- Pavement layers are often subjected to many cycles of loading due to the traffic.
 Thus, cyclic loading test on stabilized red mud mix are required to be carried out to simulate the field condition.
- Long term studies are required to be undertaken to analyse the stabilized materials for leachable metals for safe utilization.
- Studies are required to be carried out for the economic viability during the actual field application of the stabilized materials.

Bibliography

- [1] K. Deelwal, K. Dharavath, and M. Kulshreshtha, "Evaluation of characteristic properties of red mud for possible use as a geotechnical material in civil construction," *International Journal of Advances in Engineering & Technology*, vol. 7, no. 3, pp. 1053–1059, 2014.
- [2] P. K. Gautam, P. Kalla, A. S. Jethoo, R. Agrawal, and H. Singh, "Sustainable use of waste in flexible pavement: A review," Construction and Building Materials, vol. 180, pp. 239–253, 2018.
- [3] A. Dwivedi and M. K. Jain, "Fly ash, waste management and overview: A review," Recent Research in Science and Technology, vol. 6, no. 1, pp. 30–35, 2014.
- [4] C. Heidrich, H. Feuerborn, and A. Weir, "Coal combustion products: a global perspective," in *World of Coal Ash Conference*, pp. 22–25, 2013.
- [5] R. Verma, "Report on fly ash generation and its utilization in the country for the year 2016–17," tech. rep., Central Electricity Authority, New Delhi, 2017.
- [6] S. Mohanty and N. R. Patra, "Geotechnical characterization of panki and panipat pond ash in india," *International Journal of Geo-Engineering*, vol. 6, no. 1, p. 13, 2015.

[7] R. K. Paramguru, P. C. Rath, and V. N. Misra, "Trends in red mud utilizationa review," *Mineral Processing and Extractive Metallurgy Review*, vol. 26, no. 1, pp. 1–29, 2004.

- [8] H. Sutar, S. C. Mishra, S. K. Sahoo, and H. Maharana, "Progress of red mud utilization: an overview," Master's thesis, National Institute of Technology-Rourkela, Jan. 2014.
- [9] D. Higgins, T. Curtin, P. Mark, and R. Courtney, "The potential for constructed wetlands to treat alkaline bauxite-residue leachate: Phragmites australis growth," *Environmental Science and Pollution Research*, vol. 23, no. 23, pp. 24305–24315, 2016.
- [10] F. Zhu, S. Xue, W. Hartley, L. Huang, C. Wu, and X. Li, "Novel predictors of soil genesis following natural weathering processes of bauxite residues," Environmental Science and Pollution Research, vol. 23, no. 3, pp. 2856–2863, 2016.
- [11] R. A. Robayo-Salazar, M. de Gutiérrez, and F. Puertas, "Study of synergy between a natural volcanic pozzolan and a granulated blast furnace slag in the production of geopolymeric pastes and mortars," Construction and Building Materials, vol. 157, pp. 151–160, 2017.
- [12] M. Tiwari, S. Barpai, and U. Dewangan, "Steel slag utilization—overview in indian perspective," Int J Adv Res, vol. 4, no. 8, pp. 2232–2246, 2016.
- [13] X. Liu and N. Zhang, "Utilization of red mud in cement production: a review," Waste Management & Research, vol. 29, no. 10, pp. 1053–1063, 2011.

[14] E. El Afifi, M. Khalil, and Y. El-Aryan, "Leachability of radium-226 from industrial phosphogypsum waste using some simulated natural environmental solutions," *Environmental Earth Sciences*, vol. 77, no. 3, p. 94, 2018.

- [15] L. Simão, D. Hotza, F. Raupp-Pereira, J. Labrincha, and O. Montedo, "Wastes from pulp and paper mills-a review of generation and recycling alternatives," *Cerâmica*, vol. 64, no. 371, pp. 443–453, 2018.
- [16] N. Rathore, M. Patilb, and D. Dohare, "Utilization of jarosite generated from lead-zinc smelter for various applications," *International journal of civil engi*neering and technology, vol. 5, pp. 192–200, 2014.
- [17] A. Bedi, B. R. Singh, S. K. Deshmukh, N. Aggarwal, C. J. Barrow, and A. Adholeya, "Development of a novel myconanomining approach for the recovery of agriculturally important elements from jarosite waste," *Journal of Environmental Sciences*, vol. 67, pp. 356–367, 2018.
- [18] H. Sutar, S. C. Mishra, S. K. Sahoo, A. P. chakraverty, and H. S. Maharana, "Progress of red mud utilization: an overview," *American Chemical Science Journal*, vol. 4, no. 3, pp. 255–279, 2014.
- [19] X. Zhu, W. Li, and X. Guan, "An active dealkalization of red mud with roasting and water leaching," *Journal of hazardous materials*, vol. 286, pp. 85–91, 2015.
- [20] S. Samal, A. K. Ray, and A. Bandopadhyay, "Proposal for resources, utilization and processes of red mud in india—a review," *International Journal of Mineral Processing*, vol. 118, pp. 43–55, 2013.
- [21] E. Kalkan, "Utilization of red mud as a stabilization material for the preparation of clay liners," *Engineering geology*, vol. 87, no. 3-4, pp. 220–229, 2006.

[22] M. Singh, S. Upadhayay, and P. Prasad, "Preparation of special cements from red mud," *Waste Management*, vol. 16, no. 8, pp. 665–670, 1996.

- [23] M. Singh, S. Upadhayay, and P. Prasad, "Preparation of iron rich cements using red mud," Cement and Concrete Research, vol. 27, no. 7, pp. 1037–1046, 1997.
- [24] P. Tsakiridis, S. Agatzini-Leonardou, and P. Oustadakis, "Red mud addition in the raw meal for the production of portland cement clinker," *Journal of Hazardous Materials*, vol. 116, no. 1-2, pp. 103-110, 2004.
- [25] Z. Liu and H. Li, "Metallurgical process for valuable elements recovery from red mud—a review," *Hydrometallurgy*, vol. 155, pp. 29–43, 2015.
- [26] A. Mandal and O. Sinha, "New-generation aluminum composite with bottom ash industrial waste," *JOM*, pp. 1–6, 2018.
- [27] V. M. Sglavo, R. Campostrini, S. Maurina, G. Carturan, M. Monagheddu, G. Budroni, and G. Cocco, "Bauxite 'red mud'in the ceramic industry. part 1: thermal behaviour," *Journal of the European Ceramic Society*, vol. 20, no. 3, pp. 235–244, 2000.
- [28] H. S. Altundoguan, S. Altundoguan, F. Tumen, and M. Bildik, "Arsenic adsorption from aqueous solutions by activated red mud," *Waste management*, vol. 22, no. 3, pp. 357–363, 2002.
- [29] S. Srikanth, A. K. Ray, A. Bandopadhyay, B. Ravikumar, and A. Jha, "Phase constitution during sintering of red mud and red mud-fly ash mixtures," Journal of the American Ceramic Society, vol. 88, no. 9, pp. 2396–2401, 2005.

[30] J. Pera, R. Boumaza, and J. Ambroise, "Development of a pozzolanic pigment from red mud," *Cement and Concrete Research*, vol. 27, no. 10, pp. 1513–1522, 1997.

- [31] P. Vachon, R. D. Tyagi, J. C. Auclair, and K. J. Wilkinson, "Chemical and biological leaching of aluminum from red mud," *Environmental science & tech*nology, vol. 28, no. 1, pp. 26–30, 1994.
- [32] K. Snars and R. Gilkes, "Evaluation of bauxite residues (red muds) of different origins for environmental applications," Applied Clay Science, vol. 46, no. 1, pp. 13–20, 2009.
- [33] É. Ujaczki, V. Feigl, M. Molnár, P. Cusack, T. Curtin, R. Courtney, L. O'Donoghue, P. Davris, C. Hugi, M. W. Evangelou, et al., "Re-using bauxite residues: benefits beyond (critical raw) material recovery," Journal of Chemical Technology & Biotechnology, vol. 93, no. 9, pp. 2498-2510, 2018.
- [34] A. Mandal, H. Verma, and O. Sinha, "Utilization of aluminum plant's waste for production of insulation bricks," *Journal of cleaner production*, vol. 162, pp. 949–957, 2017.
- [35] A. Mandal and O. Sinha, "Effect of bottom ash fineness on properties of red mud geopolymer," The Journal of Solid Waste Technology and Management, vol. 43, no. 1, pp. 26-35, 2017.
- [36] C. Klauber, M. Gräfe, and G. Power, "Bauxite residue issues: Ii. options for residue utilization," *Hydrometallurgy*, vol. 108, no. 1-2, pp. 11–32, 2011.

[37] J. Dutta, A. K. Mishra, and P. Das, "Combined effect of inorganic salts and heavy metals on the engineering behaviour of compacted bentonites," *Interna*tional Journal of Geosynthetics and Ground Engineering, vol. 4, no. 2, p. 17, 2018.

- [38] N. Latifi, S. Horpibulsuk, C. L. Meehan, M. Z. Abd Majid, M. Tahir, and E. T. Mohamad, "Improvement of problematic soils with biopolymer—an environmentally friendly soil stabilizer," *Journal of Materials in Civil Engineering*, vol. 29, no. 2, p. 04016204, 2016.
- [39] A. A. Ashango and N. R. Patra, "Static and cyclic properties of clay subgrade stabilised with rice husk ash and portland slag cement," *International Journal* of Pavement Engineering, vol. 15, no. 10, pp. 906–916, 2014.
- [40] A. Marto, N. Latifi, and A. Eisazadeh, "Effect of non-traditional additives on engineering and microstructural characteristics of laterite soil," Arabian Journal for Science and Engineering, vol. 39, no. 10, pp. 6949–6958, 2014.
- [41] N. Latifi, A. Marto, and A. Eisazadeh, "Analysis of strength development in non-traditional liquid additive-stabilized laterite soil from macro-and microstructural considerations," *Environmental Earth Sciences*, vol. 73, no. 3, pp. 1133-1141, 2015.
- [42] G. Blanck, O. Cuisinier, and F. Masrouri, "Soil treatment with organic non-traditional additives for the improvement of earthworks," Acta Geotechnica, vol. 9, no. 6, pp. 1111–1122, 2014.
- [43] S. K. Dash and M. Hussain, "Lime stabilization of soils: reappraisal," *Journal of materials in civil engineering*, vol. 24, no. 6, pp. 707–714, 2011.

[44] C. McDowell, "Stabilization of soils with lime, lime-fly ash and other lime reactive materials," *Highway Research Board Bulletin*, vol. 231, pp. 60–66, 1959.

- [45] F. Bell, "Lime stabilization of clay minerals and soils," *Engineering geology*, vol. 42, no. 4, pp. 223–237, 1996.
- [46] M. Sabry and J. V. Parcher, "Engineering properties of soil-lime mixes," Journal of Transportation Engineering, vol. 105, no. 1, 1979.
- [47] J. L. Eades and R. E. Grim, "Reaction of hydrated lime with pure clay minerals in soil stabilization," *Highway Research Board Bulletin*, no. 262, 1960.
- [48] A. Eisazadeh, K. Kassim, and H. Nur, "Thermal characterization of lime stabilized soils," in Proceedings of the 19th World Congress of Soil Science: Soil Solutions for a Changing World. Brisbane, Australia, pp. 20–23, 2010.
- [49] A. Eisazadeh, K. A. Kassim, and H. Nur, "Solid-state nmr and ftir studies of lime stabilized montmorillonitic and lateritic clays," *Applied Clay Science*, vol. 67, pp. 5–10, 2012.
- [50] V. Anggraini, A. Asadi, A. Syamsir, and B. Huat, "Three point bending flexural strength of cement treated tropical marine soil reinforced by lime treated natural fiber," *Measurement*, vol. 111, pp. 158–166, 2017.
- [51] A. Roohbakhshan and B. Kalantari, "Stabilization of clayey soil with lime and waste stone powder," 2017.
- [52] G. Lees, M. Abdelkater, and S. Hamdani, "Effect of the clay fraction on some mechanical properties of lime-soil mixtures," *Highway Engineer*, vol. 29, no. 11, 1982.

[53] A. Eisazadeh, K. A. Kassim, and H. Nur, "Stabilization of tropical kaolin soil with phosphoric acid and lime," *Natural hazards*, vol. 61, no. 3, pp. 931–942, 2012.

- [54] A. A. Ashango and N. R. Patra, "Behavior of expansive soil treated with steel slag, rice husk ash, and lime," *Journal of Materials in Civil Engineering*, vol. 28, no. 7, p. 06016008, 2016.
- [55] B. Kalantari and A. Prasad, "A study of the effect of various curing techniques on the strength of stabilized peat," *Transportation Geotechnics*, vol. 1, no. 3, pp. 119–128, 2014.
- [56] R. N. Yong and V. R. Ouhadi, "Experimental study on instability of bases on natural and lime/cement-stabilized clayey soils," Applied clay science, vol. 35, no. 3-4, pp. 238–249, 2007.
- [57] L. Chen and D. Lin, "Stabilization treatment of soft subgrade soil by sewage sludge ash and cement," *Journal of Hazardous Materials*, vol. 162, no. 1, pp. 321–327, 2009.
- [58] J. Mallela, H. V. Quintus, and K. L. Smith, "Consideration of lime-stabilized layers in mechanistic-empirical pavement design," The National Lime Association, vol. 200, 2004.
- [59] R. Thangaraj and R. Thenmozhi, "Sustainable concrete using high volume fly ash from thermal power plants," Ecol. Environ. Conserv, vol. 19, no. 2, pp. 461–466, 2013.
- [60] M. Joel and I. O. Agbede, "Mechanical-cement stabilization of laterite for use as flexible pavement material," *Journal of Materials in Civil Engineering*, vol. 23, no. 2, pp. 146–152, 2010.

[61] I. Chang, J. Im, A. K. Prasidhi, and G.-C. Cho, "Effects of xanthan gum biopolymer on soil strengthening," Construction and Building Materials, vol. 74, pp. 65–72, 2015.

- [62] J. Casas, V. Santos, and F. Garcia, "Xanthan gum production under several operational conditions molecular structure and rheological properties," *Enzyme and microbial technology*, vol. 26, no. 2-4, pp. 282–291, 2000.
- [63] M. Zohuriaan and F. Shokrolahi, "Thermal studies on natural and modified gums," *Polymer Testing*, vol. 23, no. 5, pp. 575–579, 2004.
- [64] M. C. Cadmus, L. K. Jackson, K. A. Burton, R. D. Plattner, and M. E. Slodki, "Biodegradation of xanthan gum by bacillus sp," Applied and environmental microbiology, vol. 44, no. 1, pp. 5–11, 1982.
- [65] D. Bergmann, G. Furth, and C. Mayer, "Binding of bivalent cations by xanthan in aqueous solution," *International journal of biological macromolecules*, vol. 43, no. 3, pp. 245–251, 2008.
- [66] B. Majidi, "Geopolymer technology, from fundamentals to advanced applications: a review," *Materials Technology*, vol. 24, no. 2, pp. 79–87, 2009.
- [67] J. Davidovits, "Geopolymers: inorganic polymeric new materials," Journal of Thermal Analysis and calorimetry, vol. 37, no. 8, pp. 1633–1656, 1991.
- [68] M. H. Fasihnikoutalab, S. Pourakbar, R. J. Ball, and B. K. Huat, "The effect of olivine content and curing time on the strength of treated soil in presence of potassium hydroxide," *International Journal of Geosynthetics and Ground Engineering*, vol. 3, no. 2, p. 12, 2017.

[69] J. Davidovits, "Geopolymers: man-made rock geosynthesis and the resulting development of very early high strength cement," *Journal of Materials educa*tion, vol. 16, pp. 91–91, 1994.

- [70] K. J. MacKenzie, D. Brew, R. Fletcher, C. Nicholson, R. Vagana, and M. Schmücker, "Advances in understanding the synthesis mechanisms of new geopolymeric materials," Novel Processing of Ceramics and Composites: Ceramic Transactions Series, vol. 195, pp. 185–199, 2006.
- [71] P. Duxson, A. Fernández-Jiménez, J. L. Provis, G. C. Lukey, A. Palomo, and J. S. van Deventer, "Geopolymer technology: the current state of the art," *Journal of materials science*, vol. 42, no. 9, pp. 2917–2933, 2007.
- [72] C. Klauber, M. Gräfe, and G. Power, "Review of bauxite residue "re-use" options," Waterford, WA: CSIRO Minerals, pp. 1–77, 2009.
- [73] X. Peng and G. Huang, "Method for recovering iron concentrates from alumina red mud," Google Patents, 2011. CN101648159 B.
- [74] L. Wei, G. Lin, X. Jiawei, Z. Zhenglin, B. Jie, and T. Jinyu, "Method for recycling iron from waste red mud in alumina production," Google Patent, 2013. CN103074456 A.
- [75] J. Zhang, J. Liu, J. Zhang, L. Wang, S. Huang, and B. Li, "A process for the production of direct reduced iron from red mud," *Google Patent*, 2013. CN102559979 B.
- [76] J. Wang and P. Zhao, "Method of dealkalizing red mud and recovering aluminum and iron," *Google patents*, 2013. CN103031443 A.
- [77] R. Boudreault, J. Fournier, D. Primeau, G. Labrecque, and M. Marie, "Processes for treating red mud," Google Patents, 2015. WO2013104059 A1.

[78] X. Li, N. Liu, Y. Wang, Z. Peng, G. Liu, and Q. Zhou, "Conversion method of iron minerals in production process of alumina," Google patents, no. CN102976374 A, 2013.

- [79] W. Zhang and Z. Zou, "Method for high-efficiency separation and comprehensive utilization of iron, aluminum and sodium in high-iron red mud," Google patents, 2013. CN102851425 A.
- [80] X. Cui, Y. Gong, J. Zhang, F. Zhang, A. Li, B. Wang, K. Wang, H. Wang, and J. Chen, "Method for high-efficiency separation and method for separating iron from raffinate in process of extracting scandium from red mud," Google patents, 2012. CN102071315 B.
- [81] H. Jiao, Y. Gao, B. Xu, J. Wu, J. Zhu, F. Min, and C. Wang, "Red mud harm-less comprehensive recycling technology suitable for bayer process," Google patents, 2011. CN102500596 B.
- [82] N. Papadopoulos, H. S. Karayianni, E. Hristoforou, and E. Metaxa, "Valuable products obtained from red mud," Google patents, 2010. WO 2010079369 A1.
- [83] A. Jha, P. A. Malpan, and V. D. Tathavadkar, "Extraction process for reactive metal oxides," Google Patents, 2014. CA 2529249 C.
- [84] L. Zhong, Y. Zhang, and Y. Zhang, "Extraction of alumina and sodium oxide from red mud by a mild hydro-chemical process," Journal of hazardous materials, vol. 172, no. 2-3, pp. 1629–1634, 2009.
- [85] W. Liu, S. Sun, L. Zhang, S. Jahanshahi, and J. Yang, "Experimental and simulative study on phase transformation in bayer red mud soda-lime roasting system and recovery of al, na and fe," *Minerals Engineering*, vol. 39, pp. 213– 218, 2012.

[86] D. Uzun and M. Gülfen, "Dissolution kinetics of iron and aluminium from red mud in sulphuric acid solution," 2007.

- [87] W. Liu, J. Yang, and B. Xiao, "Application of bayer red mud for iron recovery and building material production from alumosilicate residues," *Journal of hazardous materials*, vol. 161, no. 1, pp. 474–478, 2009.
- [88] T. Eisele and K. Gabby, "Review of reductive leaching of iron by anaerobic bacteria," Mineral Processing and Extractive Metallurgy Review, vol. 35, no. 2, pp. 75–105, 2014.
- [89] E. Jamieson, A. Jones, D. Cooling, and N. Stockton, "Magnetic separation of red sand to produce value," *Minerals Engineering*, vol. 19, no. 15, pp. 1603– 1605, 2006.
- [90] E. Erçağ and R. Apak, "Furnace smelting and extractive metallurgy of red mud: Recovery of tio2, al2o3 and pig iron," Journal of Chemical Technology & Biotechnology: International Research in Process, Environmental AND Clean Technology, vol. 70, no. 3, pp. 241–246, 1997.
- [91] D.-q. ZHU, T.-J. Chun, P. Jian, and H. Zhen, "Recovery of iron from high-iron red mud by reduction roasting with adding sodium salt," *Journal of Iron and Steel Research*, *International*, vol. 19, no. 8, pp. 1–5, 2012.
- [92] K. Jayasankar, P. Ray, A. Chaubey, A. Padhi, B. Satapathy, and P. Mukherjee, "Production of pig iron from red mud waste fines using thermal plasma technology," *International Journal of Minerals, Metallurgy, and Materials*, vol. 19, no. 8, pp. 679–684, 2012.
- [93] R. Kumar, J. P. Srivastava, and P. Premchand, "Utilization of iron values of red mud for metallurgical applications," pp. 108–119, 1998.

[94] S. Mehta and S. Patel, "Recovery of titania from the bauxite sludge," *Journal* of the American Chemical Society, vol. 73, no. 1, pp. 226–227, 1951.

- [95] T. Mukherjee, S. Chakraborty, A. Bidaye, and C. Gupta, "Recovery of pure vanadium oxide from bayer sludge," *Minerals Engineering*, vol. 3, no. 3-4, pp. 345–353, 1990.
- [96] P. Ochsenkühn, T. Maria, K. S. Hatzilyberis, L. N. Mendrinos, and C. E. Salmas, "Pilot-plant investigation of the leaching process for the recovery of scandium from red mud," *Industrial & engineering chemistry research*, vol. 41, no. 23, pp. 5794–5801, 2002.
- [97] P. M. Ochsenkühn, T. Lyberopulu, and G. Parissakis, "Direct determination of landthanides, yttrium and scandium in bauxites and red mud from alumina production," *Analytica Chimica Acta*, vol. 296, no. 3, pp. 305–313, 1994.
- [98] Y. Qu, B. Lian, M. Binbin, and C. Liu, "Bioleaching of heavy metals from red mud using aspergillus niger," *Hydrometallurgy*, vol. 136, pp. 71–77, 2013.
- [99] P. Kasliwal and P. Sai, "Enrichment of titanium dioxide in red mud: a kinetic study," *Hydrometallurgy*, vol. 53, no. 1, pp. 73–87, 1999.
- [100] S. Agatzini-Leonardou, P. Oustadakis, P. Tsakiridis, and C. Markopoulos, "Titanium leaching from red mud by diluted sulfuric acid at atmospheric pressure," *Journal of hazardous materials*, vol. 157, no. 2-3, pp. 579–586, 2008.
- [101] A. Deep, P. Malik, and B. Gupta, "Extraction and separation of ti (iv) using thiophosphinic acids and its recovery from ilmenite and red mud," Separation Science and Technology, vol. 36, no. 4, pp. 671–685, 2001.

[102] S. Sinha, M. K. Sinha, B. D. Pandey, et al., "Extraction of lanthanum and cerium from indian red mud," *International Journal of Mineral Processing*, vol. 127, pp. 70–73, 2014.

- [103] S. Ward and R. Summers, "Modifying sandy soils with the fine residue from bauxite refining to retain phosphorus and increase plant yield," Fertilizer research, vol. 36, no. 2, pp. 151–156, 1993.
- [104] I. Doye and J. Duchesne, "Column leaching test to evaluate the use of alkaline industrial wastes to neutralize acid mine tailings," *Journal of Environmental Engineering*, vol. 131, no. 8, pp. 1221–1229, 2005.
- [105] M. Paradis, J. Duchesne, A. Lamontagne, and D. Isabel, "Long-term neutralisation potential of red mud bauxite with brine amendment for the neutralisation of acidic mine tailings," *Applied Geochemistry*, vol. 22, no. 11, pp. 2326–2333, 2007.
- [106] M. Paradis, J. Duchesne, A. Lamontagne, and D. Isabel, "Using red mud bauxite for the neutralization of acid mine tailings: a column leaching test," *Canadian Geotechnical Journal*, vol. 43, no. 11, pp. 1167–1179, 2006.
- [107] Y. Li, C. Liu, Z. Luan, X. Peng, C. Zhu, Z. Chen, Z. Zhang, J. Fan, and Z. Jia, "Phosphate removal from aqueous solutions using raw and activated red mud and fly ash," *Journal of hazardous materials*, vol. 137, no. 1, pp. 374–383, 2006.
- [108] V. Orescanin, K. Nad, L. Mikelic, N. Mikulic, and S. Lulic, "Utilization of bauxite slag for the purification of industrial wastewaters," *Process Safety and* environmental protection, vol. 84, no. 4, pp. 265–269, 2006.

[109] C. LIU, Y. LI, Z. LUAN, Z. CHEN, Z. ZHANG, and Z. JIA, "Adsorption removal of phosphate from aqueous solution by active red mud," *Journal of Environmental Sciences*, vol. 19, no. 10, pp. 1166–1170, 2007.

- [110] A. F. Bertocchi, M. Ghiani, R. Peretti, and A. Zucca, "Red mud and fly ash for remediation of mine sites contaminated with as, cd, cu, pb and zn," *Journal* of Hazardous Materials, vol. 134, no. 1-3, pp. 112–119, 2006.
- [111] H. Genc and J. C. Tjell, "Effects of phosphate, silicate, sulphate, and bicarbonate on arsenate removal using activated seawater neutralise red mud (bauxsol)," in *Journal de Physique IV (Proceedings)*, vol. 107, pp. 537–540, EDP sciences, 2003.
- [112] W. Gao, Y. Huang, and M. Lei, "Effects of compost and red mud addition on bioavailability of cd and zn in soil," *J. Environ. Eng*, vol. 2, pp. 78–82, 2008.
- [113] R. Ciccu, M. Ghiani, A. Serci, S. Fadda, R. Peretti, and A. Zucca, "Heavy metal immobilization in the mining-contaminated soils using various industrial wastes," *Minerals Engineering*, vol. 16, no. 3, pp. 187–192, 2003.
- [114] E. Lombi, F. Zhao, G. Wieshammer, G. Zhang, and S. P. McGrath, "In situ fixation of metals in soils using bauxite residue: biological effects," *Environmental Pollution*, vol. 118, no. 3, pp. 445–452, 2002.
- [115] D. J. Akhurst, G. B. Jones, M. Clark, and D. McConchie, "Phosphate removal from aqueous solutions using neutralised bauxite refinery residues (bauxsol[™])," Environmental chemistry, vol. 3, no. 1, pp. 65–74, 2006.
- [116] M. Clark, D. McConchie, L. Munro, D. Faux, S. Walsh, D. Blair, L. Fergusson, and F. Davies-McConchie, "The development of porous pellets of seawater-neutralised bauxite refinery residues (red mud) and bauxsol for use in water

treatment systems," in *Proceedings of the 7th International Alumina Quality Workshop*, pp. 56–58, AQW Inc. Perth, 2005.

- [117] G. Maddocks, C. Lin, and D. McConchie, "Effects of bauxsol™ and biosolids on soil conditions of acid-generating mine spoil for plant growth," *Environmental Pollution*, vol. 127, no. 2, pp. 157–167, 2004.
- [118] R. Schuiling, "Preparation of granular material for removing metal salts from water, comprises heating aqueous mixture of bauxsol, sand and burnt lime," 2001.
- [119] Z. Luan, S. Zhang, and Z. Jia, "Preparation of iron-modified red mud used for removing arsenic and anions including fluorine or phosphate from wastewater and drinking water, by extracting residue red mud using bauxite," 2006.
- [120] C. Zhu, Z. Luan, Y. Wang, and X. Shan, "Removal of cadmium from aqueous solutions by adsorption on granular red mud (grm)," Separation and Purification Technology, vol. 57, no. 1, pp. 161–169, 2007.
- [121] M. Vaclavikova, P. Misaelides, G. Gallios, S. Jakabsky, and S. Hredzak, "Removal of cadmium, zinc, copper and lead by red mud, an iron oxides containing hydrometallurgical waste," in *Studies in Surface Science and Catalysis*, vol. 155, pp. 517–525, Elsevier, 2005.
- [122] I. Doye and J. Duchesne, "Neutralisation of acid mine drainage with alkaline industrial residues: laboratory investigation using batch-leaching tests," Applied Geochemistry, vol. 18, no. 8, pp. 1197–1213, 2003.
- [123] S. Çoruh and O. N. Ergun, "Use of fly ash, phosphogypsum and red mud as a liner material for the disposal of hazardous zinc leach residue waste," *Journal* of hazardous materials, vol. 173, no. 1-3, pp. 468–473, 2010.

[124] S. Coruh, "Immobilization of copper flotation waste using red mud and clinop-tilolite," Waste Management & Research, vol. 26, no. 5, pp. 409–418, 2008.

- [125] W. Huang, S. Wang, Z. Zhu, L. Li, X. Yao, V. Rudolph, and F. Haghseresht, "Phosphate removal from wastewater using red mud," *Journal of hazardous materials*, vol. 158, no. 1, pp. 35–42, 2008.
- [126] D. Cooling, Finite Strain Consolidation of "red-mud" Residue from the Alumina Refining Industry. PhD thesis, WAIT, 1985.
- [127] F. Kehagia, "An innovative geotechnical application of bauxite residue," *EJGE*, vol. 13, pp. 1–10, 2008.
- [128] T. Newson, T. Dyer, C. Adam, and S. Sharp, "Effect of structure on the geotechnical properties of bauxite residue," *Journal of geotechnical and geoen*vironmental engineering, vol. 132, no. 2, pp. 143–151, 2006.
- [129] K. Deelwal, K. Dharavath, and M. Kulshreshtha, "Stabilization of red mud by lime, gypsum and investigating its possible use as a geotechnical material in the civil construction," *International Journal of Advances in Engineering & Technology*, vol. 7, no. 4, p. 1238, 2014.
- [130] S. K. Alam, Sand Das and B. H. Rao, "Characterization of coarse fraction of red mud as a civil engineering construction material," *Journal of cleaner* production, vol. 168, pp. 679–691, 2017.
- [131] M. S. Gore, Geotechnical characterization of bauxite residue (red mud). PhD thesis, 2015.
- [132] C. Rao, P. Naidu, and P. Satyanayarana, "Characterization of lime stabilized red mud mix for feasibility in road construction," *International Journal of Engineering Research*, vol. 3, pp. 20–26, 2012.

[133] Y. Feng and C. Yang, "Analysis on physical and mechanical properties of red mud materials and stockpile stability after dilatation," Advances in Materials Science and Engineering, vol. 2018, 2018.

- [134] X. Jupei, G. Lixuan, and Z. Zhaoshu, "Unburned brick prepared from main materials of red mud and magnesium slag," Google patents, 2012. CN102381864 A.
- [135] Y.-L. Feng, L.-J. Yu, J.-P. Gao, P. Wang, Q.-W. Luo, B. Huang, and M. Wang, "Study on the preparation and properties of red mud unburned brick," *Materials Research Innovations*, vol. 19, no. sup8, pp. S8–297, 2015.
- [136] C. Hongying, "Formula of environment-friendly red mud brick or ceramsite, environment-friendly red mud brick or ceramsite and preparation method thereof," Google patents, 2017. CN107056241 A.
- [137] C. Shichao, B. Mianlian, M. Dongyang, S. Hui, C. Zhicheng, X. Xun, and W. Daohong, "Method for manufacturing perforated brick by using red mud," Google patents, 2017. CN106747317 A.
- [138] A. Pattnayak, N. Madhu, A. S. Panda, M. K. Sahoo, and K. Mohanta, "A comparative study on mechanical properties of al-sio2 composites fabricated using rice husk silica in crystalline and amorphous form as reinforcement," Materials Today: Proceedings, vol. 5, no. 2, pp. 8184-8192, 2018.
- [139] A. Dass and S. Malhotra, "Lime-stabilized red mud bricks," *Materials and structures*, vol. 23, no. 4, pp. 252–255, 1990.
- [140] L. Zhongli, "Red mud composite brick and its making method," Google patents, 1993. CN1079452 A.

[141] S. Jianshu, "Production process of red mud unburned brick," Google patents, 2007. CN101456703 A.

- [142] J. Yang and B. Xiao, "Development of unsintered construction materials from red mud wastes produced in the sintering alumina process," Construction and Building Materials, vol. 22, no. 12, pp. 2299–2307, 2008.
- [143] L. Guitang, "Red mud unburned brick and preparation thereof," Google patents, 2009. CN101468905 A.
- [144] L. Yuezhu, "Light red mud brick and its making process," Google patents, 2009.
 CN100471816 C.
- [145] L. Minglei, W. Fei, X. Chunli, and F. Zhen, "Red mud permeable brick and preparation method thereof," *Google patents*, 2012. CN102336543 A.
- [146] M. Fanmao, "Preparation method of porous red mud cement brick," Google patents, 2013. CN103613405 A.
- [147] J. N. Gordon, W. R. Pinnock, and M. M. Moore, "A preliminary investigation of strength development in jamaican red mud composites," Cement and concrete composites, vol. 18, no. 6, pp. 371–379, 1996.
- [148] I. Vangelatos, G. Angelopoulos, and D. Boufounos, "Utilization of ferroalumina as raw material in the production of ordinary portland cement," *Journal of Hazardous Materials*, vol. 168, no. 1, pp. 473–478, 2009.
- [149] H. C. Young, "Process for the preparation of stabilized red mud," Google patents, 1996. KR960011325 B1.
- [150] A. K. Sabat and S. Mohanta, "Efficacy of dolime fine stabilized red mud-fly ash mixes as subgrade material," *Journal of Engineering and Applied Sciences*, pp. 978–988, 2015.

[151] H. Jian, Y. Jiakuan, Y. Changren, L. Hui, X. Guo, G. Huaisheng, L. Wei, and Z. Wenhai, "Road surface based material by sintering red mud and construction method thereof," *Google patents*, 2007. CN1792954 A.

- [152] S. K. Das, S. K. Rout, and T. Sahoo, "Design of high embankment using red mud," A Review of Road and Road Transport Development Indian Highways, vol. 41, pp. 27–34, 2013.
- [153] X. Jupei, Z. Zhaoshu, S. Junzhe, C. Huikang, M. Haiping, and M. Xiulin, "Road material produced by using bayer process red mud," Google patents, 2013. CN101671986 A.
- [154] S. Kushwaha and D. Kishan, "Stabilization of red mud by lime and gypsum and investigating its possible use in geoenvironmental engineering," in *Geo-Chicago 2016*, pp. 978–988, 2016.
- [155] D. Kishan, S. Kushwaha, and N. Dindorkar, "Geo-environmental impact of bauxite residue stabilized with fly ash and gypsum to mitigate the leaching problems," in *International Congress and Exhibition'' Sustainable Civil In*frastructures: Innovative Infrastructure Geotechnology", pp. 44–56, Springer, 2018.
- [156] M. Zhang, M. Zhao, G. Zhang, J. M. Sietins, S. Granados-Focil, M. S. Pepi, Y. Xu, and M. Tao, "Reaction kinetics of red mud-fly ash based geopolymers: Effects of curing temperature on chemical bonding, porosity, and mechanical strength," Cement and Concrete Composites, vol. 93, pp. 175–185, 2018.
- [157] H. Xu and V. D, "The geopolymerisation of alumino-silicate minerals," *International Journal of Mineral Processing*, vol. 59, no. 3, pp. 247–266, 2000.

[158] X. Zhuang, L. Chen, S. Komarneni, C. Zhou, D. Tong, H. Yang, and H. Wang, "Fly ash-based geopolymer: clean production, properties and applications," *Journal of Cleaner Production*, vol. 125, pp. 253–267, 2016.

- [159] M. H. Fasihnikoutalab, A. Asadi, C. Unluer, B. K. Huat, R. J. Ball, and S. Pourakbar, "Utilization of alkali-activated olivine in soil stabilization and the effect of carbonation on unconfined compressive strength and microstructure," Journal of Materials in Civil Engineering, vol. 29, no. 6, p. 06017002, 2017.
- [160] U. Rattanasak and P. Chindaprasirt, "Influence of naoh solution on the synthesis of fly ash geopolymer," *Minerals Engineering*, vol. 22, no. 12, pp. 1073–1078, 2009.
- [161] R. Nazir, E. Momeni, K. Marsono, and H. Maizir, "An artificial neural network approach for prediction of bearing capacity of spread foundations in sand," *Jurnal Teknologi*, vol. 72, no. 3, 2015.
- [162] Y. Zhang, W. Sun, W. She, and G. Sun, "Synthesis and heavy metal immobilization behaviors of fly ash based gepolymer," *Journal of Wuhan University of Technology-Mater. Sci. Ed.*, vol. 24, no. 5, p. 819, 2009.
- [163] J. Van, D. Van, and G. Lukey, "The effect of composition and temperature on the properties of fly ash-and kaolinite-based geopolymers," *Chemical Engineering Journal*, vol. 89, no. 1-3, pp. 63–73, 2002.
- [164] P. Duxson, J. L. Provis, G. C. Lukey, S. W. Mallicoat, W. M. Kriven, and J. Van, "Understanding the relationship between geopolymer composition, microstructure and mechanical properties," *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, vol. 269, no. 1-3, pp. 47–58, 2005.

[165] D. Dimas, I. P. Giannopoulou, and D. Panias, "Utilization of alumina red mud for synthesis of inorganic polymeric materials," *Mineral processing & Extractive metallurgy review*, vol. 30, no. 3, pp. 211–239, 2009.

- [166] A. Kumar and S. Kumar, "Development of paving blocks from synergistic use of red mud and fly ash using geopolymerization," Construction and building Materials, vol. 38, pp. 865–871, 2013.
- [167] J. He, Y. Jie, J. Zhang, Y. Yu, and G. Zhang, "Synthesis and characterization of red mud and rice husk ash-based geopolymer composites," Cement and Concrete Composites, vol. 37, pp. 108–118, 2013.
- [168] W. Hajjaji, S. Andrejkovičová, C. Zanelli, M. Alshaaer, M. Dondi, J. Labrincha, and F. Rocha, "Composition and technological properties of geopolymers based on metakaolin and red mud," *Materials & Design (1980-2015)*, vol. 52, pp. 648–654, 2013.
- [169] M. Zhang, T. El-Korchi, G. Zhang, J. Liang, and M. Tao, "Synthesis factors affecting mechanical properties, microstructure, and chemical composition of red mud-fly ash based geopolymers," *Fuel*, vol. 134, pp. 315–325, 2014.
- [170] S. N. M. Hairi, G. N. Jameson, J. J. Rogers, and K. J. MacKenzie, "Synthesis and properties of inorganic polymers (geopolymers) derived from bayer process residue (red mud) and bauxite," *Journal of materials science*, vol. 50, no. 23, pp. 7713–7724, 2015.
- [171] K. Kaya and S. Soyer-Uzun, "Evolution of structural characteristics and compressive strength in red mud-metakaolin based geopolymer systems," *Ceramics International*, vol. 42, no. 6, pp. 7406–7413, 2016.

[172] M. Zhang, M. Zhao, G. Zhang, D. Mann, K. Lumsden, and M. Tao, "Durability of red mud-fly ash based geopolymer and leaching behavior of heavy metals in sulfuric acid solutions and deionized water," Construction and Building Materials, vol. 124, pp. 373–382, 2016.

- [173] I. Panda and S. K. Das, Characterization of Red Mud as a Construction Material Using Bioremediation. PhD thesis, 2015.
- [174] I. Panda, S. Jain, S. K. Das, and R. Jayabalan, "Characterization of red mud as a structural fill and embankment material using bioremediation," *International Biodeterioration & Biodegradation*, vol. 119, pp. 368–376, 2017.
- [175] S. Alam, B. K. Das, and S. K. Das, "Dispersion and sedimentation characteristics of red mud," *Journal of Hazardous, Toxic, and Radioactive Waste*, vol. 22, no. 4, p. 04018025, 2018.
- [176] N. G. Reddy, B. H. Rao, and K. R. Reddy, "Biopolymer amendment for mitigating dispersive characteristics of red mud waste," Géotechnique Letters, vol. 8, no. 3, pp. 201–207, 2018.
- [177] H. Güllü and H. Fedakar, "Use of factorial experimental approach and effect size on the cbr testing results for the usable dosages of wastewater sludge ash with coarse-grained material," European Journal of Environmental and Civil Engineering, vol. 22, no. 1, pp. 42–63, 2018.
- [178] O. Chavalparit and M. Ongwandee, "Optimizing electrocoagulation process for the treatment of biodiesel wastewater using response surface methodology," *Journal of Environmental Sciences*, vol. 21, no. 11, pp. 1491–1496, 2009.
- [179] D. B. Powrel, Optimizing electrocoagulation process for treatment of biodiesel wastewater using response surface method. PhD thesis, 2014.

[180] H. Güllü and H. Fedakar, "Response surface methodology for optimization of stabilizer dosage rates of marginal sand stabilized with sludge ash and fiber based on ucs performances," KSCE Journal of Civil Engineering, vol. 21, no. 5, pp. 1717–1727, 2017.

- [181] M. Olgun, "The effects and optimization of additives for expansive clays under freeze-thaw conditions," Cold Regions Science and Technology, vol. 93, pp. 36– 46, 2013.
- [182] F. Bayramov, C. Taşdemir, and M. Taşdemir, "Optimisation of steel fibre reinforced concretes by means of statistical response surface method," *Cement* and Concrete Composites, vol. 26, no. 6, pp. 665–675, 2004.
- [183] E. Güneyisi, M. Gesoğlu, Z. Algın, and K. Mermerdaş, "Optimization of concrete mixture with hybrid blends of metakaolin and fly ash using response surface method," *Composites Part B: Engineering*, vol. 60, pp. 707–715, 2014.
- [184] M. Kobya, E. Demirbas, M. Bayramoglu, and M. Sensoy, "Optimization of electrocoagulation process for the treatment of metal cutting wastewaters with response surface methodology," Water, Air, & Soil Pollution, vol. 215, no. 1-4, pp. 399–410, 2011.
- [185] K. Murugesan, A. Dhamija, I. Nam, Y. Kim, and Y. Chang, "Decolourization of reactive black 5 by laccase: optimization by response surface methodology," *Dyes and Pigments*, vol. 75, no. 1, pp. 176–184, 2007.
- [186] F. Schoefs, K. Le, and F. Lanata, "Surface response meta-models for the assessment of embankment frictional angle stochastic properties from monitoring data: An application to harbour structures," Computers and Geotechnics, vol. 53, pp. 122–132, 2013.

[187] R. Sen and T. Swaminathan, "Application of response-surface methodology to evaluate the optimum environmental conditions for the enhanced production of surfactin," Applied Microbiology and Biotechnology, vol. 47, no. 4, pp. 358– 363, 1997.

- [188] A. Witek, K. Chojnacka, D. Podstawczyk, A. Dawiec, and K. Pokomeda, "Application of response surface methodology and artificial neural network methods in modelling and optimization of biosorption process," *Bioresource technology*, vol. 160, pp. 150–160, 2014.
- [189] G. E. Box and K. B. Wilson, "On the experimental attainment of optimum conditions," pp. 270–310, Springer, 1992.
- [190] R. F. Gunst, Response surface methodology: process and product optimization using designed experiments. Taylor & Francis, 1996.
- [191] M. A. Nemeth, "Response surface methodology: Process and product optimization using designed experiments," *Journal of Quality Technology*, vol. 35, no. 4, pp. 428–441, 2003.
- [192] M. A. Bezerra, R. E. Santelli, E. P. Oliveira, L. S. Villar, and L. A. Escaleira, "Response surface methodology (rsm) as a tool for optimization in analytical chemistry," *Talanta*, vol. 76, no. 5, pp. 965–977, 2008.
- [193] J. M. Lucas, Response Surface Methodology: Process and Product Optimization Using Designed Experiments. Taylor & Francis, 2010.
- [194] M. J. Anderson and P. J. Whitcomb, RSM simplified: optimizing processes using response surface methods for design of experiments. Productivity press, 2016.

[195] B. Narendra, P. Sivapullaiah, S. Suresh, and S. Omkar, "Prediction of unconfined compressive strength of soft grounds using computational intelligence techniques: a comparative study," Computers and Geotechnics, vol. 33, no. 3, pp. 196–208, 2006.

- [196] P. K. Basudhar, "Application of optimization and other evolutionary techniques in geotechnical engineering," Proceedings of the 12th International Conference of International Association for Computer Methods and Advances in Geomechanics (IACMAG), Goa, India, pp. 13–20, 2008.
- [197] E. Kalkan, S. Akbulut, A. Tortum, and S. Celik, "Prediction of the unconfined compressive strength of compacted granular soils by using inference systems," *Environmental geology*, vol. 58, no. 7, pp. 1429–1440, 2009.
- [198] H. Momeni, Eand Maizir and R. Gofar, Nand Nazir, "Comparative study on prediction of axial bearing capacity of driven piles in granular materials," Jurnal Teknologi, vol. 61, no. 3, 2013.
- [199] R. Nazir, E. Momeni, D. J. Armaghani, and M. M. Amin, "Correlation between unconfined compressive strength and indirect tensile strength of limestone rock samples," *Electronic Journal of Geotechnical Engineering*, vol. 18, no. 1, pp. 1737–1746, 2013.
- [200] R. A. Mozumder and A. I. Laskar, "Prediction of unconfined compressive strength of geopolymer stabilized clayey soil using artificial neural network," Computers and Geotechnics, vol. 69, pp. 291–300, 2015.
- [201] H. Güllü and H. I. Fedakar, "On the prediction of unconfined compressive strength of silty soil stabilized with bottom ash, jute and steel fibers via artificial intelligence," *Geomech Eng*, vol. 12, no. 3, pp. 441–464, 2017.

[202] S. Suman, M. Mahamaya, and S. K. Das, "Prediction of maximum dry density and unconfined compressive strength of cement stabilised soil using artificial intelligence techniques," *International Journal of Geosynthetics and Ground Engineering*, vol. 2, no. 2, pp. 11–20, 2016.

- [203] A. Besalatpour, M. Hajabbasi, S. Ayoubi, M. Afyuni, A. Jalalian, and R. Schulin, "Soil shear strength prediction using intelligent systems: artificial neural networks and an adaptive neuro-fuzzy inference system," Soil science and plant nutrition, vol. 58, no. 2, pp. 149–160, 2012.
- [204] I. Yilmaz, M. Marschalko, O. Bednarik, Mand Kaynar, and L. Fojtova, "Neural computing models for prediction of permeability coefficient of coarse-grained soils," Neural Computing and Applications, vol. 21, no. 5, pp. 957–968, 2012.
- [205] A. Edincliler, A. F. Cabalar, A. Cagatay, and A. Cevik, "Triaxial compression behavior of sand and tire wastes using neural networks," *Neural Computing* and Applications, vol. 21, no. 3, pp. 441–452, 2012.
- [206] A. Mishra, B. Kumar, and S. Vadlamudi, "Prediction of hydraulic conductivity for soil-bentonite mixture," *International Journal of Environmental Science* and Technology, vol. 14, no. 8, pp. 1625–1634, 2017.
- [207] S. B. Ikizler, M. Vekli, E. Dogan, M. Aytekin, and F. Kocabas, "Prediction of swelling pressures of expansive soils using soft computing methods," *Neural Computing and Applications*, vol. 24, no. 2, pp. 473–485, 2014.
- [208] Y. Erzin and T. O. Gul, "The use of neural networks for the prediction of the settlement of one-way footings on cohesionless soils based on standard penetration test," Neural Computing and Applications, vol. 24, no. 3-4, pp. 891–900, 2014.

[209] M. Buragohain and C. Mahanta, "A novel approach for anfis modelling based on full factorial design," Applied soft computing, vol. 8, no. 1, pp. 609–625, 2008.

- [210] C. McDowell, "Evaluation of soil-lime stabilization mixtures," *Highway Research Record*, no. 139, 1966.
- [211] ASTMD6276, Standard test method for using pH to estimate the soil-Lime proportion requirement for soil stabilization (withdrawn 2015). ASTM International, West Conshohocken, PA, 2006.
- [212] M. Cavazzuti, Design of experiments. Springer, 2013.
- [213] M. Cavazzuti, Optimization Methods: From Theory to Design, vol. 53. Berlin Heidelberg: Springer Verlag, 2013.
- [214] ASTM-D6913/D6913M-17, Standard Test Methods for Particle-Size Distribution (Gradation) of Soils Using Sieve Analysis. ASTM International, West Conshohocken, PA, 2017.
- [215] ASTM-D7928-17, Standard Test Method for Particle-Size Distribution (Gradation) of Fine-Grained Soils Using the Sedimentation (Hydrometer) Analysis.
 ASTM International, West Conshohocken, PA, 2017.
- [216] IS-2720-3, Methods Of Test For Soils part 3: Determination of Specific gravity
 Of Fine Grained Soil. Bureao of Indian Standards, New Delhi, 1980.
- [217] ASTM-D4318-17e1, Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils. ASTM International, West Conshohocken, PA, 2017.
- [218] M. Budhu, Soil mechanics fundamentals. John Wiley & Sons, 2015.

[219] ASTM-D698-12e2, Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort. ASTM International, West Conshohocken, PA, 2012.

- [220] ASTM-D1557-12e1, Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort. ASTM International, West Conshohocken, PA, 2012.
- [221] ASTM-D2166/D2166M-16, Standard Test Method for Unconfined Compressive Strength of Cohesive Soil. ASTM International, West Conshohocken, PA, 2016.
- [222] ASTM-D3967-08, Standard Test Method for Splitting Tensile Strength of Intact Rock Core Specimens. ASTM International, West Conshohocken, PA, 2008.
- [223] N. C. Consoli, H. C. Scheuermann F, V. B. Godoy, C. M. Rosembach, and J. A. H. Carraro, "Durability of reclaimed asphalt pavement-coal fly ashcarbide lime blends under severe environmental conditions," *Road Materials* and Pavement Design, pp. 1–13, 2018.
- [224] ASTM-D559/D559M-15, Standard Test Methods for Wetting and Drying Compacted Soil-Cement Mixtures. ASTM International, West Conshohocken, PA, 2015.
- [225] K. Priddy and P. Keller, Artificial neural networks: an introduction, vol. 68.
 SPIE press, 2005.
- [226] I. Basheer and M. Hajmeer, "Artificial neural networks: fundamentals, computing, design, and application," *Journal of microbiological methods*, vol. 43, no. 1, pp. 3–31, 2000.

[227] A. Edincliler, A. Cabalar, A. Cagatay, and A. Cevik, "Triaxial compression behavior of sand and tire wastes using neural networks," *Neural Computing and Applications*, vol. 21, no. 3, pp. 441–452, 2012.

- [228] A. Kanibir, R. Ulusay, and O. Aydan, "Liquefaction-induced ground deformations on a lake shore (turkey) and empirical equations for their prediction,"

 Proceedings of the 10th Congress of the International Association for Engineering Geology and the Environment (IAEG), Nottingham, United Kingdom, vol. 362, 2006.
- [229] Y. Erzin, A. Patel, D. Singh, M. Tiga, I. Yılmaz, and K. Srinivas, "Factors influencing the crushing strength of some aegean sands," *Bulletin of Engineering Geology and the Environment*, vol. 71, no. 3, pp. 529–536, 2012.
- [230] D. K. Gupta, R. Prasad, P. Kumar, and A. K. Vishwakarma, "Soil moisture retrieval using ground based bistatic scatterometer data at x-band," Advances in Space Research, vol. 59, no. 4, pp. 996–1007, 2017.
- [231] A. Dass and S. Malhotra, "Lime-stabilized red mud bricks," *Materials and structures*, vol. 23, no. 4, pp. 252–255, 1990.
- [232] S. Kumar and A. Prasad, "Parameters controlling strength of red mud-lime mix," European Journal of Environmental and Civil Engineering, pp. 1–15, 2017.
- [233] N. C. Consoli, L. da Silva Lopes Jr, D. Foppa, and K. S. Heineck, "Key parameters dictating strength of lime/cement-treated soils," *Proceedings of the Institution of Civil Engineers-Geotechnical Engineering*, vol. 162, no. 2, pp. 111–118, 2009.

[234] N. C. Consoli, L. da Silva Lopes Jr, and K. S. Heineck, "Key parameters for the strength control of lime stabilized soils," *Journal of materials in Civil Engineering*, vol. 21, no. 5, pp. 210–216, 2009.

- [235] I. Vanicek, "The importance of tensile strength in geotechnical engineering,"

 Acta Geotechnica Slovenica, vol. 1, pp. 5–17, 2013.
- [236] R. Mathur, Sand Swami and U. Arun, "Lime/cement stabilisation for soil and granular materials," in National Workshop on Non-Conventional Material/Technologies, NRRDA, NEW DELHI, pp. 56-74, Citeseer, 2012.
- [237] D. K. Gupta, P. Kumar, V. Mishra, R. Prasad, P. Dikshit, S. Dwivedi, A. Ohri, R. Singh, and V. Srivastava, "Bistatic measurements for the estimation of rice crop variables using artificial neural network," Advances in Space Research, vol. 55, no. 6, pp. 1613–1623, 2015.
- [238] K. Hornik, M. Stinchcombe, and H. White, "Multilayer feedforward networks are universal approximators," *Neural networks*, vol. 2, no. 5, pp. 359–366, 1989.
- [239] L. M. Salchenberger, E. M. Cinar, and N. A. Lash, "Neural networks: A new tool for predicting thrift failures," *Decision Sciences*, vol. 23, no. 4, pp. 899– 916, 1992.
- [240] K. G. Sheela and S. Deepa, "Review on methods to fix number of hidden neurons in neural networks," Mathematical Problems in Engineering, vol. 2013, 2013.
- [241] K. Shibata and Y. Ikeda, "Soil stabilization for pavements mobilization construction," in *ICCAS-SICE*, 2009, pp. 5008–5013, IEEE, 2009.

[242] N. Murata, S. Yoshizawa, and S. Amari, "Network information criterion-determining the number of hidden units for an artificial neural network model," IEEE Transactions on Neural Networks, vol. 5, no. 6, pp. 865–872, 1994.

- [243] P. Kulkarni, S. Londhe, and M. Deo, "Artificial neural networks for construction management: A review," Soft Computing in Civil Engineering, vol. 1, no. 2, pp. 70–88, 2017.
- [244] S. K. Das and P. K. Basudhar, "Undrained lateral load capacity of piles in clay using artificial neural network," Computers and Geotechnics, vol. 33, no. 8, pp. 454–459, 2006.
- [245] G. D. Garson, "Interpreting neural-network connection weights," AI expert, vol. 6, no. 4, pp. 46–51, 1991.
- [246] EM-1110-3-137, Soil stabilization for pavements mobilization construction. Department of the army U.S. Army Corps of Engineers, Washington, D.C. 20314, 1984.
- [247] IS-12894, Pulverized fuel ash-lime bricks. Bureau of Indian Standards, New Delhi, India, 2002.
- [248] S. Kumar, R. Dutta, and B. Mohanty, "Potential of bentonite-lime-mix modified with phosphogypsum and reinforced with sisal fibres," *Periodica Polytechnica Civil Engineering*, vol. 59, no. 2, pp. 143–154, 2015.