

Contents

Volume 2

Issue 1, Selected papers from IWA Efficient 2007 Conference

Prof. Suing-il Choi, Guest Editor

Evaluation of mixed oxidants generated by an electrochemical method K. Lee, J. Lim, D. Lee, S. Kim and H. Ahn (Daejeon, Korea)	1
Effects of nitrate on the UV photolysis of H ₂ O ₂ for 2,4-dichlorophenol degradation in treated effluents K.B. Ko, J.Y. Lee, Y.H. Yoon, T.H. Moon, Y.H. Ahn, C.G. Park (Seoul), K.S. Min (Daegu) and J.H. Park (Seoul, Korea)	6
A plan for the adjustment of water distribution in the Korean waterworks system J. Jeong, W.-R. Wi, G.-B. Kang, M.-S. Yoo, G.-H. Kim (Incheon) and S.-K. Chae (Gyeonggi-Do, Korea)	12
Estimation of margin of safety for Korean TMDL development D. Seo, E. Lee (Daejeon), C. Lee (Gyeongsangbukdo, Korea) and K. Reckhow (Durham, NC, USA)	19
Minimization of losses in water supply systems: strategy definition in a Portuguese case study B. Machado (Guimarães), T. Carvalho, C. Cupido, M.C. Almeida and H. Alegre (Lisbon, Portugal)	24
Estimation of biodegradability and biogas recovery from a two-phase anaerobic process treating piggy wastewater S.M. Oh, M.H. Kim, Y.S. Bae (Seoul), S.M. Hong (Suwon) and C.H. Park (Seoul, Korea)	30
Effectiveness of means used for water demand control J.H. Cho, S.-i. Choi (Jochiwon), I.H. Hyun (Sungham) and S.H. Choi (Seoul, Korea)	39
Optimization model for water distribution network considering minimization of total replacement cost and stabilization of flow velocity in pipelines Y. Arai, A. Koizumi, T. Inakazu (Tokyo, Japan) and J. Koo (Seoul, Korea)	45
Probability model for risks of burst water pipes: a case study in Seoul K. Kim, J. Koo and M. Kim (Seoul, Korea)	52
Identification of opportunities to improve efficiency by water consumption assessment S.L. Dias, H. Lucas (Faro), M. do Céu Almeida, H. Alegre, M. Viriato and D. Loureiro (Lisbon, Portugal)	59
Full-scale demonstration of improvement of sludge treatment performance T.-J. Kim, K.-J. Oh, D.-C. Ryou, B.-Y. Moon, Y.-J. Kim (Busan) and S.-H. Kim (Kyungnam, Korea)	65
Biofilm formation and its effect on biofouling in RO membrane processes for wastewater reuse T.H. Kim, Y.S. Kim, Y.H. Choi, J.H. Kweon, J.H. Song and N.W. Gang (Seoul, Korea)	70
Effect of biomass concentration on the performance of a MBR system: Studies of microbial communities J.M. Poyatos, M. Molina-Muñoz, L. Fernandez, F. Osorio, M.V. Martinez-Toledo, J. González-López and E. Hontoria (Granada, Spain)	75
Effect of hydraulic conditions and disinfectants on biofilm in model distribution systems G. Yuntao, Z. Wanwan, J. Zhanpeng (PR China) and D. Seok (Korea)	82
Efficiency of enhanced coagulation for removal of NOM and for adsorbability of NOM on GAC S. Hong, S. Kim (Seoul) and C. Bae (Daejun, Korea)	89
Consumption management in water distribution systems by optimizing pressure reducing valves' settings using genetic algorithm M. Tabesh and S. Hoomehr (Tehran, Iran)	95
Biosorption of nutrients by <i>Zygnema sterile</i> and <i>Lepocinclism textra</i> biomass in high rate algae culture system S.K. Kong (Kumsan), Y.S. Bae, C.H. Park and D.H. Nam (Seoul, Korea)	101
Accumulation of organics in a water supply reservoir: Its cause, characteristics and implication on water quality management S.W. Kim, S.K. Hong and E. Choi (Seoul, Korea)	108
Application of integrated chemical precipitation and ultrafiltration as pre-treatment in seawater desalination J.T. Aguinaldo (Tampa, FL, USA)	113
Characteristics of water quality and extracellular polymeric substances in a trickling filter system using plastic fiber media S. Dockko, H.-K. Kim (Choongman, Korea), Y. Guan (Beijing, China) and I.-H. Hyun (Gyeonggi-do, Korea)	126

Issues 2 and 3

Electrocoagulation: a new approach for the removal of boron containing wastes Y. Xu, J.-Q. Jiang, K. Quill, J. Simon and K. Shettle (Guildford, UK)	131
Utilization of walnut shells (<i>Juglans regia</i>) as an adsorbent for the removal of acid dyes H. Aydin, G. Baysal and Y. Bulut (Diyarbakır, Turkey)	139
Permeation and separation characteristics of dimethylformamide/water mixtures by vapor permeation and vapor permeation with temperature difference methods through a sodium alginate-g-n-vinyl-2-pyrrolidone membrane E. Kondolot Solak and O. Şanlı (Ankara, Turkey)	148
Application of weakly and strongly basic anion exchangers for the removal of brilliant yellow from aqueous solutions M. Leszczyńska and Z. Hubicki (Lublin, Poland)	156
Prediction of trihalomethane formation in water distribution systems H.A. Abu Qdais, N. Al-Abed, Z. Al-Ghazawi and F. Abdulla (Irbid, Jordan)	162
Studies on the application of different ANNs to predict permeate flux in rotating disk membrane modules: A case study with MATLAB™ C. Bhattacharjee, D. Sen, P. Sarkar, S. Datta (Kolkata) and P.K. Bhattacharya (Kanpur, India)	170
Comparison of boric acid adsorption by hybrid gels H. Liu, X. Ye (Xining, Beijing), W. Li, Y. Dong and Z. Wu (Xining, China)	185
Evaluation of membrane fouling mechanism in various membrane pretreatment processes C.W. Jung (Ulsan) and H.J. Son (Kimhae, Republic of Korea)	195
Natural organic matter removal and enhanced coagulation as a link between coagulation and electrocoagulation D. Ghernaout (Blida), B. Ghernaout (Medea) and A. Kellil (Blida, Algeria)	203
Mesoporous CeO ₂ -ZrO ₂ -γ-Al ₂ O ₃ nanocomposite membranes exhibiting remarkable hydrothermal stability Md.H. Zahir, S. Fujisaki, K. Sato, T. Nagano and Y. Iwamoto (Nagoya, Japan)	223
Adsorption and kinetic studies of methylene blue on zeolite synthesized from fly ash D. Alves Fungaro, M. Bruno and L. Caetano Grosche (São Paulo, Brazil)	231
Determination of optimal conditions for separation of metal ions through membrane dialysis using statistical experimental methods J.-K. Wang and C.-S. Hsieh (Kaohsiung Hsein, Taiwan, ROC)	240
Effect of cover materials on heat and mass transfer coefficients in a plastic solar still M.K. Phadatare (Lonere) and S.K. Verma (Patana, India)	248
Phenolic wastewater: Effect of F/M on anaerobic degradation A. Hussain, T. Parveen, P. Kumar and I. Mehrotra (Roorkee, India)	254
Short chemical cleaning of polymeric ultrafiltration membranes fouled by sugarcane juice polysaccharides N.K. Saha and M. Balakrishnan (New Delhi, India)	260
Magnetic field coupled with electrochemical process for enhancing Al ₁₃ formation W.-q. Gong and K.-w. Pi (Wuhan, China)	272
Electrodialysis reversal: Process and cost approximations for treating coal-bed methane waters E.T. Sajtar and D.M. Bagley (Laramie, WY, USA)	278
Basic equations for desalination by reverse osmosis: a deduction based on the thermodynamics of irreversible processes J.A. Ibáñez-Mengual, J.A. García-Gamuz and R.P. Valerdi-Pérez (Murcia, Spain)	287
A mathematical tool for describing the behaviour of a dense effluent discharge A. Cipollina, A. Brucato and G. Micale (Palermo, Italy)	295
Enhancement of textile wastewater decolorization and biodegradation by isolated bacterial and fungal strains E. Khelifi, H. Bouallagui, Y. Touhami (Tunis, Tunisia), J.-J. Godon (Narbonne, France) and M. Hamdi (Tunis, Tunisia)	310
Flux and energy requirement during ultrafiltration of a complex industrial process stream A.-K. Nordin and A.-S. Jönsson (Lund, Sweden)	317
Hindcasts of the fate of desalination brine in large inverse estuaries: Spencer Gulf and Gulf St. Vincent, South Australia J. Kämpf, C. Brokensha and T. Bolton (Adelaide, Australia)	325
MSF evaporator materials evaluation after 20 years in service S.A. Al-Fozan and A.U. Malik (Al-Jubail, Saudi Arabia)	334
Nanofiltration and low energy reverse osmosis for rejection of radioactive isotopes and heavy metal cations from drinking water sources M.G. Khedr (Al-Khobar, Saudi Arabia)	342
Author Index	351