

- convective heat transfer coefficient in nanofluids of $\text{Al}_2\text{O}_3/\text{water}$ and CuO/EG in a serpentine shaped microchannel heat sink. *Int J Heat Technol* 33: 155–60. <https://doi.org/10.1007/s00231-015-1649-5>
- [29] Akbarianrad N, Mohammadian F, Alhuyi Nazari M, Rahbani Nobar B. (2018). Applications of nanotechnology in endodontic: A review. *Nanomedicine J* 5: 121–6. <https://doi.org/10.22038/NMJ.2018.005.0001>
- [30] Ahmadi MA, Ahmadi MH, Fahim Alavi M, Nazemzadegan MR, Ghasempour R, Shamsirband S. (2018). Determination of thermal conductivity ratio of $\text{CuO}/\text{ethylene glycol}$ nanofluid by connectionist approach. *J Taiwan Inst Chem Eng.* <https://doi.org/10.1016/J.JTICE.2018.06.003>
- [31] Hemmat Esfe M, Wongwises S, Rejvani M. (2017). Prediction of thermal conductivity of carbon nanotube-eg nanofluid using experimental data by ANN. *Curr Nanosci* 13: 324–9.
- [32] Esfe MH, Esfandeh S, Afrand M, Rejvani M, Rostamian SH. (2018). Experimental evaluation, new correlation proposing and ANN modeling of thermal properties of EG based hybrid nanofluid containing ZnO-DWCNT nanoparticles for internal combustion engines applications. *Appl Therm Eng* 133: 452–63. <https://doi.org/10.1016/J.APPLTHERMALENG.2017.11.131>
- [33] Ahmadi MH, Mirlohi A, Alhuyi Nazari M, Ghasempour R. (2018). A review of thermal conductivity of various nanofluids. *J Mol Liq* 265: 181–8. <https://doi.org/10.1016/J.MOLLIQ.2018.05.124>
- [34] Leong KY, Ku Ahmad KZ, Ong HC, Ghazali MJ, Baharum A. (2017). Synthesis and thermal conductivity characteristic of hybrid nanofluids – A review. *Renew Sustain Energy Rev* 75: 868–78. <https://doi.org/10.1016/J.RSER.2016.11.068>
- [35] Ghanbarpour M, Bitaraf Haghighi E, Khodabandeh R. (2014). Thermal properties and rheological behavior of water based Al_2O_3 nanofluid as a heat transfer fluid. *Exp Therm Fluid Sci* 53: 227–35. <https://doi.org/10.1016/J.EXPTHERMFLUSCI.2013.12.013>
- [36] Aramesh M, Pourfayaz F, Kasaeian A. (2017). Numerical investigation of the nanofluid effects on the heat extraction process of solar ponds in the transient step. *Sol Energy* 157: 869–79. <https://doi.org/10.1016/J.SOLENER.2017.09.011>
- [37] Ghaderian J, Sidik NAC, Kasaeian A, Ghaderian S, Okhovat A, Pakzadeh A. (2017). Performance of copper oxide/distilled water nanofluid in evacuated tube solar collector (ETSC) water heater with internal coil under thermosyphon system circulations. *Appl Therm Eng* 121: 520–36. <https://doi.org/10.1016/j.applthermaleng.2017.04.117>
- [38] Faizal M, Bouazza A, Singh RM. (2016) Heat transfer enhancement of geothermal energy piles. *Renew Sustain Energy Rev* 57: 16–33.
- [39] Heat G. (2011). Geothermal roadmap - geothermal heat and power. Paris: International Energy Agency.
- [40] Preißinger M, Heberle F, Brüggemann D. (2013). Advanced organic rankine cycle for geothermal application. *Int J Low-Carbon Technol* 8: i62–8. <https://doi.org/10.1093/ijlct/ctt021>
- [41] Ezzat MF. (2018). Geothermal Energy Production. *Compr Energy Syst* 252–303. <https://doi.org/10.1016/B978-0-12-809597-3.00313-8>
- [42] Renewable power generation costs in 2017. IRENA 2018.
- [43] BP Statistical Review of World Energy. 2018.
- [44] Technology Roadmap Geothermal Heat and Power. International Energy Agency. 2011.
- [45] Wang K, Yuan B, Ji G, Wu X. (2018). A comprehensive review of geothermal energy extraction and utilization in oilfields. *J Pet Sci Eng* 168: 465–77. <https://doi.org/10.1016/J.PETROL.2018.05.012>
- [46] Bobbo S, Colla L, Barizza A, Rossi S, Fedele L, Nazionale C. (2016). Characterization of nanofluids formed by fumed Al_2O_3 in water for geothermal applications. *Int Compress Eng Refrig Air Cond High Perform Build Conf* 1–9.
- [47] Diglio G, Roselli C, Sasso M, Jawali Channabasappa U. (2018). Borehole heat exchanger with nanofluids as heat carrier. *Geothermics* 72: 112–23. <https://doi.org/10.1016/J.GEOTHERMICS.2017.11.005>
- [48] Ahmadi MH, Hajizadeh F, Rahimzadeh M, Shafii MB, Chamkha AJ. (2018). Application GMDH artificial neural network for modeling of $\text{Al}_2\text{O}_3 / \text{water}$ and $\text{Al}_2\text{O}_3 / \text{Ethylene glycol}$ thermal conductivity 36: 773–82.
- [49] Daneshpour M, Rafee R. (2017). Nanofluids as the circuit fluids of the geothermal borehole heat exchangers. *Int Commun Heat Mass Transf* 81: 34–41. <https://doi.org/10.1016/J.ICHEATMASSTRANSFER.2016.12.002>
- [50] Jamshidi N, Mosaffa A. (2018). Investigating the effects of geometric parameters on finned conical helical geothermal heat exchanger and its energy extraction capability. *Geothermics* 76: 177–89. <https://doi.org/10.1016/J.GEOTHERMICS.2018.07.007>
- [51] Sui D, Langåker VH, Yu Z. (2017). Investigation of thermophysical properties of nanofluids for application in geothermal energy. *Energy Procedia* 105: 5055–60. <https://doi.org/10.1016/J.EGYPRO.2017.03.1021>
- [52] Sun XH, Yan H, Massoudi M, Chen ZH, Wu WT, Sun XH. (2018). Numerical simulation of nanofluid suspensions in a geothermal heat exchanger. *Energies* 11: 919. <https://doi.org/10.3390/en11040919>