

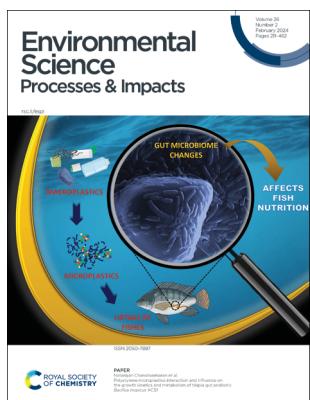
# Environmental Science Processes & Impacts

rsc.li/espi

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.

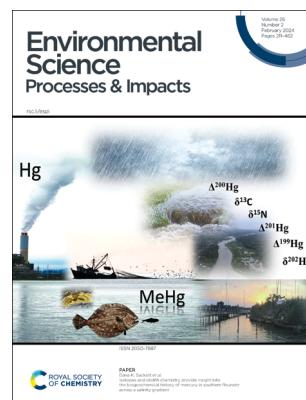
## IN THIS ISSUE

ISSN 2050-7887 CODEN ESPICZ 26(2) 211–462 (2024)



### Cover

See Natarajan Chandrasekaran *et al.*, pp. 221–232. Image reproduced by permission of Natarajan Chandrasekaran from *Environ. Sci.: Processes Impacts*, 2024, 26, 221.



### Inside cover

See Dana K. Sackett *et al.*, pp. 233–246. Image reproduced by permission of Dana K. Sackett and Troy Farmer from *Environ. Sci.: Processes Impacts*, 2024, 26, 233.

## EDITORIAL

220

### Beyond the first decade: The next phase for *ESPI*

Elsie M. Sunderland and Kris McNeill

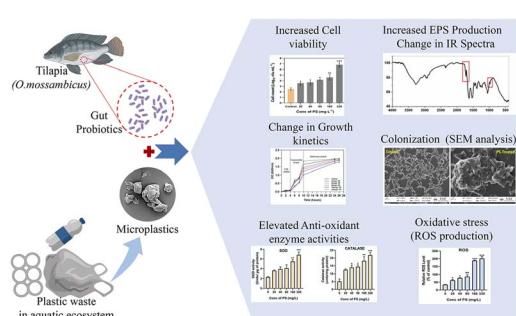


## PAPERS

221

### Polystyrene microplastics interaction and influence on the growth kinetics and metabolism of tilapia gut probiotic *Bacillus tropicus ACS1*

Pazhamthavalathil Anil Athulya,  
Natarajan Chandrasekaran\* and John Thomas



# Advance your career in science

with professional recognition that showcases your **experience, expertise and dedication**

## Stand out from the crowd

Prove your commitment to attaining excellence in your field

## Gain the recognition you deserve

Achieve a professional qualification that inspires confidence and trust

## Unlock your career potential

Apply for our professional registers (RSci, RSciTech) or chartered status (CChem, CSci, CEnv)

## Apply now

[rsc.li/professional-development](http://rsc.li/professional-development)

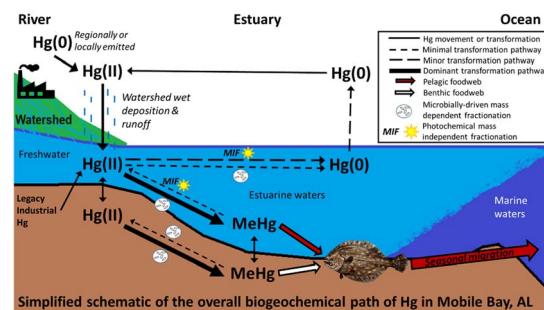


## PAPERS

233

## Isotopes and otolith chemistry provide insight into the biogeochemical history of mercury in southern flounder across a salinity gradient

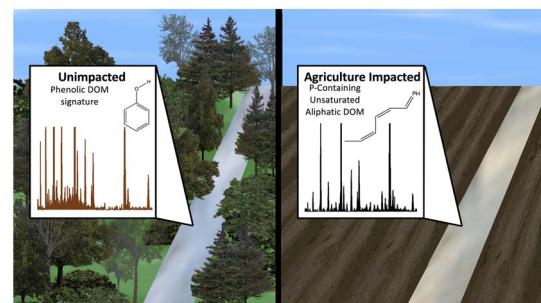
Dana K. Sackett,\* Jared K. Chrisp and Troy M. Farmer



247

## Emerging investigator series: impacts of land use on dissolved organic matter quality in agricultural watersheds: a molecular perspective

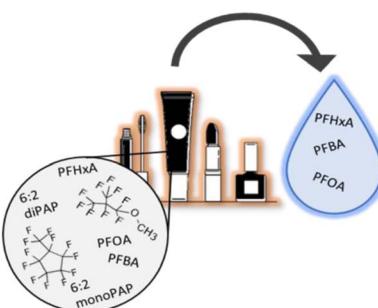
Sethumadhavan A., Liang T. and Mangal V.\*



259

## Characterization and dermal bioaccessibility of residual- and listed PFAS ingredients in cosmetic products

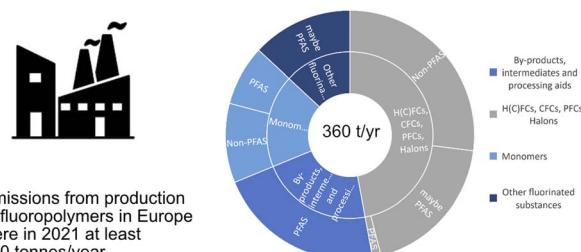
Shahla Namazkar,\* Oddny Ragnarsdottir, Anton Josefsson, Felice Branzell, Sebastian Abel, Mohamed Abou-Elwafa Abdallah, Stuart Harrad and Jonathan P. Benskin\*



269

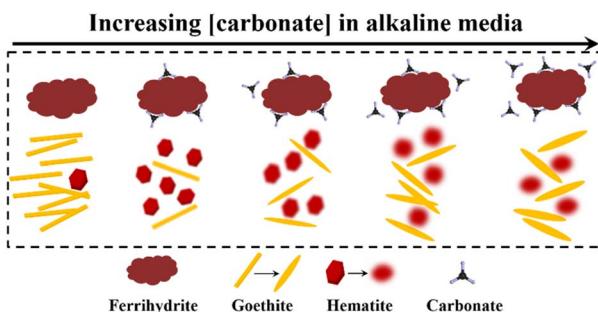
## Emission inventory of PFASs and other fluorinated organic substances for the fluoropolymer production industry in Europe

Joost Dalmijn,\* Juliane Glüge, Martin Scheringer and Ian T. Cousins



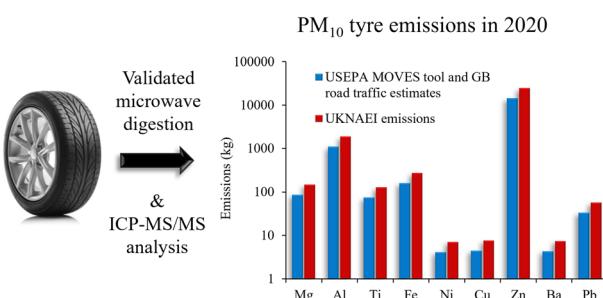
## PAPERS

288

**Effects of carbonate on ferrihydrite transformation in alkaline media**

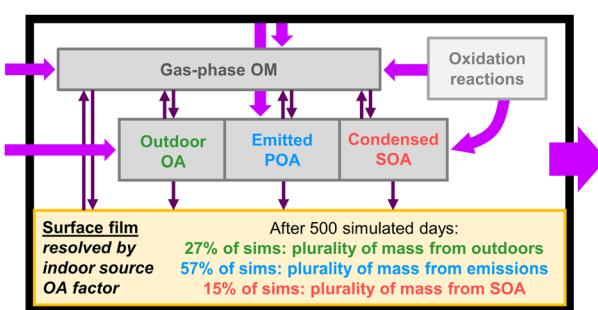
Ying Li,\* Chaoqun Zhang, Meijun Yang, Jing Liu, Hongping He, Yibing Ma and Yuji Arai

298

**Traceable determination of metal composition of tyres using tandem ICP-MS and benchmarking of emissions inventories**

Emma C. Braysher,\* Andrew S. Brown, Richard J. C. Brown and Nick Molden

305

**Composition of indoor organic surface films in residences: simulating the influence of sources, partitioning, particle deposition, and air exchange**

Bryan E. Cummings,\* Pascale S. J. Lakey, Glenn C. Morrison, Manabu Shiraiwa and Michael S. Waring\*

323

**Isolation of aqueous pesticides on surface-functionalized SBA-15: glyphosate kinetics and detailed empirical insights for atrazine**

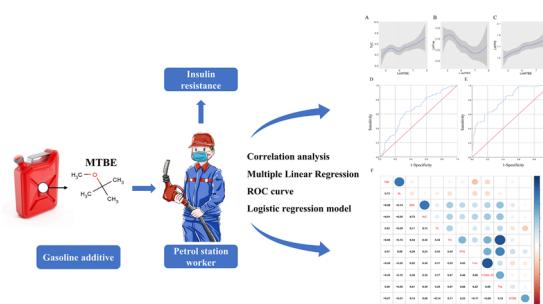
Paul N. Diagboya,\* Johannes Junck, Samson O. Akpotu and Rolf-Alexander Düring

## PAPERS

334

**MTBE exposure may increase the risk of insulin resistance in male gas station workers**

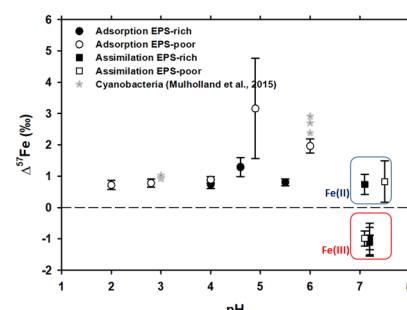
Mingxiao Guo, Mengdi Li, Fengtao Cui, Xinpeng Ding, Wei Gao, Xingqiang Fang, Li Chen, Hanyun Wang, Piye Niu\* and Junxiang Ma\*



344

**Contrasted redox-dependent structural control on Fe isotope fractionation during its adsorption onto and assimilation by heterotrophic soil bacteria**

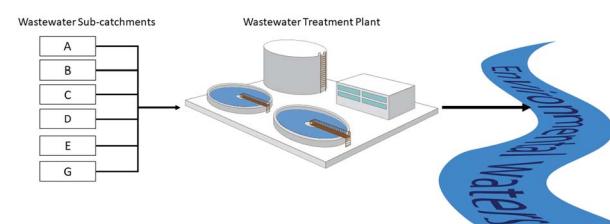
Aridane G. González,\* Franck Poitrasson, Felix Jiménez-Villacorta, Liudmila S. Shirokova and Oleg S. Pokrovsky



357

**Spatial and temporal variability of micropollutants within a wastewater catchment system**

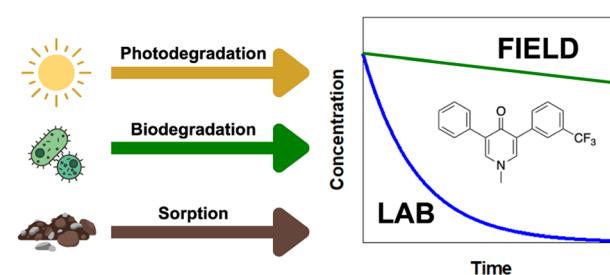
Madison Hattaway, Chris Alaimo, Luann Wong, Jennifer Teerlink and Thomas M. Young\*



368

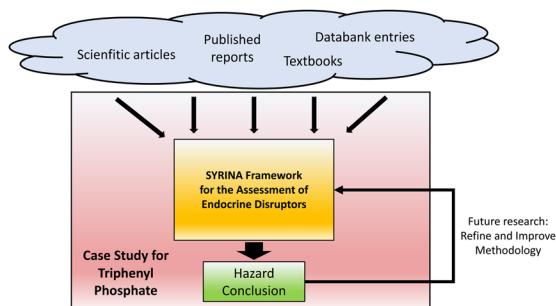
**Laboratory measurements underestimate persistence of the aquatic herbicide fluridone in lakes**

Sydney R. Van Frost, Amber M. White, Josie M. Jauquet, Angela M. Magness, Katherine D. McMahon\* and Christina K. Remucal\*



## PAPERS

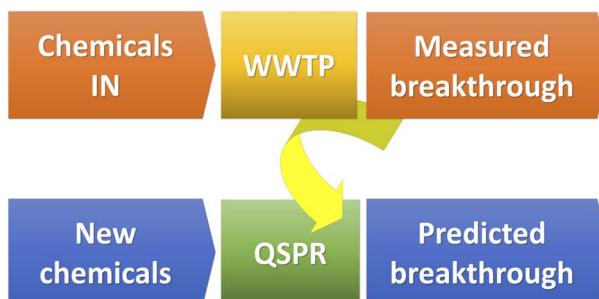
380



## Applying a modified systematic review and integrated assessment framework (SYRINA) – a case study on triphenyl phosphate

Thuy T. Bui, Jenny Aasa, Khaled Abass,  
Marlene Ågerstrand, Anna Beronius, Mafalda Castro,  
Laura Escrivá, Audrey Galizia, Anda Gliga, Oskar Karlsson,  
Paul Whaley, Erin Yost and Christina Rudén\*

400

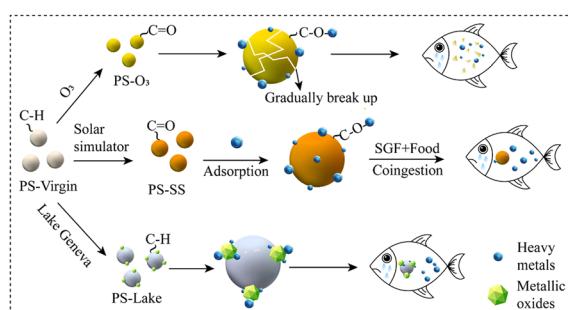


## ***In silico* approaches for the prediction of the breakthrough of organic contaminants in wastewater treatment plants**

Nicola Chirico,\* Michael S. McLachlan, Zhe Li  
and Ester Papa

---

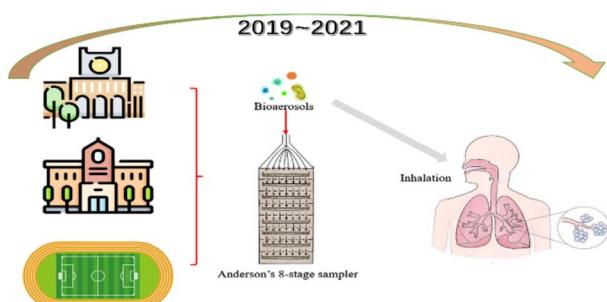
411



## Adsorption of copper by naturally and artificially aged polystyrene microplastics and subsequent release in simulated gastrointestinal fluid

Lu Zhou, Thibault Masset and Florian Breider\*

421



# Disruption and recovery of outdoor bioaerosols before, during, and after the COVID-19 outbreak at a campus in Central China: pathogen composition, particle size distribution, influencing factors, and exposure risk

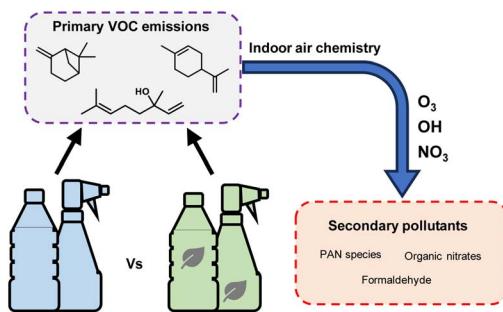
Yanjie Wang, Haoran Zhu, Song Zhang, Kai Yang, Yang Liu,  
Bisheng Lai and Fangfang Yu\*

## PAPERS

436

## Does green mean clean? Volatile organic emissions from regular *versus* green cleaning products

Ellen Harding-Smith,\* David R. Shaw, Marvin Shaw, Terry J. Dillon and Nicola Carslaw\*



451

## Characteristics and ecological risks of microplastic pollution in a tropical drinking water source reservoir in Hainan province, China

Ling Mo, Hongyu Fu, Qiyuan Lu, Sifan Chen, Ruijuan Liu, Jun Xiang, Qiao Xing, Licheng Wang, Kexin Sun, Bowen Li\* and Jing Zheng\*

