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JEM News

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

CRITICAL REVIEWS

2360

The effects of organotin on female gastropods

Cassander P. Titley-O'Neal,* Kelly R. Munkittrick and Bruce A. MacDonald

This review found >260 recorded species of female gastropods showing signs of male characters and >40 species that did not.

CRITICAL REVIEWS

2389

Science and strategies to reduce mercury risks: a critical review

Noelle E. Selin*

Risks from mercury pollution cross spatial and temporal scales, and this analysis reviews the scientific and political challenges in dealing with this multifaceted issue.

PAPERS

2400

Exposure assessment for methyl and total mercury from seafood consumption in Korea, 2005 to 2008

Hyo-Bang Moon,* Sang-Jo Kim, Hyejin Park, Yun Sun Jung, Suuggyu Lee, Yun-Hee Kim and Minkyu Choi

We estimated intakes of Me-Hg and T-Hg through seafood consumption for the general population and specific subpopulations according to sex and age in Korea.

2406

Catalytic hydrodechlorination of 1,2-dichloroethane using copper nanoparticles under reduction conditions of sodium borohydride

Chang-Chieh Huang, Shang-Lien Lo, Shin-Mu Tsai and Hsing-Lung Lien*

We present the use of copper nanoparticles for effective degradation of 1,2-DCA under reducing conditions.

2413

Biomonitoring for exposure to multiple trace elements *via* analysis of urine from participants in the Study of Metals and Assisted Reproductive Technologies (SMART)

Keewan Kim, Amy J. Steuerwald, Patrick J. Parsons, Victor Y. Fujimoto, Richard W. Browne and Michael S. Bloom*

Nine of 19 trace elements measured in urine have appropriate characteristics for use as exposure biomarkers in an infertile population.

2420

Occurrence of PAHs and PCBs in the Alna River, Oslo (Norway)

Ian John Allan* and Sissel Brit Rannekleν

Polychlorinated biphenyl congeners (PCBs) were analysed in passive sampler extracts from surface water-exposed semipermeable membrane devices (SPMDs) and in bed sediment samples from a small urban watercourse, the River Alna (Oslo, Norway).

2427

A comparison of rapid and conventional measures of indicator bacteria as predictors of waterborne protozoan pathogen presence and density

Samuel Dorevitch,* Mary Doi, Fu-Chih Hsu, King-Teh Lin, Jennifer D. Roberts, Li C. Liu, Ross Gladding, Ember Vannoy, Hong Li, Margit Javor and Peter A. Scheff

A comparison of conventional and rapid measures of indicator bacteria as predictors of protozoan presence and density in recreational waters.

2436

Acute O_3 damage on first year coppice sprouts of aspen and maple sprouts in an open-air experiment

Joseph N. T. Darbah,* Wendy S. Jones, Andrew J. Burton, John Nagy and Mark E. Kubiske

We studied how high ozone concentration (110–490 nmol mol^{-1}) affects regenerating *Populus tremuloides* and *Acer saccharum* trees at an open-air O_3 pollution experiment near Rhinelander WI USA.

2443

Centrifugal study of zone of influence during air-sparging

Liming Hu,* Jay N. Meegoda, Jianting Du, Shengyan Gao and Xiaofeng Wu

Centrifugal modeling tests were performed to investigate air flow rates and the evolution of the zone of influence during the air sparging under various *g*-levels.

2450

Fractionation and ecological risk of metals in urban river sediments in Zhongshan City, Pearl River Delta

Jiannan Cai,* Yingzi Cao, Haijian Tan, Yanman Wang and Jiaqi Luo

Most areas in the Pearl River Delta have dense river networks. The urban rivers are playing an important role in economic and residential affairs for the local population. Increased attention has been paid to problems caused by river and sediment pollution. As a result, in recent years, urban river protection and remediation are becoming hot issues in environmental management.

2457

Long-term reclaimed water application effects on phosphorus leaching potential in rapid infiltration basins

Daniel R. Moura, Maria L. Silveira, George A. O'Connor* and William R. Wise

Rapid infiltration basins are effective tools for wastewater treatment and groundwater recharge. This paper presents the effects of long-term reclaimed water application on phosphorus leaching potential in rapid infiltration basins.

2463

Accumulation of different sulfur fractions in Chinese forest soil under acid deposition

Zhanyi Wang, Xiaoshan Zhang,* Yi Zhang, Zhangwei Wang and Jan Mulder

Atmospheric sulfur deposition has caused the sulfur accumulation in Chinese forest soils.

2471

Particle-bound polycyclic aromatic hydrocarbons in an urban, industrial and rural area in the western Mediterranean

Montse Varea,* Nuria Galindo, Juan Gil-Moltó, Carlos Pastor and Javier Crespo

No differences in semivolatile PAH profiles between urban and cement industrial PM2.5 samples were observed, so daily variations in PAH concentrations must have been mainly affected by meteorological variables.

2477

A multi-variate methodology for analyzing pre-existing lake water quality data

Keah-Ying Lim and Cristiane Q. Surbeck*

Multivariate data analysis uses a pre-existing water quality dataset combined with streamflow data to extract information on temporal trends.

2488

Distribution, accumulation and mobility of mercury in superficial sediment samples from Tianjin, northern China

Guanghong Wu,* Zheng Wei and Ruixian Su

High Hg concentrations in superficial sediments in Tianjin urban areas were significantly related to Hg emission from a coal-fired power plant.

2496

Photodegradation of Orange II by mesoporous TiO_2

Liyuan Kuang, Yaping Zhao* and Lu Liu*

The complete removal of Orange II in water was achieved using a mesoporous TiO_2 photocatalyst.

2502

***Platanus* pollen season in Andalusia (southern Spain): trends and modeling**

Purificación Alcázar,* Herminia García-Mozo, Maria del Mar Trigo, Luis Ruiz, Francisco José González-Minero, Pablo Hidalgo, Consuelo Díaz de la Guardia and Carmen Galán

Platanus pollen is an aeroallergen, exposure indices and weather-related changes over time are effective data for patients. Regional models are useful to avoid the pollen season study in every city.

2511

Major and trace element partitioning between dissolved and particulate phases in Antarctic surface snow

M. Grotti,* F. Soggia, F. Ardini and E. Magi

The determination of major and trace elements in the different fractions of snow from coastal and inland Antarctica provided a new insight on their occurrence, enrichment and possible sources.

2521

Follow-up study on the effects on well chemistry from biological and chemical remediation of chlorinated solvents

Dane Scott, Allen Apblett and Nicholas F. Materer*

The enduring effects of injected materials used for chemical and biological remediation of chlorinated solvents are examined.

2527

Use of reference chemicals to determine passive uptake rates of common indoor air VOCs by collocation deployment of active and passive samplers

Qiming Xian, Yong-lai Feng, Cecilia C. Chan and Jiping Zhu*

Cost effective generation of uptake rates for a large number of indoor air VOCs using reference chemicals.

2535

Assessment of PAH pollution in the southern Baltic Sea through the analysis of sediment, mussels and fish bile

W. M. Ruczyńska, J. Szlinder-Richert,* M. Malesa-Ciećwierz and Jan Warzocha

PAH metabolites can be considered as markers of flounder exposure to PAHs. However, the analytical methods of PAH metabolites measurement with satisfying selectivity and sensitivity must be developed.

2543

Chemical analyses of spring waters and factor analysis to monitor the functioning of a karstic system. The role of precipitations regimen and anthropic pressures

Federica Capraro, Alessandro Bizzotto, Mauro Masiol and Bruno Pavoni*

The application of factor analysis has revealed the processes behind the variations of chemical–physical parameters of spring waters.

2550

Nitrate leaching to shallow groundwater systems from agricultural fields with different management practices

P. Nila Rekha, R. S. Kanwar, A. K. Nayak, C. K. Hoang and C. H. Pederson

Evaluation study of agricultural best management practices on nitrate leaching to the shallow ground water system in tile drained field.

2559

DNA damage as a biomarker of genotoxic contamination in *Mytilus galloprovincialis* from the south coast of Portugal

Catarina Almeida, Catarina Pereira, Tânia Gomes, Maria João Bebianno and Alexandra Cravo*

DNA damage in haemolymph of *Mytilus galloprovincialis* was used as biomarker of genotoxic contamination along the south coast of Portugal.

2568

Polycyclic aromatic hydrocarbons with molecular weight 302 in $PM_{2.5}$ at two industrial sites in South China

Shilong Wei, Ming Liu, Bo Huang, Xinhui Bi,* Guoying Sheng and Jiamo Fu

This paper presents the characterization of 19 individual PAH isomers with molecular weight (MW) 302 in $PM_{2.5}$ and highlights the importance of high MW PAH risk assessment.

2575

Plutonium uptake and behavior in vegetation of the desert southwest: A preliminary assessment

Eric Caldwell,* Martine Duff, Caitlin Ferguson and Daniel Coughlin

Vegetation as bio-monitors offers insights into the behavior and bio-availability of plutonium in the environment.

2582

Determination of atrazine in surface waters by combination of POCIS passive sampling and ELISA detection

Ivo Černoch, Milan Fránek, Iva Diblíková, Klára Hilscherová, Tomáš Randák, Tomáš Ocelka and Luděk Bláha*

ELISA in combination with POCIS (pictured) revealed elevated atrazine concentrations in rivers affected by waste water treatment plants.

2588

Behaviour of different lichen species as biomonitors of air pollution by PAHs in natural ecosystems

María Blasco, Celia Domeño, Patricia López and Cristina Nerín*

From these results, a basic characterization of the six studied lichens species used as 452 biomonitors of air pollution by PAHs can be established.

2597

Source analysis of particulate matter associated polycyclic aromatic hydrocarbons (PAHs) in an industrial city in northeastern China

Bin Han, Xiao Ding, Zhipeng Bai,* Shaofei Kong and Guanghuan Guo

In this study, PAH concentrations in the urban area of Anshan, an iron and steel city in Liaoning Province, Northeastern China, was measured and characterised.

2605

Size distribution and seasonal variations of particle-associated organochlorine pesticides in Jinan, China

Hongyu Xu, Shiyong Du, Zhaojie Cui,* Houyong Zhang, Guolan Fan and Yongquan Yin

An overall understanding of the residual levels, composition, size distribution and seasonal patterns of particle-associated OCPs in Jinan, China.

2612

Evaluation of the effect of different sampling time periods and ambient air pollutant concentrations on the performance of the Radiello® diffusive sampler for the analysis of VOCs by TD-GC/MS

E. Gallego,* F. J. Roca, J. F. Perales and X. Guardino

Although significant differences are generally observed between the amount of VOC from two shorter sampling intervals *vs.* that collected at a longer period, ratios range between 0.7 and 1.2 in 75% of the cases.

2623

Monitoring fine and ultrafine particles in the atmosphere of a Southeast Chinese city

Le Jian,* Yi-Ping Zhu and Yun Zhao

This study investigated submicron particle levels and provided models to estimate the influence of vehicle density and speed on near-roadway exposure levels in Hangzhou.

2630

Analysis of polycyclic aromatic hydrocarbons in tree-rings of Masson pine (*Pinus massoniana* L.) from two industrial sites in the Pearl River Delta, south China

Yuan-wen Kuang,* Guo-yi Zhou, Da-zhi Wen, Jiong Li and Fang-fang Sun

Tree-ring analysis of PAHs is indicative of airborne PAHs stemming from multi-sources, thus minimizing short-term active air sampling.