

# Environmental Science Water Research & Technology

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## IN THIS ISSUE

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### Cover

See Martin M. Shafer et al., pp. 1766–1784.  
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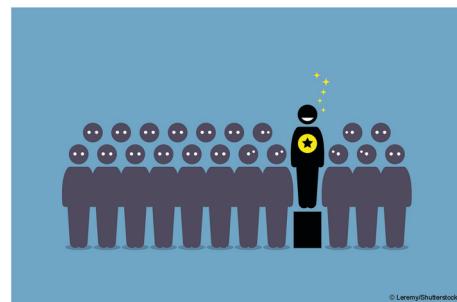
### Inside cover

See Jiahai Ma et al., pp. 1785–1794.  
Image reproduced by permission of Jiahai Ma from *Environ. Sci.: Water Res. Technol.*, 2024, **10**, 1785.

## EDITORIAL

1737

### Outstanding Reviewers for *Environmental Science: Water Research & Technology* in 2023



## TUTORIAL REVIEW

1738

### Process intensification in the fields to separate, recycle and reuse waste through membrane technology

Swapna Rekha Panda,\* Sudeep Asthana, Krunal Suthar, Arvind S. Madalgi, Amit Kumar, Haresh Dave, Rakesh Kumar Sinha, Koshal Kishor and Ahmad F. Ismail\*



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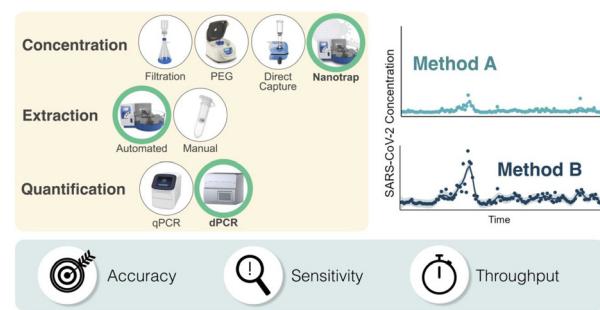


## PAPERS

1766

## Wastewater-based protocols for SARS-CoV-2: insights into virus concentration, extraction, and quantitation methods from two years of public health surveillance

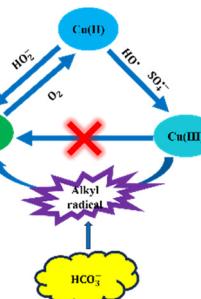
Dagmara S. Antkiewicz, Kayley H. Janssen, Adélaïde Roguet, Hannah E. Pilch, Rebecca B. Fahney, Paige A. Mullen, Griffin N. Knuth, Devin G. Everett, Evelyn M. Doolittle, Kaitlyn King, Carter Wood, Angellica Stanley, Jocelyn D. C. Hemming and Martin M. Shafer\*



1785

## Strongly enhanced persulfate activation by bicarbonate accelerated Cu(II)/Cu(I) redox cycles

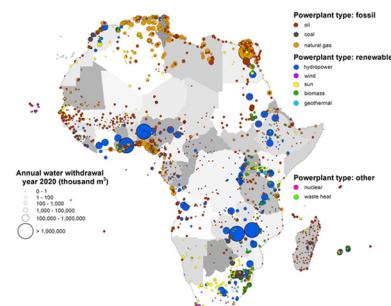
Jun Zhang, Shenjun Wang, Yuhao Wu and Jiahai Ma\*



1795

## Spatially distributed freshwater demand for electricity in Africa

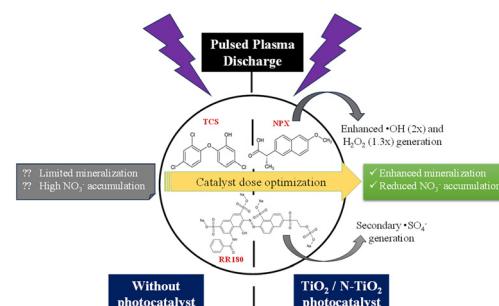
P. W. Gerbens-Leenes,\* S. D. Vaca-Jiménez, Bunyod Holmatov and Davy Vanham\*



1809

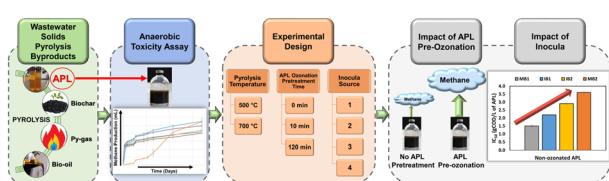
## Catalytic pulsed plasma treatment for organic micropollutants: unveiling the synergistic role of photocatalysts in radical generation and degradation mechanisms

Ritik Anand and Ligy Philip\*



## PAPERS

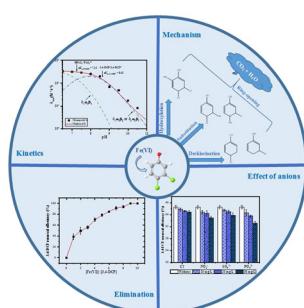
1827



## Improved methanogenesis from aqueous pyrolysis liquid (APL) by inoculum selection and pre-ozonation

Saba Seyedi,\* Kaushik Venkiteswaran and Daniel Zitomer

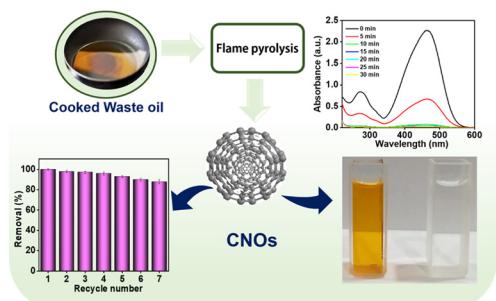
1840



## Removal of 3,4-dichlorophenol from water utilizing ferrate(vi): kinetic and mechanistic investigations and effects of coexisting anions

Yiwen Luo, Qing Zheng, Zhiyong Luo,\* Shuqing Xiang and Mei Dai

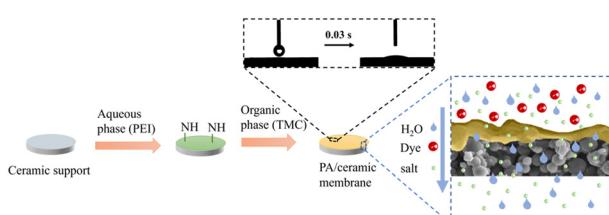
1856



## Ecologically viable carbon nano-onions for the efficient removal of methyl orange azo dye and its environmental assessment

Poonam Kumari, Kumud Malika Tripathi, Kamlendra Awasthi\* and Ragini Gupta\*

1871



## Constructing polyamide/ceramic composite membranes for highly efficient and selective separation of dyes and salts from solution

Yujie Zang, Linlin Yan, Tieying Yang, Kai Wang, Yingjie Zhang, Enrico Drioli, Jun Ma, Yonggang Li,\* Shanshan Ji\* and Xiquan Cheng\*

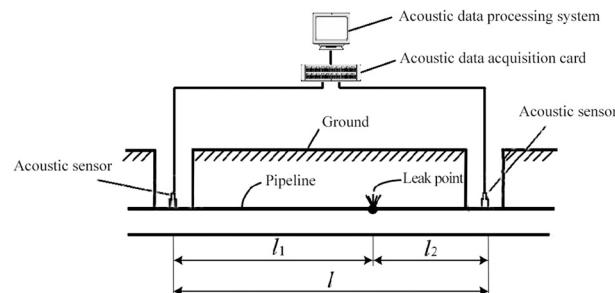


## PAPERS

1881

**Acoustic-based approach for micro-leakage detection and localization in water supply pipelines**

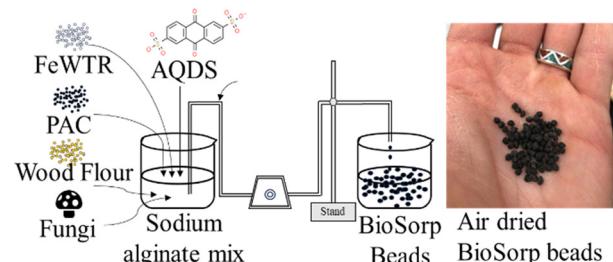
Cuimin Feng,\* Jiancong Zhao, Qiangsan Ran, Mengchao Qu and Zixiao Guo



1890

**Development of composite alginate bead media with encapsulated sorptive materials and microorganisms to bioaugment green stormwater infrastructure**

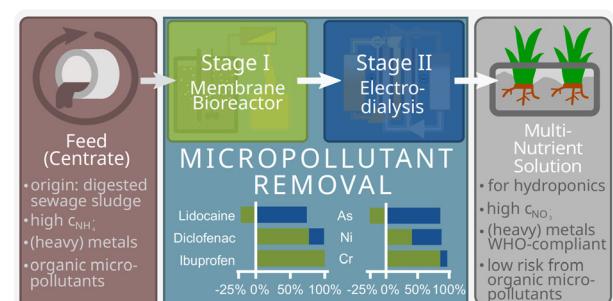
Debojit S. Tanmoy and Gregory H. LeFevre\*



1908

**Multiple barriers for micropollutants in nutrient recovery from centrate – combining membrane bioreactor and electrodialysis**

Paul Genz, Anna Hendrike Hofmann, Victor Takazi Katayama and Thorsten Reemtsma\*



1920

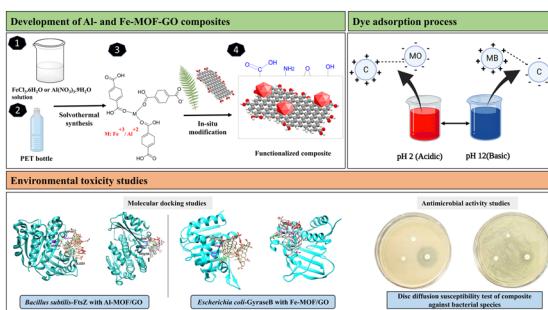
**Resource utilization of oak fruit peel as biomass waste for the synthesis of carbon with graphene oxide-like composition and its composite with  $Mg_{1-x}Ca_xFe_2O_4$  for Cd(II) removal from water: characterization, magnetic properties, and potential adsorption study**

Younes Zohrabi, Mohammad Ebrahim Ghazi,\* Morteza Izadifard, Alireza Valipour\* and Sivasankaran Ayyaru\*

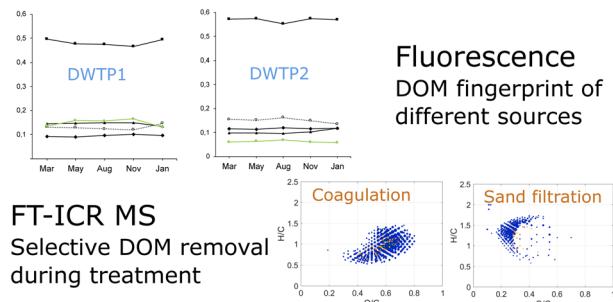


## PAPERS

1938



1964



**Unveiling the dye adsorption capability of *Moringa oleifera* functionalized hybrid porous MOF-GO composites: *in vitro* and *in silico* ecotoxicity assessment via antibacterial and molecular docking studies**

Anil Kumar K., Arpit Bisoi, Yeshwanth M., Shobham, Mohan Jujaru, Jitendra Panwar\* and Suresh Gupta\*

**Molecular level seasonality of dissolved organic matter in freshwater and its impact on drinking water treatment**

Anna Andersson,\* Leanne Powers, Mourad Harir, Michael Gonsior, Norbert Hertkorn, Philippe Schmitt-Kopplin, Henrik Kylin, Daniel Hellström, Åmma Pettersson and David Bastviken

