

- Alencar, A., Galindo, R., dan Melentijevic, S., 2021. Influence of the groundwater level on the bearing capacity of shallow foundations on the rock mass. *Bulletin of Engineering Geology and the Environment*, 80 (9), 6769–6779.
- Ameratunga, J., Sivakugan, N., dan Das, B.M., 2016. *Correlations of Soil and Rock Properties in Geotechnical Engineering*. New Delhi: Springer India.
- Arboleda-Monsalve, L.G., Teng, F., Kim, T., dan Finno, R.J., 2017. Numerical Simulation of Triaxial Stress Probes and Recent Stress-History Effects of Compressible Chicago Glacial Clays. *Journal of Geotechnical and Geoenvironmental Engineering*, 143 (7), 04017029.
- Azeez, O., Hummadi, R., dan Hasan, A., 2019. Effect of Embedded Length on Laterally Loaded Capacity of Pile Foundation, 56 (1).
- Basha, A., Eldamati, M., Elmorsy, S., dan Ramadan, B., 2024. Parametric and comparative study between anchored, strutted and cantilever system for a secant pile wall retaining a soil during construction an under-ground water tank. *Case Studies in Construction Materials*, 20, e03155.
- Beltrán-Vargas, D., García-Páez, F., Martínez-Morales, M., dan Rentería-Guevara, S.A., 2025. Novel Numerical Modeling of a Groundwater Level-Lowering Approach Implemented in the Construction of High-Rise/Complex Buildings. *Water*, 17 (5), 732.
- Bowles, J.E., 1996. *FOUNDATION ANALYSIS AND DESIGN*. Fifth. Newyork: McGraw-Hill.
- Chen, F., Lin, Y., dan Yang, J., 2020. Passive earth pressure of narrow cohesionless backfill against inclined rigid retaining walls under translation mode. *Soils and Foundations*, 60 (5), 1226–1240.
- Cheru, A.N., Geleta, T.D., dan Tullu, G.M., 2025. Seasonal and annual rainfall variability over East Hararghe Zone, Oromia, Ethiopia. *Academia Environmental Sciences and Sustainability*, 2 (2).
- Chung, Y. dan Um, M.-J., 2025. Comparative analysis of daily precipitation generation using MBLRPM and machine learning approaches for South Korea. *Journal of Hydrology: Regional Studies*, 61, 102729.
- Connolly, R.D., Schirmer, J., dan Dunn, P.K., 1998. A daily rainfall disaggregation model. *Agricultural and Forest Meteorology*, 92 (2), 105–117.
- Cowpertwait, P.S.P., Kilsby, C.G., dan O’Connell, P.E., 2002. A space-time Neyman-Scott model of rainfall: Empirical analysis of extremes. *Water Resources Research*, 38 (8).
- Dai, Y., Abhishek, Li, L., Gong, Y., Wu, X., Sheng, B., dan Zhao, W., 2024. Variations in Present and Future Hourly Extreme Rainfall: Insights from High-Resolution Data and Novel Temporal Disaggregation Model. *Water*, 16 (23), 3463.
- Das, B.M. dan Sivakugan, N., 2019. *PRINCIPLES OF FOUNDATION ENGINEERING*. Ninth. Boston: Cengage.

- De Lyra Nogueira, C., De Azevedo, R.F., dan Zornberg, J.G., 2009. Coupled Analyses of Excavations in Saturated Soil. *International Journal of Geomechanics*, 9 (2), 73–81.
- Deng, B. dan Yang, M., 2019. Analysis of Passive Earth Pressure for Unsaturated Retaining Structures. *International Journal of Geomechanics*, 19 (12), 06019016.
- Dodge, Y., 2008. *The concise encyclopedia of statistics*. New York: Springer.
- El-Nimr, M.T., Basha, A.M., Abo-Raya, M.M., dan Zakaria, M.H., 2023. Structural behavior of small-scale reinforced concrete secant pile wall. *World Journal of Engineering*, 20 (4), 732–745.
- Fredlund, D.D., 1996. *The Emergence of Unsaturated Soil Mechanics*. Fourth Spancer J. Buchanan Lecturer. Texas: A & M University Press.
- Fredlund, D.G. dan Morgenstern, N.R., 1977. Stress state variables for unsaturated soils. *Journal of Geotechnical Engineering Division, ASCE*, 447–466.
- Fredlund, D.G., Rahardjo, H., dan Fredlund, M.D., 2012. *Unsaturated Soil Mechanics in Engineering Practice*. Hoboken, New Jersey: John Wiley & Sons, Inc.
- Fu, D., Yang, M., Deng, B., dan Gong, H., 2022. Estimation of Active Earth Pressure for Narrow Unsaturated Backfills Considering Soil Arching Effect and Interlayer Shear Stress. *Sustainability*, 14 (19), 12699.
- Georgiadis, K., Potts, D.M., dan Zdravkovic, L., 2003. The influence of partial soil saturation on pile behaviour. *Géotechnique*, 53 (1), 11–25.
- Ghahramani, S., 2005. *Fundamentals of Probability: With Stochastic Processes*. 3 ed. Pearson Prentice Hall.
- Goh, A.T.C., Zhang, R.H., Wang, W., Wang, L., Liu, H.L., dan Zhang, W.G., 2020. Numerical study of the effects of groundwater drawdown on ground settlement for excavation in residual soils. *Acta Geotechnica*, 15 (5), 1259–1272.
- Hardiyatmo, H.C., 2023. *Analisis dan Perancangan Fondasi II*. 5 ed. Yogyakarta: Gadjah Mada University Press.
- Hidayah, E., Anwar, N., dan Iriawan, N., 2010. Evaluating Error of Temporal Disaggregation from Daily into Hourly Rainfall using Heytos Model at Sampean Catchments Area, 21 (1).
- Hu, Q. dan Li, Y., 2022. Active Soil Pressure of Unsaturated Soil under Rainfall Conditions. *Advances in Civil Engineering*, 2022 (1), 7039420.
- Hu, Z., Yang, Z., dan Wilkinson, S.P., 2017. Active earth pressure acting on retaining wall considering anisotropic seepage effect. *Journal of Mountain Science*, 14 (6), 1202–1211.
- Huang, R.Q. dan Wu, L.Z., 2012. Analytical solutions to 1-D horizontal and vertical water infiltration in saturated/unsaturated soils considering time-varying rainfall. *Computers and Geotechnics*, 39, 66–72.

Jiang, X., Hou, T., Guo, S., dan Chen, Y., 2023. Influence of cracks on loess collapse under heavy rainfall. *CATENA*, 223, 106959.

Kossieris, P., Makropoulos, C., Onof, C., dan Koutsoyiannis, D., 2018. A rainfall disaggregation scheme for sub-hourly time scales: Coupling a Bartlett-Lewis based model with adjusting procedures. *Journal of Hydrology*, 556, 980–992.

Koutsoyiannis, D., 2003. Rainfall disaggregation methods: Theory and applications.

Koutsoyiannis, D. dan Onof, C., 2001. Rainfall disaggregation using adjusting procedures on a Poisson cluster model. *Elsevier Scientific Publishing Co.*, 109–122.

Kulhawy, F.H., 1991. Drilled Shaft Foundations. *Dalam: Analisis dan Perancangan Fondasi II*. Yogyakarta: Gadjah Mada University Press.

Lafit, A.F., Upomo, T.C., Sutopo, Y., dan Sutarto, A., 2021. Defleksi Lateral Tiang Tunggal Akibat Beban Lateral pada Tanah Pasir. *INERSIA Informasi dan Ekspose Hasil Riset Teknik Sipil dan Arsitektur*, 17 (2), 83–95.

Lam, S.Y., Haigh, S.K., dan Bolton, M.D., 2014. Understanding ground deformation mechanisms for multi-propped excavation in soft clay. *Soils and Foundations*, 54 (3), 296–312.

Li, Y., Zhang, W., He, S., dan Aydin, A., 2020. Wetting-driven formation of present-day loess structure. *Geoderma*, 377, 114564.

Look, B., 2007. *Handbook of geotechnical investigation and design tables*. Boca Raton, Fla.: Taylor & Francis.

Lu, N., Godt, J.W., dan Wu, D.T., 2010. A closed-form equation for effective stress in unsaturated soil. *Water Resources Research*, 46 (5), 2009WR008646.

Marasabessy, M.I., 2025. Numerical Analysis of Stability in Basement Excavations: The Influence of Undrained and Drained Conditions on Soft Soils in Surabaya, 8.

Mohyla, T., Boháč, J., dan Mašín, D., 2021. Small-strain behaviour of unsaturated silty clay: experiments and model interpretation. *Acta Geotechnica*, 16 (9), 2837–2849.

Ng, C.W.W. dan Menzies, B., 2007. *Advanced Unsaturated Soil Mechanics and Engineering*.

Nguyen, K.T., 2025. Sep-Numerical Coupling Simulation of Groundwater Flow and Deformation in Excavation of Foundation Pit. *Journal of Water Management Modeling*.

Nizeyimana, P., Lee, K.E., dan Kim, G., 2024. Bayesian Estimation of Neyman–Scott Rectangular Pulse Model Parameters in Comparison with Other Parameter Estimation Methods. *Water*, 16 (17), 2515.

al-Omari, R.R., Fattah, M.Y., dan Kallawi, A.M., 2020. Bearing capacity of piles in unsaturated soil from theoretical and experimental approaches. *IOP Conference Series: Materials Science and Engineering*, 737 (1), 012101.

Peng, C.-X., Liu, N.-W., Li, M.-G., Zhen, L., dan Chen, J.-J., 2022. Hydro-mechanical coupled analyses on wall deformations caused by deep excavations and dewatering in a confined aquifer. *Acta Geotechnica*, 17 (6), 2465–2479.

Poisson, S.D.C., 1837. Recherches sur la probabilité des jugements en matière criminelle et en matière civile. *Dalam: The concise encyclopedia of statistics*. Yogyakarta: Springer.

Purnamayoga, W., Saputra, T.R., Maulana, M.A., dan Winurseto, W.S., 2024. Excavation Slopes Stability Analysis with Cracked Soil in the Construction of the Serang – Panimbang Toll Road (STA 54+625) Under Maximum Rainfall Condition. *Journal of Infrastructure & Facility Asset Management*, 6 (0).

Rasool, A.M., Niazi, F.S., Ahmed, T., dan Aziz, M., 2023. A parametric investigation on effect of supporting arrangements on earth retention system. *Geomechanics and Engineering*, 33 (5), 507–518.

Reese, L.C. dan O’Neill, M.W., 1989. Criteria for the Design of Axially Loaded Drilled Shafts. *Dalam: Analisis dan Perancangan Fondasi II*. Yogyakarta: Gadjah Mada University Press.

Reese, L.C. dan O’Neill, M.W., 1999. Drilled Shaft: Construction Procedures and Design Methods. *Dalam: Analisis dan Perancangan Fondasi II*. Yogyakarta: Gadjah Mada University Press.

Reese, L.C. dan Van Impe, W.F., 2010. *Single Piles and Pile Groups Under Lateral Loading*. 2 ed. Taylor & Francis Group.

Rifa’i, A., Vulliet, L., dan Laloui, L., 2002. Simplified constitutive modelling of the behaviour of unsaturated soil. *Dalam: J.-L. Auriault, C. Geindreau, P. Royer, J.-F. Bloch, C. Boutin, dan J. Lewandowska, ed. Poromechanics II*. CRC Press, 299–305.

Sahoo, J.P. dan Ganesh, R., 2018. Active Earth Pressure on Retaining Walls with Unsaturated Soil Backfill. *Dalam: M. Bouassida dan M.A. Meguid, ed. Ground Improvement and Earth Structures*. Cham: Springer International Publishing, 1–19.

Sanayei, H.R.Z., Rakhshandehroo, G.R., dan Talebbeydokhti, N., 2016. New Analytical Solutions to 2-D Water Infiltration and Imbibition into Unsaturated Soils for Various Boundary and Initial Conditions. *Iranian Journal of Science and Technology, Transactions of Civil Engineering*, 40 (3), 219–239.

Shao, L., Guo, X., Wen, T., dan Zhao, B., 2019. Effective Stress and Effective Stress Equation. *Dalam: W. Wu, ed. Desiderata Geotechnica*. Cham: Springer International Publishing, 175–192.

Shulthony, M.A.N., Rifai, A., dan Ismanti, S., 2025. Perancangan Secant Pile untuk Penanganan Stabilitas Lereng pada Proyek Jalan Tol Jogja-Bawen Seksi 4 STA 30+950.

Shwan, B., 2016. Analysis of passive earth thrust in an unsaturated sandy soil using discontinuity layout optimization. *E3S Web of Conferences*, 9, 08018.

Skempton, A.W., 1966. Bearing Capacity of Clays. *Dalam: Analisis dan Perancangan Fondasi II*. Yogyakarta: Gadjah Mada University Press.

- Sugiyama, M., 2016. *Introduction to Statistical Machine Learning*. USA: Elsevier.
- Syafrina, A.H., Norzaida, A., dan Noor Shazwani, O., 2018. Stochastic Modeling of Rainfall Series in Kelantan Using an Advanced Weather Generator. *Engineering, Technology & Applied Science Research*, 8 (1), 2537–2541.
- Taban, A., Sadeghi, M. M., dan Rowshanzamir, M.A., 2017. The Estimation of van Genuchten SWCC Model for Unsaturated Sands by means of the Genetic Programming. *Scientia Iranica*, 0 (0), 0–0.
- Taylan, Z.N. dan Vanapalli, S.K., 2012. Estimation of the Shaft Capacity of Single Piles Using the Conventional and Modified β Method. *Dalam: C. Mancuso, C. Jommi, dan F. D’Onza, ed. Unsaturated Soils: Research and Applications*. Berlin, Heidelberg: Springer Berlin Heidelberg, 255–262.
- Uribe-Henao, A.F., Arboleda-Monsalve, L.G., Ballesteros, C., dan Zapata-Medina, D.G., 2023. Method for Estimating Fully Coupled Response of Deep Excavations in Soft Clays. *Journal of Geotechnical and Geoenvironmental Engineering*, 149 (5), 04023026.
- Vahedifard, F., Leshchinsky, B.A., Mortezaei, K., dan Lu, N., 2015. Active Earth Pressures for Unsaturated Retaining Structures. *Journal of Geotechnical and Geoenvironmental Engineering*, 141 (11), 04015048.
- Vanapalli, S.K., 2010. Shear strength of unsaturated soils and its applications in geotechnical engineering practice. *Taylor & Francis Group*, 579–598.
- Wang, C., Wu, Y., Xie, L., Yang, Z., Tian, J., Yu, F., Ren, J., dan Li, S., 2025. Estimating Soil-Water Characteristic Curve From the Particle Size Distribution With a Novel Granular Packing Model. *Water Resources Research*, 61 (2), e2024WR037262.
- Wang, Y., Zhang, Y., Li, M., Qi, Y., dan Ma, T., 2021. A Numerical Investigation of the Deformation Mechanism of a Large Metro Station Foundation Pit under the Influence of Hydromechanical Processes. *Geofluids*, 2021, 1–16.
- Wu, L.Z., Xu, Q., dan Wang, T., 2018. Incorporating Hydromechanical Coupling of Unsaturated Soils into the Analysis of Rainwater-Induced Groundwater Ponding. *International Journal of Geomechanics*, 18 (6), 06018010.
- Yang, X., Jia, M., dan Ye, J., 2020. Method for estimating wall deflection of narrow excavations in clay. *Computers and Geotechnics*, 117, 103224.
- Yendra, R. dan Desvina, A.P., 2018. A Rainfall Model Comparison by Using Stochastic Neyman- Scott Rectangular Pulse (NSRP) and Bartlett-Lewis Rectangular Pulse (BLRP).
- Yendra, R., Pani Desvina, A., Rahmadeni, R., Aziz Jemain, A., Zawiah Wan Zin, W., dan Fudholi, A., 2015. Rainfall Storm Modeling of Neyman-Scott Rectangular Pulse (NSRP) using Rainfall Cell Intensity Distributions. *Research Journal of Applied Sciences, Engineering and Technology*, 11 (9), 969–974.

Zakariya, A., Rifa'i, A., dan Ismanti, S., 2023. Behaviour of Axial Bearing Pile under Liquefaction Condition Based on Empirical and 3D Numerical Simulation. *Jurnal Teknik Sipil dan Perencanaan*, 25 (1), 34–51.

Zhang, H.-B., Chen, J.-J., Zhao, X.-S., Wang, J.-H., dan Hu, H., 2015. Displacement Performance and Simple Prediction for Deep Excavations Supported by Contiguous Bored Pile Walls in Soft Clay. *Journal of Aerospace Engineering*, 28 (6), A4014008.

Zhang, R., Zhang, W., Goh, A.T.C., Hou, Z., dan Wang, W., 2018. A simple model for ground surface settlement induced by braced excavation subjected to a significant groundwater drawdown. *Geomechanics and Engineering*, 16 (6), 635–642.

Zhang, W., Wang, W., Zhou, D., Zhang, R., Goh, A.T.C., dan Hou, Z., 2018. Influence of groundwater drawdown on excavation responses – A case history in Bukit Timah granitic residual soils. *Journal of Rock Mechanics and Geotechnical Engineering*, 10 (5), 856–864.

Zhang, X.-Q., Li, M.-G., dan Chen, J.-J., 2022. Hydro-mechanical analysis of a braced foundation pit affected by rainfall and excavation in unsaturated soils. *Acta Geotechnica*, 17 (12), 5675–5690.

Zhao, W., Cao, T., Li, Z., Su, Y., dan Bao, Z., 2020. Spatial variability of the parameters of soil-water characteristic curves in gravel-mulched fields. *Water Supply*, 20 (1), 231–239.

Zhong, L., Wang, B., Zhao, X., Liu, F., Miao, M., dan Pu, C., 2023. Study on rainfall infiltration characteristic parameters of unsaturated soil. *Frontiers in Ecology and Evolution*, 11, 1251765.