



Contents

Volume 172

***Selected papers presented at the 4th International Conference on Recycling and Reuse
24–26 October 2018, Istanbul, Turkey***

Preface

H.E. Okten, N. Balkaya, S. Aydin, H. Kurtuluş Ozcan, E. Elmaslar, A. Ongen, H. Selcuk (Turkey)	1
Use of ecotoxicology tools within the environmental footprint evaluation protocols: the case of wastewater treatment plants	
R. Pedrazzani, E. Ziliani, I. Cavallotti, E. Bollati, M. Ferreri, G. Bertanza (Italy)	2
Investigation of inhibition effects of different sol-gel based TiO ₂ nanoparticles on activated sludge and toxicity to <i>Daphnia magna</i>	
B. Yuzer, F. Ciner, R. Calhan, H. Selcuk, S. Meric (Turkey)	15
Evaluating the compost quality of vermicomposting process applied to different types of sludge using <i>Eisenia fetida</i>	
F. Ekmekyapar, S. Akyurt (Turkey)	21
Chemical and thermal characteristics of petrochemical industrial sludge	
A. Ayol, Ö. Tezer Yurdakoş (Turkey)	29
Removal of metals and recovery of released nutrients from municipal and industrial sludge using different biosurfactants	
A. Uysal, E. Celik (Turkey)	37
A parametric study on numerical simulation of crude oil contaminated site capping	
M. Balkaya (Turkey)	46
Evaluation of the usage of various capping materials in capping of contaminated sediments	
M. Balkaya (Turkey)	54
Phosphate removal from wastewater by using water treatment sludge	
N. Balkaya, E. Erkan (Turkey)	61
Assessment of the geotechnical aspect of the use of paper mill sludge as landfill cover and bottom liner material	
M. Balkaya (Turkey)	70
Preparation of activated carbon from waste tires, and its use for dye removal	
E. Elmaslar Özbaş, B. Balçık, H.K. Ozcan (Turkey)	78
Use of commercial activated carbon for the purification of synthetic water polluted by a pharmaceutical product	
M. Zamouche, L. Mouni, A. Ayachi, I. Merniz (Algeria)	86
Synthesis of cobalt ferrite nanoparticles via chemical precipitation as an effective photocatalyst for photo Fenton-like degradation of methylene blue	
D. Uzunoğlu, M. Ergüt, P. Karacabey, A. Özer (Turkey)	96
Removal of Reactive Black 5 dye using Fenton oxidation from aqueous solutions and optimization of response surface methodology	
Y. Süzen, C. Ozmetin (Turkey)	106
Green synthesis of Pd/Fe ₃ O ₄ bimetallic nanoparticles: catalytic in situ generations of H ₂ O ₂ for heterogeneous Fenton-like decolorization of Basic Red 46 and Direct Red 23	
M. Ergüt, A. Özer (Turkey)	115
Combinations of two-phase anaerobic biological treatment process with for treatment of industrial dye manufacturing wastewater	
A.E. Ateş, B. Yuzer, M.I. Aydin, Y.A. Oktem, H. Selcuk (Turkey)	125
Change in the available and toxic concentrations of metals in the soil when compost and commercial soil conditioners were used	
E. Elmaslar Özbaş, A. Çatalbaş (Turkey)	133

Removal of Cu(II) ions from aqueous solution by activated carbon produced from banana fruit bunch (<i>Musa paradisiaca</i>) A. Allwar, A. Setiawan, H.A. Ermawan, T. Alviansah (Indonesia)	139
Cadmium removal using potato peels as adsorbent: kinetic studies B.B. Palabiyik, H. Selcuk, Y.A. Oktem (Turkey)	148
Insights into nonlinear adsorption kinetics and isotherms of vanadium using magnetised coal-polyaniline G.W. Kajjumba (USA), E. Yildirim (Turkey), F. Osra (Saudi Arabia), S. Aydin (Turkey), T.T.K. Ngan (Vietnam), S. Emik (Turkey)	158
Assessment of heavy metal contamination in urban soil (Tuzla District, Istanbul, Turkey) N. Sezgin, N. Balkaya, A. Sahnurova, N. Aysal (Turkey)	167
Use of nano zero-valent iron coated coffee grounds for removal of Zn (II) and Ni (II) from aqueous solutions A.Y. Goren, M. Genisoglu, H.E. Okten (Turkey)	177
Separation of valeric acid from aqueous solutions by reactive extraction using 1-hexyl-3-methylimidazolium hexafluorophosphate N. Baylan (Turkey)	184
Lactic acid recovery from water by amberlite IRA-400 N. Halilibrahimoğlu, İ. İnci, N. Baylan (Turkey)	190
Application of an electrodialysis process to recover nitric acid from aluminum finishing industry waste B. Yuzer, M.I. Aydin, B. Hasançebi, H. Selcuk (Turkey)	199
Application of electrodialysis membrane process to recovery sulfuric acid and wastewater in the chalcopyrite mining industry M.I. Aydin, B. Yuzer, B. Hasancebi, H. Selcuk (Turkey)	206
Recycling/reusing grey water and yellow water (human urine): motivations, perspectives and reflections into the future B. Beler Baykal (Turkey)	212
Preliminary results for start-up and adaptation of an EGSB reactor for valorization and treatment of fresh urine M.N. Taher, M. Altinbas, B. Beler-Baykal (Turkey)	224
Removal of colour and organic matter from textile wastewaters using two anaerobic processes Y.A. Oktem, B.B. Palabiyik, H. Selcuk (Turkey)	229
Elimination of antibiotic resistance in treated urban wastewater by iron-based advanced oxidation processes I. Arslan Alaton, A. Yazgan Karatas, Ö. Pehlivan, T. Olmez Hanci (Turkey)	235
Comparative evaluation of biogas recovery during anaerobic treatment of aircraft deicing fluids at increased ratios in domestic wastewater H. Murat Goktas, G. Engiz, E. Su, C. Yangin-Gomec (Turkey)	254
Boron removal from solutions by talc clay C. Özmetin, M. Korkmaz, E. Özmetin, Y. Süzen, E. Çalgan (Turkey)	260
Evaluation of electro-Fenton method on cheese whey treatment: optimization through response surface methodology Ş. Camcıoğlu, B. Özyurt, S. Şengül, H. Hapoğlu (Turkey)	270
Optimization of hardness removal using response surface methodology from wastewater containing high boron by Bigadiç clinoptilolite E. Calgan, E. Ozmetin (Turkey)	281
Boron removal from industrial wastewaters by means of optimized sequential chemical precipitation and coagulation processes B. Özyurt, Ş. Camcıoğlu, M. Firtın, Ç. Ateş, H. Hapoglu (Turkey)	292
Environmental burdens of cataphoresis process P.N. Karacal (Turkey), N. Elginöz (Sweden), F. Germirli Babuna (Turkey)	301
Construction of a large water treatment plant: appraisal of environmental hotspots N. Elginöz (Sweden), M. Alzaboot, F. Germirli Babuna, G. Iskender (Turkey)	309
Public attitude for acceptance of grey water reuse in Istanbul and the impact of informing potential consumers M.N. Taher, J. Awayes, S. Cavkas, B. Beler-Baykal (Turkey)	316
Desalination and fate of nutrient transport in domestic wastewater using electrodialysis membrane process H.M. Nur, B. Yüzer, M.İ. Aydin, S. Aydin, A. Öngen, H. Selçuk (Turkey)	323
Industrial and agricultural wastes as a potential biofilter media for groundwater nitrate remediation E.B. Özkaraoğlu (Turkey), R.M. Kalin, S. Gkiouzepas, C.W. Knapp (UK)	330

Determination of microplastics and large plastics in the sediments of the Golden Horn Estuary (Halic), Istanbul, Turkey P. Doğruyol, M. Şener, N. Balkaya (Turkey)	344
Microplastic pollution in the Black Sea coast of the Anatolian side of Istanbul, Turkey M. Şener, P. Doğruyol, N. Balkaya (Turkey)	351

Regular papers

Polyoxometalate composite electrode prepared through layer-by-layer assembly for efficient phenanthrene photoelectrodegradation Qingfei Duan, Jianbo Guo, Jingfang Lu, Yuanyuan Song, Caicai Lu, Yi Han, Haibo Li (China)	359
Simultaneous disposal of acrylic acid (ester) wastewater and residue with high efficiency and low energy consumption Rongjie Chen, Zhaoyang Fei, Qing Liu, Xian Chen, Zhuxiu Zhang, Jihai Tang, Mifen Cui, Xu Qiao (China)	368
Process optimization of industrial waste salts separated into acid/base for the realization of resource utilization by bipolar membrane electrodialysis Jiachao Yao, Lu Yang, Zhiping Ye, Jiade Wang, Yiren Li, Xinyi Tong (China)	377
Determination of selected organoarsenic compounds by SPME/GC-MS in aquatic samples M. Czaplicka, K. Jaworek, J. Klyta (Poland)	386
A critical review on recent developments in the low-cost adsorption of dyes from wastewater P. Senthil Kumar, G.J. Joshiba, C.C. Femina, P. Varshini, S. Priyadharshini, M.S. Arun Karthick, R. Jothirani (India)	395
Synthesis of Bi ₂ O ₃ /BiVO ₄ heterojunction with enhanced photocatalytic activity via single-step hydrothermal method Chung-Hsin Wu, Chao-Yin Kuo, Cheng-Di Dong, Chiu-Wen Chen, Yi-Li Lin, Wei-Ming Chen (Taiwan)	417
Corrigendum to Assessment of groundwater contamination by different interpolation methods for water resources management in the Mitidja Plain aquifer (North-Center Algeria) published in vol. 132 (2018) pp. 167–178 (doi:10.5004/dwt.2018.22921) O. Aziez, B. Remini, M. Habi, A. Ammari (Algeria)	428
Corrigendum to "Synthesis and stabilization of ZnO nanoparticles on a glass plate to study the removal efficiency of acid red 18 by hybrid advanced oxidation process (ultraviolet/ZnO/ultrasonic) published in vol. 170 (2019) pp. 325–336 (doi:10.5004/dwt.2019.24728) M. Malakootian, A. Nasiri, A.N. Alibeigi, H. Mahdizadeh, M.A. Gharaghani (Iran)	429
Author Index	430