

NEWS

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2677

**JEM News**

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

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2685

**News from China**

Liang-Hong Guo

An occasional series featuring work from China that may be valuable to the JEM community – summarised by our Associate Editor, Liang-Hong Guo.

2687

**The role of 'Big Society' in monitoring the state of the natural environment**

Colin Mackechnie,\* Lindsay Maskell, Lisa Norton and David Roy

Using the UK as a case study, two monitoring schemes which involve volunteers are explored to indicate how Big Society 70 involvement may or may not contribute successfully to environmental monitoring.

COMMUNICATION

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2692

**Pollution of soils with organophosphorus flame retardants and plasticizers**

Elke Fries\* and Ivana Mihajlović

Organophosphorus flame retardants and plasticizers like TCEP, TCPP and TBEP occur in soils according to atmospheric deposition.

PAPERS

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2695

**Mercury fate in ageing and melting snow: Development and testing of a controlled laboratory system**

Erin Mann, Torsten Meyer, Carl P. J. Mitchell and Frank Wania\*

In a controlled laboratory setting, mercury present in artificial snow can be recovered quantitatively from gaseous emissions and from the dissolved and particulate fractions of melt water.

2703

**Improving suspended sediment measurements by automatic samplers**

Melissa Gettel, John S. Gulliver,\* Masoud Kayhanian, Gregory DeGroot, Joshua Brand, Omid Mohseni and Andrew J. Erickson

A modified sampling device comprised of a winged arm and multiple tubes was developed and found to improve the accuracy of sampling suspended sediment by automatic samplers.

2710

**Sampling approaches to predict urban street noise levels using fixed and temporary microphones**

Arnaud Can,\* Timothy Van Renterghem, Michael Rademaker, Samuel Dauwe, Pieter Thomas, Bernard De Baets and Dick Botteldooren

Requirements for the prediction of daily noise indicators and real time monitoring are investigated in this paper.

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2720

**Processing and analysis of roadway runoff micro (< 20 µm) particles**

Masoud Kayhanian\* and Brandon Givens

Raw water particles processed with the conventional method of using filter paper produced large errors in particle concentration and elemental composition.

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2728

**Environmental exposure to POPs and heavy metals in urban children from Dhaka, Bangladesh**

Linda Linderholm, Kristina Jakobsson, Thomas Lundh, Rausan Zamir, Mohammad Shoeb, Nilufar Nahar and Åke Bergman\*

Assessment of POPs and heavy metals in children from Dhaka Bangladesh.

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2735

**An independent review and prioritization of past radionuclide and chemical releases from the Los Alamos National Laboratory – implications for future dose reconstruction studies**

Matthew H. Le,\* John E. Buddenbaum, Robert E. Burns Jr., Joseph J. Shonka, Shannon H. Gaffney, Ellen P. Donovan, Susan M. Flack and Thomas E. Widner

This paper highlights the key sources of information that were retrieved and archived for use during the Los Alamos Historical Document Retrieval and Assessment (LAHDRA) project.

2748

**Mercury wet deposition in rural Korea: concentrations and fluxes**

Myeong-Chan Ahn, Seung-Muk Yi, Thomas M. Holsen and Young-Ji Han\*

Elevated Hg(p) concentrations and the enhanced scavenging efficiency of snow for Hg(p) were responsible for the elevated VWM Hg(T) concentrations during snow events.

2755

**Optimizing water quality monitoring networks using continuous longitudinal monitoring data: a case study of Wen-Rui Tang River, Wenzhou, China**

Kun Mei, Yuanli Zhu, Lingling Liao, Randy Dahlgren, Xu Shang and Minghua Zhang\*

We demonstrate the use of continuous longitudinal water quality monitoring to optimize the location of discrete water quality monitoring sites in a study area located at an urban-agricultural-wetland interface in eastern China.

2763

**Paramagnetic antibody-modified microparticles coupled with voltammetry as a tool for isolation and detection of metallothionein as a bioindicator of metal pollution**

Libuse Trnkova, Ivo Fabrik, Dalibor Huska, Helena Skutkova, Miroslava Beklova, Jaromir Hubalek, Vojtech Adam, Ivo Provaznik and Rene Kizek\*

We test a new protocol for the isolation of metallothioneins from tissue of guppy fish treated with silver(I) ions based on antibody-linked paramagnetic particles.

2770

**Kinetics and reversibility of micropollutant sorption in sludge**

Maialen Barret, H el ene Carr ere, \* Mathieu Patau and Dominique Patureau

Based on an innovative approach considering sorption to colloids/particles and sequestration, this paper shows PAH sorption on sludge is reversible.

2775

**Occurrence of chlorinated and brominated polycyclic aromatic hydrocarbons in surface sediments in Shenzhen, South China and its relationship to urbanization**

Jian-Lin Sun, Hong-Gang Ni and Hui Zeng\*

The levels of Cl-/BrPAHs in the surface sediments seem to be governed by the different urbanization stage.

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2782

**Development of electrochemical based sandwich enzyme linked immunosensor for *Cryptosporidium parvum* detection in drinking water**

Chinnasamy Thiruppathiraja, Veerappan Saroja, Senthilkumar Kamatchiammal, Periyakaruppan Adaikkappan and Muthukaruppan Alagar\*

We developed a simple AuNP based electrochemical immunosensor to detect *C. parvum* in drinking water samples.

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2788

**A 100 year sedimentary record of heavy metal pollution in a shallow eutrophic lake, Lake Chaohu, China**

Fengyu Zan, Shouliang Huo,\* Beidou Xi,\* Jing Su, Xiang Li, Jingtian Zhang and Kevin M. Yeager

This study investigated the 100 year sedimentary record of heavy metal pollution in a shallow eutrophic lake, Lake Chaohu, China.

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2798

**Accumulation of ammonia and other potentially noxious gases on live export shipments from Australia to the Middle East**

M. K. Pines and C. J. C. Phillips\*

Concentrations of noxious gases were monitored in shipments of livestock from Australia to the Middle East, and environmental drivers identified.

2808

**Developing transboundary river basin monitoring programmes using the DPSIR indicator framework**

J. G. Timmerman, \* E. Beinat, C. J. A. M. Termeer and W. P. Cofino

Organizing the information problem helps to determine what useful information is and leads to a better understanding of the decision context.

2819

**Spatiotemporal trend analysis of recent river water quality conditions in Japan**

Pingping Luo, Bin He, Kaoru Takara, Bam H. N. Razafindrabe, Daniel Nover and Yosuke Yamashiki

We evaluated the spatiotemporal trends of BOD, COD, DO, TN, TP, and pH in 92 major rivers in Japan, using the available water quality data from 1992 to 2005.

2830

**Environmental hazard of cadmium, copper, lead and zinc in metal-contaminated soils remediated by sulfosuccinamate formulation**

Maria del Carmen Hernández-Soriano, Aránzazu Peña and M. Dolores Mingorance\*

The rate of metal release and the alteration of metal distribution in soil phases after soil washing with a sulfosuccinamate surfactant solution (Aerosol 22) were evaluated for four contaminated soils.

2838

**Occurrence and distribution of benzothiazole in the Schwarzbach watershed (Germany)**

Elke Fries, \* Tilman Gocht and Jörg Klasmeier

The micropollutant benzothiazole (BT) occurs ubiquitously in river water collected from the Schwarzbach watershed in Germany.

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2844

**Size distribution and composition of phosphorus in the East Tiao River, China: The significant role of colloids**

Jin Liu, Xinqiang Liang, \* Jianjun Yang, Yushi Ye, Miaomiao Su, Zeyu Nie and Yingxu Chen

Colloids act as the buffer in the dynamically balanced transfer of P from truly dissolved phase to large particulate phase.

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2851

**Penetration of polar brominated DBPs through the activated carbon columns during total organic bromine analysis**

Yao Li, Xiangru Zhang, \* Stuart W. Krasner, Chii Shang, Hongyan Zhai, Jiaqi Liu and Mengting Yang

Ozone-modified activated carbon was proved to minimize the penetration of brominated disinfection byproducts and improve the total organic bromine measurement.

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2858

**Sorption of phthalate acid esters on black carbon from different sources**

Xinghui Xia, \* Zhineng Dai and Ju Zhang

This study has proved that black carbon is also a strong sorbent for nonplanar hydrophobic organic compounds such as phthalate acid esters with a high molecular weight (390).

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2865

**Chemical speciation and partitioning of trace metals (Cd, Co, Cu, Ni, Pb) in the lower Athabasca river and its tributaries (Alberta, Canada)**

C. Guéguen, \* O. Clarisse, A. Perroud and A. McDonald

The independent study reports metal speciation in the lower Athabasca River and its tributaries affected by the oil sands industry.

2873

**Impact of elevated O<sub>3</sub> on visible foliar symptom, growth and biomass of *Cinnamomum camphora* seedlings under different nitrogen loads**

Junfeng Niu, Weiwei Zhang, Zhaozhong Feng,\*  
Xiaoke Wang\* and Yuan Tian

We investigate the growth response of *C. camphora* at three levels of O<sub>3</sub> concentration in combination with three regimes of nitrogen loads for two growing seasons.

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2880

**Atmospheric deposition of polybrominated dibenzo-*p*-dioxins and dibenzofurans in Guangzhou, China: seasonal variations and sources**

Man Ren,\* Lin Zhou, Ping'an Peng, De Yi Chen  
and Ying Cai

Deposition fluxes of PBDD/Fs in Guangzhou were measured and found to generally increase at high temperatures and rainfall.

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2886

**Spatiotemporal classification of environmental monitoring data in the Yeongsan River basin, Korea, using self-organizing maps**

Y.-H. Jin,\* A. Kawamura, S.-C. Park, N. Nakagawa,  
H. Amaguchi and J. Olsson

Two main radar charts for median values of the standardized reference vectors by SOMs for runoff and water quality parameters are studied.

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2895

**Fungal DNA in hotel rooms in Europe and Asia—associations with latitude, precipitation, building data, room characteristics and hotel ranking**

Dan Norbäck\* and Gui-Hong Cai

Levels of fungal DNA were measured in hotel rooms in Europe and Asia, and related to climate conditions, location, building and room characteristics and ranking of the hotel.



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2904

**Restoration of taxonomic and functional genes after bioaugmentation of petroleum contaminated soil**

Zuojun Wu, Liangdong Zou, Diannan Lu and Zheng Liu\*

Cloning libraries of taxonomic and functional genes were established for assessing the restoration of the microbial community and its capability for transforming nutrients after bioaugmentation of petroleum contaminated soil.

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2914

**Whole-cell bacterial biosensors for rapid and effective monitoring of heavy metals and inorganic pollutants in wastewater**

Ademola O. Olaniran,\* Lettisha Hiralal and Balakrishna Pillay

Effective monitoring of heavy metals and inorganic pollutants toxicity in wastewater effluents by the constructed *pLUX*-based whole-cell bacterial biosensors.

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2921

**Biomarkers of internal dose for the assessment of environmental exposure to benzene**

Piero Lovreglio,\* Maria Nicolà D'Errico, Silvia Fustinoni, Ignazio Drago, Anna Barbieri, Laura Sabatini, Mariella Carrieri, Pietro Apostoli and Leonardo Soleo

Urinary benzene seems to be a more valid biomarker of internal dose than *t,t*-muconic acid and *S*-phenylmercapturic acid to assess environmental exposure to extremely low concentrations of benzene.

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2929

**Contamination levels of human pharmaceutical compounds in French surface and drinking water**

S. Mompelat, O. Thomas and B. Le Bot\*

An investigation into the occurrence of twenty human pharmaceutical compounds in resource and drinking water to gain a greater understanding of their distribution for a further human health risk assessment.

2940

**Determination of resin acids during production of wood pellets—a comparison of HPLC/ESI-MS with the GC/FID MDHS 83/2 method**

Sara Axelsson,\* Kåre Eriksson and Ulrika Nilsson

An HPLC/pos ESI-MS method was compared with a GC/FID method for the determination of 7-oxodehydroabietic, dehydroabietic and abietic acid in airborne wood dust from wood pellet production plants.

TECHNICAL NOTE

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2946

**Estimation of Model VII humic binding constants for  $\text{Pd}^{2+}$ ,  $\text{Sn}^{2+}$ ,  $\text{U}^{4+}$ ,  $\text{NpO}_2^{2+}$ ,  $\text{Pu}^{4+}$  and  $\text{PuO}_2^{2+}$**

Anthony Stockdale,\* Nick D. Bryan and Stephen Lofts

Determination of speciation-model binding constants for several radionuclide cations.