

Seven questions when deciding where to submit

Frank Wania

Frank Wania, Chair of the Editorial Board poses seven questions to consider prior to submitting a scientific manuscript.

Chelation technology: a promising green approach for resource management and waste minimization

Garima Chauhan, K. K. Pant and K. D. P. Nigam*

This review covers the technical applicability of chelation technology for metal extraction from contaminated sites, recent research trends and future opportunities to promote this process as a green chemical engineering approach.

Emerging pollutants in the Esmeraldas watershed in Ecuador: discharge and attenuation of emerging organic pollutants along the San Pedro–Guayllabamba–Esmeraldas rivers

A. Voloshenko-Rossin, G. Gasser, K. Cohen, J. Gun, L. Cumbal-Flores, W. Parra-Morales, F. Sarabia, F. Ojeda and O. Lev*

Carbamazepine and acesulfame were conserved along the 250 km flow in the San-Pedro–Guayllabamba–Esmeraldas River in Ecuador, whereas the cocainoids level increased.

Biological effects and bioaccumulation of pharmaceutically active compounds in crucian carp caged near the outfall of a sewage treatment plant

Jianchao Liu, Guanghua Lu,* Zhenghua Zhang, Yijun Bao, Fuli Liu, Donghai Wu and Yonghua Wang

Multiple-models approaches for risk assessment were applied to estimate the ecological threat using active biomonitoring because of the existence of micropollutants in the effluents of sewage treatment plant.

Testing the near field/far field model performance for prediction of particulate matter emissions in a paint factory

A. J. Koivisto,* A. C. Ø. Jensen, M. Levin, K. I. Kling, M. Dal Maso, S. H. Nielsen, K. A. Jensen and I. K. Koponen

Here we tested how well a NF/FF dispersion model predicts particulate matter concentrations when source emission potency was estimated using a material dustiness index.

Does powder and granular activated carbon perform equally in immobilizing chlorobenzenes in soil?

Yang Song, Fang Wang,* Fredrick Orori Kengara, Yongrong Bian, Xinglun Yang, Chenggang Gu, Mao Ye and Xin Jiang*

The objective of this study is to compare the efficacies of powder activated carbon (PAC) and granular activated carbon (GAC) as amendments for the immobilization of volatile compounds in soil. Soil artificially-spiked with chlorobenzenes (CBs) was amended with either PAC or GAC to obtain an application rate of 1%.

Partial nitrification ANAMMOX in submerged attached growth bioreactors with smart aeration at 20 °C

James M. Shannon, Lee W. Häuser, Xikun Liu, Gene F. Parkin, Timothy E. Mattes and Craig L. Just*

Smart-aerated submerged attached growth bioreactors perform partial nitrification ANAMMOX at 20 °C.

Microbial electrolysis cell accelerates phosphate remobilisation from iron phosphate contained in sewage sludge

Fabian Fischer,* Géraldine Zufferey, Marc Sugnaux and Manuel Happe

Phosphate was remobilised from iron phosphate contained in digested sewage sludge using a bio-electric cell.

Spatial and temporal variability of incidental nanoparticles in indoor workplaces: impact on the characterization of point source exposures

Jianjun Niu, Pat E. Rasmussen,* Robert Magee and Gregory Nilsson

Characterization of incidental nanoparticles (such as diesel fumes and printer emissions) is an important component of nanotechnology exposure assessments.

Atmospheric ²¹⁰Pb as a tracer for soil organic carbon transport in a coniferous forest

Mengistu T. Teramage,* Yuichi Onda, Yoshifumi Wakiyama, Hiroaki Kato, Takashi Kanda and Kenji Tamura

Core soils and falling litter samples were collected in a Japanese cypress forest (*Chamaecyparis obtusa*) to determine the litter-fed ²¹⁰Pb_{ex} and organic carbon transfer from the forest canopy to soil and their subsequent distribution; and designated as Inverted U-shape Model.

Spatial uncertainty of joint health risk of multiple trace metals in rice grain in Jiaxing city, China

Mingkai Qu, Biao Huang,* Weidong Li, Chuanrong Zhang and Yongcun Zhao

The spatial uncertainty of joint health risk of multiple trace metals in rice grain at a regional scale.

Nitrate behaviors and source apportionment in an aquatic system from a watershed with intensive agricultural activities

Lu Lu, Hongguang Cheng,* Xiao Pu, Xuelian Liu and Qianding Cheng

Nitrate pollution in aquatic systems caused by intensive agricultural activities is a serious problem in the Sanjiang Plain.

Mercury methylation and demethylation in highly contaminated sediments from the Deûle River in Northern France using species-specific enriched stable isotopes

Baghdad Ouddane,* Mathilde Monperrus, Milada Kadlecova, Mirna Daye and David Amouroux

The methylation–demethylation processes in sediments of the Deûle River were determined using well-established isotope experiments.

Mitochondrial energy metabolism in the hepatopancreas of freshwater crabs (*Sinopotamon henanense*) after cadmium exposure

Jian Yang, Dongmei Liu, Yongji He and Lan Wang*

Following Cd exposure, volume expansion and swollen matrices in more mitochondria could lead to disturbance in mitochondrial morphology.

Photodegradation of α -cypermethrin in soil in the presence of trace metals (Cu^{2+} , Cd^{2+} , Fe^{2+} and Zn^{2+})

Nazia Rafique* and Saadia R. Tariq

The influence of trace metals (Cu^{2+} , Zn^{2+} , Cd^{2+} and Fe^{2+}) on the photodegradation of α -cypermethrin (α -CYM) in agricultural soil was studied.

Toxic effects of copper-based nanoparticles or compounds to lettuce (*Lactuca sativa*) and alfalfa (*Medicago sativa*)

Jie Hong, Cyren M. Rico, Lijuan Zhao, Adeyemi S. Adeleye, Arturo A. Keller, Jose R. Peralta-Videa and Jorge L. Gardea-Torresdey*

Cu NPs/compounds increased alfalfa shoot Cu, P, and S, reduced lettuce shoot P, and alfalfa and lettuce shoot Fe.

Removal of micropollutants, facultative pathogenic and antibiotic resistant bacteria in a full-scale retention soil filter receiving combined sewer overflow

Marco Scheurer,* Stefanie Heß, Frauke Lüddecke, Frank Sacher, Hans Güde, Herbert Löffler and Claudia Gallert

The contamination of surface waters by combined sewer overflow is reduced by retention soil filters.

Source apportionment of polycyclic aromatic hydrocarbons in PM_{2.5} using positive matrix factorization modeling in Shanghai, China

Fengwen Wang, Tian Lin, Jialiang Feng, Huaiyu Fu and Zhigang Guo*

Providing quantitative information on the sources of PM_{2.5}-bound polycyclic aromatic hydrocarbons (PAHs) in urban regions is vital to establish effective abatement strategies for air pollution in a megacity.

The sludge loading rate regulates the growth and release of heterotrophic bacteria resistant to six types of antibiotics in wastewater activated sludge

Qing-bin Yuan, Mei-ting Guo* and Jian Yang

How does the sludge loading rate influence the growth and release of antibiotic-resistant bacteria in raw sewage?

Pyrosequencing revealed highly microbial phylogenetic diversity in ferromanganese nodules from farmland

Min Hu, Fangbai Li,* Jing Lei, Yuan Fang, Hui Tong, Weijian Wu and Chengshuai Liu

There is renewed interest in the origin and makeup of ferromanganese nodules (FMNs), long known to soil mineralogists as unusual secondary minerals.

Occurrence, seasonal variation and removal efficiency of antibiotics and their metabolites in wastewater treatment plants, Jiulongjiang River Basin, South China

Han Zhang, Miaomiao Du, Hongyou Jiang, Dandan Zhang, Lifeng Lin, Hong Ye and Xian Zhang*

Wastewater treatment plants (WWTPs) are regarded as one of the most important sources of antibiotics in the environment.

Behaviour and mobility of U and Ra in sediments near an abandoned uranium mine, Cornwall, UK

Saifeldin M. Siddeeg,* Nicholas D. Bryan and Francis R. Livens

Sediment samples were collected from the vicinity of the abandoned South Terras uranium mine in south-west UK and analysed for uranium and ²²⁶Ra to explore their geochemical dispersion.