

Environmental Science Water Research & Technology

rsc.li/es-water

The Royal Society of Chemistry is the world's leading chemistry community. Through our high impact journals and publications we connect the world with the chemical sciences and invest the profits back into the chemistry community.

IN THIS ISSUE

ISSN 2053-1400 CODEN ESWRAR 11(5) 1029-1354 (2025)



Cover

See Milad Rabbani Esfahani *et al.*,
pp. 1151–1162.

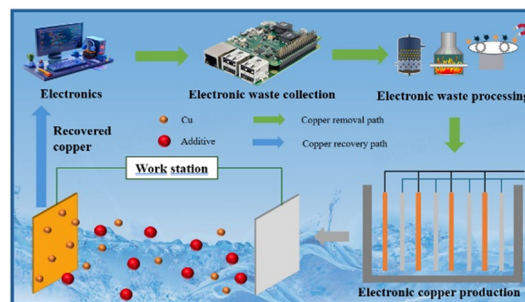
Image reproduced by
permission of Milad R. Esfahani
from *Environ. Sci.: Water Res.
Technol.*, 2025, **11**, 1151.

TUTORIAL REVIEW

1038

Research advancements in the treatment of wastewater containing pollutants in printed circuit board production

Zicheng Zeng, Lei Huang, Guoqing Wu, Meng Li,
Hongyu Wang, Meng Zhao and Hongguo Zhang*

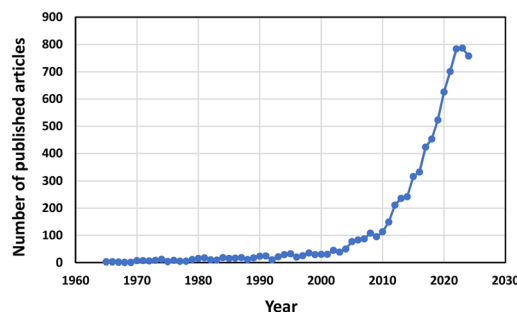


CRITICAL REVIEWS

1059

Recent advances in thin film composite (TFC) membrane development: materials and modification methods

Ebraheem Abdu Musad Saleh, Abhinav Kumar,
Tawfeeq Alghazali, Subbulakshmi Ganesan,
Aman Shankhyan, Girish Chandra Sharma,
Kandi Satyam Naidu and Masoud Rahbari-Sisakht*



Environmental Science: Atmospheres

GOLD
OPEN
ACCESS

Connecting communities
and inspiring new ideas

rsc.li/submittoEA

Fundamental questions
Elemental answers



Registered charity number: 207890

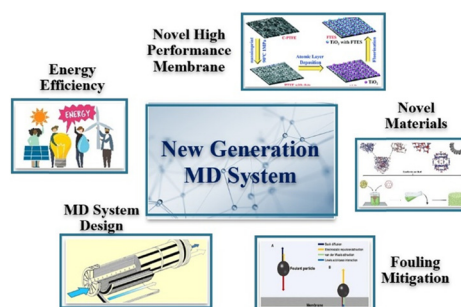


CRITICAL REVIEWS

1086

A comprehensive review of advancements in membrane distillation for liquid separation and hazardous contaminant removal: innovations in design, integration, and performance

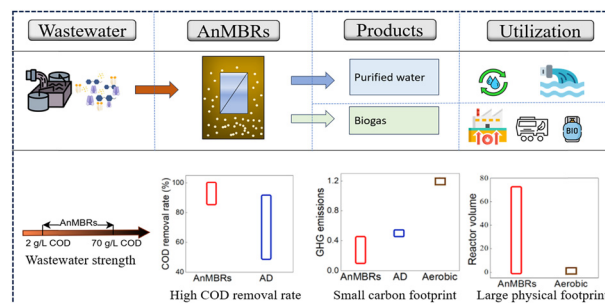
N. Ramkumar and P. Monash*



1137

Anaerobic membrane bioreactors for treating high organic content wastewater and reducing fugitive greenhouse gas emission

Huihui Yu, M. A. H. Johir, Ashley J. Ansari and Long D. Nghiem*



PAPERS

1151

Efficient extraction of polystyrene nanoplastics from water using an ionic liquid

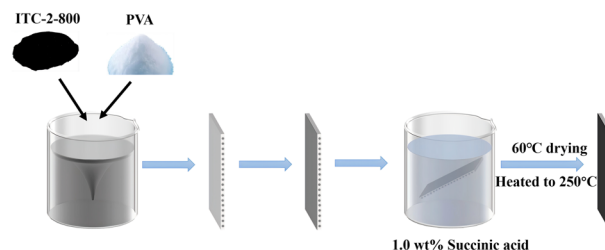
Ashish Srivastava, Sudhir Ravula, Jason E. Bara and Milad Rabbani Esfahani*



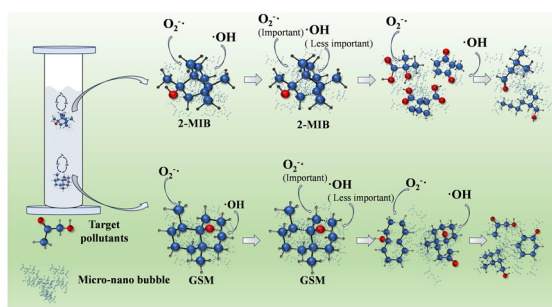
1163

Cyanobacterial biochar modified ceramic membrane for *in situ* filtration and peroxydisulfate activation: focusing on interface adjustment and enhanced anti-fouling

Kunlun Yang,* Dengyang Wang, Yuxuan Yang, Youxiang Pan, Mengsi Wu and Hengfeng Miao*



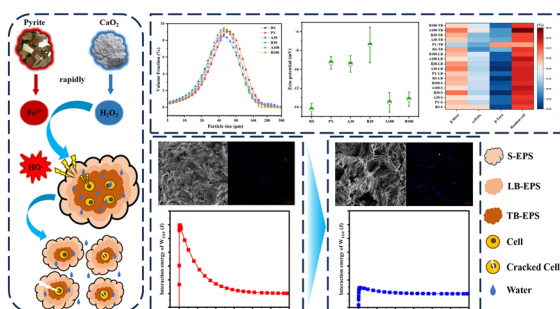
1177



The degradation of 2-methylisobornyl alcohol and geosmin through a micro-nano bubble-activated ozone process: the dual mechanism of enhanced degradation efficiency

Yuehua Ren, Yonglei Wang,* Xinglin Wang, Baozhen Liu,* Guilin He, Yanli Gong, Baosen Liu and Ruibao Jia

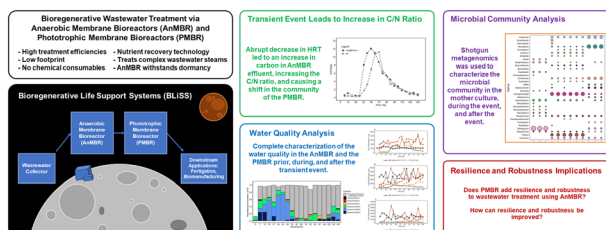
1186



Improvement of sludge dewatering by calcium peroxide activated with pyrite: performances, mechanisms and implications

Jinyun Chen, Xiaoshuang Liu, Ziheng Dai, Lei Liu, Yuhang Fan, Weiqi Liu and Liguo Zhang*

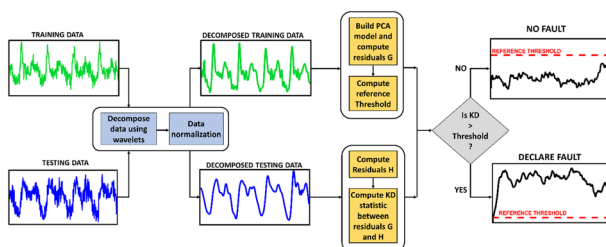
1200



Effects of an anaerobic membrane bioreactor upset event on nitrogen speciation and microbial community in a downstream phototrophic membrane bioreactor

Daniella Saetta,* Jason A. Fischer, Ashley Triana, Talon Bullard, Alexandra Smith, Cory J. Spenn, Anirudha Dixit, Christina L. Khodadad, Daniel H. Yeh and Luke B. Roberson

1215



Enhancing fault detection in wastewater treatment plants: a multi-scale principal component analysis approach with the Kantorovich distance

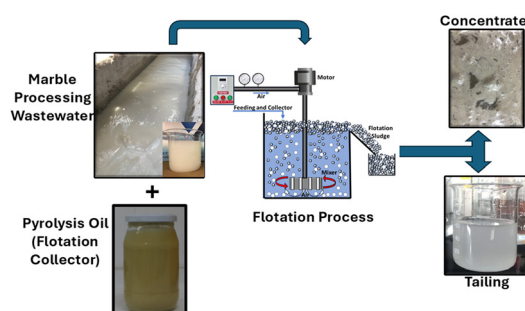
K. Ramakrishna Kini, Fouzi Harrou,* Muddu Madakyaru* and Ying Sun



1233

Usability of waste plastic pyrolysis liquid/oil as a flotation collector in wastewater treatment

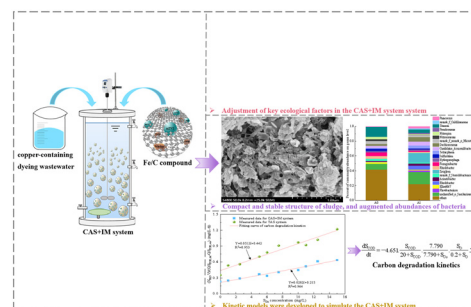
Merve Kalem



1246

Operational strategy and mechanism analysis of an iron-carbon micro-electric technology coupled with the activated sludge process for copper-containing dyeing wastewater treatment

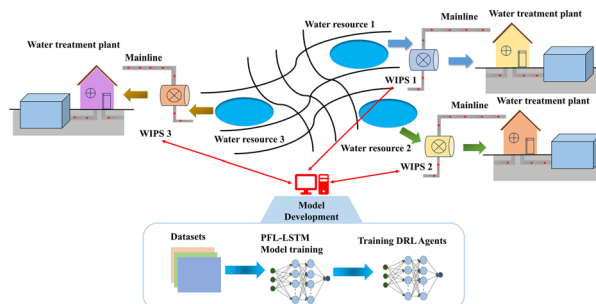
Feng Gao,* Chongyang Wang,* Sheng Gao, Yuanyuan Liu, Peng Li and Shengli Chen



1260

Energy-saving scheduling for multiple water intake pumping stations in water treatment plants based on personalized federated deep reinforcement learning

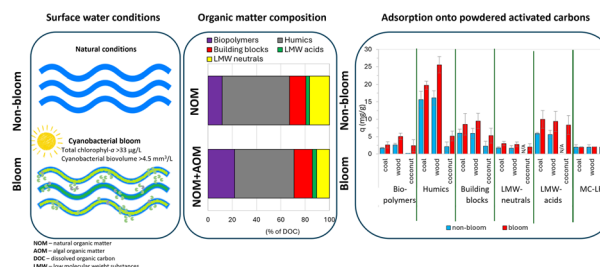
Dongsheng Wang, Ao Li, Yicong Yuan, Tingjun Zhang, Liang Yu* and Chaoqun Tan*



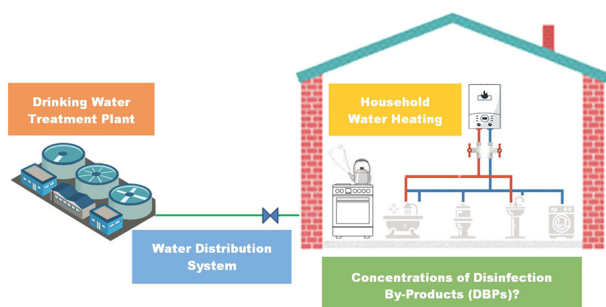
1271

Microcystin-LR removal by powdered activated carbon: the influence of natural organic matter in non-bloom and bloom water

Katarzyna Jaszczyszyn,* Sigrid Peldszus and Peter M. Huck



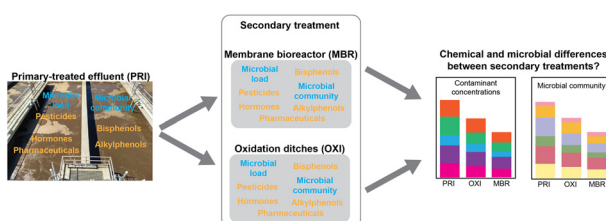
1285



Effects of heating temperature and water age on the formation of disinfection by-products in drinking water

Xiaolu Zhang,* Hongwei Yang, Chao Liu, Xiaomao Wang* and Yuefeng F. Xie

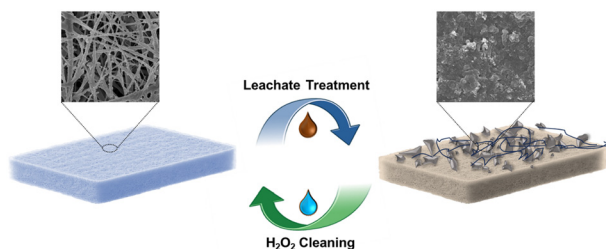
1296



Comparing contaminants of emerging concern and microbial signatures of wastewater treated by membrane bioreactor and oxidation ditch methods

Carrie E. Givens, Sarah M. Elliott,* Richard L. Kiesling, Charles H. Christen and Heiko L. Schoenfuss

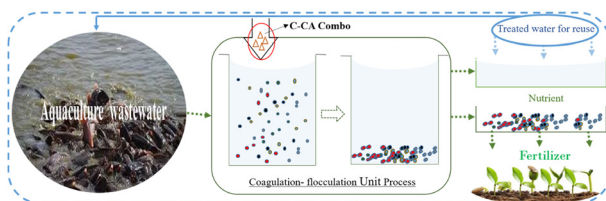
1313



In situ catalytic membrane technology for antifouling and sustainable landfill leachate management

Zhongsen Yan, Zihan Tang, Yongyuan Wang, Yuling Jiang, Haiqing Chang, Juxiang Jin,* Yujia Peng and Fangshu Qu*

1325



Evaluating the feasibility of creating a zero waste discharge aquaculture system

N. A. Oladoja,* J. A. Ogunniyi, Y. I. Bulu, R. O. A. Adelagun, M. O. Alfred and E. I. Unuabonah*



1339

Novel fluidized-bed bioreactors with density-graded carriers for the bioremediation of nitrate in uranium industry effluents

Mariano Venturini, Paula Bucci* and Raúl Muñoz

