



**Contents**

**Volume 210**

Techno-economic analysis of the impact of working fluids on the concentrated solar power combined with multi-effect distillation (CSP-MED) A.M. Soliman (Saudi Arabia, Egypt), A. Mabrouk (Egypt, Qatar), M.A. Sharaf Eldean, H.E.S. Fath (Egypt) .....	1
Photodegradation of mefenamic acid from wastewater in a continuous flow solar falling film reactor Z.Y. Shanian, M.F. Abid, K. Suker (Iraq) .....	22
Numerical studies on the heat transfer characteristics of falling film evaporation on a horizontal elliptical tube for seawater desalination D. Balaji, R. Velraj, M.V. Ramana Murthy (India) .....	31
Development of a mathematical model to calculate the energy savings and the system running costs through hydrogen recovery in wastewater electrolysis cells C. Kick, A. Apfelbacher, R. Daschner (Germany), A. Hornung (Germany, UK) .....	44
CFD modeling of a gravel coarse aggregate sensible heat storage assisted single slope solar still R. Dhivagar, M. Mohanraj (India), K. Hidouri (Tunisia), M. Midhun (India) .....	54
An experimental study on draw solution performance in fertilizer drawn forward osmosis under water energy food nexus framework in Egypt G. Amin, P. Nasr (Egypt), H. Sewilam (Egypt, Germany) .....	70
A systematic review on membrane technology for carwash wastewater treatment: efficiency and limitations J. Torkashvand, M. Farzadkia, S. Younesi, M. Gholami (Iran) .....	81
Calcium carbonate scale inhibition of a cathode surface under polarization by 2-phosphonobutane-1, 2, 4-tricarboxylic acid Kun Sheng, Yanfang Song, Fang Ge, Xin Huang, Yi Zhang, Honghua Ge, Yuzeng Zhao (China) .....	91
Energy, exergy, exergoeconomic, and environmental (4E) and carbon footprint analysis of coupling the various energy recovery devices with seawater and brackish water reverse osmosis desalination S. Kabiri, M. Meratizaman (Iran) .....	103
Investigation and modeling of a hybrid activated sludge system for municipal wastewater treatment using multi-layer perceptron neural networks H.A. Mokhtari, S.A. Mirbagheri (Iran) .....	123
Efficient phase separation in metalworking emulsions due to pH-induced destabilization and addition of aluminosilicates specialized demulsifiers P. Pacholski, J. Sęk, M. Błaszczuk (Poland) .....	134
COD and ammoniacal nitrogen reduction from stabilized landfill leachate using carbon mineral composite adsorbent A. Detho, Z. Daud, M.A. Rosli, M.B. Bin Ridzuan, H. Awang, M.A. Kamaruddin, H.A. Bin Tajarudin, A. Abdul Halim (Malaysia) .....	143
Evaluation of solar chimney performance enhancement using energy produced by Albian geothermal water in southeastern Algeria A. Azizi, T. Tahri, R. Belakroum, M.H. Sellami, L. Segni (Algeria), K. Loudiyie (Morocco) .....	152
Quantity and quality of condensate air conditioner water for potential use in drinking purpose M. Masud Alom, A. Ahsan (Bangladesh), M. Imteaz (Australia) .....	164
Life cycle assessment applied to wastewater treatment plants: how the choice of background processes can affect the studies' reliability T.A.S. Lopes, L.S. Braga, L.M. Queiroz, A. Kiperstok, E.A. Torres (Brazil) .....	170
Enhancing emulsion liqui membrane system (ELM) stability and performance for the extraction of phenol from wastewater using various nanoparticles F.H. Al-Ani (USA, Iraq), Q.F. Alsahy (Iraq), M. Al-Dahhan (USA) .....	180

Equilibrium and kinetic studies - adsorption of phenol using a de-oiled cake of <i>Jatropha</i> sp. S. Busetty, A. Das (India) .....	192
Enhancement and mechanism of tourmaline on activating water by high-voltage pulsed discharge pre-treatment Shuai Yuan, Yonghong Qin, Jie Liu, Peng Gao, Qiaoqiao Nie (China) .....	201
Microwave assisted synthesis of porous carbon from graphene for enhanced adsorption of atrazine in aqueous solution Xiuzhen Zhu, Hongliang Xu, Haiwen Xie, Guangcai Tan, Yue Gao, Nan Xu (China) .....	210
Inactivation kinetics of gram-negative bacteria in the presence of residual free chlorine P.K. Roy, M. Ghosh (India) .....	222
Drug contaminants in water and sustainable approach towards their degradation: a short review S.J. Anwar, I.U.H. Bhat, M.A. Kadir, H.M. Yusoff, M.H. Razali, Lee Khai Ern (Malaysia) .....	231
Zeolitic imidazole framework (ZIF) – zinc oxide nanocomposite: synthesis and ultrasound-assisted pollutant removal from the binary system A. Panahdar, S. Langari, N.M. Mahmoodi, S. Ghiyasi, M.R. Saeb, K. Seifpanahi-Shabani, M. Jalili (Iran) .....	240
Zinc oxide immobilized on alginate beads as catalyst for photocatalytic degradation of textile dyes – an evaluation of matrix effects C. Gonçalves, K.B. Fontana, M.A.R. Tenorio, V.L.A.F. Bascuñan, G.G. Lenzi, E.S. Chaves (Brazil) .....	250
Use of <i>Olea europaea</i> leaves-based activated carbon for pollutant removal from liquid effluents O. Douinat, B. Bestani, N. Benderdouche, A. Boucherdoud (Algeria) .....	258
Removal of humic acid from aqueous media using magnetite nanoparticles B. Shahmoradi (Iran), K. Wantala (Thailand), H. Jari, Y. Zandsalimi, S. Mohammadloo, A. Maleki (Iran), H.P. Shivaraju (India), Seok-Soon Choi, Seung-Mok Lee (Korea) .....	273
Application of modified graphene oxide with thermosensitive polymers for adsorption of antibiotics from synthetic contaminated water P. Bahar, A.H. Hassani, H.A. Panahi, E. Moniri (Iran) .....	281
Synthesis of zeolite from fly ash: application to adsorption of COD from cheese whey wastewater N. Helali, E. Shabani, P. Heidarian, F. Salimi (Iran) .....	296
Does denitrification via direct biological oxidation of ammonia to dinitrogen gas exist? Pei Wu, Yilin Wang, Jianing Quan, Kun Huang, Xiaoqing Ma, Bo Hu (China), Yuansheng Hu (Ireland) .....	309
Investigation of adsorption activity of poly(acrylamide-styrene)/bentonite nanocomposite for efficient removal of manganese ions from aqueous solution A.E. Baradaran Mahdavi, E. Panahpour, R. Javad Kalbasi, A. Gholami (Iran) .....	316
Process optimization and modeling of lead removal using maleate/PAN nanocomposite nanofibers: characterization, kinetics and isotherm studies M. Khashij, P. Mohammadi, M. Babei, M. Mehralian (Iran), N. Aghamohammadi (Malaysia) .....	330
Adsorption of lead from aqueous solution by chitosan/rectorite composite sponge Tao Feng, Shuai Wang, Pengwei Li, Yimin Hu, Yu Wang, Jun Han (China) .....	340
One-pot synthesis of nano-MnFe <sub>2</sub> O <sub>4</sub> decorated Al <sub>2</sub> O <sub>3</sub> and its application in Cu <sup>2+</sup> adsorption Zhanmeng Liu, Gang Chen, Xian Li, Xiuguo Lu (China) .....	351
Expedient and enhanced sequestration of heavy metal ions from aqueous environment by papaya peel carbon: a green and low cost adsorbent J. Mittal, R. Ahmad, A. Mariyam (India), V.K. Gupta (Saudi Arabia), A. Mittal (India) .....	365
Amino functionalized zirconia as novel adsorbent for removal of Cr(VI) from aqueous solutions: kinetics, equilibrium, and thermodynamics studies T. Mahmood, A. Ullah, R. Ali, A. Naeem, M. Farooq, M. Aslam (Pakistan) .....	377
Enhanced U(VI) elimination from aqueous solution by FeS@biochar composites Chengguang Chen, Zhenguo Shen, Muqing Qiu (China) .....	393
FeNi <sub>3</sub> @SiO <sub>2</sub> @CuS magnetic nanocomposite: synthesizing, characterization, and application for methylene blue adsorption N. Nasseh (Iran), T.J. Al-Musawi (Jordan), R. Khosravi, A.H. Panahi, F.S. Arghavan, B. Barikbin (Iran) .....	402
Adsorption of Acid Violet 49 dye from aqueous solution by processed agricultural waste U.B. Deshannavar, P.G. Hegde, P.S. Patil, N. Tamburi, K. Ruchi, A. Kolar, A. Jadhav (India), M. El-Harbawi (Saudi Arabia) .....	415

Removal of Malachite Green from aqueous phase under ultrasound assistance using <i>Paracentrotus lividus</i> spines: equilibrium and kinetic studies H. Ghodbane, E.K. Guechi (Algeria), A. Alghyamah, O. Hamdaoui (Saudi Arabia) .....	430
Adsorption characteristics of <i>Sauropus androgynus</i> and its base modified form toward cationic crystal violet dye C.W.S. Chieng, N.A.H.M. Zaidi (Brunei), N. Priyantha (Sri Lanka), YieChen Lu, L.B.L. Lim (Brunei) .....	446
Author Index .....	461