# **Environmental Science: Advances**

### rsc.li/esadvances

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 2754-7000 CODEN ESANEB 3(11) 1467-1644 (2024)



### Cover

See Felina Armbruster et al., pp. 1524-1536. Image reproduced by permission of Felina Armbruster from Environ. Sci.: Adv., 2024, 3, 1524.



### Inside cover

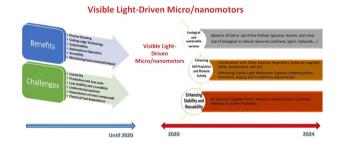
See Francesco Granata et al., pp. 1537-1551. Image reproduced by permission of Francesco Granata from Environ. Sci.: Adv., 2024, 3, 1537.

### **CRITICAL REVIEWS**

### 1474

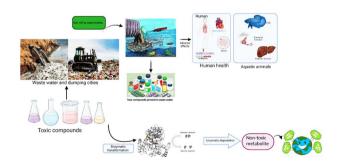
Advancements in visible light-driven micro/ nanomotors for photodegradation of environmental pollutants

Vanessa R. Ferreira and Manuel Azenha\*



Laccase-mediated degradation of emerging contaminants: unveiling a sustainable solution

Pooja Thathola,\* Elda M. Melchor-Martínez, Priyanka Adhikari, Saúl Antonio Hernández Martínez, Anita Pandey and Roberto Parra-Saldívar





# Royal Society of Chemistry approved training courses

Explore your options.

Develop your skills.

Discover learning
that suits you.

Courses in the classroom, the lab, or online

Find something for every stage of your professional development. Search our database by:

- subject area
- location
- event type
- skill level

Members get at least 10% off

Visit rsc.li/cpd-training

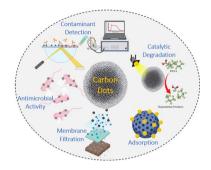


### **PERSPECTIVE**

### 1513

### Carbon dots: a promising path towards environmental sustainability

Ajith Manayil Parambil\* and Paulraj Rajamani\*

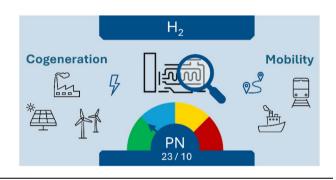


### **PAPERS**

### 1524

### Investigations on particle emissions of large-bore engines powered by natural gas and hydrogen

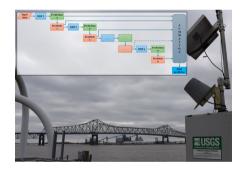
Felina Armbruster,\* Alexander Gelner, Andreas Zepf, Maximilian Prager, Martin Härtl and Malte Jaensch



### 1537

### Dissolved oxygen forecasting in the Mississippi River: advanced ensemble machine learning models

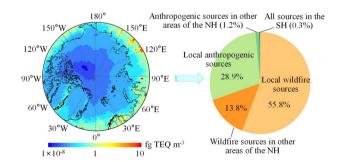
Francesco Granata,\* Senlin Zhu and Fabio Di Nunno



### 1552

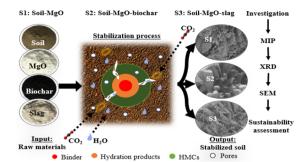
### Dioxins in the Arctic: local sources vs. long-range transport

Ling Gou, Shijie Song, Tao Huang,\* Zaili Ling, Kaijie Chen, Jiayi Xin, Enze Geng, Jiaxin Wang, Yuan Zhao, Hong Gao and Jianmin Ma



### **PAPERS**

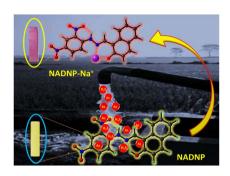
### 1564



Impacts of biochar and slag on carbon sequestration potential and sustainability assessment of MgOstabilized marine soils: insights from MIP analysis

Chikezie Chimere Onyekwena, Qi Li,\* Yong Wang, Ishrat Hameed Alvi, Yunlu Hou, Chima Finnian Ukaomah and Theogene Hakuzweyezu

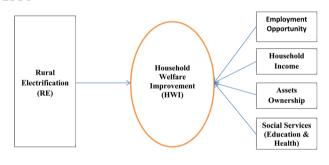
1578



Naked eye detection of arsenite, arsenate, and H<sub>2</sub>S by a Schiff base naphthaldehyde conjugate using a single paper strip, based on a deprotonation mechanism

Diptiman De, Priyotosh Ghosh, Sriman De and Prithidipa Sahoo\*

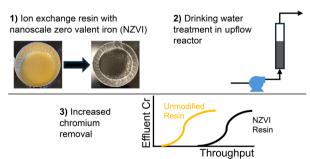
1586



### Household welfare improvement in the Mbulu district of Tanzania: does rural electrification matter?

Hadija Matimbwa and Marco E. Mng'ong'o\*

1598



A hybrid anion exchanger with nanoscale zero valent iron for trace hexavalent chromium removal from drinking water

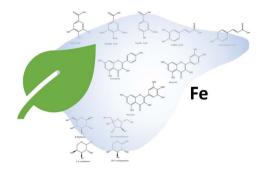
Annabel L. Mungan, Elizabeth A. Hjelvik, Anthony P. Straub and Julie A. Korak\*

### **PAPERS**

### 1616

### Iron complexation by biomass model compounds

Anurag S. Mandalika and Troy M. Runge\*



### 1628

## Intensive aquaculture affects lake's trophic status and aquatic floral diversity

Divya Dubey,\* Kiran Toppo, Saroj Kumar and Venkatesh Dutta\*

