular soil" *Awarded* (Independent Guidance).
18. Mridul Mandal (2016) "Performance improvement of railway formation with geogrid reinforcement**"** *Awarded* (Independent Guidance).
19. Ashutosh Kumar (2017) Uplift Behavior of Horizontal Plate Anchors in Cohesion less Soil. *Awarded* (Independent Guidance).
20. Manjunath R. (2017) "Performance improvement of coal fouled ballast using geocells" *Awarded* (Independent Guidance).
21. N. Rammohan (2018) "Performance improvement of horizontal plate anchor using geocell reinforcement" *Awarded* (Independent Guidance)
22. Arbind Kumar Mahato (2018) "Effect of coal dust fouling on shear behavior of rail track ballast" *Awarded* (Independent Guidance)
23. Manaswini, V. (2019) "Performance evaluation of geogrid reinforced embankments on soft clay". Status: *Awarded* (Independent Guidance).

24. Vishal Kumar Pathak (2020) "Performance of geocell reinforced anchor under oblique loading". Status: *Awarded* (Independent Guidance).

25. Vishnu R (2021) "Bearing capacity of geocell embankment over soft soil" Status: *Awarded* (Independent Guidance).

26. Pradumn Raghuwanshi (2022) "Behaviour of floating stone columns in clay". Status: *Awarded* (Independent Guidance).

27. Pranabananda Sahoo "Influence of extended geocell mattress beyond embankment on soft clay with side berm" *Status: in progress* (Independent Guidance)

Service

- Associate Dean, Faculty of Engineering and Architecture, IIT Kharagpur (3.1.2023-till date)
- AICTE representative on the Board of Governors for Government College of Engineering, Kalahandi, Bhawanipatna, Odisha (1.12.2017-till date)
- Member, technical program committee of 5th International Conference on Transportation Geotechnics 2024: ICTG2024, Sydney, Australia.
- Chairperson students' techno festival, IIT Kharagpur: Kshitij 2021
- In charge of geotechnical engineering section, IIT Kharagpur (July 2020-tilll date)
- In charge of geotechnical engineering laboratory, IIT Kharagpur (July 2016-July 2020)

Date: 26 April 2023 (**Sujit Kumar Dash**)