

1825

A review of available analytical technologies for qualitative and quantitative determination of nitramines

Sofia Lindahl,* Cathrine Brecke Gundersen
and Elsa Lundanes

Nitramines (potent carcinogens) can be formed in the atmosphere due to the release of amines from e.g. post combustion CO₂ capture plants. The nitramines may end up in the nature at low levels and for the determination of the nitramines highly sensitive analytical methods are necessary.

1841

The distribution of iodide at the sea surface

Rosie Chance,* Alex R. Baker, Lucy Carpenter
and Tim D. Jickells

An extensive compilation of sea surface iodide concentrations reveals a pronounced latitudinal gradient and associations with temperature, mixing and nitrate.

1860

Unconventional oil and gas extraction and animal health

M. Bamberger and R. E. Oswald*

This perspectives article discusses the authors' views of the impacts of unconventional oil and gas extraction on animal health and food safety.

1866

Caffeine as an indicator of estrogenic activity in source water

C. C. Montagner,* G. A. Umbuzeiro, C. Pasquini and W. F. Jardim

Caffeine can be used to prioritize samples to be tested for estrogenic activity in water quality programs evaluating emerging contaminants with endocrine disruptor activity.

1870

Using portable X-ray fluorescence spectrometry and GIS to assess environmental risk and identify sources of trace metals in soils of peri-urban areas in the Yangtze Delta region, China

Jing Ran, Dejian Wang,* Can Wang, Gang Zhang and Lipeng Yao

Coupled with GIS and multivariate analysis, PXRF is a powerful tool for *in situ* contamination assessment and source identification of trace metals in soils.

1878

Assessment of fetal exposure and maternal elimination of perfluoroalkyl substances

Tao Zhang* and Xiaolei Qin

The fetal exposure and maternal elimination of PFOS and PFOA during pregnancy were quantified.

Variability in the carbon isotope fractionation of trichloroethene on its reductive dechlorination by vitamin B₁₂

Yiqun Gan,* Tingting Yu, Aiguo Zhou, Yunde Liu, Kai Yu and Li Han

The initial solution pH from 6.5 to 9.0 causes a notable change in the ϵ values from -14.0‰ to -18.0‰ .

Evaluation of bioaugmentation and biostimulation effects on the treatment of refinery oily sludge using 2ⁿ full factorial design

Jublee Jasmine and Suparna Mukherji*

While each of the strategies of nutrient addition (NP), surfactant addition (TX) and bioaugmentation with microorganisms (MO) can enhance oily sludge biodegradation, employing these strategies simultaneously leads to enhanced biodegradation through synergistic effects.

Non-contact assessment of COD and turbidity concentrations in water using diffuse reflectance UV-Vis spectroscopy

Jon Agustsson, Oliver Akermann, D. Andrew Barry and Luca Rossi*

Water contamination is an important environmental concern, requiring reliable real-time information on contaminant concentrations in natural waters. Here, a new non-contact UV-Vis spectroscopic approach for monitoring contaminants in water, and especially wastewater, is proposed.

Prenatal exposure to manganese in South African coastal communities

Halina B. Röllin,* Tahira Kootbodien, Penny Theodorou and Jon Ø. Odland

The contribution of diet to blood manganese concentrations in coastal rural and urban pregnant women in South Africa is explored.

1913

The PM_{2.5} chemical composition in an industrial zone included in a large urban settlement: main sources and local background

Stefania Squizzato, Mauro Masiol, Flavia Visin, Andrea Canal, Giancarlo Rampazzo and Bruno Pavoni*

The PM_{2.5} local background and sources were determined in an industrial area included in a large urban settlement in Italy.

1923

Quantification of metallothioneins in the earthworm by lomefloxacin–europium(III) fluorescent probe

Meng-jiao Geng, Shu-xuan Liang,* Wei Liu and Yu Jin

A new fluorescent probe of lomefloxacin–europium(III) was developed and applied to indicate soil pollution by quantification of metallothioneins in earthworm.

1930

Monitoring and assessing the impact of wastewater treatment on release of both antibiotic-resistant bacteria and their typical genes in a Chinese municipal wastewater treatment plant

Qing-Bin Yuan, Mei-Ting Guo* and Jian Yang

Wastewater treatment plants (WWTPs) are important hotspots for the spread of antibiotic resistance.

1938

Influence of geochemical properties and land-use types on the microbial reduction of Fe(III) in subtropical soils

Chengshuai Liu, Yongkui Wang, Fangbai Li,* Manjia Chen, Guangshu Zhai, Liang Tao and Chuanping Liu

Geochemical and anthropogenic constraints on the microbial reduction of Fe(III) in iron-rich soils.

Biodegradation of marine surface floating crude oil in a large-scale field simulated experiment

Mutai Bao,* Peiyan Sun,* Xiaofei Yang, Xinping Wang, Lina Wang, Lixin Cao and Fujuan Li

Biodegradation of marine surface floating crude oil with hydrocarbon degrading bacteria, rhamnolipid biosurfactants, and nutrients was carried out by a large-scale field simulated experiment in this paper.

First measurements of a carbon dioxide plume from an industrial source using a ground based mobile differential absorption lidar

R. A. Robinson,* T. D. Gardiner, F. Innocenti, A. Finlayson, P. T. Woods and J. F. M. Few

We report on the development and demonstration of a DIAL system able to measure the mass emission rate of CO₂ in the plume from a power station.

A long-term static immersion experiment on the leaching behavior of heavy metals from waste printed circuit boards

Guo-hua Zhao,* Xing-zhang Luo, Gui Chen and Yong-jun Zhao

Printed circuit boards (PCBs) are the main components of electrical and electronic equipment (EEE).

An efficient dye-sensitized BiOCl photocatalyst for air and water purification under visible light irradiation

Guisheng Li,* Bo Jiang, Shuning Xiao, Zichao Lian, Dieqing Zhang, Jimmy C. Yu* and Hexing Li*

An RhB-BiOCl system was proved effective for treating both air and water pollutants under visible light irradiation.

1981

First evaluation of the threat posed by antifouling biocides in the Southern Adriatic Sea

Sonia Manzo,* Giuliana Ansanelli, Luisa Parrella, Giuseppe Di Landa, Paolo Massanisso, Simona Schiavo, Carmine Minopoli, Bruno Lanza, Raffaella Boggia, Pellumb Aleksii and Afrim Tabaku

The harmful effects of antifouling biocides in Southern Adriatic Sea water have been evaluated combining different and complementary methodologies thus allowing a deep and robust interpretation of the data.

1994

Risk assessment of butyltins based on a fugacity-based food web bioaccumulation model in the Jincheng Bay mariculture area: I. model development

Yanbing Hu, Xianghong Gong, Yingjiang Xu, Xiukai Song, Huihui Liu, Xuxiu Deng and Shaoguo Ru*

A fugacity-based model was developed to simulate the bioaccumulation of butyltins in the food web of the Jincheng Bay mariculture area.

2002

Risk assessment of butyltins based on a fugacity-based food web bioaccumulation model in the Jincheng Bay mariculture area: II. Risk assessment

Yanbing Hu, Xiukai Song, Xianghong Gong, Yingjiang Xu, Huihui Liu, Xuxiu Deng and Shaoguo Ru*

A fugacity-based food web bioaccumulation model was constructed, and the biotic concentrations of butyltins in the food web of the Jincheng Bay mariculture area were estimated accordingly, using the water and sediment concentrations described in the accompanying paper (Part I).

2007

Interpolation of extensive routine water pollution monitoring datasets: methodology and discussion of implications for aquifer management

Yuval,* Yaara Rimon, Ellen R. Graber and Alex Furman

We present methodology for mapping groundwater pollution plumes in a large aquifer while also delineating the clean areas that are fit for water production.

2018

Simultaneous removal of inorganic and organic compounds in wastewater by freshwater green microalgae

Guang-Jie Zhou, Guang-Guo Ying,* Shan Liu, Li-Jun Zhou, Zhi-Feng Chen and Fu-Qiang Peng

The microalgae used in the wastewater treatment can not only effectively assimilate inorganic nitrogen and phosphorus for growth, but also remove heavy metals and organic substances.

2028

Contamination event detection using multiple types of conventional water quality sensors in source water

Shuming Liu,* Han Che, Kate Smith and Lei Chen

A correlative relationship between multiple types of conventional sensors can be used to detect a contamination event.

2039

Using multi-walled carbon nanotubes (MWNTs) for oilfield produced water treatment with environmentally acceptable endpoints

Qammer Zaib, Oluwajinmi Daniel Aina and Farrukh Ahmad*

In this study, multi-walled carbon nanotubes (MWNTs) were employed to remove benzene, toluene, ethylbenzene, and xylenes (BTEX) from low and high salinity water pre-equilibrated with crude oil.