

REFERENCES

- Abdelhalim, A. O., Galal, A., Hussein, M. Z., & Sayed, I. E. (2016). Graphene Functionalization by 1,6-Diaminohexane and Silver Nanoparticles for Water Disinfection. *J. Nanomater.*, 1485280, 7.
- Aboelfetoh, E. F., Gemeay, A. H., & El-Sharkawy, R. G. (2020). Effective disposal of methylene blue using green immobilized silver nanoparticles on graphene oxide and reduced graphene oxide sheets through one-pot synthesis. *Environ Monit Assess*, 192:355.
- Abraham, G., Agarwal, S. K., Gowrishankar, S., & Vijayan, M. (2019). Chronic Kidney Disease of Unknown Etiology: Hotspots in India and Other Asian Countries. *J. Sem Nephrol*, 39(3):272-277.
- Adak, D., Sarkar, M., Mait, M., Tamang, A., Mandal, S., & Chattopadhyay, B. (2015). Anti-microbial efficiency of nano silver-silica modified geopolymer mortar for. *RSC Advances*, 1-28.
- Adeno, F., Mulugeta, E., Zewge, F. & Chebude, Y. (2014). Adsorptive removal of fluoride from water nano scale aluminum oxidehydroxide (AlOOH). *Bull. Chem. Soc. Ethiop.*, 215–227.
- Afroze, S., Sen, T. K. & Ang, H. M. (2016). Adsorption performance of continuous fixed bed column for the removal of methylene blue (MB) dye using Eucalyptus sheathiana bark biomass. *Res Chem Intermed*, 42, 2343–2364.
- Akl, M. A., Aly, H. F., Soliman, H. M., Abd-Elrahman, A. M., & Abd-Elhamid, A. I. (2013). Preparation and characterization of silica nanoparticles by wet mechanical attrition of white and yellow sand. *J Nanomed. Nanotechnol*, 4(183), 1–14.
- Allender, P. S. et al., (1996). “Dietary calcium and blood pressure: a meta-analysis of randomized clinical trials”. *Ann Intern Med.*, IX(124), 825-31.

- Al-Khaldi, F. A., Abu-Sharkh, B., Abulkibash, A. M. & Atieh, M. A. (2015). Cadmium removal by activated carbon, carbon nanotubes, carbon nanofibers, and carbon fly ash: a comparative study. *Desalin Water Treat*, 53(5), 1417–1429.
- Alemua, S., Mulugeta, E., Zewgea, F., & Chandravanshia, B. S. (2014). Water defluoridation by aluminium oxide–manganese. *Environ. Technol.*, 1893-1903.
- Ambepitiya, I. J. (2015). Cadmium in drinking water sources in Sri Lanka and applicability of low-cost adsorbents for cadmium removal. Delft: UNESCO-IHE Institute for Water Education.
- Anuradha, C. D., Kanno, S. Hirano, S. (2001). Oxidative damage to mitochondria is a preliminary step to caspase-3 activation in fluoride-induced apoptosis in HL- 60 cells. *Free Radic. Biol. Med.*, 31, 367–373.
- Ansari, M. A., Khan, H. M., Khan, A. A., Cameotra, S. S., Saquib, Q., & Musarrat, J. (2014). Interaction of Al₂O₃ nanoparticles with Escherichia coli and their cell envelope biomolecules. *J. Appl. Microbiol*, doi:10.1111/jam.12423
- APHA. (1999). Standard Methods for the Examination of Water and Wastewater. American Public Health Association, American Water Works Association, Water Environment Federation.
- Aragaw, T. A. & Ayalew, A. A. (2019). Removal of water hardness using zeolite synthesized from Ethiopian kaolin by hydrothermal method. *Water Pract Tech*, 14(1), 145–159.
- Arigony, A. L. V., De Oliveira, I. M., Machado, M., Bordin, D. L., Bergter, L., Prá, D., & Henriques, J. A. P. (2013). The influence of micronutrients in cell culture: A reflection on viability and genomic stability. *BioMed Research International*, 2013. <https://doi.org/10.1155/2013/597282>.

- Arshadi, M., Amiri, M. J., Mousavi, S. (2014). Kinetic, equilibrium and thermodynamic investigations of Ni (II), Cd (II), Cu (II) and Co (II) adsorption on barley straw ash. *Water resour. Ind.*, 6, 1–17.
- Ashbolt, N. J. (2004). Microbial contamination of drinking water and disease outcomes in developing regions. *Toxicol.*, I-III(198), 229–238.
- Assefa, B. (2006). Defluoridation of Ethiopian Rift Valley Region water using reverse osmosis membranes. *JEEA*, 6.
- Athuraliya, N. T., Abeysekera, T. D., Amerasinghe, P. H., Kumarasiri, R., Bandara, P., Karunaratne, U., Jones, A. L. (2011). Uncertain etiologies of proteinuric-chronic kidney disease in rural Sri Lanka. *Kidney Int.*, 80, 1212–1221.
- Ayob, A., Abdullah, A. Z. (2012). Characterisation of Polymer-Stabilized Nano Zero-valent Iron Particle by Ultrasonic Irradiation-assisted Method. *J. Polym. Mater.* 29, 167–179.
- Ayoob, S. & Gupta, A.K., (2006). “Fluoride in Drinking Water: A Review on the Status and Stress Effects”. *Critical Reviews in Environmental Science and Technology*, DOI:10.1080/10643380600678112, VI (36), 433-87.
- Azouaoua, N., Sadaoui, Z., Djaafri, A. & Mokaddema, H. (2010). Adsorption of cadmium from aqueous solution onto untreated coffee grounds: Equilibrium, kinetics and thermodynamics. *J Hazard Mater*, 184, 126–134.
- Azzam, A., El-Wakeelb, S., Mostafaa, B. & El-Shahatc, M. F. (2016). Removal of Pb, Cd, Cu and Ni from aqueous solution using nano scale zero valent iron particles. *J Environ Chem Eng*, IV, 2196–2206.
- Bala, T., Armstrong, G., Laffir, F., & Thornton, R. (2011). Titania–silver and alumina–silver composite nanoparticles: Novel, versatile synthesis, reaction mechanism and potential antimicrobial application. *J. Colloid Interface Sci.*, 395–403.

- Balasooriya, S., Munasinghe, H., A. T. Herath, A. T., Diyabalanage, S., Ileperuma, O. A., Manthirithilake, H., Chandrajith, R. (2019). Possible links between groundwater geochemistry and chronic kidney disease of unknown etiology (CKDu): an investigation from the Ginnoruwa region in Sri Lanka. *Expo Health*, 1–12.
- Baldisserotto, B., Chowdhury, M. J., & Wood, C. M. (2005). Effects of dietary calcium and cadmium on cadmium accumulation, calcium and cadmium uptake from the water, and their interactions in juvenile rainbow trout. *Aquat Toxicol*, 99-117
- Bandarage, A. (2013). Political Economy of Epidemic Kidney Disease in Sri Lanka. *SAGE J*, 3-4.
- Bandara, N. J. G. J. (2003). Water and wastewater issue in Sri Lanka. *Water Sci. Technol.*, XII(47), 3025–312.
- Bandara, R. M. C. J., Bandara, B. M. R., Abeykoon, D. M. B., Wickramasinghe, A., Wijesundara, D. S. Karunaratne, V. & Karunaratne, N. (2011). Proceedings of the Peradeniya University Research Sessions, Sri Lanka. 16(24), 156.
- Barbier, O., Arreola-Mendoza, L., Razo, D. L. M. (2010). Molecular mechanisms of fluoride toxicity. *Chemico-Biolog. Interac.* 188, 319–333.
- Barroso-Bogeat, A., Alexandre-Franco, M., Fernández-González, C. & Gómez-Serrano, V. (2016). Activated carbon surface chemistry: Changes upon impregnation with Al(III), Fe(III) and Zn(II)-metal oxide catalyst precursors from NO₃⁻ aqueous solutions. *Arab. J. Chem.*, In press.
- Bartram, J., & Pedley, S. (1996). Microbiological Analysis. In *Water Quality Monitoring - A Practical Guide to the Design and Implementation of Freshwater Quality Studies and Monitoring Programmes* (pp. 1–27). Geneva: United Nations Environment Programme and the World Health Organization.

- Batuman, V. (2006). Fifty years of Balkan endemic nephropathy: daunting questions, elusive answers. *Kidney International*, New York, 69, 644–646.
- Belkada, F. D., Kitous, O., Drouiche, N., Aoudj, S., Bouchelaghem, O., Abdi, N., Mameri, N. (2018). Electrodialysis for fluoride and nitrate removal from synthesized photovoltaic industry wastewater. *Sep Purif. Technol.*, 108–115.
- Benjwal, P., Kumar, M., Chamolia, P., & Kar, K. K. (2015). Enhanced photocatalytic degradation of methylene blue and adsorption of arsenic (III) by reduced graphene oxide (rGO)–metal oxide (TiO₂/Fe₃O₄) based nanocomposites. *RSC Adv*, 5, 73249.
- Bernstein, D. S., Sadowsky, N., Hegsted, D. M., Guri, C. D., Stare, E. J., (1966). Prevalence of osteoporosis in high- and low-fluoride areas in North Dakota. *JAMA*, 198:499–504.
- Bhatnagar, A., Kumar, E., Sillanpaa, M. (2011). Fluoride removal from water by adsorption - a review. *Chem Eng J*. 171:811–840.
- BNDWQS. (2009). Bangladesh National Drinking Water Quality Survey of 2009. Bangladesh: Bangladesh Bureau of Statistics, Planning Division, Ministry of Planning.
- Bohmer, H., Müller, H. & Resch, K.L., (2000). “Calcium supplementation with calcium rich mineral waters: a systematic review and meta-analysis of its bioavailability”. *Osteoporosis Int*, (11), pp.938–43.
- Baldisserotto, B., Chowdhury, M. J., & Wood, C. M. (2005). Effects of dietary calcium and cadmium on cadmium accumulation, calcium and cadmium uptake from the water, and their interactions in juvenile rainbow trout. *Aquat Toxicol*, 99-117

- Boparai, H. K., Joseph, M., & O'Carroll, D. M. (2013). Cadmium (Cd^{2+}) removal by nano zerovalent iron: surface analysis, effects of solution chemistry and surface complexation modelling. *Environ Sci Pollut Res.*, 20 (9), 6210–6221.
- Borzou, A., Kalbasi, M., Hoodaji, M., Abdouss, M., & Mohammadi, A. (2014). Isotherm investigation of the adsorption of cadmium onto modified poly(ethylene terephthalate) fiber. *Euro J of Exp Bio*, 4(2), 136–142.
- Bovend'Eerd, T. J., Botell, R. E., & Wade, D. T. (2009). Writing SMART rehabilitation goals and achieving goal attainment scaling: a practical guide. *Clin. Rehabil.*, 352–361.
- Braghetta, A., DiGiano, F. A., Ball, W. P. (1997). Nanofiltration of natural organic matter: pH and ionic strength effects. *J. Environ. Eng.* 123, 628–641.
- Braeken, L., Ramaekers, R., Zhang, Y., Maes, G., Van Der Bruggen, B., Vandecasteele, C. (2005). Influence of hydrophobicity on retention in nanofiltration of aqueous solutions containing organic compounds. *J. of Membrane Sci.* 252 (1–2), 195–203.
- Borke, J. L., Whiteford, G. M. (1999). Chronic fluoride ingestion decreases ^{45}Ca uptake by rat kidney membranes. *J Nutr.* 129,1209–1231.
- Brunauer, S., Emmett, P.H., Teller, E. (1938). Adsorption of gases in multi molecular layers. *J Am Chem Soc.* 60, 309–319.
- Brooks, A. S., Rozenwald, M. N., Geohring, L., Lion, L. W., & Steenhuis, T. S. (2000). Phosphorus removal by wollastonite: A constructed wetland substrate. *Ecol Eng*, 15, 121–132.
- Bykkam, S., Rao, K. V., Chakra, C. H., Thunugunta, T. (2013), Synthesis and characterization of graphene oxide and its antimicrobial activity against klebsiella and Staphylococcus. *Int J Adv Biotechnol Res*, 4(1), 142–146.
- Cadotte, E., Petersen, R. J., Larson, R. E., Erickson, E. E. (1980). New Thin-Film Composite Seawater Reverse-Osmosis Membrane. *Desalination*, 32, 25–31.

- Carolin, C. F., Kumar, P. S., Saravanan, A., Oshiba, G. J., Naushad, M. (2017). Efficient Techniques for the Removal of Toxic Heavy Metals from Aquatic Environment: A Review. *J. Environ. Chem. Eng.*, 5(3), 2782–2799.
- Cama, J., Ayora, C., Querol, X., & Gonor, J. (2005). Dissolution kinetics of synthetic zeolite NaPl and its implication to zeolite treatment of contaminated water. *Environ Sci Technol*, 39:4871–4877.
- Camacho, L. M., Torres, A., Saha, D., Deng, S. (2010). Adsorption equilibrium and kinetics of fluoride on sol-gel-derived activated alumina adsorbents. *J. Colloid Interface Sci.*, 349, 307–313.
- Chandra, A.K., Sengupta, P., Goswami, H. & Sarkar, M., (2013). Effects of dietary magnesium on testicular histology, steroidogenesis, spermatogenesis and oxidative stress markers in adult rats. *Indian J Exp Biol.* , I(51), 37-47.
- Chandrajith, R., Nanayakkara, S., Itai, K., Aturaliya, T. N., Dissanayake, C. B., Abeysekera, T., Harada, K., Watanabe, T., Koizumi, A. (2011a). Chronic kidney diseases of uncertain etiology (CKDue) in Sri Lanka: geographic distribution and environmental implications. *Environ Geochem Health*, 33(3), 267–278.
- Chandrajith, R., Dissanayake, C. B., Ariyaratna, T., Herath, H. M., & Padmasiri, J. P. (2011b). Dose-dependent Na and Ca in fluoride-rich drinking water –Another major cause of chronic renal failure in tropical arid regions. *Sci. Total Environ.*, 409, 671–675.
- Chandrajith, R., Padmasiri, J. P., Dissanayake, C. B. & Prematilaka, K. M. (2012). Spatial distribution of fluoride in groundwater of Sri Lanka, *J. Natn. Sci. Foundation Sri Lanka*, 40(4), 303–309.
- Chang, Y., Chang, P., Lee, Y., Lee, T., Lai, Y., & Chen, S. (2014). Morphological and structural evolution of mesoporous calcium aluminate nanocomposites by microwave-assisted synthesis. *Micropor Mesopor Mat*, 134–142.

- Chavkin, S. (2012). As kidney disease kills thousands across continents, scientist scramble for answers, Mystery in the field. USA: The Center for Public Integrity.
- Childress, A. E., & Elimelech, M., (1996). Effect of solution chemistry on the surface charge of polymeric reverse osmosis and nanofiltration membranes. *J. Membr. Sci.* 119, 253–268.
- Chekli, L., Bayatsarmadi, B., Sekine, B. R., Sarkar, B., Shen, A. M., Scheckel, K. G., Skinner, W., Naidu, R., Shon, H. K., Lombi, E., Donner, E. (2016). Analytical characterisation of nanoscale zero-valent iron: A methodological review. *Analytica Chimica Acta.* 903, 13–35.
- Chemistry Learning, Free Online Education Resource. (2009, March 5). Retrieved from *www.chemistrylearning.com*: <http://www.chemistrylearning.com/adsorption>.
- Chen, S., Yue, Q., Gao, B., Li, Q. X., & Fu, K. (2012). Adsorption of hexavalent chromium from aqueous solution by modified corn stalk: A fixed-bed column study. *Bioresour. Technol*, 113, 114–120.
- Chen, H., Zhang, H., & Yan, Y. (2013). Adsorption dynamics of toluene in structured fixed bed with ZSM-5 membrane/PSSF composites. *Chem. Eng. J.* , 336-344.
- Chen, Z., Liu, T., Tang, J., Zheng, Z., Wang, H., Shao, Q., & Feng, T. (2018). Characteristics and mechanisms of cadmium adsorption from aqueous solution using lotus seedpod-derived biochar at two pyrolytic temperatures. *Environ Sci Pollut R*, 25(12), 11854–11866.
- Choi, O., Clevenger, T. E., Deng, B., Surampalli, R. Y., Ross, L. J., & Hu, Z. (2009). Role of sulfide and ligand strength in controlling nanosilver toxicity. *Water Res.*, 1879–1886.
- Comstock, G.W. (1971). “Fatal Arteriosclerotic heart disease, water hardness at water socioeconomic characteristics”. *Ame. J. of Epidemiology*, I(94), pp.1-10.

- Conidi, C., Castro-Muñoz, R., & Cassano, A. (2020). Membrane-Based Operations in the Fruit Juice Processing Industry: A Review. *Beverages*, 6(1), 18–29.
- Collons, J. J. (1967). The LUB/equilibrium section concept for fixed-bed adsorption. *Chem Eng Progs*, 31-35.
- Coronell, O., Marinas, B. J., & Cahill, D. G. (2011). Depth heterogeneity of fully aromatic polyamide active layers in reverse osmosis and nanofiltration membranes. *Environ Sci Technol*, 45, 4513–4520.
- Correa-Rotter, R., Wesseling, C., & Johnson, R. J. (2014). CKD of Unknown Origin in Central America: The Case for a Mesoamerican Nephropathy. *Am J Kidney Dis.*, 63(3): 506–520
- Cooray, T., Wei, Y., Zhong, H., Zheng, L., Weragoda, S. K., & Weerasooriya, R. (2019). Assessment of Groundwater Quality in CKDu Affected Areas of Sri Lanka: Implication for Drinking Water Treatment. *Int. J. Environ. Res. Public Health*, 16, 1698.
- Cruza, R. & Flores, J. V. (2017). Reduction of Coliforms presents in domestic residual waters by Air-Ozone Micro-Nanobubbles In Carhuaz city, Peru. *J. Nanotechnol.*, 1, 9–17.
- Cundy, A. B., Hopkinson, L., Whitby, R. L. (2008). Use of iron-based technologies in contaminated land and groundwater remediation: a review. *Sci. Total Environ.*, 400: 42–51.
- CSE, (2012). Environmental contamination and its association with Chronic Kidney Disease of Unknown Etiology in North Central Region of Sri Lanka. Centre for Science and environment, New Delhi, India.

- Crawford, R. J., Harding, I. H., Mainwaring, D. E. (1993). Adsorption and coprecipitation of single heavy metals ions onto the hydrated oxides of iron and chromium. *Langmuir*, 9, 3050–3056.
- Da Conceição, V. M., Ugri, M. C. B. A., Silveira, C., et al. (2015). Removal of Excess Fluoride from Groundwater Using Natural Coagulant Moringa oleifera Lam and Microfiltration. *Can J Chem Eng*, 93:37–45.
- Dayananda, D., Sarva, V. R., Prasad, S. V., Arunachalam, J. G. (2014). Preparation of CaO loaded mesoporous Al₂O₃: Efficient adsorbent for fluoride removal from water. *Chem Eng J*, 248, 430–439.
- Das, M. R., Sarma, R. K., Saikia, R., Vinayak S., Kale, V. S., Manjusha V., Shelke, M. V. & Sengupta, P. (2011). Synthesis of silver nanoparticles in an aqueous suspension of graphene oxide sheets and its antimicrobial activity. *Colloid Surf B: Biointerfaces*, 83, 16–22.
- Dayananda, D., Sarva, V. R., Prasad, S. V., & Arunachalam, J. G. (2014). Preparation of CaO loaded mesoporous Al₂O₃: Efficient adsorbent for fluoride removal from water. *Chem Eng J*, 248, 430–439.
- Devaraj, P., Kumari, P., Aarti, C. & Renganathan, A. (2013). Synthesis and Characterization of Silver Nanoparticles Using Cannonball Leaves and Their Cytotoxic Activity against MCF-7 Cell Line. *J. Nanotechnol.*, 2013, 598328.
- Devi, R., Umlong, L. M., Raul, P. K., Das, B., Banerjee, S., & Singh, L. (2014). Defluoridation of water using nano-magnesium oxide. *J Exp Nanosci*, 9(5), 512–524.
- Dewagea, N. B., Liyanagea, A. S., Pittman, C. U. & Mohanb, D. (2018). Fast nitrate and fluoride adsorption and magnetic separation from water on α -Fe₂O₃ and Fe₃O₄ dispersed on Douglas fir biochar. *Bioresour. Technol.*, 263, 258–265.

- Dharmagunawardana, H. A. (2009). Fluoride problem in the groundwater of Sri Lanka. *Economic Review*. 35(3–4), 46–48.
- Dharmawardana, M. W., Amarasiri, S. L., Dharmawardene, N. & Panabokke, C. R. (2014). Chronic Kidney Disease of Unknown etiology and Ground water ionicity; study base on Sri Lanka. *Environ Geochem Health*, 37(2), 221–31.
- Dharma-wardana, M. W. C. (2018). Chronic Kidney Disease of Unknown aetiology (CKDu) and multiple-ion interactions in drinking water. *Environ Geochem Health*, 40(2), 705.
- Dissanayake, C. B. (2005). Water quality in the dry zone of Sri Lanka-some interesting health aspects. *J. Nat. Sci. Found. Sri Lanka*, 161-165.
- Diawara, C. K., Diop, S. N., Diallo, M. A., & M. A. Farcy, M. A. (2011). Determination Performance of nanofiltration (NF) and low pressure reverse osmosis (LPRM) membranes in the removal of fluorine and salinity from brackish drinking water, *J Water Resour Prot*, 3, 912-917.
- Dissanayake, C. B., & Chandrajith, R. (2017). Groundwater fluoride as a geochemical marker in the etiology of chronic kidney disease of unknown origin in Sri Lanka. *Ceylon J. Sci.* 46.
- Dissanayake, C. B., & Chandrajith, R. (2019). Fluoride and hardness in groundwater of tropical regions - review of recent evidence indicating tissue calcification and calcium phosphate nanoparticle formation in kidney tubules. *Ceylon J. Sci.*, 48(3), 197–207.
- Dubin, M. M. (1960). The potential theory of adsorption of gases and vapours for adsorbents with energetically non uniform surfaces. *Chem Rev.* 60, 235–241.
- Do, D. D. (1998). Adsorption Analysis: Equilibrium and Kinetics. London: Imperial College Press.

- Dong, H., Zhaoa, F., Zenga, G., Tanga, L., Fana, C., Zhanga, L, Zenga, Y., Hea, Q., Xiea, Y., & Wu, Y. (2016). Aging study on carboxymethyl cellulose-coated zero-valent iron nanoparticles in water: Chemical transformation and structural evolution. *J Hazard Mater*, 312, 234–242.
- Elliott H. A. & Huang C. P. 1979 The effect of complex formation on the adsorption characteristics of heavy metals. *Environ. Int.* 2(3), 145–155.
- Elhefnawy, O. & Elabd, A. A. (2017). Natural silica sand modified by calcium oxide as a new adsorbent for uranyl ions removal from aqueous solutions. *Radiochim. acta*, 105(10), 821-830.
- Elkhatib, E., Mahdy, A., Sherif, F. & Elshemy, W. (2016). Competitive Adsorption of Cadmium (II) from Aqueous Solutions onto Nanoparticles of Water Treatment Residual. *J. Nanomat.*, 2016, 10.
- Elledge, M. F., Redmon, J. H., Levine, K. E., Wickremasinghe, R. J., Wanigasariya, K. P., & Peiris-John, R. J. (2014). Chronic Kidney Disease of Unknown Etiology in Sri Lanka: Quest for Understanding and Global Implications, Triangle Park, NC, USA,: RTI Brief Research; RTI Press.
- Ene-Iordache, B., Perico, N., Bikbov, B., Carminati, S., Remuzzi, A., Perna, A., Islam, N., Bravo, R.F., Aleckovic-Halilovic, M., Zou, H., Zhang, L., Gouda, Z., Tchokhanelidze, I., Abraham, G., Mahdavi-Mazdeh, M., Gallieni, M., Codreanu, I., Togtokh, A., Sharma, S.K., Koirala, P., Uprety, S., Ulasi, I. & Remuzzi, G. (2016). Chronic kidney disease and cardiovascular risk in six regions of the world (ISN-KDDC): A cross-sectional study. *Lancet Glob Health*, 4(5), e307–e319.
- Ergun, E., Tor, A., Cengeloglu, Y., et al. (2008). Electrodialytic removal of fluoride from water: Effects of process parameters and accompanying anions. *Sep Purif Technol.* 64:147–153.

- Essington, M. E. (2005). *Soil and water chemistry an integrative approach*. Washington: Taylor & Francis.
- EPA. (2002). *Method 1604: Total Coliforms and Escherichia coli in Water by Membrane Filtration Using a Simultaneous Detection Technique (MI Medium)*. Pennsylvania Avenue, NW, Washington, DC 20460: U.S. Environmental Protection Agency.
- Fabrizi, L., (2014). “Demiwater and health. Health risks from drinking of demineralised water, Water treatment solution”, Lenntech.
- Fang, Z., Chen, J., Qiu, X., Qiu, X., Cheng, W., & Zhu, L. (2011). Effective removal of antibiotic metronidazole from water by nanoscale zero-valent iron particles, *Desalination*, 268: 60–67.
- Fernando, M. S., Wimalasiri, A. K., Ratnayake, S. P., Jayasinghe, J. M., William, G. R., Dissanayake, D. P., De Silva, R. M. (2019). Improved nanocomposite of montmorillonite and hydroxyapatite for defluoridation of water. *RSC Adv*, 35588–35598.
- Franus, W., Wdowin, M. & Franus, M. (2014). Synthesis and characterization of zeolites prepared from industrial fly ash. *J Environ Monit Assess*, IX(186), 5721–5729.
- Freundlich, H. M. F. (1906). Over the adsorption in solution. *J Phys Chem*. 57, 385–471.
- Fu, R., Yang, Y., Xu, Z., Zhang, X., Guo, X., & Bi, B. (2015). The removal of Chromium (VI) and lead (II) from groundwater using sepiolite-supported nanoscale zero-valent iron (S-NZVI). *Chemosphere*, 138, 726–734.
- Galvan-Ruiz, M., Hernandez, J., Banos, L., Noriega-Montes, J., & Rodríguez-García, M. E. (2009). Characterisation of calcium carbonate, calcium oxide, calcium hydroxide as starting point to the improvement of lime for their use in construction. *J Mater Civ Eng*, 21, 625–708.

- Gaurav, Y., Devendra, P. & Kumar, P. (2014). Assessment of Ground Water Quality and its Impact on Health of people around Rewa City, MP, India. *Int. Res. J. Environment Sci*, III (7), 70–72.
- Gawande, S. M., Belwalkar, N. S., & Mane, A. A. (2017). Adsorption and its Isotherm – Theory. *IJSER*, 312–316.
- Gedam, V. V., Patil, J. L., Kagne, S., Sirsam, R. S., & Labhasetwar, P. (2012). Performance evaluation of polyamide reverse osmosis membrane for removal of contaminants in ground water collected from Chandrapur district, *J. Membrane Sci. Techno.*, 2 (3), 1 – 5.
- Geethamani, C. K., Ramesh, S. T., Gandhimathi, R., & Nidheesh, P. V. (2013). Fluoride sorption by treated fly ash: kinetic and isotherm studies. *J Mater Cycles Waste Manag*, 381–392.
- Gifford, F. J., Gifford, R. M., Eddleston, M., & Dhaun, N. (2017). Endemic Nephropathy Around the World. *Kidney Int Rep.*, 282–292.
- Gong, K., Hu, Q., Xiao, Y., Cheng, X., Liu, H., Wang, N., Qiu, B., & Guo, Z. (2018). Triple Layered Core-Shell ZVI@Carbon@Polyaniline Composites Enhanced Electron Utilization in Cr (VI) Reduction, *J. Mater. Chem. A*, 6, 11119–11128.
- González-Quiroz, M., Pearce, N., Caplin, B., & Nitsch, D. (2018). What do epidemiological studies tell us about chronic kidney disease of undetermined cause in Meso-America? A systematic review and meta-analysis. *Clin. Kidney J.*, 496–506.
- Gorry, C. (2014). CKDu Ravages the Salvadoran Countryside, *MEDICC Review*. 16(2), 5–8.

- Goud, R. V., Kumar, B. L., Abhilash, N., Prasad, P. R., & Saradhi, B. V. (2015). Comparison studies on Adsorbants for removal of Hardness from Water by using newly Prepared Zeolite. *IJAPBS*, 4(2), 342–354.
- Gropper, S. & Smith, J., (2012). Water and electrolytes. In *Advanced Nutrition and Human Metabolism*. 6th ed. USA: Wadsworth, Cengage Learning. 608.
- Gutiérrez-Amavizca, B. E., Orozco-Castellanos, R., Ortíz-Orozco, R., Padilla-Gutiérrez, J., Valle, Y., Gutiérrez-Gutiérrez, N., Figuera, L. E. (2013). Contribution of GSTM1, GSTT1, and MTHFR polymorphisms to end-stage renal disease of unknown etiology in Mexicans. *Indian J Nephrol.*, 23(6), 438–443.
- Habuda-Stanić, M., Ravančić, M. E. & Flanagan, A. (2014). A Review on adsorption of fluoride from aqueous solution. *Materials*, 7, 6317–6366.
- Hady, H. A. E. (2012). Syntheses and antimicrobial activity of some new thiohydantoin and thiazole derivatives. *Der Pharma Chemica*, 4(6), 2202–2207.
- Hall, K. R., Eagleton, L. C., Aerivos, A., & Vemeclen, T. (1966). Pore- and solid-diffusion kinetics in fixed-bed adsorption under constant constant pattern. *Ind Eng Chem Fund*, 212–223.
- Han, R., Wang, Y., Zhao, X., Wang, Y., Xie, F., & Cheng, J. T. (2009). Adsorption of methylene blue by phoenix tree leaf powder in a fixed-bed column: experiments and prediction of breakthrough curves. *Desalination*, 284–297.
- Heiri, C., Wolf, A., Rohrer, L., & Bugmann, H. (2009). Forty years of natural dynamics in Swiss beech forests: Structure, composition, and the influence of former management. *Ecological Applications*, 19, 1920–1934.
- Herath, H. M., Kawakami, T., & Tafu, M. (2018). The Extremely High Adsorption Capacity of Fluoride by Chicken Bone Char (CBC) in Defluoridation of Drinking

- Water in Relation to Its Finer Particle Size for Better Human Health. *Healthcare*, 6, 123.
- Ho, Y.S., & McKay, G. (1999). Pseudo-second order model for sorption processes. *Process Biochem.* 34, 451–465.
- Hoyos-Sánchez, M. C., Córdoba-Pacheco, A. C., Rodríguez-Herrera, F. R. & Uribe-Kaffure, R. (2017). Removal of Cd (II) from Aqueous Media by Adsorption onto Chemically and Thermally Treated Rice Husk. *J. Chem.*, 5763832.
- Hua, M., Zhang, S., Pan, B., Zhang, W., Lv, L., & Zhang, Q. (2012). Heavy metal removal from waste/wastewater by nano sized metal oxides: A review. *J. Hazard. Mater.*, 211, 317–331.
- Ileperuma, O. A., Dharmagunawardhane, H. A. & Herath, K. P. R. P. (2009). Dissolution of aluminium from sub-standard utensils under high fluoride stress: a possible risk factor for chronic renal failure in the North-Central Province. *J. Natn. Sci. Foundation Sri Lanka*, 219–222.
- Imtiaz, A., Farrukh, M., Khaleeq-ur-rahman, M. & Adnan, R. (2013). Micelle-Assisted synthesis of Al₂O₃·CaO nanocatalyst: Optical properties and their applications in photodegradation of 2,4,6-Trinitrophenol. *Sci. World J.*, 2013, 641420.
- Inglezakis, V., & Inglezakis, V. (2006). Adsorption, ion exchange and catalysis: Design of operations and environmental applications. *Elsevier*, 3, 243–307.
- Islam, M. & Patel, R. (2007). Evaluation of removal efficiency of fluoride from aqueous solution using quick lime. *J. Hazard. Mater.*, I-II(143), 303–310.
- Iwami, O. et al., (1994). Motor neuron disease on the Kii Peninsula of Japan: excess manganese intake from food coupled with low magnesium in drinking water as a risk factor. *Sci. Total Environ.*, (149), 121-35.

- Jabeen, H., Kemp, K. C., & Chandra, V. (2013). Synthesis of nano zerovalent iron nanoparticles– Graphene composite for the treatment of lead-contaminated water, *J Environ Manage*, 130, 429e435.
- Jacqmin, H., Letenneur, L., Barberger-Gateau, P. & Dartigues, J. (1994). Components of drinking water and risk of cognitive impairment in the elderly. *Am. J. Epidemiol*, 48–57.
- Jadhav, S. V., Gadipelly, C. R., Marathe, K. V., et al. (2014). Treatment of fluoride concentrates from membrane unit using salt solutions. *J Water Process Eng.* 2:31–36.
- Jaishankar, M., Tseten, T., Anbalagan, N., Mathew, B. B., & Beeregowda, K. N. (2014). Toxicity, mechanism and health effects of some heavy metals. *Interdiscip Toxicol*, II(7), 60–72.
- Jain, S. J., & Snoeyink, V. L. (1973). Adsorption from bi-solute systems on active carbon. *J Water Pollut Control Fed.*, 45, 2463–2479.
- Jalalia S. A. & Allafchian, A. R. (2015). Assessment of antibacterial properties of novel silver nanocomposite. *J Taiwan Ins Chem E.*, 1–8.
- Janković, S., Bukvić, D., Marinković, J., Janković, J., Marić, I., & Djukanović, L. (2013). Trends in Incidence and Prevalence of Balkan Endemic Nephropathy in the Three Most Affected Villages in Serbia Over a 36-Year Period. *Ren. Fail.*, 35(4), 509–513.
- Jarup, L. (2003). Hazards of heavy metal contamination. *Br. Med. Bull.*, 68, 167–182.
- Jacqmin, H., Letenneur, L., Barberger-Gateau, P. & Dartigues, J., 1994. Components of drinking water and risk of cognitive impairment in the elderly. *Am. J. Epidemiol*, 48-57.
- Jayasekara, K. B., Dissanayake, D. M., Sivakanesan, R., Ranasinghe, A., Karunarathna, R. H., Waligamage, G., & Kumara, G. M. (2015). Epidemiology of Chronic

- Kidney Disease, With Special Emphasis on Chronic Kidney Disease of Uncertain Etiology, in the North Central Region of Sri Lanka. *Int. J. Epidemiol.*, 275-280.
- Jayasinghe, S. (2014). Chronic Kidney Disease of Unknown Etiology Should Be Renamed Chronic Agrochemical Nephropathy. *MEDICC Rev.*, 16(2), 72–74.
- Jayasumana, C., Gajanayaka, R. & Siribaddana, S. (2014). Importance of arsenic and pesticides in epidemic chronic kidney disease in Sri Lanka. *BMC Nephrol*, 15, 124.
- Jayasumana, C., Gunatilake, S. & Senanayake, P. (2015). Glyphosate, hard water, and nephrotoxic metals: Are they the culprits behind the epidemic of Chronic Kidney Disease of Unknown Etiology in Sri Lanka? *J. Environ. Res. Public Health*, II (11), 2125–2147.
- Jayathilake, N., Mendis, S. & Maheepala, P. M. F. C. N. R. P. T. (2013). Chronic kidney disease of uncertain aetiology: prevalence and causative factors in a developing country. *BMC Nephrol*, 14, 180.
- Jayarathna, L., Bandara, A., Ng, W.J., Weerasooriya, R. (2015). Fluoride adsorption on $\gamma - \text{Fe}_2\text{O}_3$ nanoparticles. *J Environ Health Sci Eng.* 13, 54.
- Jayaweera, M., Sudasinghe, M., Gunawardana, B., Peiris, A., & Manathunge, J. (2019). Use of CaO Loaded Mesoporous Alumina for Defluoridation of Potable Groundwater Containing Elevated Calcium Levels. *Environ*, 66.
- Jinadasa, K. B., Weerasooriya, S. W., & Dissanayake, C. B. (1988). A rapid method for defluoridation of fluoride rich drinking water at village level. *Environ. Sci.*, 305–312.
- Jo, M., Soto, L., Arocho, M., St John, J., & Hwang, S. (2015). Optimum mix design of fly ash geopolymer paste and its use in pervious concrete for removal of fecal coliforms and phosphorus in water. *Constr Build Mater*, 93, 1097–1104.

- Judd, E. & Calhoun, D. A. (2015). Management of hypertension in CKD: Beyond the guidelines, *Adv Chronic Kidney Dis.* 22(2), 116–22.
- Kakavandi, B., Jafari, A. J., Kalantary, R. R., Nasser, S., Ameri, A., Esrafiy, A. (2013). Synthesis and properties of Fe₃O₄-activated carbon magnetic nanoparticles for removal of aniline from aqueous solution: equilibrium, kinetic and thermodynamic studies. *Iranian J Environ Health Sci Eng.*, 10, 19.
- Kanehiraa, S., Kanamori, S., Nagashima, K., Saeki, T., Visbal, H., Fukui, T., & Hirao, K. (2013). Controllable hydrogen release via aluminum powder corrosion in calcium hydroxide solutions. *JAsCerS*, 296–303.
- Kannan, D. & Mani, N. (2014). Removal of hardness (Ca²⁺, Mg²⁺) and alkalinity from ground water by low cost adsorbent using phyllanthus emblica wood. *IJCPA*, 1(4), 208–212.
- Kansara, N., Bhati, L., Narang, M., & Vaishnavi, R. (2016). Wastewater treatment by ion exchange method: a review of past and recent researches. *Environ. Sci.*, 143–150.
- Kapur, M., & Mondal, M. K. (2015). Design and model parameters estimation for fixed-bed column adsorption of Cu(II) and Ni(II) ions using magnetized saw dust. *Desalin water treat.*, 1–12.
- Karthikeyan, M. & Elango, K. (2008). Removal of fluoride from aqueous solution using graphite: A kinetic and thermodynamic study. *Indian J. Chem. Technol.*, 15, 525–532.
- Katalo, R., Okuda, T., Nghiem, L. D., & Fujioka, T. (2018). Moringa oleifera coagulation as pretreatment prior to microfiltration for membrane fouling mitigation. *Environ. Sci. Water Res. Technol.*, 1604–1611.
- Katarzyna, I., 2009. Selection of Sorbent for Removing Pesticides during Water Treatment. *J. Hazard. Mater*, Issue 169, 953.

- Kavand, M., Fakoor, E., Mahzoon, S., & Soleimani, M. (2017). An improved Film-Pore-Surface Diffusion Model in the fixed-bed column adsorption for heavy metal ions: Single and multi-component systems. *Process Saf Environ Prot.* 330–342.
- Kesting, R. E. (1990). The 4 Tiers of Structure in integrally skinned phase inversion membranes and their relevance to various separation regimes. *J. Appl. Polym. Sci.*, 41, 2739–2752.
- Kiran, B. & Kaushik, A. (2008). Cyanobacterial biosorption of Cr(VI): application of two parameter and Bohart Adams models for batch and column studies. *Chem Eng J.*, 144(3), 391–399.
- Ku, Y., & Chiou, H. M., (2002) The adsorption of fluoride ion from aqueous solution by activated alumina. *Water Air Soil Pollut.* 133, 349–361.
- Kumanan, M., Sathya, G., Nandakumar, V. & Berchmans, I. J. (2016). Extraction of potash from k-feldspar mineral by acid and molten salt leaching processes. *Int J Min Met Mater.*, 1–10.
- Kumar, E., Bhatnagar, A., Kumar, U. & Sillanpa, M. (2011). Defluoridation from aqueous solutions by nano-alumina: characterization and sorption studies. *J. Hazard. Mater.*, 186, 1042–1049.
- Kumar, R. P., Dongre, A., Muruganandham, R., Deshmukh, P., & Rajagovindan, D. (2019). Prevalence of Chronic Kidney Disease and Its Determinants in Rural Pondicherry, India-A Community Based Cross-Sectional Study. *Open Urol Nephrol J*, 14–22.
- Koc J., Sidoruk M., Rochwerger A. (2009). Calcium ion migration in agricultural and afforested lake catchments. *Ecol. Chem. Eng A* 16, 3: 201-212.
- Kordialik-Bogacka, E., (2001). Surface properties of yeast cells during heavy metal biosorption, *Cent Eur J Chem*, 9(2):348–351.

- Kohri, K., Kodama, M., Ishikawa, Y., Katayama, Y., Takada, M., Katoh, Y., Kurita, T. (1989). Magnesium-to-calcium ratio in tap water, and its relationship to geological features and the incidence of calcium-containing urinary stones. *J Urol*, 142(5), 1272–1275.
- Konale, R. A., Mahale, N. K., & Ingle, S. T. (2020). Nano-zeolite-graphene oxide composite for calcium hardness removal: isotherm and kinetic study. *Water Pract. Technol.*, 15 (4): 1011–1031.
- Kozisek, F., (2005). “Health Risks from Drinking demineralized water”. National Institute of Public Health, Czech Republic, 1-16.
- Landry, B. K., Nadworny, P. L., Maham, Y., Burrell, J. C., & Burrell, R. E. (2009). The kinetics of thermal instability in nanocrystalline silver and the effect of heat treatment on the antibacterial activity of nanocrystalline silver dressings. *Biomaterials*, 6929–6939.
- Lagergren, S. (1898). About the theory of so-called adsorption of soluble substances. *Kungliga Svenska Vetenskapsakademiens Handlingar*. 24, 1–39.
- Langmuir, I. (1918). The adsorption of gases on plane surfaces of glass, mica and platinum. *J Am Chem Soc*. 40, 1361–1403.
- Laux, T. S., Bert, P. J., Ruiz, B. G., González, M., Unruh, M., Aragon, A., & Lacourt, T. C. (2012). Nicaragua revisited: evidence of lower prevalence of chronic kidney disease in a high-altitude, coffee-growing village. *J Nephrol.*, 25(4), 533–540.
- Lavrenko, V. A., Podchernyaeva, I. A., Shchur, D. V., Zolotarenko, A. D., & Zolotarenko, A. D. (2017). Features of physical and chemical adsorption during interaction of polycrystalline and nanocrystalline materials with gases. *Powder Metall Met Ceram.*, 23–33.
- Le, N. L. & Nunes, S. P. (2016). Materials and membrane technologies for water and energy sustainability. *Sustainable Mater. Technol.*, 7, 1–28.
- Lehmann, M. & Zouboulis, A. I. M. K. A. (2001). Modeling the sorption of metals from aqueous solutions on goethite fixed bed. *Environ pollut*, 113(2), 121–128.

- Lesbani, A., Sitompul, S., Mohadi, R. & Hidayati, N. (2016). Characterization and utilisation of Calcium Oxide (CaO) thermally decomposed from fish bones as a catalyst in the production of biodiesel from waste cooking oil. *Makara J. Technol*, 20, 121–126.
- Levine, K. E., Redmon, J. H., Elledge, M. F., Wanigasuriya, K. P., K., S., Munoz, B., Wickremasinghe, R. (2016). Quest to identify geochemical risk factors associated with chronic kidney disease of unknown etiology (CKDu) in an endemic region of Sri Lanka—a multimedia laboratory analysis of biological, food, and environmental samples. *Environ Monit Assess*, 188 (10), 548.
- Lin, C. L., Lee, C. F., Chiu, W. Y. (2005). Preparation and properties of poly (acrylic acid) oligomer stabilized superparamagnetic ferrofluid. *J Colloid Interface Sci*. 291, 411–20.
- Lin, L., Lin, Y., Li, C., Wu, D., & Kong, H. (2016). Synthesis of zeolite/hydrous metal oxide composites from coal fly ash as efficient adsorbents for removal of methylene blue from water. *Int. J Miner. Process.* 148, 32–40.
- Liu, A., Liu, J., Zhang, W. (2005). Transformation and composition evolution of nanoscale zero-valent iron (nZVI) synthesised by borohydride reduction in static water, *Chemosphere*, 119, 1068–1074.
- Liu, H., Zhang, J., Ngo, H. H., Guo, W., Wu, H., Guo, Z., Cheng, C., and Zhang, C., (2015). Effect on physical and chemical characteristics of activated carbon on adsorption of trimethoprim: Mechanism study, *RSC Adv.*, Royal Society of Chemistry. 28, 335-348.
- Liu, J., Liu, A. Zhang, W. (2016). The influence of polyelectrolyte modification on nanoscale zero-valent iron (nZVI): Aggregation, sedimentation, and reactivity with Ni (II) in water, *Chem Eng J*, 303, 268–274.
- Liang, B.M., Sharp, R.E. & Baskin, T.I., (1997). “Regulation of Growth Anisotropy in Well-Watered and Water-Stressed Maize Roots”. *Plant Physiol.*, (115), pp.101-11.

- Loryuenyong, V., Totepvimarn, K., Eimburanaprat, P., Boonchompoo, W. Achanai Buasri, A. (2013). Preparation and Characterization of Reduced Graphene Oxide Sheets via Water-Based Exfoliation and Reduction Methods, *Adv. Mater. Sci. Eng.*, 923403.
- Lounici, H., Belhocine, D., Grib, H., Drouiche, M., Pauss, A., & Mameri, N. (2004). Fluoride removal with electro-activated alumina. *Desalination*, 287–293.
- Lovre, D., Sulay Shah, S., Sihota, A. & Fonseca, V. A. (2018). Managing Diabetes and cardiovascular risk in chronic kidney disease patients. *Endocrinol Metab Clin North Am.*, 47(1), 237–257.
- Lukchis, G. M. (1973). Adsorption systems. Pt. 1: Design by mass transfer zone concept. *Chem Eng New York*, 111-116.
- Lv, D., Liu, Y., Zhou, J., Yang, K., Lou, Z., Baig, S. A., Xu, X. (2018). Application of EDTA-functionalized bamboo activated carbon (BAC) for Pb(II) and Cu(II) removal from aqueous solutions, *Appl. Surf. Sci.* 428, 648–658.
- Ma, L., Wei, Q., Chen, Y. & Song, Q. (2018). Removal of cadmium from aqueous solutions using industrial coal fly ash-nZV. *Royal society open science*, 5, 171051.
- Mahagamage, M. G., & Manage, P. M. (2017). Water quality and microbial contamination status of Madawachchiya, Padaviya and Kebathigollawa areas in Anuradhapura district. Proceeding of the national aquatic resources research and development agency (NARA) p. 45. Sri Lanka: NARA.
- Mahagamage, M. G. Y. L., & Manage, P. M. (2019). Water quality and microbial contamination status of Madawachchiya, Padaviya and Kebithigollewa areas in Anuradhapura District, Sri Lanka. *J. Water Land Dev.*, 42(1), 1–11.

- Mallick, A., Mohapatra, B. C., & Sarangi, N. (2010). Bioaccumulation of sodium, potassium, calcium and magnesium in Rohu, *Labeo rohita* (Ham.) fry. *Curr. World Environ.*, 111-116.
- MeiJiao, L. Jing, L. XuYu, Y. Changan, Z. Jia, Y. Hao, H. & XianBao, W. 2013 Applications of graphene-based materials in environmental protection and detection. *Chinese Science Bulletin* 58, 2698–2710.
- Mohapatra, M., Anand, S., Mishra, B. K., Giles, D. E. Singh, P. (2009). Review of fluoride removal from drinking water, *J. Environ. Manage.* 91, 67–77.
- Melles, Z. & Kiss, S., 1992. Influence of the magnesium content of drinking water and of magnesium therapy on the occurrence of preeclampsia, <http://www.pelicanwater.com>
- Mohapatra, M., Mohapatra, L., Singh, P., Anand, S., Mishra, B. K. (2010). A comparative study on Pb (II), Cd (II), Cu (II), Co (II) adsorption from single and binary aqueous solutions on additive assisted nano-structured goethite, *Int. J. Eng. Sci. Technol.* 2, 89–103.
- Majewska-Nowak, K., Grzegorzek, M., & Kabsch-Korbutowicz, M. (2015). Removal of fluoride ions by batch electro dialysis. *Environ Prot Eng*, 67–81.
- Marinković, D. M., Stanković, M. V., Veličković, A. V., Avramović, J. M., Cakić, M. D., & Veljković, V. B. (2015). The synthesis of CaO loaded onto Al₂O₃ from calcium acetate and its application in transesterification of the sunflower oil. *Adv Technol*, 26–32.
- Melles, Z. & Kiss, S. (1992). Influence of the magnesium content of drinking water and of magnesium therapy on the occurrence of preeclampsia. *Magnes Res.*, 5(4), 277–286.

- Mishra, M. K. (2016). Fourier Transform Infrared Spectrophotometry studies of chromium trioxide-phthalic acid complexes. *Chem. Sci. Trans*, 5(3), 770–774.
- Miyake, Y. et al., (2004). “Ecological association of water hardness with prevalence of childhood atopic dermatitis in a Japanese urban area”. *Environ Res.*, I(94), pp.33-37.
- Mohseni-Bandpi, A., Kakavandi, B., Kalantary, R. R., Azari, A., Keramati, A. (2015). Development of a novel magnetite-chitosan composite for the removal of fluoride from drinking water: Adsorption modelling and optimization. *RSC Adv.* 5, 73279–73289.
- Mohri, T., Hisanaga, A. & Ishinishi, N. (1990). Arsenic intake and excretion by Japanese adults: a 7-day duplicate diet study. *Food Chem Toxicol*, 521–529.
- Mohsin, M., Safdar, S., Asghar, F. & Jamal, F., (2013). Assessment of Drinking Water Quality and its Impact on Residents Health in Bahawalpur City. *Int. J. of Hum and Soci. Sci.*, III (15), 114–128.
- Moreno-Piraján, J. C., Rangel, D., Amaya, B., Vargas, E. M., & Giraldo, L. (2008). Design and Construction of Equipment to Make Adsorption at Pilot Plant Scale of Heavy Metals. *Verlag der Zeitschrift für Naturforschung*, 454-461.
- Morel, F. M., & Hering, J. G. (1993). Principles and Applications of Aquatic Chemistry. Wiley.
- Moustafa, M. T. (2017). Removal of pathogenic bacteria from waste water using silver nanoparticles synthesized by two fungal species. *Wat. Sci.*, 31, 164–176.
- Müller, C. M., Pejcic, B., Esteban, L., Piane, C. D., Raven, M., & Mizaikoff, B. (2014). Infrared attenuated total reflectance spectroscopy: an innovative strategy for analyzing mineral components in energy relevant systems. *Sci. Rep.*, 4, 6764.

- Naik, B., Prasad, V. S. & Ghosh, N. N. (2010). Development of a simple aqueous solution based chemical method for synthesis of mesoporous γ -alumina powders with disordered pore structure. *J Porous Mater*, 115–121.
- Naddy, R. B., Stubblefield, W. A., May, J. R., Tucker, S. A., Hockett, J. R. (2002). The effect of calcium and magnesium ratios on the toxicity of copper to five aquatic species in freshwater, *Environ Toxicol Chem*. 21(2):347-52.
- Nanayakkara, S., Senevirathna, S. T. M. L. D., Karunaratne, U., Chandrajith, R., Harada, K. H., Hitomi, T., Watanabe, T., Abeysekera, T., Aturaliya, T. N. C. & Koizumi, A. (2012a). Evidence of tubular damage in the very early stage of chronic kidney disease of uncertain etiology in the North Central Province of Sri Lanka: A cross-sectional study. *Environ Health Prev Med*. 17(2), 109–117.
- Nghiem, L. D. Schafer A. I., & Elimelech, M. (2004). Removal of natural hormones by nanofiltration membranes: measurement, modelling and mechanisms, *Environ. Sci. Technol.*, 38(19), 1888–1896.
- Noble, A., Amerasinghe, P., Manthirithilake, H., & Arasalingam, S. (2014). Review of literature on chronic kidney disease of unknown etiology (CKDu) in Sri Lanka. 158, IWMI.
- NDWQSN. (2005). National drinking water quality standards. Nepal: Ministry of Physical Planning and Works.
- NSDWQ. (2008). National Standards for Drinking Water Quality. Government of Pakistan: Pakistan Environmental Protection Agency, Ministry of Environment.
- NSPRC. (2006). Standards of drinking water quality. China: Ministry of Health.
- NSW. (2008). Dialysis Water Pre-treatment for In-Centre and Satellite Haemodialysis Units in NSW: A Set of Guidelines. Sidney: Renal Services Network, Liverpool Hospital

- Obregón-Valencia, D. & Sun-Kou, M. R. (2014). Comparative cadmium adsorption study on activated carbon prepared from aguaje (*Mauritia flexuosa*) and olive fruit stones (*Olea europaea* L.). *J. Environ. Chem. Eng.*, 2, 2280–2288.
- Orantes, C. M., Herrera, R., Almaguer, M., Brizuela, E. G., Núñez, L., Alvarado, N. P., Orellana, P. (2014). Epidemiology of chronic kidney disease in adults of Salvadoran agricultural communities. *MEDICC Rev.*, 16(2):23-30.
- Paranagama, D., 2014. Chronic kidney disease of unknown origin in Sri Lanka and its relation to drinking water supplies. PhD Thesis.
- Paulchamy B., Arthi, G., & Lignesh, B. D. (2015). Simple Approach to Stepwise Synthesis of Graphene Oxide Nanomaterial. *J. Nanomed. Nanotechnol.*, 6 (1), 253.
- Panmand, R. P., Patil, R. H., Kale, B. B., Nikam, L. K., Kulkarni, M. V., Thombre, D. K., & Gosavib, S. W. (2014). Self assembly of nanostructured hexagonal cobalt dendrites: an efficient anti-coliform agent. *RSC Adv.*, 4(9), 4586–4595.
- Patnaik, S., Mishra, P. C., Nayak, R. N., Giri, A. K. (2015). Removal of fluoride from aqueous solution using chitosan-iron complex. *J Anal Bioanal Tech.* 7, 326.
- Patterson, P., (1939). The Scherrer Formula for X-Ray Particle Size Determination. *Phys. Rev*, 56, 978.
- Peng, S., Wang, R., Yang, L., He, L. H., & Liu, X. (2018). Biosorption of copper, zinc, cadmium and chromium ions from aqueous solution by natural foxtail millet shell. *Ecotoxicol. Environ. Saf.*, 61–69.
- Perera, B. T., Rajapaksha, R. H., Arachchige, R. C., & Kottegoda, I. R. (2020). Cost-effective and non-toxic method to modify clay to increase the hardness adsorption capacity of clay. *Int. J. Chem. Sci.*, 22–27.

- Peraza, S., Wesseling, C., Aragon, A., Leiva, R., García-Trabanino, R. A., Torres, C., Hogstedt, C. (2012). Decreased kidney function among agricultural workers in El Salvador. *Am J Kidney Dis.*, 59(4), 531-540.
- Petala, E., Dimos, K., Douvalis, A., Bakas, T., Tucek, J., Zboril, R., & Karakassides, M. A. (2013). Nanoscale zero-valent iron supported on mesoporous silica: Characterization and reactivity for Cr(VI) removal from aqueous solution. *J Hazard Mater.* 261, 295–306.
- Pez-Cervantes, J. L., Sa´nchez-Machado, D. I., Sa´nchez-Duarte, R. G. & Correa-Murrieta, M. A. (2018). Study of a fixed-bed column in the adsorption of an azo dye from an aqueous medium using a chitosan–glutaraldehyde biosorbent. *Adsorpt Sci Technol*, 36(1-2), 215–232.
- Pitawala, L., Nanayakkara, W. H., & Nanayakkara, K. G. (2020). Utilization of coal fly ash in the adsorptive removal of fluoride from contaminated groundwater. *Mater. Sci. Eng.*, 849 012025
- Popkin, B.M., D’Anci, K. E. & Rosenberg, I. H., (2010). Water, *Hydration and Health. Nutr Rev*, VIII (68), 439–458.
- Prathibha, C., Sharma, B., Chunduri, L. A., Aditha, S. K., Rattan, T., & Venkataramaniah, K. (2015). Nano Calcium-Aluminum Mixed Oxide: A Novel and Effective Material for Defluoridation of Drinking Water. *Sep. Sci. Technol.*, 1915–1924.
- Priya, S. S. & Radha, K. (2015). Fixed-bed column dynamics of tetracycline hydrochloride using commercial grade activated carbon: comparison of linear and nonlinear mathematical modeling studies. *Desalin Water Treat.*, 57(40), 18964–18980.

- Querol, X., Moreno, N., Umana, J. C., Alstuey, A., Hernandez, E., Lopez-solar, A., & Plana, F. (2002). Synthesis of zeolites from coal fly ash: An overview. *Int. J. Coal Geol.*, 50, 413–423.
- Querol, X., Moreno, N., Alastuey, A., Juan, R., Andres, J. M., Lopez-solar, A., & Valero, A. (2007). Synthesis of high ion exchange zeolites from coal fly ash. *Geol. Acta.*, 49–57.
- Qiu, X., Fang, Z., Liang, B., Gu, F., & Xu, Z. (2011). Degradation of decabromodiphenyl ether by nano zero-valent iron immobilized in mesoporous silica microspheres. *J Hazard Mater.* 193, 70–81.
- Radjenovic, J., Petrovic, M., Ventura, F., Barcelo, D., (2008)., Rejection of pharmaceuticals in nanofiltration and reverse osmosis membrane drinking water treatment, *water research*, 42: 3601-3610.
- Radke, C. J., Prausnitz, J. M. (1972). Thermodynamics of multi-solute adsorption from dilute liquid solutions. *Am Inst Chem J.*, 18: 761–768.
- Raul, P., Umlong, I. M., Purkait, M. K. (2012). Removal of Fluoride from Water Using Iron Oxide-Hydroxide Nanoparticles. *J Nanosci Nanotechnol.* 12, 3922–3930.
- Ranasinghe, J., & Nanayakkara, N. (2018). Utilization of fly ash as an adsorbent material for removing major pollutants in sri lankan ground water. The 9th International Conference on Sustainable Built Environment (pp. 23-29). Kandy, Sri Lanka: ICSBE2018-423
- Rango, T., Jeuland, M., Manthirithilake, H., McCornick, P. (2015). Nephrotoxic contaminants in drinking water and urine, and chronic kidney disease in rural Sri Lanka, *Sci Total Environ.* 518–519, 574–585.
- Reddy B. R., Priya D. N., Park K. H. (2006). Separation and recovery of cadmium (II), cobalt (II) and nickel (II) from sulphate leach liquors of spent Ni–Cd batteries using phosphorus-based extractants. *Sep. Puri. Technol.*, 50(2), 161–166.

- Rivera-Garza, M., Olguín, M., García-Sosa, I., Alcántara, D., & Rodríguez-Fuentes, G. (2000). Silver supported on natural Mexican zeolite as an antibacterial material. *Micropor Mesopor Mat*, 39, 431–444.
- Road Development Authority, Environmental and Social Development Division, (2014). Rehabilitation and improvement of 5 km to 24 km section of Vavuniya – Kebithigollewa – Horowpathana (A029) road. Initial Environmental Examination (IEE) Report. Colombo: Road Development Authority, Ministry of Highways, Ports and Shipping.
- Robshaw, T., & Dawson, R. B. (2019). Towards the implementation of an ion-exchange system for recovery of fluoride commodity chemicals. Kinetic and dynamic studies. *Chem. Eng. J.*, 367
- Rolence-China, C. R. (2016). Adsorption studies on water hardness removal by using cachewnut shell activated carbon as an adsorbent. *Afr. J. Sci. Res.*, 5(4), 78–81.
- Roncal-Jimenez, C., Lanaspá, M. A., Jensen, T., & Sanchez-Lozada, L. G. (2015). Mechanisms by Which Dehydration May Lead to Chronic Kidney Disease. *Ann Nutr Metab*, 10–13.
- Sabolić, I. (2006). Common mechanisms in nephropathy induced by toxic metals. *Nephron Physiol.*, 104(3), 107–114.
- Sadaf, S., Bhatti, H. N. (2014). Evaluation of peanut husk as a novel, low cost biosorbent for the removal of indosol orange RSN dye from aqueous solutions: Batch and fixed bed studies, *Clean Technol. Environ. Policy*, 16, 527–544.
- Sadiq, M., Chowdhury, B., Chandrasekaran, N., & Mukherjee, A. (2009). Antimicrobial sensitivity of Escherichia coli to alumina nanoparticles. *Nanomedicine: NBM*, 282–286.

- Samiey, B. & Jonaghani, A. S. (2015). A New Approach for Analysis of Adsorption from Liquid Phase: A Critical Review. *J. Pollut Eff. Cont.*, 3(2), 1–9.
- Sauerheber, R. (2013). Physiologic Conditions Affect Toxicity of Ingested Industrial Fluoride. *J Environ Res Public Health*, ID 439490.
- Seiferth, O., Wolter, K., Dillmann, B., Klivenyi, G., J., F., Scarano, D., & Zecchina, A. (1999). IR investigations of CO₂ adsorption on chromia surfaces: Cr₂O₃ (0001)/Cr (110) versus polycrystalline α-Cr₂O₃. *Surf. Sci.*, 421, 176–190.
- Sen, T., Mahajan, S. & Khilar, K. (2002). Colloid-associated contaminant transport in porous media: 1. Experimental studies. *AIChE*, 48, 2366–2374.
- Sengupta, P. (2013). Potential Health Impacts of Hard Water. *Int J Prev Med*, 866–75.
- Sengupta, P., Sarkar, M. & Chandra, A., (2010). “Effect of consumption of excess hard water salts on male gonadal status in adult albino rats”. Abstract of national conference by vidyasagar university, 277.
- Sengupta, P., Sarkar, M. & Chandra, A., (2011). “Hard water intake and its consequence on male reproductive physiology”. 18th West Bengal State Science and Technology Congress, 113-14.
- Sepehr, M. N., Zarrabi, M., Kazemian, H., Amrane, A., Yaghmaian, K., & Ghaffari, H. R. (2013). Removal of hardness agents, calcium and magnesium, by natural and alkaline modified pumice stones in single and binary systems. *Appl Surf Sci*, 274, 295–305.
- Sevonkaev, I. & Matijević, E. (2009). Formation of magnesium fluoride particles of different morphologies. *Langmuir*, 25(18), 10534–10543.
- Shah, Dawood, M. & Iqbal., M. (2010). Diazinon-induced Oxidative Stress and Renal Dysfunction in Rats. *Food Chem Toxicol*, 3345–3353.

- Sharma, G., & Jeewanandam, P. (2013). Synthesis of self-assembled prismatic iron oxide nanoparticles by a novel thermal decomposition route. *RSC Adv.* 3, 189–200.
- Shen, J. & Schäfer, A. (2014). Removal of Fluoride and uranium by Nanofiltration and reverse osmosis: A review. *Chemisorption*, 117, 679–691.
- Sheneshen, E. S., Fathy, M., El-Naggar, I. M., Ahmed, S. A., Shehata, N., & Shehata, A. M. (2018). Effective Solutions of Hardness by Using Adsorption Technique on Kaolinite Smectite Adsorbent from Aqueous Solution. *Int. J. Chem. Sci.*, 16(1), 235–246.
- Shimelis, B., Zewge, F., & Chandravanshi, B. S. (2006). Removal of excess fluoride from water by aluminum hydroxide, *Bull. Chem. Soc. Ethiopia*, 20, 17–34.
- Shukla, S., Jadaun, A., Arora, V., Sinha, R. K., Biyani, N., & Jain, V. K. (2015). In vitro toxicity assessment of chitosan oligosaccharide coated iron oxide nanoparticles. *Toxicol Rep.*, 2, 27–39.
- Sowers, M., Whitford, G. M. & Clark, M. K. J. M. L. (2005). “Elevated serum fluoride concentrations in women are not related to fractures and bone mineral density”. *J. Nutr.* (135), 2247-52.
- Singh, P., Saharan, V. & George, S. (2018). Studies on performance characteristics of calcium and magnesium amended alumina for defluoridation of drinking water. *J. Environ. Chem. Eng.*, 6, 1364–1377.
- Singh, R., Kumar, M., Khajuria, H., Ladol, J., & Sheikh, H. N. (2018). Hydrothermal synthesis of magnetic Fe₃O₄–nitrogen-doped graphene hybrid composite and its application as photocatalyst in degradation of methyl orange and methylene blue dyes in presence of copper (II) ions. *Chem Pap.*, 72(5), 1181–1192.
- Smith, A. H., Hopenhayn-Rich, C., Bates, M. N., Goeden, H. M., Hertz-Picciotto, I., Duggan, H. M., & Smith, M. T. (1992). Cancer risks from arsenic in drinking water. *Environ Health Perspect.*, 259–267.

- Sivakumar, S. R., Ravisankar, R., Raghu, Y., Chandrasekaran, A., & Chandramohan, J. (2012). FTIR spectroscopic studies on coastal sediment samples from Cuddalore District, Tamilnadu, India. *IJACS*, 1, 40–46.
- Song, Y., Dong, B., Gao, N., & Deng, Y. (2015). Comparative Evaluation of Aluminum Sulfate and Ferric Sulfate-Induced Coagulations as Pretreatment of Microfiltration for Treatment of Surface Water. *Int J Environ Res Public Health*, 6700–6709.
- Sontheimer, H., Crittenden, J. C. & Summers, R. S. (1988). Activated carbon for water treatment, S1: Karlsruhe: DVGW-Forschungsstelle, Engler-Bunte-Institut, Universitat Karlsruhe.
- Souza, M. A., Johann, S., Lima, L. A., Campos, F. F., Mendes, I. C., Beraldo, H., & Zani, C. L. (2013). The antimicrobial activity of lapachol and its thiosemicarbazone and semicarbazone derivatives. *Mem Inst Oswaldo Cruz*, 108(3), 342–351.
- Strochkova, L. S. & Zhavoronkov, A. A., (1983). Fluoride as an activator of enzymatic systems. *Fluoride*, 16(3), 181-186.
- Sudasinghe, M. I., Rathnayake, N., Jayaweera, M. W., Manathunga, J. M. A., Gunawardana, W. B. Herath, H. M. P. C. K. (2014) The effects of consuming Reverse Osmosis purified water in CKDu affected areas: An application to Anuradhapura, proceeding of the International Forestry and Environmental Symposium 2014, Department of Forestry and Environmental Science, University of Sri Jayawardanapura, Nugegoda, Sri Lanka. pp 45.
- Sudasinghe, M., Jayaweera, M., Gunawardana, B., Manatunge, J., & Madhusanka, G. (2019). Defluoridation of calcium-rich groundwater using iron oxide nanoparticles. *Water Pract Tech*, 665.
- Sujana, M. G., Thakur, R. S., & Rao, S. B. (1998). Removal of fluoride from aqueous solution by using alum sludge, *J. Colloid Interface Sci.*, 206, 94–101.

- Sullivan, J. B. and Krieger, G. R. (2001). Clinical environmental health and toxic exposure, Lippincott Williams & Wilkin publishers, 17.
- Sun, Y. P., Li, X., Cao, J., Zhang, W., & Wang, H. P. (2006). Characterisation of zero-valent iron nanoparticles, *Adv. Colloid Interface Sci.*, 120, 47–56.
- Sun, Y., Fang, Q., Dong, J., & Cheng, X. X. (2011). Removal of fluoride from drinking water by natural stilbite zeolite modified. *Desalination*, 121-12.
- Tansel, B., Sager, J., Rector, T., Garland, J., Strayer, R.F., Levine, L., Roberts, M., Hummerick, M., Bauer, J. (2006). Significance of hydrated radius and hydration shells on ionic permeability during nanofiltration in dead end and cross flow modes. *Sep. Purif. Technol.* 51, 40–47.
- Tchobanoglous, G., Burton, F. L. & Stensel, H. D., (2003). Wastewater Engineering Treatment and Reuse. 4th ed. New Delhi: McGraw Hill Education (India) Private Limited.
- Tempkin, M. I., & Pyzhev, V. (1940). Kinetics of ammonia synthesis on promoted iron catalyst. *Acta Phys Chim Sin.* 12, 327–356.
- Thakur, S., & Karak, N. (2015). Alternative methods and nature-based reagents for the reduction of graphene oxide: A review. *Carbon*, 224-242.
- Thuy, D. P., Anh, V. N. & Bruggen, V. B., (2012). Evaluation of Two Low-Cost–High-Performance Adsorbent Materials in the Waste-to-Product Approach for the Removal of Pesticides from drinking water. *Clean – Soil, Air, Water*, III (40), 246-253.
- Tovar-Gómez, R., Moreno-Virgen, M. R., Dena-Aguilar, J. A., Hernández-Montoya, V., Bonilla-Petriciolet, A., & Montes-Morán, M. A. (2013). Modeling of fixed-bed adsorption of fluoride on bone char using a hybrid neural network approach. *Chem. Eng. Technol.*, 1098-1109.
- UNEP/WHO. (1996). Water Quality Monitoring - A Practical Guide to the Design and Implementation of Freshwater Quality Studies and Monitoring Programmes, Ed:

- Bartram, J and Ballance, R. Geneva: United Nations Environment Programme and the World Health Organization.
- USEPA. (1991). Water-quality criteria, standards, or recommended limits for selected properties and constituents. United State: Environmental Protection Agency.
- USEPA. (1992). Guidelines for Exposure Assessment, Washington: United State Environmental Protection Agency.
- USEPA (2018). National primary drinking water regulations, United States: United States Environmental Protection Agency.
- USGS. (2012). Water Hardness and Alkalinity, USA: United State Geological Survey.
- Valko, M., Morris, H. & Cronin, M. (2005). Metals, toxicity and oxidative stress. *Curr Med Chem*, XII(10), 1161–1208.
- Van Elsas, J. D., Semenov, A. V., Costa, R., & Trevors, J. T. (2011). Survival of *Escherichia coli* in the environment: Fundamental and public health aspects. *ISME J.*, 5(2), 173–183.
- Van Dam RA, Hogan AC, McCullough CD, Houston MA, Humphrey CL, Harford AJ. (2010). “Aquatic toxicity of magnesium sulfate, and the influence of calcium, in very low ionic concentration water”, *Environ Toxicol Chem.* 2010 Feb;29(2):410-21. doi: 10.1002/etc.56.
- Viswanathan, N., Meenakshi, S. (2009). Role of metal ion incorporation in ion exchange resin on the selectivity of fluoride. *J Hazard Mater.* 162:920–930.
- Vyas, R. K., Kumar, S., & Kumar, S. (2004). Determination of micropore volume and surface area of zeolite molecular sieves by D-R and D-A equations: A comparative study. *Indian J. Chem. Technol.*, 704-709.

- Wanasinghe, W. C., Gunarathna, M. H., Herath, H. M., & Jayasinghe, G. Y. (2018). Drinking Water Quality on Chronic Kidney Disease of Unknown Aetiology (CKDu) in Ulagalla Cascade, Sri Lanka. *Sabaragamuwa Univ. J.*, 17–27.
- Wang, Q., Kanel, S. R., Park, H., Ryu, A., & Choi, H. (2009). Controllable synthesis, characterisation, and magnetic properties of nanoscale zerovalent iron with specific high Brunauer–Emmett–Teller surface area, *J Nanopart Res.* 11, 749–755.
- Wang, K., Zhao, J., Li, H., Zhang, X., & Shi, H. (2016). Removal of Cadmium (II) from aqueous solution by granular activated carbon supported magnesium hydroxide. *J Taiwan Inst Chem E*, 61, 287–291.
- Wang, L., Zhang, Y., Sun, N., Sun, W., Hu, Y., & Tang, H. (2019). Precipitation Methods Using Calcium-Containing Ores for Fluoride Removal in Wastewater. *Minerals*, 511–520.
- Warnakulasuriya, K.A.A.S., Balasuriya, S., Perera, P.A.J. & Peiris, L.C.L., (1992). Determining optimal levels of fluoride in drinking water hot, dry climates—A case study in Sri Lanka. *Community Dent Oral Epidemiol*, (2), 364–67.
- Wasana, H. M. S., Aluthpatabendi, D., Kularatne, W. M. T. D., Wijekoon, P., Weerasooriya, R., & Bandara, J. (2016). Drinking water quality and chronic kidney disease of unknown etiology (CKDu): synergic effects of fluoride, cadmium, and hardness of water. *Environ Geochem Health.* 38, 157–168.
- Wasana, H. M., Perera, D. G., Gunawardena, P. S., Fernando, P. S., & Bandara, J. (2017). WHO water quality standards Vs Synergic effect(s) of fluoride, heavy metals, and hardness in drinking water on kidney tissues. *Sci. Rep.*, 7:42516
- Weaver, V. M., Fadrowski, J. J., & Jaar, B. G. (2015). Global dimensions of chronic kidney disease of unknown etiology (CKDu): a modern era environmental and/or occupational nephropathy? *BMC Nephrol* , 16, 145.
- Weber, T. W., & Chakravorti, R. K. (1974). Pore and solid diffusion models for fixed bed adsorbers. *AIChE J.*, 20, 228–238.

- Weragoda, S. K., & Kawakami, T. (2017). Evaluation of Groundwater Quality in 14 Districts in Sri Lanka:A Collaboration Research Between Sri Lanka and Japan. In F. Kurisu, A. L. Ramanathan, A. A. Kazmi, & M. Kumar, Trends in Asian Water Environmental Science (pp. 151-160). India: Springer International Publishing.
- Wickramarathna, S., Balasooriya, S., Diyabalanage, S., & Chandrajith, R. (2017). Tracing environmental aetiological factors of chronic kidney diseases in the dry zone of Sri Lanka—A hydrogeochemical and isotope approach. *J. Trace Elem. Med. Biol.*, 44(June), 298–306.
- Wijerathne, C., Weragoda, S. K. & Kawakami, T. (2014). A review of chronic kidney disease due to unknown etiology and groundwater quality in dry zone in Sri Lanka. International conference on advances in Applied Science and Environmental Engineering, Malaysia.
- Williams, S., (2012). Health Effects of Drinking Distilled Water, Living Healthy, Every Topic Every angle, <http://www.livinghealthy360.com/index.php/health-effects-of-drinking-distilled-water-6157/>, Accessed: 1st of October 2014.
- Wimalawansa S. J. (2014). Escalating chronic kidney diseases of multi-factorial origin in Sri Lanka: causes, solutions, and recommendations. *Environ Health Prev Med* 19(6):375–394
- Wimalawansa, S. J. (2020). Molecular and cellular toxicity of fluoride in mystery, tubulointerstitial chronic kidney disease: a systematic review. In Reviews in Environmental Science and Biotechnology (19). <https://doi.org/10.1007/s11157-019-09521-0>.
- WHO, (1986). “Health impact of acidic deposition. Science of the total environment”, World Health Organization.
- WHO, (2003). “pH in Drinking-water”. Background document for development of WHO Guidelines for Drinking-water Quality.

- WHO, (2004). “Guidelines for Drinking-Water Quality. Geneva”: World Health Organization (WHO).
- WHO, 2009. Calcium and magnesium in drinking-water: public health significance, Geneva: WHO, ISBN 978 92 4 156355 0.
- WHO, 2012. Investigation and evaluation of Chronic Kidney Disease of uncertain aetiology in Sri Lanka, Geneva: World Health Organization.
- WHO, 2017. Guidelines for drinking water quality: 4th edition incorporating the 1st addendum. World Health Organization, Geneva, CC BY-NC-SA 3.0 IGO.
- Worch, E., 2012. Adsorption Technology in water treatment fundamentals, processes and modelling. Germany: Walter de Gruyter GmbH & Co. KG, Berlin/Boston.
- Wu, S., Sun, A., & Zhai, F. (2011). Fe₃O₄ magnetic nanoparticles synthesis from tailings by ultrasonic chemical co-precipitation. *Mater Lett.* 65, 1882–1884.
- Wu, L., Liao, L., Lv, G., Qin, F., He, Y., & Wang, X. (2013). Micro-electrolysis of Cr (VI) in the nanoscale zero-valent iron loaded activated carbon, *J Hazard Mater*, 254– 255, 277– 283.
- Wu, S., Kong, L., & Liu, J. (2016). Removal of mercury and fluoride from aqueous solutions by three-dimensional reduced-graphene oxide aerogel. *Res Chem Intermed*, 42(5), 4513–4530.
- Xiea, W., Vua, K., Yangb, G., Tawfiqa, K., & Chena, G. (2014). Escherichia coli growth and transport in the presence of nanosilver under variable growth conditions. *Environ. Technol.*, 2306-2313.
- Xu, P., Drewes, J. E., Bellona, C., Amy, G., Kim, T. U., Adam, M., & Heberer, T. (2005). Rejection of emerging organic micropollutants in nanofiltration-reverse osmosis membrane applications. *Water Environ Res*, 77(1), 40–48.

- Xu, J., Yang, H., Fu, W., Du, K., Sui, Y., Chen, J., Zeng, Y., Li, M., & Zou, G. (2007). Preparation and magnetic properties of magnetite nanoparticles by sol-gel method. *J Magn Magn Mater.* 309, 307–311.
- Xu, X., Li, Q., Cui, H., Pang, J., An, H., Wang, W., & Zhai, J. (2012). Column-mode fluoride removal from aqueous solution by magnesia-loaded fly ash cenospheres. *Environ. Technol.*, 33:12, 1409-1415.
- Xu, C., Yang, W., Liu, W., Sun, H., Jiao, C., & Lin, A. (2018). Performance and mechanism of Cr (VI) removal by zero-valent iron loaded onto expanded graphite. *J Environ Sci.* 67, 14–22.
- Yaguba, M. T., Sena, T. K., Afrozea, S., & M., A. H. (2015). Fixed-bed dynamic column adsorption study of methylene blue (MB) onto pinecone. *Desalin Water Treat*, 1–14.
- Yang, C. (1998). Calcium and magnesium in drinking water and risk of death from cerebrovascular disease. *Stroke*, 411–14.
- Yang, C. et al., 2002. Association of very low birth weight with calcium levels in drinking water. *Environ. Research, Section A*, 189-194.
- Yang, Y., Lin, X., Huang, H., Feng, D., Ba, Y., Cheng, X., & Cui, L. (2015). Sodium fluoride induces apoptosis through reactive oxygen species-mediated endoplasmic reticulum stress pathway in Sertoli cells. *J Environ Sci*, 81–89.
- Yin, K., Irene, Lo, I. M. C., Dong, H., Rao, P., & Mak, M. S. H. (2012). Lab-scale simulation of the fate and transport of nano zero-valent iron in subsurface environments: Aggregation, sedimentation, and contaminant desorption, *J Hazard Mater*, 227– 228, 118–125.
- Yoon, Y. H. & Nelson, J. H. (1984). Application of gas adsorption kinetics. I: A theoretical model for respirator cartridge service life. *Am. Ind. Hyg. Assoc. J.*, 45, 509–516.

Zhang, Y, Zheng, R., Zhao, J. Ma, F., Zhang, Y., & Meng, Q. (2014). Characterization of H₃PO₄-Treated Rice Husk Adsorbent and Adsorption of Copper (II) from Aqueous Solution, *BioMed Res Int*, 8, 496878.

Zhang, X., Fan, L., & Roddick, F. A. (2015). Effect of feedwater pre-406 treatment using UV oxidation for mitigating the fouling of a ceramic MF membrane caused by soluble algal organic matter. *J Membrane Sci*, 683–689.

Zhang, C., Li, Y., Wang, T., Jiang, Y., & Wang, H. (2017). Adsorption of drinking water fluoride on a micron-sized magnetic Fe₃O₄@Fe-Ti composite adsorbent. *Appl Surf Sci*, 363, 507–515.

“2540 SOLIDS (2017)”, Standard Methods For the Examination of Water and Wastewater, DOI: 10.2105/SMWW.2882.030.

“2320 ALKALINITY (2017)”, Standard Methods For the Examination of Water and Wastewater, DOI: 10.2105/SMWW.2882.023.