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Environmental Science Water Research & Technology

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Cover
See Manuela Melucci *et al.*, pp. 1097–1107.
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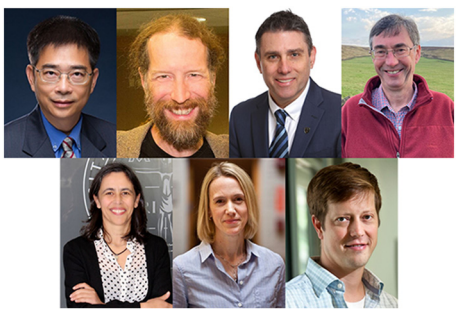
EDITORIAL

1006

2023 Outstanding Papers published in the *Environmental Science* journals of the Royal Society of Chemistry

Zongwei Cai, Neil Donahue, Graham Gagnon, Kevin C. Jones, Célia Manaia, Elsie Sunderland and Peter J. Vikesland

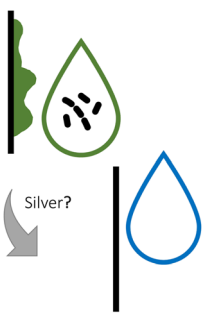


PERSPECTIVE

1009

Moving beyond silver in point-of-use drinking water pathogen control

Daniel P. Huffman, Sarah Pitell, Paige Moncure, Janet Stout, Jill E. Millstone, Sarah-Jane Haig* and Leanne M. Gilbertson*



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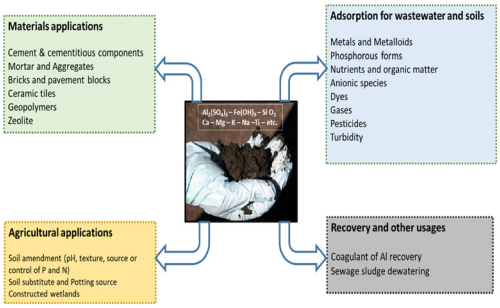
CRITICAL REVIEWS

1019

Re-utilization of drinking water treatment residuals (DWTR): a review focused on the adsorption of inorganic and organic contaminants in wastewater and soil

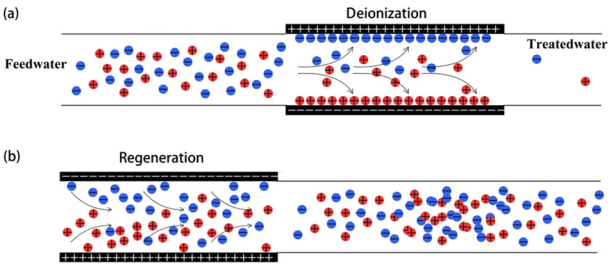
Nelson Belzile* and Yu-Wei Chen



1034

Enhancing capacitive deionization for water desalination: the role of activated carbon in contaminant removal

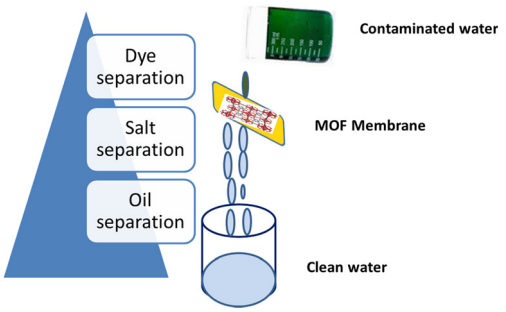
Xuan Wang, Shuya Shan, Yaoli Zhang,* Sheldon Q. Shi* and Changlei Xia



1061

Recent progress in 2D and 3D metal–organic framework-based membranes for water sustainability

Talib Hussain Banglani, Imamdin Chandio, Akbar Ali, Ayaz Ali Memon,* Jun Yang,* Mohsin Kazi and Khalid Hussain Thebo*



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1097

Upcycling of plastic membrane industrial scraps and reuse as sorbent for emerging contaminants in water

Sara Khaliha, Francesca Tunioli, Luca Foti, Antonio Bianchi, Alessandro Kovtun, Tainah Dorina Marforio, Massimo Zambianchi, Cristian Bettini, Elena Briñas, Ester Vázquez, Letizia Bocchi, Vincenzo Palermo, Matteo Calvaresi, Maria Luisa Navacchia and Manuela Melucci*

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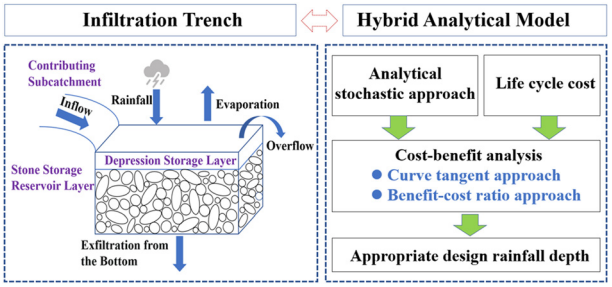
1108



Towards the cost-effective design of stormwater infiltration trenches: a hybrid model integrating cost–benefit analysis and an analytical stochastic approach

Jun Wang,* Yijiao Diao, Shengle Cao,* Jiachang Wang, Jingjing Jia and Yiping Guo

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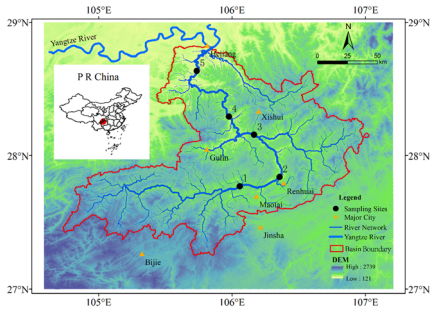

Geochemistry, health risk assessment and statistical source identification of dissolved trace elements in surface water of the Chishui River, China

Xiwei Song, Liqiang Chao, Xutao Jiang, Kejia Liu and Xunchi Pu*

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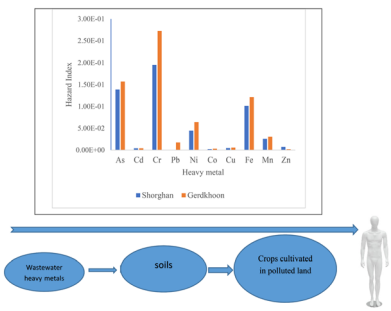

Risk assessment of heavy metals in soil and simultaneous monitoring in wheat irrigated with groundwater and treated wastewater and its long-term effects for residents of adjacent regions

Aboalfazl Azhdarpoor,* Zohre Moeini, Farnaz Ranjbar, Mohammadreza Samaei and Hasan Hashemi

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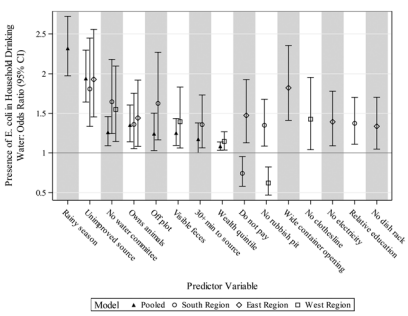

Identifying predictors of *E. coli* in rural household water in sub-Saharan Africa using elimination regression

Donald Fejfar, Wren Tracy, Emma Kelly, Michelle Moffa, Robert Bain, Jamie Bartram, Darcy Anderson and Ryan Cronk*

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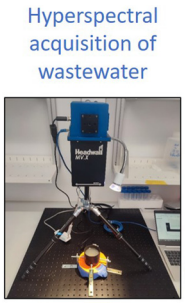
Towards non-contact pollution monitoring in sewers with hyperspectral imaging

P. Lechevallier,* K. Villez, C. Felsheim and J. Rieckermann

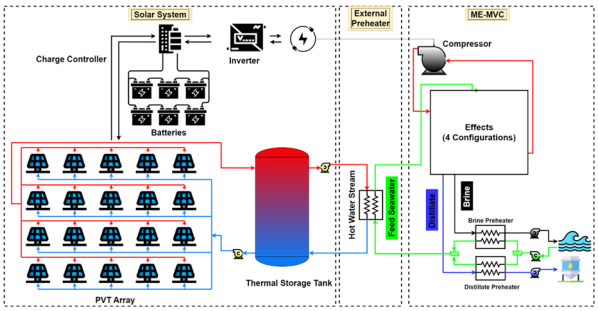


	Relative prediction error
COD	10.5%
Turbidity	7.6%
DOC	14.9%
TDN	6.6%
PO_4-P	9.8%
SO_4-S	10.4%
NH_4-N	7.9%

1171

Analysis of a PVT-powered multi-effect mechanical vapor compression desalination system at different feed configurations: energy, exergy, and economic aspects

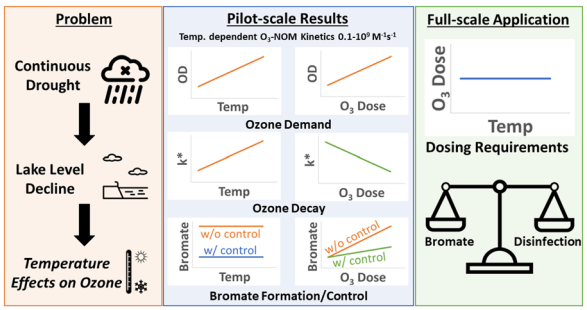
Mahmoud Sheta and Hamdy Hassan*



1195

Quantifying drought-driven temperature impacts on ozone disinfection credit and bromate control

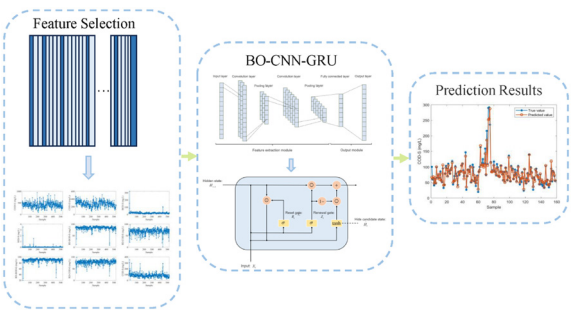
Bilal Abada, Ariel J. Atkinson and Eric C. Wert*



1208

Optimized deep learning models for effluent prediction in wastewater treatment processes

Canyun Yang, Zhuoyue Guo, Yun Geng, Fengshan Zhang, Wenguang Wei and Hongbin Liu*



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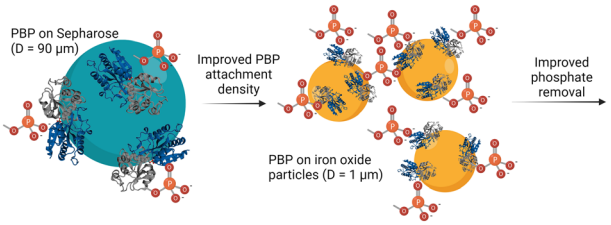

Phosphate-binding protein-loaded iron oxide particles: adsorption performance for phosphorus removal and recovery from water

Faten B. Hussein, Andrew H. Cannon, Justin M. Hutchison, Christopher B. Gorman, Yaroslava G. Yingling and Brooke K. Mayer*

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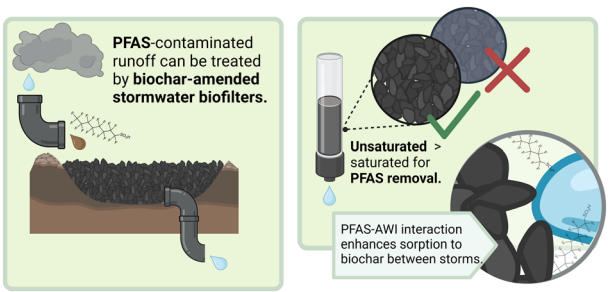

Controlling saturation to improve per- and polyfluoroalkyl substance (PFAS) removal in biochar-amended stormwater bioretention systems

Kathleen Mills Hawkins, James Conrad Pritchard, Scott Struck, Yeo-Myoung Cho, Richard G. Luthy and Christopher P. Higgins*

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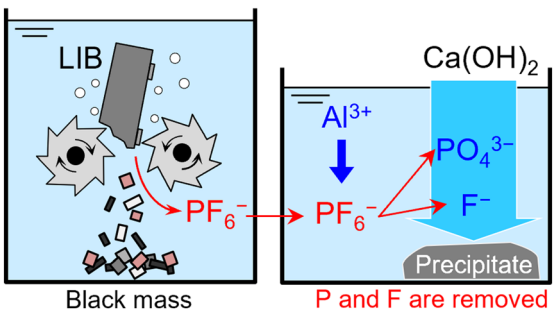

Removal of phosphorus and fluorine from wastewater containing PF_6^- *via* accelerated decomposition by Al^{3+} and chemical precipitation for hydrometallurgical recycling of lithium-ion batteries

Takuto Miyashita,* Kouji Yasuda* and Tetsuya Uda*

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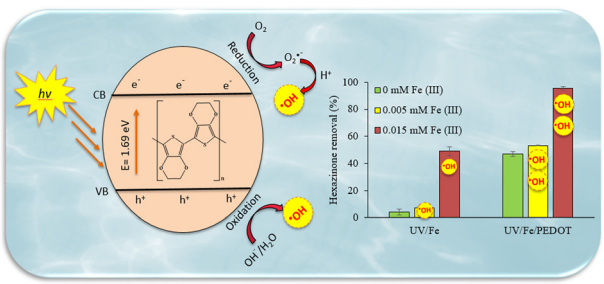

Mechanistic investigation of the photocatalytic activity of PEDOT for aqueous contaminant removal: the role of iron and hydroxyl radicals

Tahereh Jasemizad, Jenny Malmström and Lokesh P. Padhye*

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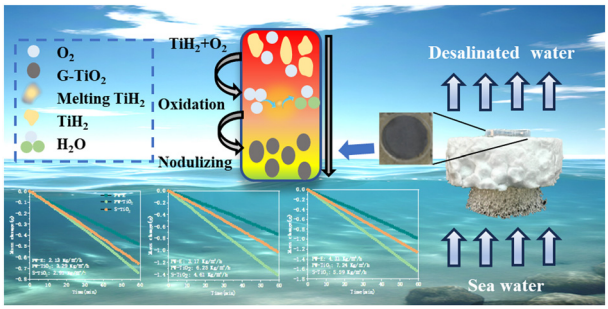
Thermal plasma-synthesized gray-black TiO_2 with abundant oxygen vacancies for high-efficiency solar desalination

Fei Li, Chang Liu, Yuanjiang Dong, Huacheng Jin, Baoqiang Li, Fei Ding and Fangli Yuan*



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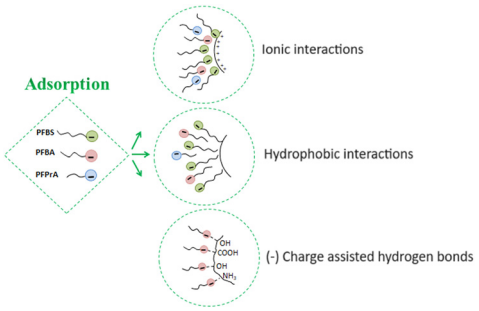
Adsorption mechanisms of short-chain and ultrashort-chain PFAS on anion exchange resins and activated carbon

Swadhina P. Lenka, Melanie Kah, Jack L.-Y. Chen, Bryan Andres Tiban-Anrango and Lokesh P. Padhye*



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