

PUBLICATIONS OF PROF. BUDDHIMA INDRARATNA

Over **500** publications: **5** Books; over **200** peer-reviewed Journal Articles; over **300** refereed Conference Papers including over **45** Invited Keynote Papers and Special Lectures; **12** Edited Proceedings and Book Chapters, and over **25** Technical Consulting and UNDP Expert Reports. Citations: 1298, H-Index 19 (Source: Scopus, Accessed: 29/08/2012)

BOOKS (research based):

1. Indraratna, B., Salim, W. and Rujikiatkamjorn, C. (2011). Advanced Rail Geotechnology - Ballasted Track, CRC Press/Balkema (UK), 432p. Hard Cover.
2. Indraratna, B. and Salim, W. (2005). Behaviour of Ballasted Rail Tracks - Geotechnical Perspective, Taylor and Francis (UK), 237p. Hard Cover.
3. Indraratna, B. and Chu, J. (2005). Ground Improvement – Case Histories. Elsevier Scientific (UK). 38 Edited Chapters, 1115 pages. Hard Cover.
4. Indraratna, B. and Haque, A. (2000). Shear Behaviour of Rock Joints, Balkema, Rotterdam, 175p. (Hard Cover: US \$ 69; Student Edition: \$ 49).
5. Indraratna, B. and Ranjith P. (2001). Hydromechanics of Jointed Rock, Balkema, Rotterdam, 284p. (Hard Cover: US \$ 70; Student Edition: \$ 50).
6. Auvinet, G., and Indraratna, B. (2005). Soft Soil Foundation Engineering, TC36-ISSMGE Monograph including State of the Art Reports.

Books Edited / Book Chapters

1. Indraratna, B., Fatahi, B. and Khabbaz, H. (2007). Finite Element Modelling of Soil-Vegetation Interaction Theoretical and Numerical Unsaturated Soil Mechanics, Schanz, T. (Editor). Springer Berlin Heidelberg, pp. 211-223.
2. Indraratna, B., Sathananthan, I., Bamunawita, C., and Balasubramaniam, A. S. (2005). Theoretical and numerical perspectives and field observations for the design and performance evaluation of embankments constructed on soft marine clay. Ground Improvement-Case Histories, edited by Indraratna and Chu, pp. 199-230. (Citation: 3)
3. Indraratna, B., Rujikiatkamjorn C., Balasubramaniam, A. S. and Wijeyakulasuriya, V. (2005). Predictions and observations of soft clay foundations stabilized with geosynthetic drains and vacuum surcharge. Ground Improvement-Case Histories, edited by Indraratna and Chu, pp. 51-90.
4. Indraratna, B. (2003). Soft Ground Improvement by Vertical Drains, in “In-situ Soil Characterisation” edited by K.R. Saxena, Balkema Publishers, Chapter 9, pp. 233-288.
5. Indraratna, B. (2000). Special Volume on Geomechanics of Ground Control, Int. J. of Geotechnical & Geological Engineering, Kluwer.

6. Aziz, A. and Indraratna, B. (1998). Proceedings of the International Conference on Geomechanics/Ground Control in Mining and Underground Construction, Wollongong, 2 Volumes, 101 papers, 1179 p., Univ. of Wollongong Press.
7. Indraratna, B. (1993). "Problems related to Disposal of Fly Ash and its Utilization as a Structural Fill", Utilization of Waste Materials in Civil Engineering Construction, Inyang, H and Bergeson, K.L. American Society of Civil Engineering Special Publication, ISBN 0-87262-907-4, pp. 274-285.
8. A co-author of the following edited volumes with Balasubramaniam, A.S., Bergado, D.T., Phiew-wej, N. and Honjo, Y.
9. Advanced Geotechnical Analysis - Application of Critical State Soil Mechanics (1992). AIT Press, 175p.
10. Geotechnical Aspects of Restoration Works on Infrastructure and Monuments (1990), A.A. Balkema Publishers, The Netherlands, 365p.
11. Developments in Geotechnical Aspects of Embankments, Excavations and Buried Structures (1992). A.A. Balkema Publishers, The Netherlands.

Design Handbook

Indraratna, B. and Kaiser, P.K. (1986). "Theory and Practice of Rock Bolting", Design Handbook, NSERC, Dept. of Civil Engineering, University of Alberta Press, Canada, 117p.

Special Issues of Journals, as Invited Guest Editor:

1. Indraratna, B. (2005). ASCE, *International Journal of Geomechanics*, Special Issue on "Soft Clay Engineering and Soft Clay Improvement", Vol. 5, June, ISSN 1532-3641.
2. Indraratna, B. and Aziz, N. (2000). Special Millennium Volume: "Geomechanics of Ground Control", *Int. J. of Geotechnical & Geological Engineering*, Kluwer Publishers, 416p.

Refereed Journals

1. Ni, J., Indraratna, B., Geng, X. Y., Carter, J. P. and Chen, Y. L. (2014). Model of soft soils under cyclic loading. *International Journal of Geomechanics*, ASCE, (Accepted, February 2014).
2. Banasiak, L. J., Indraratna, B., Lugg, G., Pathirage, U., McIntosh, G., Rendell, N. Permeable reactive barrier rejuvenation by alkaline wastewater, *Environmental Geotechnics*, Accepted Feb 2014.
3. Tennakoon, N., and Indraratna, B (2014). Behaviour of clay-fouled ballast under cyclic loading. (Accepted February 2014).
4. Chu, J., Indraratna, B., Yan, S. W., and Rujikiatkamjorn, C. (2014). Overview of preloading methods for soil improvement, *Ground Improvement*, ICE, (Accepted January 2014).

5. Indraratna, B., Premadasa, W., Brown, E. T., Gens, A., Heitor, A. (2014). Shear strength of rock joints influenced by compacted infill. *International Journal of Rock Mechanics and Mining Sciences*, (Accepted January 2014).
6. Indraratna, B., Thirukumaran, S., Brown, E.T. and Zhu, S. P. (2014). modelling the shear behaviour of rock joints with asperity damage under constant normal stiffness. *Rock Mechanics and Rock Engineering*, (Accepted January 2014).
7. Chiaro, G., Indraratna, B., Tasalloti, S.M.A. and Rujikiatkamjorn, C. (2014) Optimisation of coal wash – slag blend as structural fill, *Ground Improvement Journal*, ICE (Accepted September 2013).
8. Indraratna, B., Nimbalkar, S. and Rujikiatkamjorn, C. (2014). Enhancement of Rail Track Performance through Utilisation of Geosynthetic Inclusions. *Geotechnical Engineering Journal*. 45(1), 17-27.
9. Indraratna, B., and Nimbalkar, S. (2014). Closure to "Stress-Strain Degradation Response of Railway Ballast Stabilized with Geosynthetics". *J. of Geotechnical & Geoenvironmental Engineering, ASCE*. (Accepted August 2013).
10. Indraratna, B., Nimbalkar, S. and Neville, T. (2014). Performance Assessment of Reinforced Ballasted Rail Track, *Proceedings of the Institution of Civil Engineers – Ground Improvement ICGI - 2012 theme issue* (Accepted August 2013).
11. Rujikiatkamjorn, C. and Indraratna, B., (2013). Current State of the Art in Vacuum Preloading for Stabilising Soft Soil. *Geotechnical Engineering Journal*. 44(4), 77-87.
12. Indraratna, B., Premadasa, W. and Brown, E. T. (2013). Shear behaviour of rock joints with unsaturated infill. *Géotechnique*. 63(15), 1356-1360.
13. Rujikiatkamjorn, C. Ardana, M., Indraratna, B., and Leroueil, S. (2013). Conceptual Model Describing Smear Zone Caused by Mandrel Action. *Géotechnique*. 63(16), 1377-1388.
14. Indraratna, B., Ngo, N. T., Rujikiatkamjorn, C., and Vinod. J. S. (2014). Behaviour of fresh and fouled railway ballast subjected to direct shear testing - A discrete element simulation. *International Journal of Geomechanics, ASCE*, 14(1) 34-44.
15. Indraratna, B., Ngo, N. T., and Rujikiatkamjorn, C., (2014). DEM simulation of the behaviour of geogrid stabilised ballast fouled with coal. *Computers and Geotechnics*, 55, 224–231.
16. Indraratna, B., Pathirage, P. U., Rowe, R. K., and Banasiak, L. (2014). Coupled hydro-geochemical modelling of a permeable reactive barrier for treating acidic groundwater. *Computers and Geotechnics*, 55, 429–439.
17. Indraratna, B., Balasubramaniam, A. S., Poulos, H. G., Rujikiatkamjorn, C. and Ameratunga, J. (2013). Performance and prediction of marine clay treated with vacuum and surcharge consolidation at Port of Brisbane, *Australian Geomechanics*, 48(4), 161-180.

18. Kianfar, K., Indraratna, B., and Rujikiatkamjorn, C. (2013). Radial Consolidation Model Incorporating the Effects of Vacuum Preloading and Non-Darcian Flow. Géotechnique, 63(12), 1060-1073.
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20. Nguyen, V. T. Rujikiatkamjorn, C. and Indraratna, B., (2013). Analytical solutions for filtration process based on the constriction size concept. J. of Geotechnical & Geoenvironmental Engineering, ASCE, 139(7), 1049–1061.
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23. Heitor, A., Indraratna, B. and Rujikiatkamjorn, C. (2013). Laboratory study of small strain behavior of a compacted silty sand. Canadian Geotechnical journal, 50(2); 179-188.
24. Ni, J., Indraratna, B., Geng, X. Y. Carter, J. P. and Rujikiatkamjorn C. (2013). Radial consolidation of soft soil under cyclic loads, Computers and Geotechnics, 50 (1), 1–5.
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26. Indraratna, B., Basack, S. and Rujikiatkamjorn, C. (2013). A Numerical Solution of Stone Column Improved Soft Soil considering Arching, Clogging and Smear Effects. J. of Geotechnical & Geoenvironmental Engineering, ASCE, 139(3); 377- 394.
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28. Indraratna, B., Hussaini, S. K. and Vinod, J. S. (2013). The lateral displacement response of geogrid-reinforced ballast under cyclic loading, Geotextiles and Geomembranes, 39, 20-29.
29. Indraratna, B., Tennakoon, N., Nimbalkar, S. and Rujikiatkamjorn, C. (2012). Behaviour of Clay Fouled Ballast under Drained Triaxial Testing. Géotechnique, 63(5); 410-419.
30. Liu, M. Indraratna, B., Horpibilsuk, S., and Suebsuk, J. (2012). Variations in strength of lime-treated soft clays, Ground Improvement, 165(4), 217-223.
31. Zoorabadi, M., Indraratna, B. and Nemcik, J. (2012). A new equation representing the equivalent conductivity of rock mass around a tunnel. International Journal of Rock Mechanics and Mining Sciences, 54, 125–128.

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36. Tennakoon, N, Indraratna, B., Rujikiatkamjorn, C., Nimbalkar, S. and Neville, T. (2012). The role of ballast fouling characteristics on the drainage capacity of rail substructure. ASTM Geotechnical Testing Journal, 35(4), 1-12.
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41. Indraratna, B., Nguyen, V. T. and Rujikiatkamjorn, C. (2012). Hydraulic conductivity of saturated granular soils determined using a constriction-based technique. Canadian Geotechnical Journal, 49(5), 607-613.
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43. Ghandeharioon, A., Indraratna, B., and Rujikiatkamjorn, C. (2012). Laboratory and Finite-Element Investigation of Soil Disturbance Associated with the Installation of Mandrel-Driven Prefabricated Vertical Drains. J. of Geotechnical & Geoenvironmental Engineering, ASCE. 138(3), 295-308.
44. Indraratna, B., Rujikiatkamjorn, C., Balasubramaniam, A. S. and McIntosh, G. (2012). Soft ground improvement via vertical drains and vacuum assisted preloading. Geotextiles and Geomembranes, 30(1), 16-23.

45. Geng, X. Y., Indraratna, B. and Rujikiatkamjorn, C. (2012). Analytical solutions for a single vertical drain with vacuum and time-dependent surcharge preloading in membrane and membraneless systems. International Journal of Geomechanics, ASCE, 12(1), 27-42.
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47. Regmi, G., Indraratna, B., Nghiem, L.D. and Banasiak, L. (2011). Evaluating waste concrete for the treatment of acid sulphate soil groundwater from coastal floodplains. Desalination and Water Treatment, 32, 126–132.
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55. Indraratna, B., Ngo, N. T., and Rujikiatkamjorn, C., (2011). Behavior of geogrid-reinforced ballast under various levels of fouling. Geotextiles and Geomembranes, 29, 311-322.
56. Indraratna, B., Geng, X. Y. and Rujikiatkamjorn, C. (2010). Review of methods of analysis for the use of vacuum preloading and vertical drains for soft clay improvement, Geomechanics and Geoengineering, 5(4), 223–236.

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69. Oliveira, D. A. F. and Indraratna, B. (2010). A comparison between models of rock discontinuity strength and deformation. Journal of Geotechnical and Geo-environmental Engineering, ASCE 136(6), 864-874.
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73. Trani, L.D.O. and Indraratna, B. (2010). The use of particle size distribution by surface area method in predicting the saturated hydraulic conductivity of graded granular soils. Géotechnique, 60(12), 957–962.
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Refereed Conferences and Symposia

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