

Cover
 See Beat Müller *et al.*, pp. 715-720.
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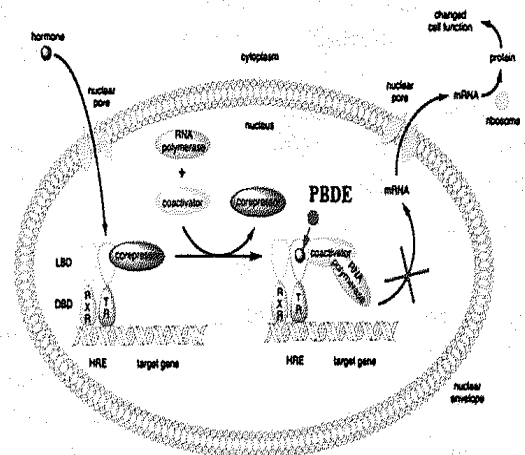
FRONTIER

702

Molecular toxicology of polybrominated diphenyl ethers: nuclear hormone receptor mediated pathways

Xiao-Min Ren and Liang-Hong Guo*

This review focuses on the recent studies on the molecular mechanisms of PBDE toxicities generated through the hormone receptor pathways.



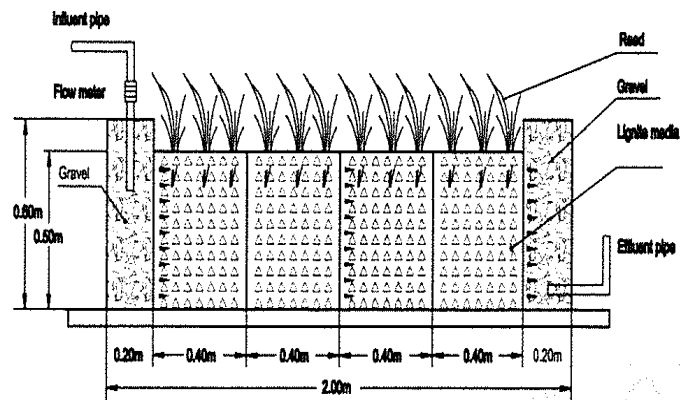
COMMUNICATION

709

Determination and removal of antibiotics in secondary effluent using a horizontal subsurface flow constructed wetland

Chunhui Zhang,* Ke Ning, Wenwen Zhang, Yuanjie Guo, Jun Chen and Chen Liang

The experimental scale of the horizontal subsurface flow constructed wetland.

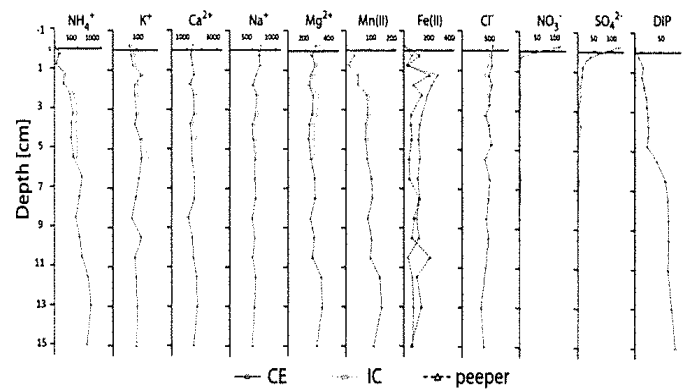


715

Sediment porewater extraction and analysis combining filter tube samplers and capillary electrophoresis

Natascha T. Torres, Peter C. Hauser, Gerhard Furrer, Helmut Brandl and Beat Müller*

A simple and rapid method for the extraction and subsequent analysis of lake sediment porewaters was developed and applied.

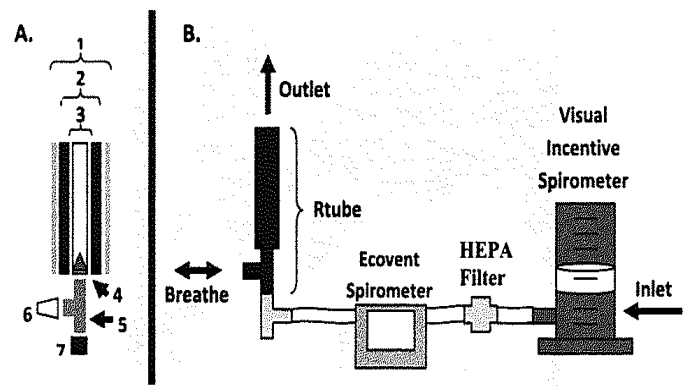


721

Characterization of a portable method for the collection of exhaled breath condensate and subsequent analysis of metal content

Julie R. Fox,* Ernst W. Spannake, Kristin K. Macri, Christine M. Torrey, Jana N. Mihalic, Sorina E. Eftim, Peter S. J. Lees and Alison S. Geyh

We developed and evaluated a portable and economical method for obtaining reproducible exhaled breath condensate measurements of manganese, chromium, nickel and cadmium.

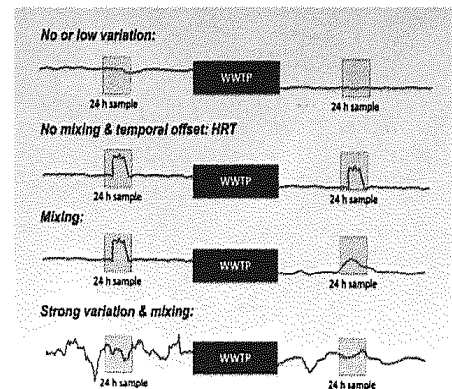


730

A case-study on the accuracy of mass balances for xenobiotics in full-scale wastewater treatment plants

Marius Majewsky,* Julien Farlin, Michael Bayerle and Tom Gallé

The mismatch between sampled influent and effluent loads was identified as a major error source and an explanation was provided for the occurrence of negative mass balances regularly reported.

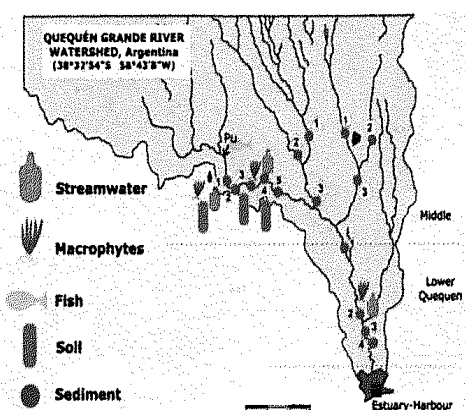


739

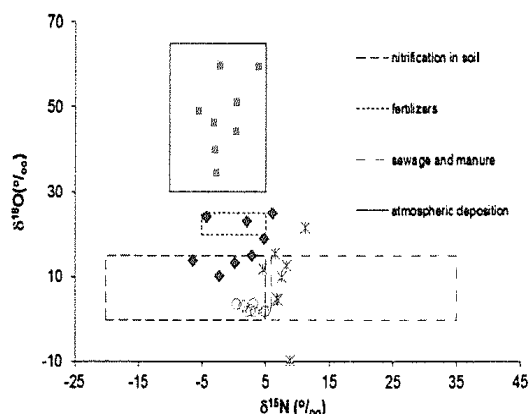
Organic pollutant levels in an agricultural watershed: the importance of analyzing multiple matrices for assessing streamwater pollution

Mariana Gonzalez,* Karina S. B. Miglioranza, Sebastián I. Grondona, Maria Florencia Silva Barni, Daniel E. Martinez and Aránzazu Peña

Analysis of OCPs, PCBs, and PBDEs in six matrices at a watershed scale points out the relevance of a streamwater study since it warns about the risk to aquatic biota and human beings.



751



Determination of nitrate isotopic signature in waters of different sources by analysing the nitrogen and oxygen isotopic ratio

Piotr Koszelnik* and Renata Gruca-Rokosz

This paper reports on the analysis of nitrogen and oxygen end-member values for the nitrate isotopic signature from different sources in central-eastern Europe.

760

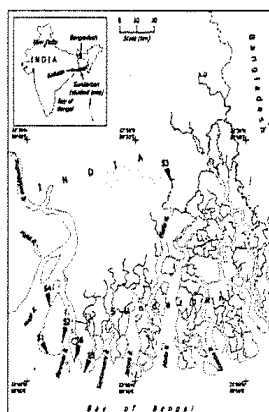


Leachability of chemical constituents in soil-plant systems irrigated with synthetic graywater

Masoud Negahban-Azar, Sybil E. Sharvelle,* Yaling Qian and Alicia Shogbon

This is the first study to evaluate the potential of graywater constituents through soil when graywater is applied for irrigation.

773

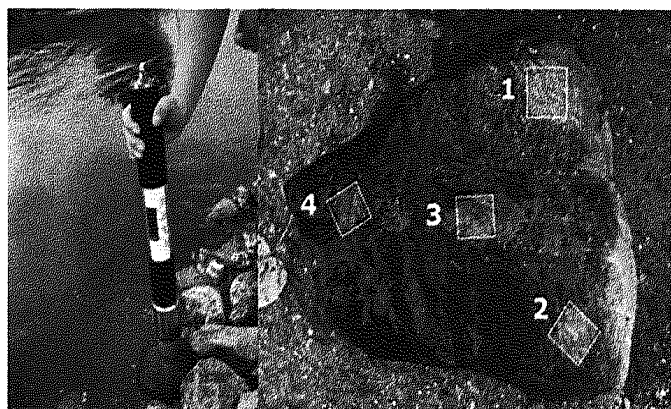


Levels and chemical speciation of arsenic in representative biota and sediments of a tropical mangrove wetland, India

Daniele Fattorini, Santosh Kumar Sarkar,* Francesco Regoli, Bhaskar Deb Bhattacharya, Dibyendu Rakshit, Kamala Kanta Satpathy and Mousumi Chatterjee

Concentrations and chemical speciation of arsenic were characterized in sediments and representative biota from the Indian Sundarban.

783



The influence of hard substratum reflection and calibration profiles on *in situ* fluorescence measurements of benthic microalgal biomass

Corina Carpentier,* Anna Dahlhaus, Nick van de Giesen and Blahoslav Maršálek

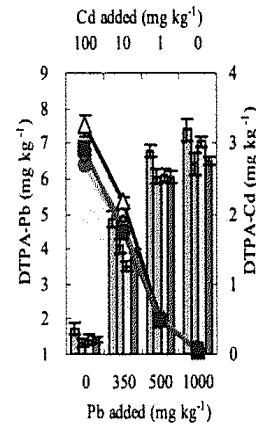
Additional fluorescence caused by substratum reflection requires a novel correction procedure for fluorometric biomass measurements of microphytobenthic biofilms.

794

Contribution of AM inoculation and cattle manure to lead and cadmium phytoremediation by tobacco plants

Fa Yuan Wang,* Zhao Yong Shi, Xiao Feng Xu, Xu Gang Wang and You Jun Li

Arbuscular mycorrhizal inoculation and cattle manure make a synergistic contribution to lead and cadmium phytoremediation by tobacco plants.

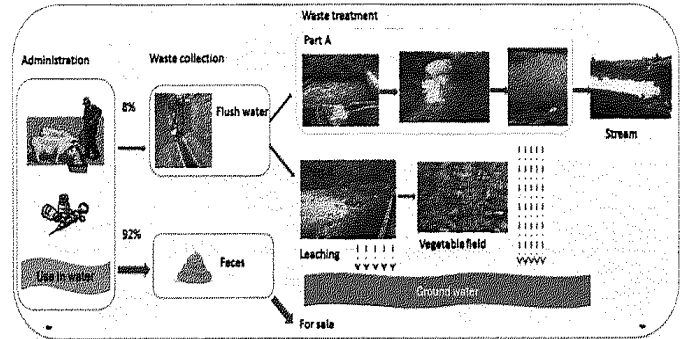


802

Use patterns, excretion masses and contamination profiles of antibiotics in a typical swine farm, south China

Li-Jun Zhou, Guang-Guo Ying,* Rui-Quan Zhang, Shan Liu, Hua-Jie Lai, Zhi-Feng Chen, Bin Yang and Jian-Liang Zhao

Extensive use of antibiotics and inefficient removal in swine farms could result in serious contamination of the surrounding environments.

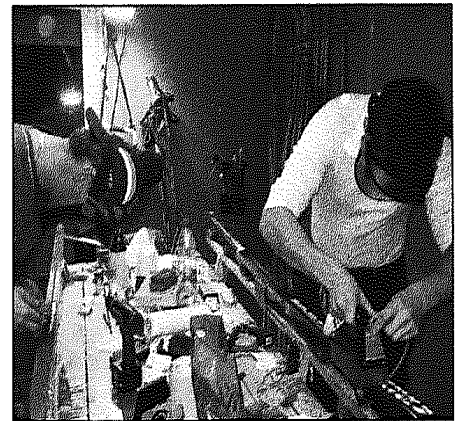


814

Professional ski waxers' exposure to PFAS and aerosol concentrations in gas phase and different particle size fractions

Helena Nilsson,* Anna Kärrman, Anna Rotander, Bert van Bavel, Gunilla Lindström and Håkan Westberg

Previous reports show that professional ski waxers have elevated blood levels of perfluorinated substances (PFAS) such as perfluorooctanoate (PFOA) and are exposed to very high concentrations of PFAS in air during ski waxing.

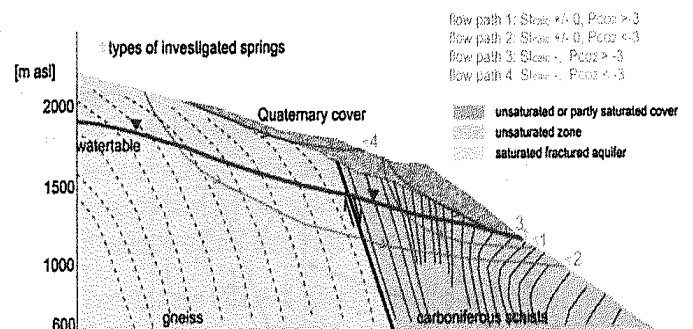


823

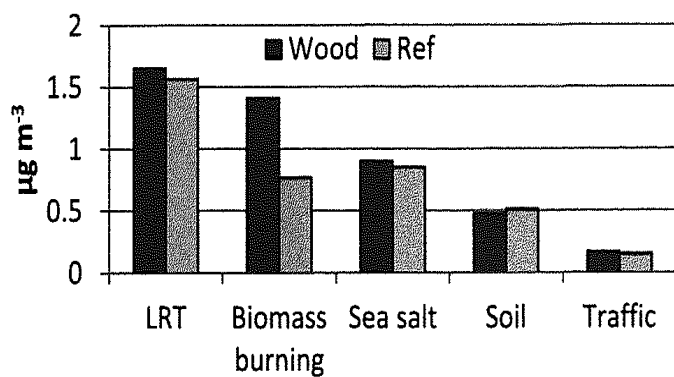
CO₂ partial pressure and calcite saturation in springs – useful data for identifying infiltration areas in mountainous environments

Sylke Hilberg,* Jennifer Brandstätter and Daniel Glück

The use of calcite saturation and CO₂ partial pressure is shown as a tool to determine flow paths in mountainous regions.



833

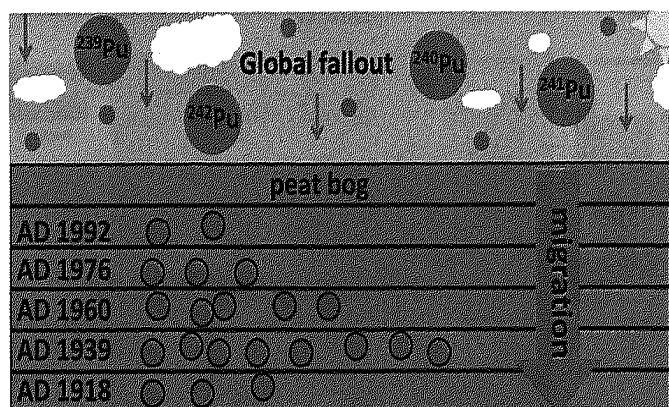


Contribution to PM_{2.5} from domestic wood burning in a small community in Sweden

Peter Molnár* and Gerd Sallsten

Local domestic wood-burning was 25% of the total PM_{2.5} mass and significantly higher concentrations were found for BC, K and Zn in the wood-burning area.

839

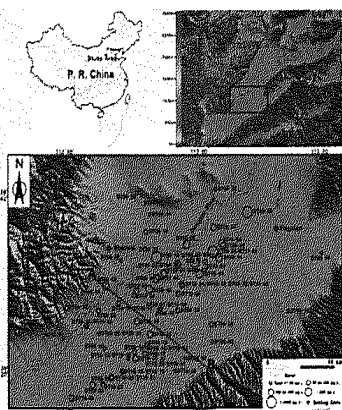


Determination of ²³⁹Pu, ²⁴⁰Pu, ²⁴¹Pu and ²⁴²Pu at femtogram and attogram levels – evidence for the migration of fallout plutonium in an ombrotrophic peat bog profile

Francesca Quinto,* Erich Hrncsek, Michael Krachler, William Shotyk, Peter Steier and Stephan R. Winkler

Identification of the source of plutonium contamination as a sensitive tool for the analysis of its behaviour in the environment.

848

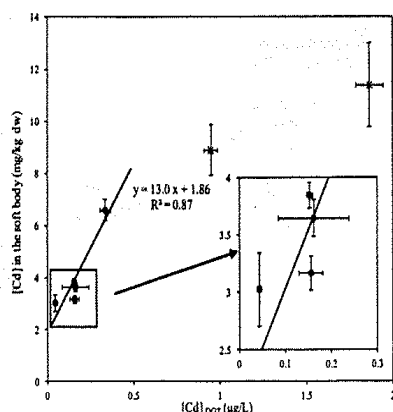


Hydrogeochemistry of high iodine groundwater: a case study at the Datong Basin, northern China

Junxia Li, Yanxin Wang,* Xianjun Xie, Liping Zhang and Wei Guo

To better understand the sources and processes responsible for iodine enrichment in the groundwater of the Datong Basin, the hydrochemical characteristics of groundwater and geochemical features of aquifer sediments were studied.

860



Bioavailability and oxidative stress of cadmium to *Corbicula fluminea*

Jinghua Ren, Jun Luo,* Hongrui Ma, Xiaorong Wang* and Lena Q. Ma

This work set out to study the effects of cadmium in sediments on the antioxidant enzyme activities in the digestive gland of Asian clam *Corbicula fluminea* and to explore the potential for applying these responses to evaluate the Cd-contaminated sediment.

870

Occurrence and partition of antibiotics in the liquid and solid phases of swine wastewater from concentrated animal feeding operations in Shandong Province, China

Weiwei Ben, Xun Pan and Zhimin Qiang*

This study investigated the occurrence and partition of antibiotics in swine wastewater from a typical stockbreeding province of China.



876

Residence time as a key for comprehensive assessment of the relationship between changing land use and nitrates in regional groundwater systems

Yingjie Cao, Changyuan Tang,* Xianfang Song, Changming Liu and Yinghua Zhang

An approach emphasizing the importance of groundwater residence time when relating nitrates to changing land use is put forward.

