

Cover

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Inside cover

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NEWS

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News

Mike Sharpe provides a summary of the latest environmental news, literature and legislation.

PROFILE

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Emerging Investigators

Journal of Environmental Monitoring profiles three Emerging Investigators whose work is featured in this issue.

Persistent organic pollutants in Antarctica: current and future research priorities

Susan Bengtson Nash*

Priority research and monitoring efforts are identified for effective advancement of South Polar persistent organic pollutant (POP) research.

PAPERS

505

Presence and partitioning properties of the flame retardants pentabromotoluene, pentabromoethylbenzene and hexabromobenzene near suspected source zones in NorwayHans Peter H. Arp,* Thomas Møskeland,
Patrik L. Andersson and Jenny Rattfelt Nyholm

HBB is present in diverse environmental samples and geographic regions in Norway, but not PBT and PBEB. All three compounds exhibit properties favoring wide environmental dissemination.

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Monitoring fluvial water chemistry for trend detection: hydrological variability masks trends in datasets covering fewer than 12 yearsNicholas J. K. Howden,* Tim P. Burt, Fred Worrall
and Michael J. Whelan

This paper sub-samples four 35 year water quality time series to consider the potential influence of short term hydrological variability on process inferences made from analysis of different periods of record.

COMMUNICATION

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Occurrence of organochlorine pesticides in indoor dustElvira V. Bräuner,* Philipp Mayer, Lars Gunnarsen,
Katrin Vorkamp and Ole Raaschou-Nielsen

Indoor dust can be an important DDT exposure source.

Size-selective sampling of particulates using a physiologic sampling pump

Larry A. Lee,* Eun Gyung Lee, Taekhee Lee,
Seung Won Kim, James E. Slaven and Martin Harper

A modified air sampling cyclone modulates air flow to follow a person's inhalation rate without altering sampling efficiency.

Assessing the risk to firefighters from chemical vapors and gases during vehicle fire suppression

Kenneth W. Fent* and Douglas E. Evans

According to an additive mixture analysis, unacceptable levels of exposure to gases and vapors were observed during vehicle fire suppression.

On the ability of consumer electronics microphones for environmental noise monitoring

Timothy Van Renterghem,* Pieter Thomas,
Frederico Dominguez, Samuel Dauwe, Abdellah Touhafi,
Bart Dhoedt and Dick Botteldooren

Low-cost microphones appearing in consumer electronics can be used for environmental noise monitoring with only limited loss in accuracy.

Biomonitoring ^{210}Po and ^{210}Pb in marine brachyuran crabs collected along the coast of Kudankulam, Gulf of Mannar (GOM), India

M. Feroz Khan,* S. Umarajeswari and S. Godwin Wesley

In this study, brachyuran crabs are found to be excellent sentinel species for marine radioactive pollution.

Toxic and essential elements in blood from delivering women in selected areas of São Paulo State, Brazil

Cibele V. C. Rudge,* Iracema M. P. Calderon,
Marilza V. C. Rudge, Gustavo Volpato, João L. P. Silva,
Geraldo Duarte, Corintio M. Neto, Nelson Sass,
Rosiane Mattar, Halina B. Röllin, Yngvar Thomassen
and Jon Ø. Odland

We evaluate the degree of environmental contamination and possible exposure of pregnant women to toxic elements.

Littoral diatoms as indicators of recent water and sediment contamination by metals in lakes

Antonella Cattaneo,* Yves Couillard, Sybille Wunsam
and Claude Fortin

In this study, we demonstrate that benthic diatom assemblages collected in littoral sediment cores are suitable for metal contamination biomonitoring.

High throughput analysis of solid-bound endocrine disruptors by LDTD-APCI-MS/MS

Liza Viglino, Michèle Prévost and Sébastien Sauvé*

We report a method for the simple extraction of bound steroid hormones and parabens from soils, sediments and sewage sludge and their quantification using a fast LDTD interface for APCI-MS/MS analysis within half a minute.

Effects of silicon on copper toxicity in *Erica andevalensis* Cabezudo and Rivera: a potential species to remediate contaminated soils

Sabina Rossini Oliva,* Maria Dolores Mingorance
and Eduardo O. Leidi

Erica andevalensis forms phytoliths in the leaves when treated with Si that might have some contribution to enhance Cu tolerance.

Polycyclic aromatic hydrocarbons and ecotoxicological characterization of sediments from the Huaihe River, China

Jie Fu, Yan-Hua Ding, Luo Li, Sheng Sheng, Teng Wen, Lu-Ji Yu, Wu Chen, Shu-Qing An* and Hai-Liang Zhu*

The distribution, source, ecological risk and ecotoxicity of polycyclic aromatic hydrocarbons (PAHs) of sediments from 7 sampling sites in the Huaihe River basin, China, have been investigated. Through the assessment of ecological risk, we found that the levels of PAHs in the Huaihe River should not exert adverse biological effects.

Evaluation of electrochemical processes for the removal of several target aromatic hydrocarbons from petroleum contaminated water

Yamen AlSalka,* François Karabet and Shahir Hashem

A number of physicochemical processes are contributed to remove several target petroleum aromatic hydrocarbons from contaminated surface and groundwater by an optimised electrochemical treatment method using aluminium electrodes.

Impact of salinity and pH on phytoplankton community in a tropical freshwater system: An investigation with pigment analysis by HPLC

Parthasarathi Chakraborty,* Tamoghna Acharyya, P. V. Raghunadh Babu and Debasmita Bandyopadhyay

An *in vitro* study was carried out to understand the effects of salinity shock and variation in pH on phytoplankton communities in a tropical freshwater system of the Godavari river, India.

Development of an *in vitro* method to estimate lung bioaccessibility of metals from atmospheric particles

Caboche Julien, Perdrix Esperanza, Malet Bruno and Laurent Y. Alleman

Results obtained have demonstrated the importance to employ a Gamble solution and an extraction time of 24 h to estimate metal bioaccessibility. Furthermore, a large range of S/L ratio values (from 1/500 to 1/50 000) may be used without significantly influencing metal bioaccessibility.

Ambient concentrations of airborne endotoxin in two cities in the interior of British Columbia, Canada

Janice Allen, Karen Bartlett, Mark Graham and Peter Jackson*

Ambient endotoxin levels in two inland cities in British Columbia, Canada.

Refinement and validation of an exposure model for the pharmaceutical industry

Patricia E. Mc Donnell,* John W. Cherrie, Anne Sleuwenhoek, Andy Gilles and Marie A. Coggins

This paper describes the refinement and validation of an exposure model specifically for the pharmaceutical industry.

PBDEs and PCBs in the liver of the St Lawrence Estuary beluga (*Delphinapterus leucas*): a comparison of levels and temporal trends with the blubber

Meriem Raach,* Michel Lebeuf and Émilien Pelletier

We compared the temporal trends of PBDEs and PCBs in liver and blubber of beluga. This study demonstrates that the liver is a better indicator of recent exposure to POPs.

Seasonal evaluation of outdoor/indoor air quality in primary schools in Lisbon

P. N. Pegas,* C. A. Alves, M. G. Evtyugina, T. Nunes, M. Cerqueira, M. Franchi, C. A. Pio, S. M. Almeida, S. Cabo Verde and M. C. Freitas

The measurements in this study were performed in schools located in Lisbon, Portugal; this figure shows the bad conditions of the building of one school studied and the overcrowded school materials and art works that favour the emission of pollutants and their accumulation.

Microcystins and cyanobacteria trends in a 14 year monitoring of a temperate eutrophic reservoir (Aguieira, Portugal)

Vitor Vasconcelos,* João Morais and Micaela Vale

Several year monitoring plans are needed to evaluate cyanotoxin risk and to develop new guideline values for cyanobacteria density in freshwaters.

An innovative statistical approach for analysing non-continuous variables in environmental monitoring: assessing temporal trends of TBT pollution

José António Santos,* Susana Galante-Oliveira and Carlos Barroso

The present work proposes the ordered logit regression model to analyse ordinal variables in environmental monitoring studies and to assess the temporal evolution of the environmental risk, using TBT pollution assessment programmes as a case study.

Assessment on the distribution and partitioning characteristics of polycyclic aromatic hydrocarbons (PAHs) in Lake Baiyangdian, a shallow freshwater lake in China

Wei Guo, Yuansheng Pei,* Zhifeng Yang and Changhui Wang

Distribution and partitioning characteristics of PAHs in water, SPM, sediment, and hydrophyte in Lake Baiyangdian in northern China were assessed.

Distribution and partitioning of aliphatic hydrocarbons and polycyclic aromatic hydrocarbons between water, suspended particulate matter, and sediment in harbours of the West coastal of the Gulf of Tunis (Tunisia)

Nadia Mzoughi* and Lassaad Chouba

We investigate the distribution, sources and partitioning of aliphatic hydrocarbons and PAH between water, sediment and suspended particulate matter in three important harbours in the Gulf of Tunis (Tunisia).

Geographic differences in organic contaminants and stable isotopes ($\delta^{13}\text{C}$, $\delta^{15}\text{N}$) in thick-billed murre (*Uria lomvia*) eggs from Alaska

Stacy S. Vander Pol,* Keith A. Hobson, Paul R. Becker, Rusty D. Day, Michael B. Ellisor, Rebecca S. Pugh and David G. Roseneau

Contaminants and stable isotope levels varied with geography in Alaskan thick-billed murre (*Uria lomvia*) eggs.

Integration of high volume portable aerosol-to-hydrosol sampling and qPCR in monitoring bioaerosols

Qishuang He and Maosheng Yao*

The integration of a high volume, portable aerosol-to-hydrosol sampling technique and quantitative polymerase chain reaction (qPCR) demonstrated promise in bioaerosol monitoring.

Recovery of a freshwater wetland from chemical contamination after an oil spill

Haipu Bi, David Rissik, Miroslava Macova, Laurence Hearn, Jochen F. Mueller and Beate Escher*

Passive sampling with chemical and bio-analysis helped monitoring the clean-up efforts after an oil spill on an Australian sand island.

Stream water nutrient enrichment in a mixed-use watershed

K. W. King* and J. C. Balogh

Long-term watershed-scale golf course monitoring shows seasonal losses of nutrients. Phosphorus concentrations routinely exceed recommended thresholds to minimize eutrophication.

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Saharan dust contribution to PM₁₀, PM_{2.5} and PM₁ in urban and suburban areas of Rome: a comparison between single-particle SEM-EDS analysis and whole-sample PIXE analysis

Luca Matassoni,* Giovanni Pratesi, Damiano Centioli, Fabio Cadoni, Franco Lucarelli, Silvia Nava and Piergiorgio Malesani

Mineral contribution to PM concentration values in Rome was always high, suggesting an influence of resuspended particulate.

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Distribution and ecotoxicological significance of trace element contamination in a ~150 yr record of sediments in Lake Chaohu, Eastern China

Y. M. Han,* J. J. Cao, T. C. Kenna, Beizhan Yan, Z. D. Jin, F. Wu and Z. S. An

This study reconstructs the pollution history of trace elements in Chaohu Lake and differentiates between natural and anthropogenic inputs.

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Design and laboratory testing of a new flow-through directional passive air sampler for ambient particulate matter

Chun Lin, Maria Angeles Solera Garcia, Roger Timmis and Kevin C. Jones*

A new design of flow-through passive air sampler, with separate angular channels for directionally collecting particulate matter in ambient air.