

Contents

- Preface
- 1 Energy consumption, a critical success factor in membrane filtration
T. Melin
- 5 Advances in Biofouling of Reverse Osmosis Membranes
M.C.M. van Loosdrecht, L. Bereschenko, A. Radu, C. Picioreanu and H. Vrouwenvelder
- 7 The promise of forward osmosis
M. Elimelech
- 9 Biofouling of membrane systems: a manageable problem?
H. Vrouwenvelder, J.C. Kruithof and M.C.M. Van Loosdrecht
- 11 A simple and effective means to reduce RO membrane biofouling
H. Brouwer, S. Scherrenberg and S. Novak
- 13 Paradox of organics rRemoval and fouling in powdered activated carbon adsorption-ultrafiltration processes for water treatment
K.H. Choo, B.-J. Kim and G.-Y. Kim
- 15 Influence of PAC properties on membrane performance in a PAC-UF hybrid system
F. Saravia, C. Zwiener and F. H. Frimmel
- 19 Effect of pore structure on membrane fouling
Q. Derekx, P. Bacchin, D. Veyret and K. Glucina
- 21 Online analysis of the nanoparticles to prevent membrane fouling by a secondary effluent
M. Boulestreau, G. S. Raspati and U. Miede
- 23 Two-phase flow in a hollow fibre module: image processing and computational fluid dynamics for the characterization of local scale phenomenon in membrane bioreactors
E. Braak, M. Alliet, N. Le-Sauze and C. Albasi
- 25 Biofouling diagnosis and effect of membrane cleaning in an Ion Exchange Membrane Bioreactor
A. R. Ricardo, R. Valério, M. A.M. Reis, J. G. Crespo and S. Velizarov
- 27 Seasonal variation of activated sludge mixed liquors in a long-term steadily operating membrane bioreactor
J. Wu, X. Huang, H. Li, C. Wei and J. Wang
- 29 The importance of measuring the sludge filterability at MBR - introduction of a new method
C. Thiemig
- 31 Activated sludge filterability versus sludge characteristics in membrane bioreactors
R. Van den Broeck, P. Krzeminski, J. Van Dierdonck, G. Gins, M. Lousada-Ferreira, J.F.M. Van Impe, J.H.J.M. van der Graaf, I. Y. Smets and J. B. van Lier
- 33 Filterability and suspended solids concentration in membrane bioreactors
M. Lousada-Ferreira, J. B. van Lier and J. van der Graaf
- 35 Intermediate sieving (IntS) strategy to optimise separate MBR systems
W. Schier, F.-B. Frechen and M. Ohme
- 37 Raising biological and operational efficiency of aerobic and anaerobic MBR concepts
A. J. S. Borchmann and K.-H. Rosenwinkel
- 39 Salt accumulation in osmotic membrane bioreactor systems
W. Ch. L. Lay, J. Zhang, C. Tang, J. Qin, R. Wang, Y. Liu and A. G. Fane
- 41 Techniques for membrane fouling reduction in MBR and enhancement in water treatment efficiency
L. Liu, J. Liu, B. Gao and F. Yang
- 43 Hybrid effects by combined ozonation and ceramic membrane filtration
S. Panglisch and A. Tatzel
- 45 Optimizing water transport in bipolar electrodialysis membranes
H. Zwijnenberg, S. Abdu, R. Messalem, N. Risscher, T. Melin, Z. Borneman and M. Wessling
- 47 Towards reverse osmosis on surface water without extensive pretreatment: Assessment of the AiRO concept
R. Jong, J. Arie de Ruiter and S. van Agtmaal
- 49 Osmotic Backwash to enhance the performance of a Pilot-scale Reverse Osmosis Process
S. Kim, J. L. Lim, S. Kang and C. H. Kim

- 51 Influence of total solids concentration on membrane permeability in a submerged hollow-fiber anaerobic membrane bioreactor
A. Robles, F. Durán, M. V. Ruano, J. Ribes and J. Ferrer
- 53 Submerged anaerobic membrane bioreactor (SAMBR) for high sulphate municipal wastewater treatment - assessment of COD mass balance and methane yield coefficient
J. B. Giménez, L. Carretero, M. NoemiGatti, N. Martí, L. Borrás, J. Ribes and A. Seco
- 55 An innovative anaerobic MBR treating acrylic acid production wastewater
M. J. Allison, K. Singh, D. Bhattacharyya, J. Webb and S. Grant
- 57 Characteristics of extracellular polymeric substances and microbial communities in an anaerobic membrane bioreactor coupled with online ultrasound equipment
Z. Yu, M. Xu, X. Wen and X. Huang
- 59 DWP Botlek - largest demin water plant in the Netherlands
M. Pot, R. van den Berg and J. van Agtmaal
- 61 Process water for the pulp industry: seven years experience with Germany's largest reverse osmosis plant
P. Sehn and R. Zierau
- 63 Wastewater treatment and water reuse at the laundry CWS-boco Deutschland GmbH
M. Kuhn
- 65 A study into the use of ceramic membranes for water reuse in commercial broiler abattoir operations
D. R. Grant, A. Pavic, J. Cox and G. L. Leslie
- 67 Investigating pre-treatment methods for water reclamation from bleaching-washing wastewater
K. Guney, H. Arslan, H. Ozgun, R. Minke, I. Koyuncu and H. Steinmetz
- 69 Membrane technology for wastewater recycling in textile industry - experiences of an operator from idea to implementation
R. Teckenberg, T. Pohlrs, T. Hackner, S. Meuler and M. Hoffmeister
- 71 Ultrafiltration for textile wastewater refinement
I. Borsi, C. Caretti, E. Coppini, M. Heijnen and O. Lorain
- 73 MBR fouling control and permeate quality enhancement by polyaluminium chloride dosage: a case study
A. Teli, M. Antonelli, L. Bonomo, L. Migliorisi and F. Malpei
- 75 Application of innovative natural organic matter (NOM) characterization protocols to membrane fouling assessment and control: seawater, wastewater and freshwater sources
G. Amy, S. Salinas, L. Villacorte, C.-W. Ha, J. Hamad, V. Yangally, M. Kennedy, J.-P. Croue
- 77 Accumulation of soluble microbial products in MBRs and its effect on membrane fouling
B. Ozdemir and S. Hermanowicz
- 79 Soluble microbial products retention and membrane fouling during microfiltration
X.-M. Wang, X.-Y. Li, L. Panheleux and T. D. Waite
- 83 Non-backwashable fouling of UF membranes caused by transparent exopolymer particles (TEP) in seawater
L. Villacorte, B. Karna, D. E. Berenstein, H. N. Calix-Ponce, R. Schurer, M. D. Kennedy, G. Amy and J. C. Schippers
- 85 The effect of RO membrane surface chemistry on organic fouling during seawater desalination
Q. Li, J. Wu and A. E. Contreras
- 87 Fluorescence EEM based evidence for irreversible UF membrane fouling by protein-like substances during surface water filtration and its reduction by direct biofiltration
S. Peldszus, C. Hallé, R. Peiris, R. Legge, H. Budman, C. Moresoli and P. Huck
- 89 RO wastewater treatment: effect of permeate flux on biofilm and EPS characteristics
J. Gutman, V. Freger and M. Herzberg
- 91 Characterization of soluble microbial products together with fouling propensities in full-scale membrane bioreactors for municipal wastewater treatment in China
Y. Shen, J. Sun and X. Huang
- 93 Enhancement of filterability of biological suspensions in jet loop membrane bioreactor (JLMBR) with addition of cationic polymers
D. Y. Koseoglu-Imer, A. Karagunduz and B. Keskinler

- 95 Fouling mechanisms and cleaning strategies in membrane bioreactors for municipal wastewater treatment
K. Drensla, A. Janot, N. Engelhardt and C. Brepols
- 97 UF pre-treatment, a key factor in membrane fouling propensity
A. Fabre, J.-M. Rodrigues, P. Echavidre, M. Idiarregaray and K. Glucina
- 99 Toxicity of nanofiltration concentrates on activated sludge
C. Kappel, A. Zwijnenburg, H. Temmink and A. Kemperman W. van der Meer
- 101 Phosphorous recovery: a viable aspect of brine management at coastal water recycling plants?
Z. Bradford-Hartke and G. Leslie
- 103 Techno-economical evaluation of nitrogen and phosphorus removals from reverse osmosis (RO) reject wastewater using anoxic porous filter followed by algae pond
A. Abusam and A. Shahalam
- 105 MBR - Recent advances in membrane bioreactor technology for wastewater treatment in China
X. Huang
- 107 Comparison between aerobic and anaerobic wastewater treatment with a ceramic membrane filtration system
M. Mohr and T. Zech
- 109 Impact of MLSS and DO concentration on aeration energy requirements in a full-scale MBR
Y. Racault, A. Husson, F. Delrue and A.-E. Stricker
- 113 Simplified filtration cycles for MBR operation
G. Laera, A. Poilice, A. Pinto, C. Salerno and V. Papparuso
- 115 Selection and operation of MBR plant for industrial waste water treatment
R. Cohen-Zidon
- 117 Membrane bioreactor technology compatibility with chemical wastewater
H. De Wever, C. Huyskens, G. H. Kristensen, U. Wegmann, S. Meul, P. Cassiers, S. Dilven and G. Lengden
- 119 Fouling and cleaning of membrane bioreactor in petrochemical Industry wastewater
F. Ni and J. C.-T. Lin
- 121 Closing the water cycle in industry by the anaerobic MBR
H. Futselaar, R. Rosink and G. Smith
- 123 Operational experience of containerised sequencing batch MBR plant for semi-decentralised areas reaching high effluent requirements
C. Lüdicke, J. Stüber, C. Belz, R. Gnirss and B. Lesjean
- 125 LAGOON MEMB - an aerated oxidation pond combined with membrane technology for the treatment of wastewater from a combined sewer system in rural areas
R. Hasselbach and T. Vollerthun
- 127 Experience with the MEMROD MBR system on large cruise ships
H. Moeslang, S. Lackner and P. Boney
- 129 Advanced phosphorus removal with microsieves in tertiary treatment: An alternative to membrane filtration?
U. Mieke, J. Väänänen, J. Stüber and C. Bourdon
- 131 The influence of different precipitation agents on filtration behaviour using MESH filter modules for direct activated sludge separation
B. Gahleitner, C. Loderer, A. Wörle, C. Kaspar and W. Fuchs
- 133 The characteristics of various non-woven fabric filters in wastewater treatment
J. Y. Lee, H. S. Oh, S. K. Maeng, K. H. Ahn and K. G. Song
- 135 Contribution of membrane technologies for the improvement of water reuse and environmental protection
V. Lazarova
- 139 Time-course change of foulant composition in NF/RO membranes used for wastewater reclamation
T. Ohashi, T. Miyoshi, K. Kimura and Y. Watanabe
- 141 Fluorescence excitation-emission: a new tool for monitoring the integrity of reverse osmosis membranes?
M.-L. Pype, Y. Poussade, D. Patureau, N. Wery and W. Gernjak
- 143 TMBR - new concept for large scale plant upgrade for water reuse
C. Kullmann, D. Lawrence, E. Costa and D. Schlemper
- 145 OpalineB® : An hybrid membrane process for the production of drinking water
A. Tazi-Pain, R. Tréguer, PhD, B. Rivière, P. Bréant and A. Gaid

- 147 Evaluation of performance of innovative water treatment system with PAC contact tank and subsequent submerged membrane
C. Kim, T. S. Shin, H. Kim and S. H. Noh
- 149 The removal of odorants and NOM by a system composed of BAF and UF in drinking water treatment
N. Yang, X. Wen and X. Huang
- 151 Organic substance removal by combination of powdered activated carbon adsorption and microfiltration - comparison of different operational modes
R. Braun, G. Hoffmann, R. Hobby, S. Panglisch and R. Gimbel
- 155 Nanofiltration for sulfate elimination in groundwater affected by open coal mining
C. Niewersch, B. Zayat-Vogel, T. Melin and M. Wessling
- 157 From pilot test to large-scale ultrafiltration plant at the drinking water treatment plant Trier Irsch
M. Koti
- 159 Gravity-driven membrane disinfection (GDMD): choice of a suitable membrane
M. Peter-Varbanets, S. Koetzsch, S. Müller and W. Pronk
- 161 Industrial wastewater treatment by MBR process using PVDF flat-sheet membranes - results from full scale systems
P. Kueppers and E. Doepkens
- 163 An update of permeability and fouling trends for two different generations of Norit membranes at the Columbia Heights UF plant
G. K. Pearce, A. Bankston, W. Broley and G. Filteau
- 165 Long term fouling behaviour of XIGA membrane elements and a new method for CIP for XIGA systems
S. Panglisch, W. Dautzenberg, P. Sous and J. Ohligschläger
- 169 Fabrication of polymeric nano-sieve using dissolving mold technique
M. E. Warkiani and H.-Q. Gong
- 171 Optimizing the strength and hydrophilic characteristics of Multi-Walled Carbon Nanotube-Reinforced Polysulfone Ultrafiltration Membranes
C.-F. de Lannoy, E. Soyer and M. Wiesner
- 173 Functionalized nanofiber membranes for water filtration
A. Goethals, N. Daels, I. Sampers, K. De Clerck and S. W.H. Van Hulle
- 175 Temporal changes in characteristics of porous membranes during ageing in water and wastewater treatment
S. Hajibabania and P. Le-Clech
- 177 A toolbox to secure the choice and operation of membrane technologies
A. Brehant, K. Glucina, M. Chevrel, G. Boulanger, H. Gorisse and J.-M. Laine
- 179 Charge and separation characteristics of nanofiltration membrane with dissociated functional groups represented by DSPM-DE model combined with electrokinetic method
Z. Ma, M. Wang, X. Gao and C. Gao
- 181 Characterization of water treatment membranes - a status quo and future development
K.-L. Tung, K.-R. Lee, J.-Y. Lai, W.-S. Hung, T.-T. Wu, Y.-C. Jean, Y.-F. Song and Y.-M. Sun
- 183 Implications of wet weather flow dynamics on the design of parallel hybrid membrane bioreactors - a simulation study
H. Inoki, P. Stauffer, T. Muramaki and J. Pinnekamp
- 185 Development of a MBR membrane fouling model based on linear and bilinear autoregressive model structures
P. Paul
- 187 An advanced simulation model for membrane bioreactors: development, calibration and validation
T. Ludwig, D. Gaida, P. Kern, C. Keyzers and M. Bongards
- 189 Numerical modelling of non-Newtonian fluid in a rotational cross-flow MBR
T. Bentzen, N. Ratkovich, M. Rasmussen and J. Jensen
- 191 Spontaneously arising electric fields in nanofiltration: trace ions
A. Yaroshchuk, N. Pages and J.L. Cortina
- 193 Study of the impacts and mechanisms of intermittent aeration and stretch degree of membrane on the permeate flux in a submerged membrane system
X. Lei, X. Zhang, Y. Cao and D. He
- 199 Characterization of the inline virus retention in hollow fibre modules by a new tracer electrochemically detected
L. Soussan, C. Guigui, S. Alfénore, S. Mathé and C. Cabassud

- 201 Performances of the bio-diatomite dynamic membrane reactor for micropolluted surface water purification
H. Chu, B. Dong, Y. Zhang, D. Cao and X. Zhou
- 203 Removal of bacteriophages with different surface charges by diverse ceramic membrane materials in pilot spiking tests
B. Hambsch, M. Bösl, I. Eberhagen and U. Müller
- 205 Study on the removal efficiency of UF membranes using bacteriophages in bench- and semi-technical scale
K. Kreißel, M. Bösl, P. Lipp and B. Hambsch
- 207 Adsorption of microcystins and anatoxin-a on nanofiltration membranes
M. Ribau Teixeira and M. J. Rosa
- 211 Effect of Membrane Characteristics on Membrane Fouling in Drinking Water Treatment Process
Y.-C. Su, J. R. Pan, C. Huang and C.-W. Peng
- 213 Enhancement of drinking water quality by NF membrane for application to existing river bank filtration plant in Korea
J. Kaewsuk, D. Y. Lee, T. S. Lee and G. T. Seo
- 215 Biofouling prevention with DBNPA in integrated membrane system (UF+RO)
K. V. Majamaa, E. G. Bruch and M. Guella
- 217 The effect of bubble size in air sparging to control fouling inside spacer-filled membrane channels
Y. Wibisono, E. R. Cornelissen, A. J.B. Kemperman and W. G.J. van der Meer
- 219 One year of experience with air/water cleaning in spiral wound RO membranes for surface water treatment
E. R. Cornelissen, M. Pot, R. Jong, J.-A. de Ruijter, E. Beerendonk and J. van Agtmaal
- 221 Optimization of submerged ceramic micromembrane filtration for surface water treatment
J. Lu, B. Heijman, S. Ran, B. Hofs, E. Cornelissen, S. Bakker, Y. M. Li and L. C. Rietveld
- 223 Optimization of the fouling mitigation in membrane systems - A collaborative approach for flat sheets and hollow fibres
L. Böhm, S. Jankhah, P. R. Bérubé, M. Kraume
- 225 Development of MBR suitable for retrofit with flat sheet membranes
S. Yatsugi, H. Itakowa, T. Hashimoto, H. Nakazawa and M. Kanai
- 229 The focus of GE to reduce MBR energy consumption: the continuous optimization of ZeeWeed® operation
M. Theodoulou, G.-H. Koops and M. Marschall
- 231 Modern design of large scale MBR systems
M. Brockmann
- 233 Energy consumption and optimization of full scale municipal membrane bioreactors - a comparison with conventional activated sludge systems
C. Mauer, C. Simsheuser and J. Seitter
- 235 Full scale assessment of energy consumption in MBRs
B. Barillon, S. M. Ruel and V. Lazarova
- 237 Reducing the energy consumption of a large-scale membrane bioreactor
A. Janot, K. Drensla, C. Brepols and N. Engelhardt
- 239 Optimisation measures of large MBR plants to lower energy consumption
L. M. Palmowski, K. Veltmann and J. Pinnekamp
- 241 From airlift to hybrid growth - the art of membrane bioreactor for fouling control
F. Yang, Y. Wang, A. Bick, M. Herzberg and G. Oron
- 243 Spatial and temporal foulant deposition in submerged membrane bioreactors and their implication to irreversible fouling mitigation
A. Farquharson, V. Zhang, H. Zhou and M. Theodoulou
- 245 Enhanced MBR-process with mechanical cleaning
S. Rosenberger, F. P. Helmus, E. Lorusso, S. Krause and U. Meyer-Blumenroth
- 247 Effective biofouling control in membrane bioreactor using quorum quenching bacteria
S.-R. Kim, H.-S. Oh, C.-H. Lee, J.-K. Lee, K.-M. Yeon, Y.-M. Park, Y.-K. Kim and S.-Y. Lee
- 249 Survey of full-scale membrane bioreactors for wastewater treatment reveals a high abundance of filamentous and foam forming bacteria
C. Kragelund, A. M. Saunders, T. V. Bugge, K. Keiding and P. H. Nielsen

- 253 Membrane fouling and the impact of EPS in a membrane sequence batch reactor (MSBR) system with aerobic granules
J. Zhu
- 257 Hybrid or stand-alone? Determining the optimal MBR configuration
P. Krzeminski, J. van der Graaf and J. van Lier
- 259 MBR Heenvliet - comparison between hybride and parallel operation
M. K. de kreuk, PhD, W. Langhorst, A. Westerdijk and A. Schellen
- 261 Trends in MBR energy consumption: past, present and future
C. Owerdieck, J. Penny, J. Peeters, S. Baumgarten, M. Di Pofi and G. Kicsi
- 265 Membrane bioreactor (MBR) sludge inoculation in a hybrid process scheme concept to assist overloaded conventional activated sludge (CAS) process winter operations
A. Fenu, J. Roels, S. Van Damme, T. Wambecq, M. Weemaes, C. Thoeys, G. De Gueldre and B. Van De Steene
- 269 Advanced RO membrane technology based on scientific research for seawater and brackish water desalination
M. Kimura, T. Sasaki, H. Tomioka and M. Henmi
- 273 Performance monitoring algorithm for 16 inch RO pilot system for seawater desalination
S. Kim, D. M. Shon, L. S. Kang, J. S. Choi, S. Lee, C. W. Lee and S. W. Yoo
- 275 A pilot study of seawater ultrafiltration fouling control with demineralized water backwashing
S. Li, B. Heijman, J. Verberk, G. Amy and H. van Dijk
- 277 Development, validation and results of an advanced cost model for alternative pretreatment methods in desalination
M. Busch
- 279 Membrane fouling by red tide microorganism in seawater
S.-H. Kim and C.-S. Min
- 281 Novel and integrated process design for SWRO pre-treatment
M. Beery, G. Wozny and J.-U. Repke
- 283 Effect of coagulation modes on the production of high quality RO feed in seawater UF/RO systems
S. Assiyeh A. Tabatabai, M. Kennedy, G. Amy and J. Schippers
- 285 Membrane fouling and scaling during direction contact membrane distillation (DCMD) processes for the treatment of saline waters
T. X. Nguyen, J. Horsley, T. Cath and L. Nghiem
- 287 Membrane distillation to further concentrate RO brines
J.-P. Mericq, S. Laborie and C. Cabassud
- 289 Ion-exchange membrane capacitive deionization: a new strategy for brackish water desalination
L. Zou and H. Li
- 291 Survey on production quality of electrodialysis reversal and reverse osmosis on municipal wastewater desalination
Y.-C. Hsu, H.-H. Huang, C.-P. Chu and Y.-J. Chung
- 293 Membrane capacitive deionization
M. Biesheuvel, R. Zhao, H. Miedema and B. van der Wai
- 295 Ultrafiltration used as pre-treatment for SWRO desalination: dynamic coagulant control under Dutch conditions
H. Futselaar, B. Blankert, F. Spengelink and F. Horvath
- 297 Nucleation and crystal growth of sparingly soluble salts on ion-exchange membranes
M. Asraf-Snir, J. Gilron and Y. Oren
- 299 Fate of organic micro-pollutants in membrane treatment
H. Siegrist
- 301 Micropollutants removal in an anaerobic membrane bioreactor and in an aerobic conventional treatment plant
M. R. Abargues, Á. Robles, A. Bouzas and A. Seco
- 303 Removal of organic micropollutants from solid waste landfill leachate in membrane bioreactor operated without excess sludge discharge
V. Boonyaroj, C. Chiemchaisri, W. Chiemchaisri and K. Yamamoto
- 305 Advanced treatment of hospital wastewater: a pilot scale study in Switzerland
C. S. McArdell, L. Kovalova, J. Eugster, M. Hagenbuch, A. Wittmer and H. Siegrist
- 307 Removal of trace organics by MBR treatment: the effect of operating temperature
K. Tebmer, J. Kang, F. Hai, B. Lohrengel, W. Price and L. Nghiem

- 309 Predicting the rejection of organic Compounds by NF and RO membranes during water reuse applications
C. L. Bellona, D. Ball, K. Budgell and J. Drewes
- 311 Influence of biofouling on pharmaceuticals rejection in high pressure filtration
S. Botton, A.R.D. Verliefde and E. R. Cornelissen
- 313 The fate of diclofenac and 4'-hydroxydiclofenac in a laboratory scale membrane bioreactor for wastewater treatment
H. Bouju, G. Hommes, T. Wintgens and P. F.-X. Corvini
- 315 Surface modification of membrane to reduce fouling during forward osmosis
Z. Li, V. Yangali-Quintanilla, G. Amy and N. T.-S. Chung
- 317 New membrane support material for better cleanability, membrane lifetime and backflushing behavior
A. Greiner and T. Schroth
- 319 Membrane modification by concentration-polarization enhanced radical graftpolymerization for improving contaminant removal by NF and RO
R. Bernstein, A. Ben-David, S. Belfer and V. Freger
- 321 Advanced treatment of oilfield produced Wastewater by modified polyvinylidene fluoride ultrafiltration membrane
S. Yu and Y. Lu
- 323 Fouling Reversibility of Forward Osmosis Membranes
V. Parida and H. Y. Ng
- 325 Draw Solutions made of Various Fertilizer Blends for Forward Osmosis Desalination
S. Phuntsho, H. K. Shon and I. E. Saliby
- 327 A new immersed and intermittent osmosis system for water reuse
V. Yangali-Quintanilla, Z. Li and G. Amy

POSTER

- 331 Impact of powdered activated carbon addition on removal mechanisms of estrogens in membrane bioreactors
W. Yang, N. Cicek and H. Zhou
- 333 Design and operation of an ultrafiltration plant for the production of drinking water out of the river Scheldt
J. Cromphout, J. Coemelck, W. Closset and L. Verdickt
- 335 Surface modification of UF membrane by UV assisted polymer coating for organic fouling
A. Nguyen and L. Zou
- 337 Membrane fouling in a hybrid three stages anaerobic/aerobic MBR
D. Buntner, A. Sánchez and J.M. Garrido
- 339 From reverse osmosis to forward osmosis
V. S. Frenkel
- 341 Oxygen transfer in membrane bioreactors
J. Henkel, P. Cornel and M. Wagner
- 343 High-loaded membrane bioreactor (MBR) for improved energy recovery from sewage
L. Faust, H. Temmink, A. Zwijnenburg and H.H.M. Rijnaarts
- 345 Experimental test for treatment of lysine wastewater by membrane bioreactor process
X.-H. Wang, X.-F. Li and L.-J. Tao
- 347 Effect of bubble size on membrane fouling in submerged membrane bioreactor
H. M. Zaw and H. Nagaoka
- 349 Operation of a pilot membrane bioreactor in Tunisia: opportunities for decentralised waste water treatment
G.S. Skouteris, T.C. Arnot, F. Feki, M. Jraou and S. Sayadi
- 351 Modernisation and enlargement of the drinking water plant Irsch, using ultrafiltration
A. Lambert, M. Kollete, H. Welsch, C. Girndt and A. Holy
- 353 Miniaturized NF operation for microfluidic devices
Y. Kaufman, J. Gilron and V. Freger
- 355 A comparative study on the performance of single- and doubledeck MBRs for wastewater treatment
Z.W. Wang, P. Wang, Z.C. Wu and X.J. Mei
- 357 Modeling combined fouling in reverse osmosis membrane devices: biofouling and scaling
A.I. Radu, J.S. Vrouwenvelder, M.C.M. van Loosdrecht and C. Picioreanu

- 359 Improving the performance of the submerged membrane bioreactor with electrocoagulation pre-treatment for grey water treatment
K. Bani-Melhem and E. Smith
- 361 Membrane ultrafiltration performance: study of the influence of operational conditions on model parameters
M.J. Corbatón-Báguen, M.C. Vincent-Vela, S. Álvarez-Bianco and J. Lora-García
- 363 Fouling control using backpulse systems
J. Andre, E.L. Meyer, T. Melin and M. Wessling
- 365 Effects of membrane bioreactor sludge characteristics on sorption of antineoplastic drugs
J. Seira, C. Joannis-Cassan, C. Sablayrolles, M. Montréjaud – Vignoles, H. Carrère, D. Patureau and C. Albasi
- 367 Improving flux in anaerobic membrane bioreactor by dosing coagulant
J. Yang, H. Spanjers and J. B van Lier
- 369 Waste water treatment in nuclear power plants with Pall membrane systems
R Venkatadri, B. Doll and M.Farcy
- 371 Improving cooling tower blowdown treatment by installing a Pall Aria™ microfiltration-system
R Venkatadri, B. Doll and M.Farcy
- 373 Biological wastewater treatment of ultrafiltration and nanofiltration membrane concentrates originating from the pulp and paper industry
S. Tews, R. Minke and H. Steinmetz
- 375 Sewer water abstraction plant (SWAP) technology to recover water and nutrients from municipal wastewater
V. Diamantis, A. Leontaridou, P. Melidis and A. Aivasidis
- 377 Comprehensive physico-chemical characterization of membranes for a better understanding of separation processes and resistance against solvents
A. Drechsler, K. Grundke, F. Simon, R. Zimmermann, A. Horechyy, J. Meier-Haack and M. Stamm
- 379 Membrane fouling reduction in submerged membrane bioreactor (SMBR) through the introduction of supporting media
M.A.H. Johir, S. Vigneswaran and J. Kandasamy
- 381 Anaerobic MBR (AnMBR) development for municipal wastewater treatment
Y. Hong, R. Bayly, J. Cumin, P. Seto, M. Dagneu and W. Parker
- 383 Optimizing energy consumption of MBR systems
J. Hadler, C. Kullmann and D. Lawrence
- 385 Performance of two-stages anoxic-aerobic submerged membrane bioreactor (A2SMBR) for treating seafood wastewater and reuse
P. Sridang, J. Lobos and A. Grasmick
- 387 Wastewater minimization and rubber content recovery when filtering skim latex suspension by porous membrane process
P. Sridang, N. Thongmak, S. Danteravanich and A. Grasmick
- 389 Foaming formation in submerged membrane bioreactors for municipal wastewater treatment
V. Zhang, H. Zhou and S. Liss
- 391 Behaviour of nanofiltration membranes for the ammonium retention with potential application in recirculating aquaculture systems (RAS)
C. F. Hurtado and B. Cancino
- 393 Energy efficient aeration in a single low pressure hollow sheet membrane filtration module
T. R. Bentzen, N. Ratkovich, M. R. Rasmussen, N. Heinen and F. Hansen
- 395 Investigation of UF membrane pore size with monodispersions of inert nanoparticles
A. Duek, E. Arkhangelsky and V. Gitis
- 397 Temporal removal patterns for trace chemical contaminants by a membrane bioreactor
T. Trinh, B. van den Akker, H.M. Coleman, P. Le-Clech, R.M. Stuetz and S.J. Khan
- 399 Evaluation of the treatability of dairy wastewater by membrane bioreactor
L.H. Andrade, M.C.S. Amaral and G.E. Motta
- 401 Removal of dissolved uranium from water in south of Iraq by reverse osmosis
O.A. Mohammed and A.O. Sharif
- 403 Operation of a flat sheet MBR: could be the BOD of permeate indicator of cake layer formation?
A. Iglesias, A. Sánchez Sánchez, R. Fernández, D. Solis, J. M. Garrido

- 405 Effect of NOM accumulation from backwash water recycling on ultrafiltration membranes at low temperatures
S.V. Khramenkov, R. Schröder, S. Barthelmes and G. Förster
- 409 An overview on permeate quality in ZeeWeed MBR plants
H. Dang, D. Mosqueda-Jimenez, M. Theodoulou, D. Thompson and S. Katz
- 411 Impact of pH on RO membrane performance in accelerated ageing
B.C. Donose, S. Sukumar, M. Pidou, Y. Poussade, J. Keller and W. Gernjak
- 413 The water concept in the independent house - drinking rain water and in-house reuse of greywater
A. Joss, A. Wittmer, M. Böhler and W. Pronk
- 415 Facilitated transport of zinc (II) by liquid membrane constituted of the tri-n-octylamine
F. Hassaine-Sadi and M. Graiche
- 417 Performance of forward osmosis membranes in sewage treatment
K. Lutcmiah, K. Roest, D.J.H. Harmsen, M. H. Zandvoort, L. C. Rietveld, H. Ramaekers, K. Lampi, J.W. Post and E. R. Cornelissen
- 421 Adsorption of organic test substances on multibore® polyethersulfone ultrafiltration membrane
I. Ivančev-Tumbas, B. Jović and I. Horvat
- 423 The application of a new integrated UF membrane technology for micro-polluted surface water treatment in China's rural areas
X. Lei, X. Zhang, Zhongwei, J. Tao and Z. Wei
- 427 Surface modification of mixed matrix membranes for the reduction of fouling
K.S. Roelofs, B.P. Moller, J.P. Barz, T. Schiestel and T. Hirth
- 429 Chemical cleaning of large-scale membrane bioreactors
L.M. Palmowski, D. Mousel, K. Veltmann and J. Pinnekamp
- 431 A novel asymmetric polyamide nanofiltration membrane for the treatment of anionic dye solutions
X. Ren, C. Zhao, Z. Zhang, Z. Luan, Y. Cheng and J. Li
- 433 Surface Modification of Polyamide and Polyvinylidene Fluoride Membranes
A. Boulares-Pender, I. Thomas and A. Schulze
- 435 Selection of a micellar extraction system for removal of dye from waste water based on partition coefficients
S. Wille, M. Schwarze, L. Mokrushina, R. Schomäcker and W. Arlt
- 437 Operation of a full scale UF membrane bioreactor treating food industry effluent at a sustainable separation energy of 0.3 kW/cu.m
S. Goodwin
- 439 Comparison of fouling indicators in MBRs for decision support systems implementation
G. Buttiglieri, Rodriguez-Roda, E. Meabe, G. Ferrero, H. Monclús, L. Sancho and J. Comas
- 441 Ageing and characterization of polyethersulfone ultrafiltration membranes exposed to hypochlorite
B. Pellegrin, E. Gaudichet-Maurin and C. Causserand
- 443 Solubilization of the activated sludge using the high voltage impulse techniques in membrane bioreactor
J.-S. Lee, S.-Y. Kim, S.-H. Yang and I.-S. Chang
- 445 Preparation of polysulfone/clay nanocomposite membrane based on the organo-modification of MMT and its enhanced performance
P. Wang, J. Ma, Z. Wang and F. Shi
- 447 Relationship between reverse salt diffusion and rejection rate in forward osmosis (FO)
Y. Oh, S. Lee, S. Hong, C. Kim, Y. Yu and S. Lee
- 449 Development of mixed CNT-RO Membrane for desalination
Y. Baek, J. Yu, K. Choi, C. Ahn, J. Lee and J. Yoon
- 451 The importance of utilization and biomass associated soluble microbial products in modelling membrane bioreactors
T. Maere, M. Deweerdt, L.A. Passannante, L. d'Antonio and I. Nopens
- 453 Sulphate removal from ground water – a case study
P. Lipp, T. Gronki, J. Lueke, A. Lanfervoss and G. Baldauf
- 455 Highly efficient, low-energy membrane method in MBR technology with external tubular membranes
E. Wildeboer and U. Leitz

- 457 Comparison of the pretreatment efficiency between UF and sand filtration of a desalination process using reverse osmosis membrane
H. N. Jang, D. S. Lee, E. S. Jang, C. H. Kim, S. O. Ko and S. H. Kim
- 459 Nano-silica enhanced anti-compaction behavior of polymeric membranes
Z. Wang and J. Ma
- 461 Long-term operation of first full scale MBR for treating municipal wastewater in Japan
K. Tsuji, H. Itokawa, T. Hashimoto, M. Goto and H. Nakazawa
- 463 Evaluating power consumption of MBR type wastewater treatment system according to its functions
F. Takashi, N. Shunsuke, N. Norimasa and O. Masashi
- 465 Evaluating the fouling challenge in a UF/RO desalination plant using the SDI, SDI+ and MFI
A. Alhadidi, A.J.B Kemperman, R. Schurer, J.C. Schippers, M. Wessling and W.G.J. van der Meer
- 467 Novel compact air diffuser for reduction of aeration rate in submerged membrane bioreactor
T. Miyoshi, K. Kudo, T. Morita, K. Kimura and Y. Watanabe
- 469 Investigation of the two-phase flow in a membrane bioreactor with immersed flat sheet membrane modules
L. AL-Shamary, H. Prieske and M. Kraume
- 471 Electrocoagulation-microfiltration hybrid system for water treatment
G. Sharma, H.K Shon and S. Phuntsho
- 473 Bacterial communities induced biofilm fouling in aerobic membrane bioreactor (MBR) treating produced water from oil extraction wells
M. Altinbas, B. Atay, S. Erdem, B. Kose, S. Eliduzgun, F. Yilmaz, H. Ozgun, M. E. Ersahin, S. Sayili, P. Hoshan, S. D. Atay, E. Eren, C. Kinaci and I. Koyuncu
- 475 Influence of different mesh filter module configurations on the effluent quality and on the long term filtration performance
C. Loderer, B. Gahleitner, A. Wörle, C. Kaspar and W. Fuchs
- 477 Drinking water treatment in biofilm MBR
J. Vrtovsek, M. Ravnjak and A. Pintar
- 479 Assessing the impact of physical and physiological factors on the oxygen mass transfer process in membrane-aerated biofilm reactors
C. Pellicer-Nàcher, E. Syron, G. Gaval, J. Ochoa and B.F. Smets
- 481 Mine water treatment by membrane filtration processes – upscale experiments
P. Steinberger, N. Siebdath, A. Rieger, R. Haseneder, G. Härtel, Y. Zeng, J.-U. Repke
- 483 Influence of RO membrane surface characteristics on seawater desalination performance: characterization by dynamic hysteresis
Y. Kim, J. Kuk, S. Lee and S. Hong
- 485 Factors affecting membrane fouling in a submerged hollow-fiber anaerobic membrane bioreactor applied to domestic wastewater
A. Robles, F. Duran, I. Martin, M.V. Ruano, J. Ribes and J. Ferrer
- 487 Efforts towards an integrated ultrafiltration / reverse osmosis desalination process
J. Löwenberg, K. Ronzheimer, F. Spenkelling, F. Horvath, C. Kazner, H. Futselaar, T. Wintgens and T. Melin
- 489 Fouling behaviour of silicon carbide UF and MF membranes during surface water filtration
R. Shang, S.G.J. Heijman, R.v.d. Berg, J. Lu and L.C. Rietveld
- 491 Tertiary filtration with ultrafiltration membranes in municipal wastewater treatment plants - planning challenges for the implementation in existing wwtp
M. Wett and E. Back
- 493 Industrial herbal extraction wastewater treatment using an anaerobic membrane bioreactor
C. Brand, M. Chlaida and M. Kraume
- 495 Pilot-scale verification of multiple membrane array system (MMAS) as a new fouling index for RO process
Y. Ju, I. Hong, S. Lee and S. Hong
- 497 Pilot study of seawater pre-treatment by ultrafiltration
A. Jezowska, A. Bottino, G. Capannelli, A. Comite, E. Schelotto and R. Borsani

- 499 High frequency backpulsing for improved filtration performance with polymeric multibore membranes
H. De Wever, T. De Baerdemaeker, B. Molenberghs, M. Pirson and M. Heijnen
- 501 Feasibility of incorporating membrane technology in the leather industry
E.M. Romero Dondiza, J.E. Almazána, V.B. Rajala and E.F. Castro Vidaurrea
- 503 Economic viability and energy consumption of membranes in tertiary treatment schemes
V. Lazarova, P. Rougé, V. Sturny, S. Martin and P. Dauthuille
- 505 Removal efficiency of noroviruses in membrane bioreactor
T. Hashimoto and H. Nakazawa
- 507 Full scale hybrid sequencing batch/membrane bioreactor for distributed water reclamation and reuse of domestic wastewater
J. Henkel, D.Vuono, J. E. Drewes, T. Y. Cath, L. W. Johnson and T. Reid
- 509 Scale-up of membrane biological reactor configuration including biofilm activity: bench and pilot scale trials of a hybrid MBR
L. Rodríguez-Hernández, L. De Florio and I. Tejero
- 511 Advanced water treatment by hybrid process of multi-channel ceramic microfiltration and titanium dioxide photocatalyst beads: Effect of water-back-flushing period and photocatalyst concentration
B. Amarsanna and J.Y. Park
- 513 Selective transport of cadmium by PVC/Aliquat 336 polymer inclusion membranes (PIMs): the role of membrane composition and solution chemistry
S. Adelung, L. Duc Nghiem and B. Lohrengel
- 515 Advanced water treatment by hybrid process of tubular ceramic ultrafiltration and titanium dioxide photocatalyst beads: Effect of water-back-flushing and portions of UF and photooxidation
S. C. Gao and J.Y. Park
- 517 Removal of trace organics by MBR treatment: the effect of operating temperature
K. Teßmer, J. Kang, F.I. Hai, B. Lohrengel, W.E. Price and L.D. Nghiem
- 519 CFD analysis of fluid flow through a spacer-filled disk-type membrane module
Y. Li, Po-J. Lin and K. Tung
- 521 Study of the interaction force between membrane surface and foulant using molecular simulation techniques
N.J. Lin and K.L. Tung
- 523 Preparation polymer blend membrane for the separation of metal ions using micellar-enhanced ultrafiltration (MEUF)
A. Sheik Alaudin and G. Arthanareeswaran
- 525 Water treatment by integrated membrane systems - results from full scale plants
H. Ozgencil, P. Küppers and T. Rieck
- 527 Preparation of TiO₂ micro-filtration membrane using atmospheric plasma spraying coating
K.L. Tung, Y.F. Lin, Y.S. Tzeng and C.H. Kang
- 529 Hygienic membrane process design for the application in beverage industry as a necessity for cold aseptic beverage production-View of an equipment and plant manufacturer
J. Zacharias and D. Scheu
- 531 Comparison of MF/UF hybrid system with conventional biological treatment method for treatment of oily waste water
S.R.H. Abadi, A. Parsapour, M. Reza Sebzari and T. Mohammadi
- 533 Mechanical pre-treatment for membrane plants
S. Reber and C. Frommann
- 535 Fabrication of nano-structured polysulfone membranes for application in amoxicillin recovery from pharmaceutical wastewater
M. Homayoonfal, M. R. Mehrnia, A. Akbari and R. Derakhsheshpoor
- 539 Filterability and floc size in membrane bioreactors: European scale assessment
M. Lousada-Ferreira, J.B. van Lier and J.H.J.M. van der Graaf
- 541 Managing residuals from membrane bioreactors for municipal wastewater treatment
A. Janot, K. Drensla, C. Brepols and N. Engelhardt
- 543 Fouling control in ceramic MF membrane using sub-micron powdered activated carbon pre-coat
J.Z. Hamad, M.D. Kennedy, B. Hofs, S.G.J. Heijman, G.L. Amy and J.C. Schippers
- 545 Capability of membrane bioreactors – limits and perspectives
N. Engelhardt and C. Brepols

- 547 Preparation and characterization of polyvinylidene fluoride microfiltration membrane modified by nano-sized zinc oxide
S. Liang, K. Xiao and X. Huang
- 551 Influence of process type and operational parameters on pharmaceutical substances removal - comparison MBR and CAS
H. Bouju, G. Buttiglieri and F. Malpei
- 553 Advanced treatment of pharmaceutical wastewater by nanofiltration and ozonation
A. Szép, G. Krajcovicz, Z. László, G. Szabó and C. Hodúr
- 555 Practical aspects of design, construction and operation of full-scale MBRs
H. Schäfer, C. Brepols, A. Janot, T. Engels, K. Drensla and N. Engelhardt
- 559 Development of an easy-to-use membrane WWTP simulation software
D. Gaida, T. Ludwig, P. Kern, M. Bongards and C. Keyzers
- 561 Pilot-scale demonstration and optimization of external MBR using a ceramic membrane
K. Kando, N. Yamato, S. Suzuki, H. Itokawa, T. Hashimoto and H. Nakazawa
- 565 Development of novel high-performance membranes for filtration
K.S. Roelofsa, J.P. Barza, W. Wietschorkeb, J. Zinkc, J. Gengd, T. Schiestele and T. Hirth
- 567 MF/UF pre-treatment to RO in wastewater reuse as boiler feed water
M.R. Sebzari, S.R.Hosseinabdi and T. Mohammadi
- 569 Portable water purifier for disaster rescue
M. Zhu, H. Su, C. Deng, X. You and P. Chen
- 571 Application of fouling reducers to mitigate fouling in MBRs
C. Huyskens, S. Lenaerts, L. Diels and H. De Wever
- 573 Establishment of membrane fouling propensity approach to evaluate ultrafiltration process applied on secondary effluents
B.J. Cai, K. Glucina, I. Baudin, A. Fabre, J.P. Arcangeli and H.Y. Ng
- 575 Coagulation optimization of ceramic membrane filtration
J.Z. Hamad, A.Y. Ku, C. Aubry, M.D. Kennedy, S.G.J. Heijman and G.L. Amy
- 577 Validation of the MBR-VFM as on-line fouling measurement method
C. Huyskens, E. Brauns, S. Lenaerts, L. Diels and H. De Wever
- 579 A new perspective on the effect of complexation between calcium and alginate on the fouling during nanofiltration
Y. Mo, K. Xiao, Y. Shen and X.Huang
- 583 Improvement in efficiency of the operation of submerged MBRs by cleaning with granular materials
T. Kurita, K. Kimura and Y. Watanabe
- 585 Fouling characteristics of a monolith ceramic membrane used in a side-stream MBR
N. Yasui, T. Miyoshi, N. Yamato, K. Kimura and Y. Watanabe
- 587 Size fractionation of solid waste landfill leachate and their effect on RO membrane fouling
W. Rukapan, B. Khananthai, T. Srisukphun, C. Chiemchaisri and K. Yamamoto
- 589 Ozonation of wastewater with a membrane contactor
K. H. Kim, J. van Leeuwen and C. Chow
- 591 Evaluation of critical flux in a membrane bioreactor for carbonaceous organic matter and nitrogen removal
L.F. Bezerra and T. Matsumoto
- 593 Membrane fouling caused by sub-micron particles in a mixed liquor suspension of an MBR
K. Kimura, R. Ogyu, T. Miyoshi, T. Tsuyuhara, T. Naruse and Y. Watanabe
- 595 Phenolic wastewater treatment by pure culture of *alcaligenes faecalis*: batch and MBR systems
M. Manafi, M. Reza Mehrnia, M. H. Sarrafzadeh and M. Homayoonfal
- 597 Study of biopolymer retention, NOM fouling and microbial barrier effects in an ultrafiltration pilot-plant in Varberg, Sweden
A. Keucken and K. M. Persson
- 599 Performance evaluation of a modified Ludzack-Ettinger (MLE) process associated with submerged membrane treating landfill leachate
L.L. Beal, S.V. Delia Giustina, A.A. Lovatel, J.R. Gimenez, C.G. Veronese and L.O. Monteggia

- 601 Evaluation of two conventional pretreatments of the reverse osmosis process for desalination of seawater with high silt density index in a pilot plant
O. Cerón-Alfaro, A. Ortiz-Vázquez, W. Garcia-Estrada, A. Durán-Moreno and R. M. Ramírez-Zamora
- 603 Plasma deposition of silver nanoparticles on ultrafiltration membranes: antibacterial and antibiofouling properties
M. C. Cruz, M. Wolf, R. Schmittgens, E. Castro Vidaurre and V. B. Rajal
- 605 An experience in operating reverse osmosis unit at PT Pupuk Kalimantan Timur-Indonesia
A. Rois, Suprpto and Nurmuafix
- 607 Rejection of membrane interacting solutes in nanofiltration
D. Ball, C. L. Bellona and J.E. Drewes
- 611 Phenomenological analysis of salt transport and ion association in NF
S. Bason and V. Freger
- 613 The impact of NOM composition on membrane fouling and the use of in-line coagulation to reduce fouling
W. Pronk, J. Traber, M. Peter-Varbanets, M. Grau, S. Bitz and J. Klahre
- 615 Application of ceramic flat-sheet membrane to MBR operating with backwashing
H. Nagaoka T, Li and W. Zhang
- 617 Denitrification with endogenous carbon source in a combined membrane bioreactor
Z. Min and W. Chengwen
- 619 Ultrafiltration of secondary effluent and surface water – comparison of biopolymer fouling and its control
X. Zheng, M. Ernst, F. Zietzschmann, S. Plume, H. Paar, H. Sheng, C. Gabier, M. Jekel and J. Croué
- 621 Water recycling and free amino acids recovery from wheat washing waters by a hybrid process : bentonite / microfiltration / electrodeionization
K.-E. Bouhidel, S. Aoun, T. Benezidira and A. Lakehal
- 623 Preparation of low fouling membrane with narrow pore size distribution for water treatment
D.-C. Choi, Y.-J. Won and C.-H. Lee
- 625 Optimization of the electrodeionization (Edi) process: comparison of different resin bed configurations
K.-E. Bouhidel and A. Lakehal
- 627 Fouling control by measuring critical permeate flux in a pilot scale membrane bioreactor treating oil refinery effluent
M.C.S. Amaral, L.S.França Neta, C.P. Borges, A.P Torres, P.L. Florido and V.M.J Santiago
- 629 Fouling control by coagulant addition in membrane bioreactors processing petroleum refinery wastewater
L.S. França Neta, M.C.S. Amaral, C.P. Borges, A.P.Torres, P.L.Florido and V.M.J. Santiago
- 631 Removal of heavy metal ions from aqueous solutions by polymer enhanced ultrafiltration
N.H. Baharuddin, N.M. Nik Sulaiman and M.K. Aroua
- 633 Effect of inhibited nitrification on MBR mixed liquor properties and fouling
A. Drews and J. Meyer
- 635 The role of polymer flocculants in microfiltration of surface water treatment
S. Wang, C. Liu and Q. Li
- 637 Performance evaluation of a pilot scale anaerobic membrane bioreactor (AnMBR) treating ethanol thin stillage
J.G. van der Lubbe, D.R. Urban, B. Heffernan, J.A. Jordan, J. Ewing, G.T. Rosenberger and T.I. Dunaev
- 641 Phenolic wastewater treatment by MBR: pure culture of alcaligenes faecalis
M. Manafi, M. R. Mehrnia and M. H. Sarrafzadeh
- 643 The electro dialysis membrane fouling, scaling and poisoning - a review and a general approach
K.-E. Bouhidel
- 645 Improvement of membrane module configuration – a key to develop water treatment techniques with zero effluent discharge
A.P. Andrianov, A.G. Pervov and T.P. Gorbunova
- 647 Design, construction and validation of a long channel membrane cell for reverse osmosis
N. Siebdrath, A. Lerch and W. Uhl

- 649 Overview of MBR technology: present and future
R.M, Ben Aim and C. Visvanathan
- 651 The EPS characteristics of activated sludge in an aerobic membrane bioreactor for landfill leachate treatment
O. Khelifi, A. Belkhir and M. Hamdi
- 653 Application of nanofiltration membranes for arsenic removal
H.-G. Park, S.-P. Hong and J.-Y. Koo
- 655 Recovery of phosphorous from membrane concentrates by ozonation of antiscalants
M. N. Abellán, K. Yasadi and G.-J. Euverink
- 657 Prevention of iron fouling by feed water pretreatment with hybrid sorbent
Z. Maletskyi, T. Mitchenko, E. Shevchuk and E. Orestov
- 659 Application of membrane techniques in the removal of inorganic anionic impurities from water environment– state of the art
M. Bodzek and K. Konieczny
- 661 Removal of fulvic acids from water by means of photo-catalytic method enhanced by ultrafiltration
M. Bodzek and M. Rajca
- 663 Key factors affecting the removal of humic substances from Dniper water by combine coagulation ultrafiltration technology
O. Svetleishaya, T. Mitchenko and A. Lazariev
- 665 Effect of non-polar additives added to casting solution on characteristic of phase inversion polysulfone membrane
K. W. Lee, J. Y. Lee and M.-J. Han
- 667 Removal of all dissolved salts from brackish water by two stage reverse osmosis systems
O. A. Mohammed and A. O. Sharif
- 669 Influence of solution ionic strength and salt composition on RO rejection and anodic oxidation of cytotoxic compounds
P.I.C. Oliveira, S. Velizarov, J.G. Crespo and C.A.M. Portugal
- 671 Ceramic electro-ultrafiltration of post-electrodeposition paint rinse wastewater
B.A. Agana, D. Reeve and J.D. Orbell
- 673 Antifouling modification of filtration membranes via plasma processes and attachment of antifouling reagents
U. Hirsch, M. Morawietz, Nico Teuscher, U. Spohn and A. Heilmann
- 675 Occurrence of transparent exopolymer particles (TEP) through drinking water treatment plants
S. Van Nevel, T. Hennebel, W. Verstraete and N. Boon
- 677 Influence of nano-adsorbents on membrane fouling in membrane bioreactor
H. Azami, M. R. Mehrnia, M. A. Khoddam and M. Homayoonfal
- 679 Application of low-cost membranes in a submerged membrane bioreactor
S. Mafirad, H. Azami, M. Reza Mehrnia and M. Homayoonfal
- 681 The rejection of boron from model solutions using forward osmosis membranes
Y.-J. Choi, H. Kim, H. Oh, T.-M. Hwang, S.-H. Nam and S. Lee
- 683 Permeate flux enhancement in pressure and ultrasound assisted forward osmosis process for seawater desalination
Y.-J. Choi, T.-M. Hwang, S. Lee, H. Kim, J.-R. Park and H. Oh
- 685 Application of ultrasound to reduce internal concentration polarization of forward osmosis process
Y.-J. Choi, T.-M. Hwang, H. Oh, J.-R. Park and S. Lee
- 687 Treatment of vinasse using ultra/microfiltration associated with membrane bioreactor
N.C. Magalhães A.L.D. Silva, M.C.S. Amaral and L.S.F. Neta
- 689 Low molecular weight cut-off ultrafiltration membrane for arsenic removal from ground water
S. Singh and G.P. Agarwal
- 691 Solving fouling issues at a dairy MBR plant and scaling in a paper mill MBR plant
T. Wozniak
- 693 The Nametech project: Development of intensified water treatment concepts by integrating nano- and membrane technologies
- 695 High flux layer-by-layer modified UF membranes with narrow pores for wastewater treatment
J. Kochan, J. E. Wong, M. Wessling and T. Melin

- 697 Using artificial neural network for combined membrane filtration processes
S. Panglisch and M. Keller
- 699 Optimising UF characteristics in order to minimise subsequent RO fouling for waste water reuse applications
M. Heijnen, M. Heyer, V. Gitis and P. Berg
- 701 The effect of ozonation of biodegradability of organic matter in return flow from sludge treatment system
H. Sadighinejad
- 703 Challenge of high water hardness and elevated temperature: MBR pilot trials in the paper industry under mesophilic and thermophilic conditions
B. Simstich, H. Cücük, S. Bierbaum