Curriculum Vitae

Dr. Malaya Chetia

Assistant Professor
Civil Engineering Department
Assam Engineering College
Jalukbari, Guwahati -781013
Assam, India

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Education

PhD (2012) in Geotechnical Engineering from Indian Institute of Technology Guwahati
ME (1995) in Soil Mechanics and Foundation Engineering from Assam Engineering College
BE (1992) in Civil Engineering from Jorhat Engineering College

PhD Dissertation

Title: A Study on Measuring Methodologies and Critical Parameters Influencing Soil Suction-Water Content Relationship
Supervisor: Dr. Sreedeep, S., Professor, IIT Guwahati

Professional Experience

Assistant Professor, Assam Engineering College (August 2006 - Till date)
Lecturer, Assam Engineering College (August 1995 - July 2006)

Research Interest

Behavioral studies on unsaturated porous media
Characterization of soil
Characterization of waste soil
Waste containment and management
Contaminant transport studies

Professional Membership

Indian Geotechnical Society (ID: LM 2261)
International Society of Soil Mechanics and Geotechnical Engineering (ID: IND14LM-2261)

Publications

National Journal Paper

1. Malaya, C. and Sreedeep, S. (2016). "Effect of fertilizers and fly ash addition on suction-water content relationship of a sandy soil", Indian Geotechnical Journal, Vol. 46, Issue 3, DOI: 10.1007/s40098-015-0174-2

2. Malaya, C. and Sreedeep, S. (2015). "Determination of water retention and unsaturated hydraulic conductivity of Brahmaputra sand", Journal on Civil Engineering, i-manager Publication, Vol. 5, Issue 4, pp. 14-20
3. Mohamed, Y., Malaya, C., and Sreedeep, S. (2012). "Evaluation of hydraulic conductivity of fly ash-bentonite clay liner", Journal of Environmental Research and Development, G.SEED.
4. Malaya, C. and Sreedeep, S. (2011). "A study on the change in SWCC parameters of a local soil due to fly ash addition", Journal of Environmental Research and Development, G.SEED, Vol. 5, No. 4, pp. 972-977
5. Malaya, C. and Sreedeep, S. (2010). "An investigation on influence of soil additives on tensiometric measurements in soil", Journal of Environmental Research and Development, G.SEED, Vol. 5, No. 2, pp. 300-307
6. Malaya, C. and Bora, P.K. (1998). "Estimation of overconsolidation ratio of saturated uncemented clays from simple parameters", Indian Geotechnical Journal, Vol. 28, No. 2, pp. 177-194

International Journal Paper

7. Malaya, C. and Sreedeep, S. (2016). "Evaluation of different laboratory procedures for determining suction–water content relationship of cohesionless geomaterials", Journal of Materials in Civil Engineering, Vol. 28, Issue 2, DOI: 10.1061/(ASCE)MT.1943-5533.0001399, 04015123
8. Rupam, S. and Malaya, C. (2014). "Soil liquefaction potential studies of Guwahati city - A critical review", International Journal of Innovative Research in Science, Engineering and Technology, Vol. 3, Issue 5, pp. 1333-1338
9. Rupam, S. and Malaya, C. (2014). "Critical review on the parameters influencing liquefaction of soils", International Journal of Innovative Research in Science, Engineering and Technology, Vol. 3, Special issue 4, pp. 111-116
10. Malaya, C. and Sreedeep, S. (2013). "A study on unsaturated hydraulic conductivity of hill soil of north-east India", ISH Journal of Hydraulic Engineering, Taylor & Francis, London, UK, Vol. 19, No. 3, pp. 276-281
11. Abhijit, D., Malaya, C. and Sreedeep, S. (2013). "A study on tensiometer measurements in salt laden soil used for irrigation scheduling", Journal of Geotechnical and Geological Engineering, Springer, Vol. 31, No. 4, pp. 1349-1357
12. Malaya, C. and Sreedeep, S. (2012). "Critical review on the parameters influencing soil-water characteristic curve", Journal of Irrigation and Drainage Engineering, ASCE, Vol. 138, No. 1, page count: 8
13. Malaya, C. and Sreedeep, S. (2012). "Critical evaluation on the drying water retention characteristics of a class F Indian fly ash", Journal of Materials in Civil Engineering, ASCE, Vol. 24, No. 4, page count: 9
14. Malaya, C. and Sreedeep, S. (2011). "A laboratory procedure for measuring high soil suction", Geotechnical Testing Journal, ASTM, Vol. 34, No. 5, page count: 11
15. Malaya, C. and Sreedeep, S. (2010). "A study on the influence of measuring procedures on suction-water content relationship of a sandy soil", Journal of Testing and Evaluation, ASTM, Vol. 38, No. 6, pp. 1-9.
16. Ankit, G., Malaya, C. and Sreedeep, S. (2010). "A study on the influence of soil-water characteristic curve on the seepage modeling of unsaturated soil", International Journal of Earth Sciences and Engineering, Vol. 3, No. 2, pp. 40-46

National Conference Paper

17. Dipankar, D., Tinku, K. and Malaya, C. (2018). "Influence of strain rate on unconfined compressive strength of bentonite and sand mixes", Indian Geotechnical Conference, Indian Institute of Science, Bengaluru, India.

18. Dipankar, D. and Malaya, C. (2018). "Influence of strain rate on compressive strength of sand-bentonite mixture", National Conference on Advances in Civil and Infrastructure Engineering, Tezpur University, Assam, India.

19. Hemanga, D. and Malaya, C. (2018). "Unconfined compressive strength of bentonite-quarry dust mixes", National Conference on Advances in Civil and Infrastructure Engineering, Tezpur University, Assam, India.

20. Jitendra, D. and Malaya, C. (2018). "Shear behaviour of bentonite-quarry dust mixes", National Conference on Advances in Civil and Infrastructure Engineering, Tezpur University, Assam, India.

21. Natasha, K. and Malaya, C. (2018). "A study on shear strength of rock quarry dust", National Conference on Advances in Civil and Infrastructure Engineering, Tezpur University, Assam, India.

22. Tinku, K. and Malaya, C. (2018). "Critical review on the factors influencing unconfined compressive strength of soil", National Conference on Advances in Civil and Infrastructure Engineering, Tezpur University, Assam, India.

23. Prasanty, B., Malaya, C. and Sridharan, A. (2016). "Shear strength behavior of sand-tyre and rock quarry dust-tyre waste mixes", Indian Geotechnical Conference, IIT Madras, Chennai, India

24. Prasanty, B., Malaya, C. and Sridharan, A. (2016). "Factors influencing shear strength of sand-tyre waste mixtures", The 1st International Conference on Civil Engineering for Sustainable Development - Opportunities and Challenges, Assam Engineering College, Guwahati, India

25. Manash, B., Malaya, C. and Sridharan, A. (2016). "Influence of sand and rock quarry dust addition on compaction properties of clay", The 1st International Conference on Civil Engineering for Sustainable Development - Opportunities and Challenges, Assam Engineering College, Guwahati, India

26. Manash, B. and Malaya, C. (2016). "A comparative study on compaction characteristics of bentonite-sand and bentonite-quarry dust mix", NES Geo-Congress, National Institute of Technology, Agartala, India

27. Rimzim, L. and Malaya, C. (2016). "Effect of density on unsaturated hydraulic conductivity of soils", NES Geo-Congress, National Institute of Technology, Agartala, India

28. Manash, B. and Malaya, C. (2015). "Influence of grain size of quarry dust on compaction characteristics of clay-quarry dust mix", Indian Geotechnical Conference, Pune, India

29. Manash, B. and Malaya, C. (2014). "Influence of grain size of sand on the compaction characteristics of clay-sand mixes", NES Geo-Congress, Indian Institute of Techology, Guwahati

30. Manash, B., Malaya, C. and Sridharan, A. (2014). "A comparative study on the compaction characteristics of clay-sand mix and clay-quarry dust mix", Indian Geotechnical Conference, Kakinada, India

31. Rupam, S. and Malaya, C. (2014). "A study on the influence of particle shape on suction-water content relationship", Indian Geotechnical Conference, Kakinada, India

32. Rupam, S. and Malaya, C. (2014). "Critical review on the parameters influencing liquefaction of soils", National Conference on Recent Advances in Civil Engineering, Department of Civil Engineering, North Eastern Regional Institute of Science and Technology, Itanagar, India

33. Malaya, C., Ankit, G. and Sreedeep, S. (2013). "Influence of drying and wetting soil-water characteristic curves on seepage modeling of soil", Hydro 2013 International, IIT Madras, India

34. Rupam, S. and Malaya, C. (2013). "Critical review on the parameters influencing liquefaction of soils", National Conference on Recent Advances in Civil Engineering, North Eastern Regional Institute of Science and Technology, Arunachal Pradesh, India

35. Koustuvee, K., Malaya, C. and Sridharan, A. (2013). "Shear strength behavior of quarry dust-sand mix", Indian Geotechnical Conference, Roorkee, India

36. Koustuvee, K., Sridharan, A., Chinmoy, K., Rahul, D. and Malaya, C. (2013). "A study on the influence of particle characteristics on shear strength behavior of quarry dust", Indian Geotechnical Conference, Roorkee, India

37. Chinumani, C. and Malaya, C. (2013). "A study on hygroscopic water content and residual water content of soils", Indian Geotechnical Conference, Roorkee, India

38. Malaya, C. and Sreedeep, S. (2013). "Comparison of suction measurements using two low cost methodologies", Indian Geotechnical Conference, Roorkee, India

39. Malaya, C. and Sreedeep, S. (2013). "Correlation between grain size distribution curve and unsaturated hydraulic conductivity curve of soils", Indian Geotechnical Conference, Roorkee, India

40. Malaya, C. and Sreedeep, S. (2012). "Estimated unsaturated hydraulic conductivity of hill soil of North-East India", National Conference on Hydraulic and Water Resources, Civil Engineering Department, Indian Institute of Technology Bombay, Maharashtra, India

41. Malaya, C. and Sreedeep, S. (2012). "A study on the influence of soil-moisture measuring methodologies on SWCC", Indian Geotechnical Conference, IIT Delhi, India

42. Malaya, C. and Sreedeep, S. (2012). "Factors affecting suction-water content relationship of a locally available soil", Indian Geotechnical Conference, IIT Delhi, India

43. Abhijit, D., Malaya, C., Srikanth, V. and Sreedeep, S. (2012). "Comparison of suction measurement technique for class F fly ash", Indian Geotechnical Conference, IIT Delhi, India

44. Chinumani, C. and Malaya, C. (2012). "A study on correlation between specific surface area and soil-water characteristic curve", Indian Geotechnical Conference, IIT Delhi, India

45. Chinumani, C. and Malaya, C. (2012). "Specific surface are and its influence on soil-water characteristic curve", International Conference on Solid Waste Management, Mysore, Karnataka, India

46. Ellora, K. and Malaya, C. (2012). "A study on the relationship between water content at air-entry value and shrinkage limit of soil", Indian Geotechnical Conference, IIT Delhi, India

47. Malaya, C. and Sreedeep, S. (2012). "Determination of water retention and unsaturated hydraulic conductivity of an Indian fly ash", National Conference on Recent Developments in Civil Engineering, Civil Engineering Department, SRM University, Tamil Nadu, India

48. Malaya, C. and Sreedeep, S. (2012). "A critical review on soil-water retention curve", National Conference on Advances in Civil Engineering, Civil Engineering Department, Vasavi College of Engineering, Hyderabad, India

49. Malaya, C., Abhijit, D. and Sreedeep, S. (2011). "Evaluation of estimated suction-water content relationship of a locally available soil", Indian Geotechnical Conference, Kochi, India

50. Malaya, C. and Sreedeep, S. (2011). "Recent developments in the measurement of wetting SWCC", National Conference on Recent Advances in Civil Engineering, Banaras Hindu University, Varanasi, India, pp. 290-293

51. Malaya, C., Srikanth, V. and Sreedeep, S. (2011). "A cost effective methodology for measuring high suction in soils", Indian Geotechnical Conference, Kochi, India

52. Malaya, C. and Sreedeep, S. (2010). "A study on wetting soil-water characteristic curve of a poorly graded sandy soil", Indian Geotechnical Conference, Indian Institute of Technology Bombay, Mumbai, India

53. Malaya, C. and Sreedeep, S. (2010). "Effect of fly ash on soil-water characteristic curve of a locally available soil", Fourth International Conference on Plants and Environmental Pollution, National Botanical Research Institute, Lucknow, India

54. Malaya, C. and Sreedeep, S. (2010). "Influence of admixture on soil-water characteristic curve of a sandy soil", National Conference on Sustainable Water Resources Management and Impact of Climate Change, BITS-Pilani, Hyderabad

55. Malaya, C. and Sreedeep, S. (2009). "An investigation on the effect of initial density on drying soil-water characteristic curve of a cohesionless soil", Student Symposium on Research in Civil Engineering, Indian Institute of Technology Madras, Chennai

56. Malaya, C. and Sreedeep, S. (2009). "A comparative study on the measured and estimated soil-water characteristic curve of a sandy soil", Indian Geotechnical Conference, Guntur, pp. 23-26

International Conference Paper

57. Hemanga, D., Tinku, Kalita and Malaya, C. (2018). "Factors influencing unconfined compressive strength of bentonite-rock quarry dust mixes", International Association for Computer Methods and Advances in Geomechanics Symposium 2019, Indian Institute of Technology, Gandhinagar, India. (Abstract Accepted).

58. Natasha, K. and Malaya, C. (2018). "Shear strength of rock quarry dust and sand mix", First International Conference on Emerging Trends in Civil Engineering, Srinivasa Ramanujan Institute of Technology, Andhra Pradesh, India. (Paper submitted).

59. Malaya, C., Manash, B. and Sridharan, A. (2017). "Effect of quarry dust on compaction characteristics of clay", GeoMEast, Sharm El-Sheik, Egypt

60. Malaya, C. and Sridharan, A. (2016). "A review on influence of rock quarry dust on geotechnical properties of soil", Geo-Chicago, Chicago, US

61. B. Sharma and C. Malaya (2015). "Deterministic and probabilistic liquefaction potential evaluation of Guwahati city", The 15th Asian Regional Conference on Soil Mechanics and Geotechnical Engineering, Japanese Geotechnical Society Special Publication, Vol. 2, No. 22, pp. 823-828, http://doi.org/10.3208/jgssp.IND-32

62. Malaya, C. and Sreedeep, S. (2014). "A study on the influence of fly ash addition on water retention characteristics of soil", Geo-Congress, Atlanta, Georgia, US

63. Malaya, C. and Sreedeep, S. (2014). "Influence of range of suction measurement on soil-water characteristic curve", Geo-Congress, Atlanta, Georgia, US

64. Koustuvee, K., Sridharan, A. and Malaya, C. (2014). "An investigation on the influence of grain shape and size on the shear strength of cohesionless soils", Geo-Congress, Atlanta, Georgia, US

65. Malaya, C., Abhijit, D. and Sreedeep, S. (2011). "A study on the influence of measuring methodologies on soil-water characteristic curve of a locally available soil", Third International Postgraduate Conference on Infrastructure and Environment, The Hong Kong Polytechnic University, Hong Kong

66. Malaya, C. and Sreedeep, S. (2010). "A study on the influence of unit weight on tensiometric measurement", World Environment and Water Resources Congress, ASCE, Providence, Rode Island

67. Malaya, C. and Sreedeep, S. "Effect of fly ash on soil-water characteristic curve of a locally available soil", Sixteenth Asian Agricultural Symposium, Bangkok, Thailand

68. Malaya, C. and Sreedeep, S. (2010). "A study on the change in SWCC parameters of a local soil due to fly ash addition", Third International Conference on Environmental Research, University of Mauritius, Reduit, Mauritius

69. Malaya, C. and Sreedeep, S. (2010). "An investigation on the influence of soil additives on tensiometric measurements in soil", Third International Conference on Environmental Research, University of Mauritius, Reduit, Mauritius

70. Malaya, C. and Sreedeep, S. (2010). "Recent development in the measurement of soil suction", Fourth International Perspective on Water Resources and the Environment, IPWE-2011, EWRI, ASCE, National University of Singapore, Singapore

71. Malaya, C. and Sreedeep, S. (2010). "A study on drying and wetting water retention curve of a fly ash", Fourth International Perspective on Water Resources and the Environment, IPWE-2011, EWRI, ASCE, National University of Singapore, Singapore

72. Malaya, C. and Sreedeep, S. (2010). "Suction-water content relation of sand-fly ash mixture", Fourth International Conference on Plants and Environmental Pollution, National Botanical Research Institute, Lucknow, India

73. Ellora, K. and Malaya, C. (2012). "A study on the influence of Atterberg limits on soil-water characteristic curve", International Conference on Solid Waste Management, Mysore, Karnataka, India

74. Malaya, C., Abhijit, D. and Sreedeep, S. (2012). "Parameterization of drying water retention characteristics of fly ash-soil mix", International Conference on Solid Waste Management, Mysore, Karnataka, India

75. Malaya, C. and Sreedeep, S. (2012). "Suction-water content relationship for hill soil of North-East India", International Conference on Environmentally Sustainable Urban Ecosystems, Civil Engineering Department, Indian Institute of Technology Guwahati, Assam, India

76. Malaya, C. and Sreedeep, S. (2011). "Effect of measurement procedures on water retention characteristics of sand-fly ash admixture", International Conference on Advances in Civil Engineering, K L University, Vijayawada, India

77. Malaya, C. and Sreedeep, S. (2010). "Performance evaluation of tensiometer response in contaminated Soil", Sixth International Congress on Environmental Geotechnics, New Delhi, India

78. Malaya, C. and Sreedeep, S. (2010). "Influence of soil properties on soil-water characteristic curve", Sixth International Congress on Environmental Geotechnics, New Delhi, India

79. Malaya, C. and Sreedeep, S. (2010). "A study on water retention characteristics of fly ash", Ninth International Conference on Hydro-Science and Engineering, Indian Institute of Technology Madras, Chennai

80. Mohamed, Y., Malaya, C., and Sreedeep, S. (2010). "Evaluation of hydraulic conductivity of fly ash-bentonite clay liner", Third International Conference on Environmental Research, University of Mauritius, Reduit, Mauritius

81. Malaya, C. and Sreedeep, S. (2010). "Evaluation of estimated soil-water characteristic curve for a poorly graded sandy soil", Third International Perspective on Current and Future State of Water Resources and the Environment, EWRI, ASCE, Indian Institute of Technology Madras, Chennai

82. Malaya, C. and Sreedeep, S. (2010). "An investigation on the effect of initial water content and dry density on drying soil-water characteristic curve of a cohesionless soil." Fifth International Conference on Unsaturated Soils, Barcelona, Spain

83. Malaya, C. and Sreedeep, S. (2010). "Evaluation of SWCC model and estimation procedure for soil and fly ash", World Environment and Water Resources Congress, ASCE, Providence, Rode Island

84. Ankit, G., Malaya, C. and Sreedeep, S. (2010). "Influence of different procedures for establishing suction-water content relationship on seepage modeling in unsaturated soils", Sixth International Congress on Environmental Geotechnics, New Delhi, India

85. Abhijit, D., Malaya, C. and Sreedeep, S. (2010). "Fly ash water retention with reference to agricultural application", Fourth International Conference on Plants and Environmental Pollution, National Botanical Research Institute, Lucknow, India

86. Ankit, G., Malaya, C. and Sreedeep, S. (2009). "A study on the influence of soil-water characteristic curve on the seepage modeling of unsaturated soil", International Conference on Advances in Concrete, Structural and Geotechnical Engineering, BITS Pilani, India

In Books

87. Malaya, C., Manash, B. and Sridharan, A. (2018). "Effect of quarry dust on compaction characteristics of clay", In: Singh D., Galaa A. (eds) Contemporary Issues in Geoenvironmental Engineering, Sustainable Civil Infrastructures, Springer, Cham

88. Malaya, C. and Sreedeep, S. (2015). "Suction-water content relationship for hill soil of North-East India" Water Science and Technology Library: Urban Hydrology, Watershed Management & Socio-Economic Aspects, Springer Book Series

89. Malaya, C. and Sreedeep, S. (2010). "Sustainable Water Resources Management and Impact of Climate Change", Raju & Vasan (eds), BS Publications, Sultan Bazar, Hyderabad, ISBN: 978-81-7800-226-2

90. Malaya, C. and Sreedeep, S. (2010). "Unsaturated Soils", Barcelona, Alonso & Gens (eds), Tailor & Francis Group, London, ISBN 978-0-415-60428-4

Conference Attended and Paper Presented

1. National Conference on Advances in Civil and Infrastructure Engineering (2018), Tezpur University, Assam, India

2. GeoMEast-2017, Sharm El-Sheik, Egypt

3. Indian Geotechnical Conference (2017), IIT Guwahati, Assam, India

4. Geo-Congress-2014, Atlanta, Georgia, US

5. International Conference on Environmentally Sustainable Urban Ecosystems (2012), Civil Engineering Department, Indian Institute of Technology Guwahati, Assam, India
6. Indian Geotechnical Conference (2011), Kochi, India
7. Sixth International Congress on Environmental Geotechnics (2010), New Delhi, India

Achievements

1. Travel Grant awarded by the Department of Science and Technology for attending GeoMEast-2017 at Sharm El-Sheik, Egypt
2. Travel Grant awarded by the University Grants Commission for attending Geo-Congress-2014 at Atlanta, Georgia, US
3. Summer Research Fellowship of Indian Academy of Sciences awarded in 2014

Academics: Subjects Taught

Postgraduate

Environmental geotechnics, Geotechnical in-situ testing and instrumentation, Soil dynamics and earthquake engineering, System optimization technique,

Undergraduate

Advanced surveying, Building construction and professional practice, Engineering graphics, Engineering surveying, Environmental engineering, Foundation engineering, Geotechnical Engineering-II, Strength of materials, System analysis and design, Theory of structures, Transportation engineering.