

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.

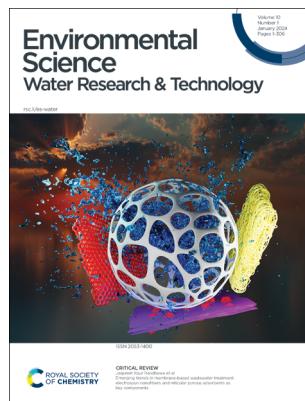
IN THIS ISSUE

ISSN 2053-1400 CODEN ESWRAR 10(1) 1–306 (2024)



Cover

See Manuela Antonelli et al.,
pp. 128–143.
Image reproduced by
permission of Manuela Antonelli
from *Environ. Sci.: Water Res.
Technol.*, 2024, **10**, 128.



Inside cover

See Jaspreet Kaur
Randhawa et al.,
pp. 29–84.
Image reproduced by
permission of
Sumanta Chowdhury from
*Environ. Sci.: Water Res.
Technol.*, 2024, **10**, 29.

EDITORIAL

10

Advancing global priorities in water research and technology

Graham Gagnon

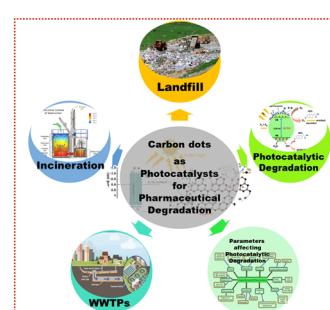


TUTORIAL REVIEW

12

Zero-dimensional luminescent carbon dots as fascinating analytical tools for the treatment of pharmaceutical based contaminants in aqueous media

Tahir Rasheed,* Muhammad Tuoqeer Anwar,
Darim Badur Ferry, Amjad Ali and Muhammad Imran



Fuelling your energy research



Energy & Environmental Science

Agenda-setting research in energy science and technology

Chair of the Editorial Board

Jenny Nelson, Imperial College London, UK

Impact factor 2021: 39.714, median time to first decision (peer reviewed articles only): 46 days*.

rsc.li/ees



EES Catalysis

Exceptional research on energy and environmental catalysis

Editor-in-Chief

Shizhang Qiao, University of Adelaide, Australia

Median time to first decision (peer reviewed articles only): 24 days*.

rsc.li/ees-catalysis



Sustainable Energy & Fuels

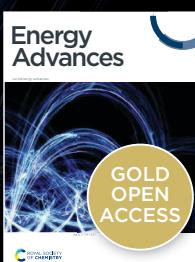
Driving the development of sustainable energy technologies through cutting edge research

Editor-in-Chief

Garry Rumbles, National Renewable Energy Laboratory and University of Colorado Boulder, USA

Impact factor 2021: 6.813, median time to first decision (peer reviewed articles only): 28 days*.

rsc.li/sustainable-energy



Energy Advances

Embracing research at the nexus of energy science and sustainability

Editor-in-Chief

Volker Presser, Leibniz Institute for New Materials, Germany

Median time to first decision (peer reviewed articles only): 32 days*.

rsc.li/energy-advances

Submit your work today

rsc.li/energy

*Visit rsc.li/metrics-explainer for more information

Registered charity number: 207890

CRITICAL REVIEWS

29

Emerging trends in membrane-based wastewater treatment: electrospun nanofibers and reticular porous adsorbents as key components

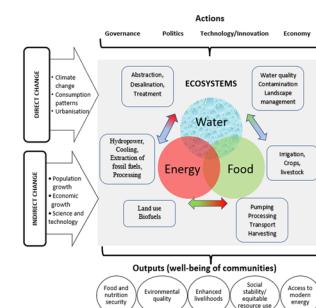
Manish Kumar, Sumanta Chowdhury and Jaspreet Kaur Randhawa*



85

Enhancing community well-being in African drylands through technology-based solutions in the water–energy–food–ecosystems nexus

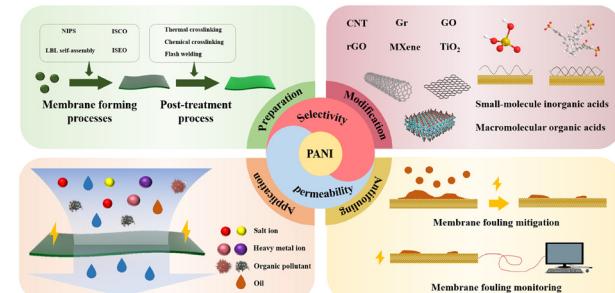
M. Thameur Chaibi, M. Soussi* and A. Karnib



105

Preparation, modification and antifouling properties of polyaniline conductive membranes for water treatment: a comprehensive review

Jiajin Hao, Lei Wang,* Xudong Wang, Jin Wang, Miaolu He, Xinyue Zhang, Jiaqi Wang, LuJie Nie and JingXian Li



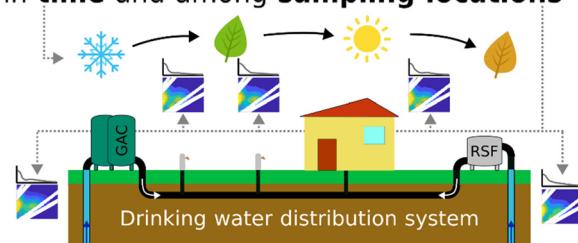
PAPERS

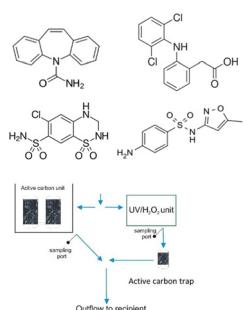
128

Source to tap investigation of natural organic matter in non-disinfected drinking water distribution systems

Marco Gabrielli, Fabio Pulcini, Giacomo Barbesti and Manuela Antonelli*

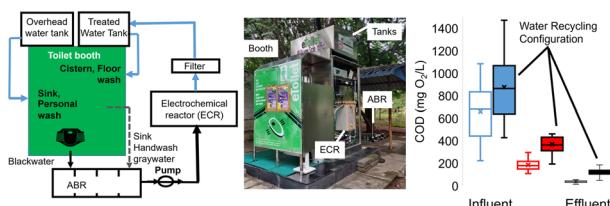
Natural organic matter variability in time and among sampling locations





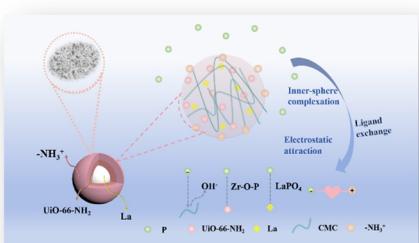
Evaluation and comparison of UV/H₂O₂ and adsorption on active carbon as a tertiary wastewater treatment for pharmaceutical removal within a small WWTP: a pilot study

Vladislav Knytl, Pavel Mašín, Věra Vlčková, Jaroslav Semerád, Klára Michalíková, Petra Najmanová and Tomáš Cajthaml*



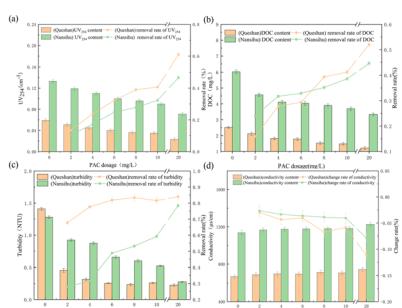
Water recycling public toilets based on onsite electrochemical wastewater treatment

Pragadeesh Subramani, Milan Basil, Praveen Rosario, Dijin Ramachandran Jalaja, Vaishali Choudhary, Jayakumar Renganathan, Ligy Philip, Kangwoo Cho, Claire Welling, Sonia Grego and Clément Cid*



Integrated fabrication of CMC@UiO-66-NH₂@PEI composite adsorbents for efficient batch and dynamic phosphate capture

Yuyang Liu, Qingda An, Zuoyi Xiao, Jingai Hao, Xiaoling Dong, Kairuo Zhu,* Shangru Zhai* and Chang-Sik Ha*



Study on the efficiency of the preoxidation-coagulation process in removing disinfection by-product precursors from micropolluted water

Junwei He, Ruibao Jia, Yonglei Wang,* Ke Lin, Baozhen Liu, Baosen Liu and Guilin He

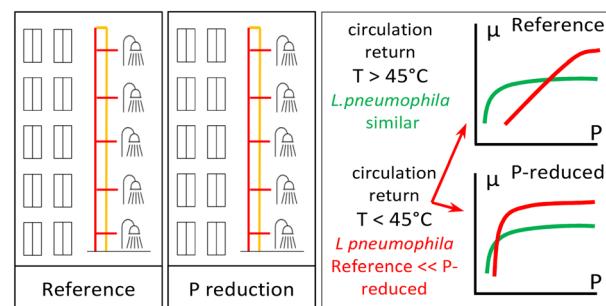


PAPERS

193

Effect of microbially available phosphorous removal on *Legionella* spp. in multi-storey residential dwellings in Latvia

Marta Zemīte,* Daina Pūle, Olga Kirilina-Gūtmane, Laima Kimse, Mārtiņš Strods, Jurģis Zemītis, Linda Mežule, Olga Valciņa and Tālis Juhna



205

Pilot-scale evaluation of the sustainability of membrane desalination systems for the concentrate volume minimization of coal chemical wastewater

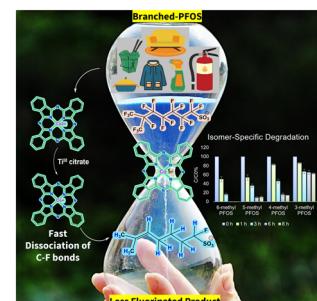
Fayuan Chen,* Linnan Ma, Zhong Zhang, Xiao Wang, Qinghong Wang, Xiaolong Wang, Chunmao Chen, Linyu Jiang and Xianhui Li*

Metric	VSEP	DTRO	FO-RO
Water recovery	★★★★	★★★★★	★★★★★
Resistance to fouling	★★★★	★★★★★	★★★★★
CAPEX	★★★★★	★★★	★★★★★
OPEX	★★★★★	★★★	★★★★★

216

Fast reductive defluorination of branched perfluoroctane sulfonic acids by cobalt phthalocyanine: electrochemical studies and mechanistic insights

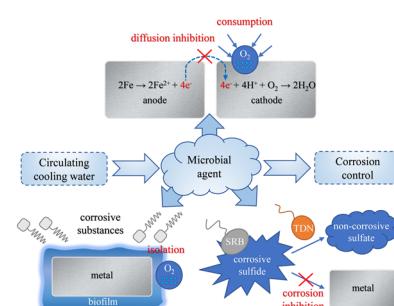
Maryam Mirabediny, Tsz Tin Yu, Jun Sun, Matthew Lee, Denis M. O'Carroll, Michael J. Manefield, Björn Åkermark, Biswanath Das* and Naresh Kumar*



228

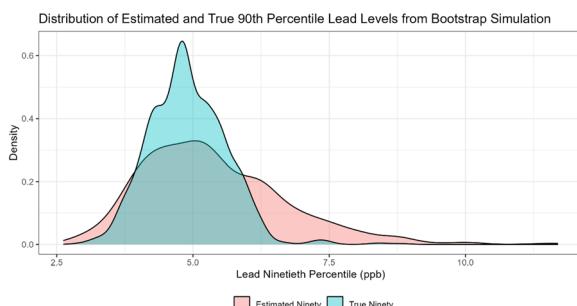
The effect and mechanism of a microbial agent used for corrosion control in circulating cooling water

Yu Wang, Hongfeng Liao, Li Gan, Zhengxiu Liu, Ziqiang Tang, Xiaoran Zhao, Yubin Zeng* and Chunsong Ye*



PAPERS

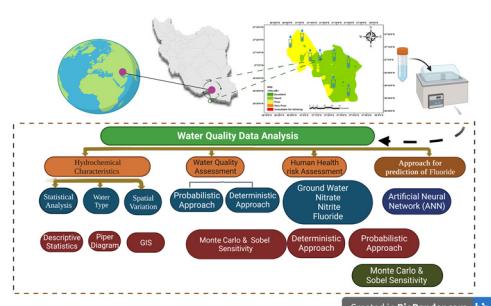
241



Estimating impacts of LCRR's fifth-liter sampling and find-and-fix requirements on large water systems

Tyler C. Bradley,* Sheldon V. Masters,
Timothy A. Bartrand and Christopher M. Sales

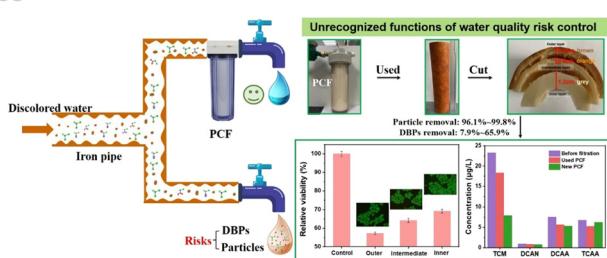
250



Quality evaluation and health risk assessment of drinking water in Minab County: hydrochemical analysis and artificial neural network modeling

Majid Amiri Gharaghani, Amin Mohammadpour,
Mahsa Keshtkar, Aboofazl Azhdarpoor*
and Razieh Khaksefid*
and Razieh Khaksefid*

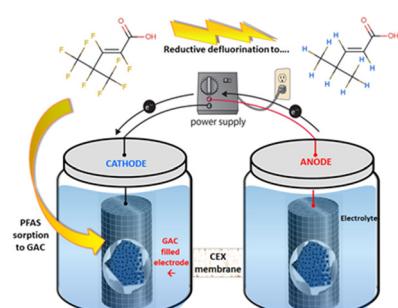
263



Particle and DBP removal efficiency and toxicity evaluation of polypropylene cotton filters in household drinking water purification systems

Linlin Pan, Yuan Zhuang,* Ruya Chen, Yitian He
and Baoyou Shi*

272



Electrochemical degradation of a C6-perfluoroalkyl substance (PFAS) using a simple activated carbon cathode

Diana Ackerman Grunfeld, Adele M. Jones, Jun Sun,
Song Thao Le, Russell Pickford, Qingguo Huang,
Michael Manefield, Naresh Kumar, Matthew J. Lee
and Denis M. O'Carroll*

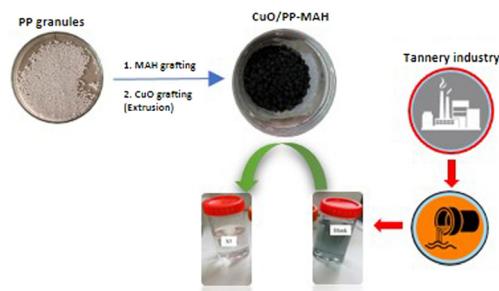


PAPERS

288

***In situ* green synthesis of copper(II) oxide (CuO) and maleic anhydride grafted polypropylene (PP-MAH) for highly efficient nanocatalysis in tannery wastewater treatment**

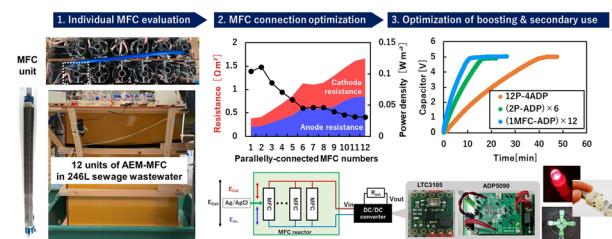
Farnam Manavi, Mohammad Reza Allahgoli Ghasri,* Shervin Ahmadi and Sima Habibi



296

Optimizing low-voltage boosting for an air-cathode microbial fuel cell with an anion exchange membrane in a 246 L wastewater treatment reactor

Ayano Shimidzu, Fumichika Tanaka, Takahiro Matsumura, Mitsuhiro Sakoda, Kazuki Iida and Naoko Yoshida*



CORRECTION

304

Correction: Unlocking the effect of Zn²⁺ on crystal structure, optical properties, and photocatalytic degradation of perfluoroalkyl substances (PFAS) of Bi₂WO₆

Mirabbos Hojaberdiev,* Ana Laura Larralde, Ronald Vargas, Lorean Madriz, Kunio Yubuta, Lokesh Koodlur Sannegowda, Ilona Sadok, Agnieszka Krzyszczak-Turczyn, Patryk Oleszczuk and Bożena Czech*