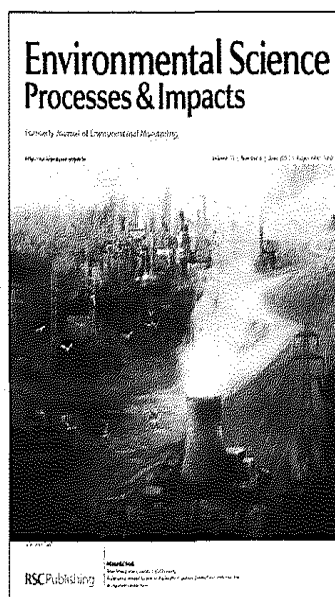


**Cover**

See Shibin Li *et al.*, pp. 1130–1136. Image reproduced by permission of Shibin Li from *Environ. Sci.: Processes Impacts*, 2013, **15**, 1130.



**Inside cover**

See Ariel Miara and Charles J. Vörösmarty, pp. 1113–1126. Image reproduced by permission of Milica Jevtic from *Environ. Sci.: Processes Impacts*, 2013, **15**, 1113.

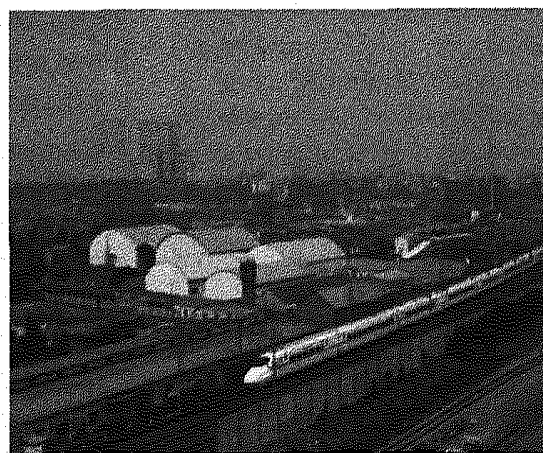
CRITICAL REVIEW

1104

**PAHs in the Chinese environment: levels, inventory mass, source and toxic potency assessment**

Ji-Zhong Wang,\* Cheng-Zhu Zhu and Tian-Hu Chen

China's pollution by carcinogenic PAHs due to energy consumption for manufacturing based economic development is ongoing.



PERSPECTIVE

1113

**A dynamic model to assess tradeoffs in power production and riverine ecosystem protection**

Ariel Miara\* and Charles J. Vörösmarty

A modeling framework to address looming strategic planning decisions as society aims to balance energy security, economic development and environmental protection.

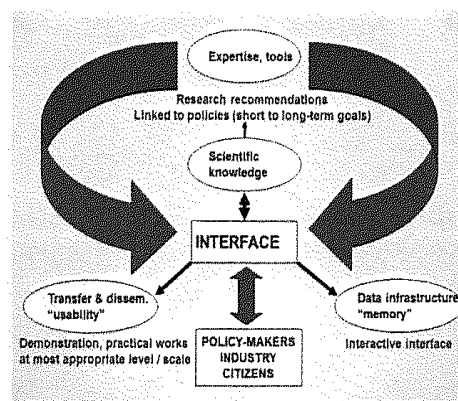


1127

## Environmental science and policy: irreconcilable trends or indissociable partners? A focus on science-policy interfacing in the climate and water sector

Philippe Quevauviller\*

This frontier review examines the interface between science and policy at international, national and regional levels.



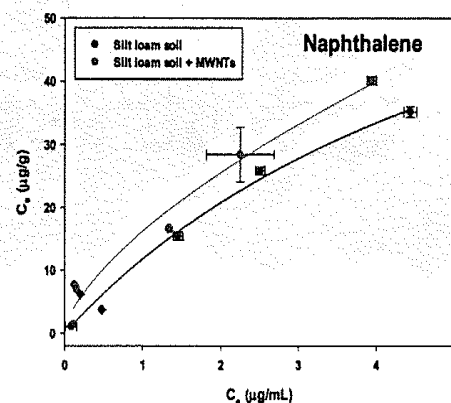
## PAPERS

1130

## Polyaromatic hydrocarbons (PAHs) sorption behavior unaffected by the presence of multi-walled carbon nanotubes (MWNTs) in a natural soil system

Shibin Li,\* Todd A. Anderson, Micah J. Green, Jonathan D. Maul and Jaclyn E. Cañas-Carrell

This study investigated the influence of multi-walled carbon nanotubes (MWNTs) on PAH sorption behavior in a natural soil system.

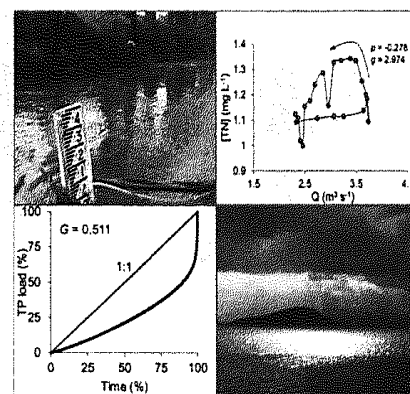


1137

## Quantifying temporal and spatial variations in sediment, nitrogen and phosphorus transport in stream inflows to a large eutrophic lake

J. M. Abell,\* D. P. Hamilton and J. C. Rutherford

Variability in nutrient and suspended sediment loading to a large lake was quantified using high frequency sampling during rain events.

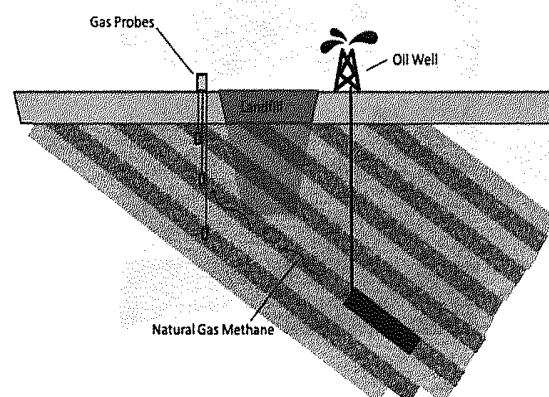


1153

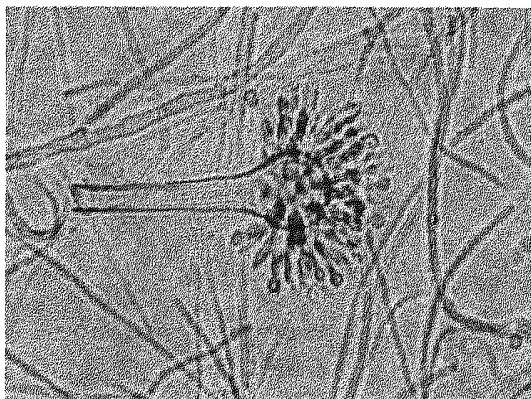
## Evaluation of the age of landfill gas methane in landfill gas-natural gas mixtures using co-occurring constituents

Henry B. Kerfoot,\* Benjamin Hagedorn and Mark Verwiel

Methane radioisotope data are used to compute contributions of natural gas and landfill gas to sample methane concentrations and volatile organic compound concentrations are then used to compute the time since release of the landfill gas.



1162



### A new immunoassay to quantify fungal antigens from the indoor mould *Aspergillus versicolor*

Eva Zahradnik,\* Sabine Kespohl, Ingrid Sander, Ursula Schies, Janett Khosravie-Hohn, Wolfgang Lorenz, Steffen Engelhart, Annette Kolk, Gerd Schneider, Thomas Brüning and Monika Raulf-Heimsoth

This paper reports the development, validation and application of an enzyme immunoassay to quantify the indoor mould *Aspergillus versicolor*.

1172

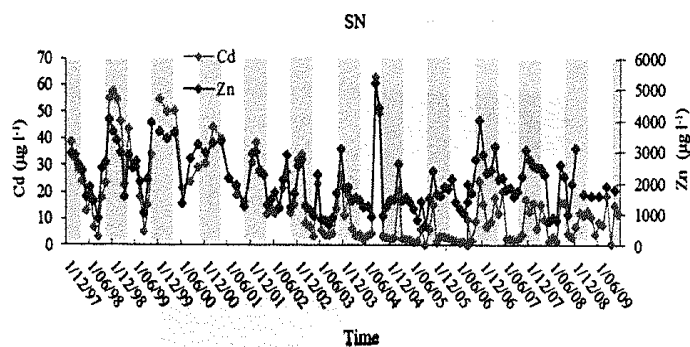


### Field confirmation of modified pressurized solvent extraction vessels for the analysis of polychlorinated biphenyl congeners in blood samples from Great Lakes Mallards (*Anas platyrhynchos*)

Stacey D. Haskins,\* David G. Kelly\* and Ron D. Weir

Field study to confirm the validity of using modified PSE vessels to determine PCB concentrations in non-lethal avian blood volumes.

1181

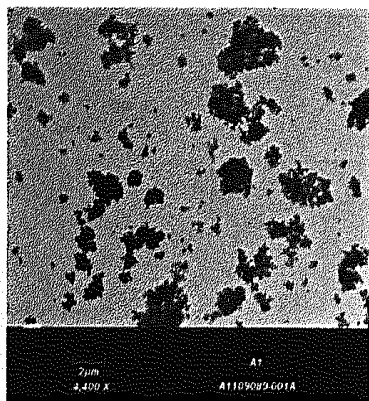


### Does soil water saturation mobilize metals from riparian soils to adjacent surface water? A field monitoring study in a metal contaminated region

Liesbeth Van Laer and Erik Smolders

Monitoring data were analyzed to reveal whether the metal concentration fluctuations are related to seasonal redox reactions in associated contaminated riparian soils.

1191



### Comparison of field portable measurements of ultrafine TiO<sub>2</sub>: X-ray fluorescence, laser-induced breakdown spectroscopy, and Fourier-transform infrared spectroscopy

Ryan F. LeBouf,\* Arthur L. Miller, Christopher Stipe, Jonathan Brown, Nate Murphy and Aleksandr B. Stefaniak

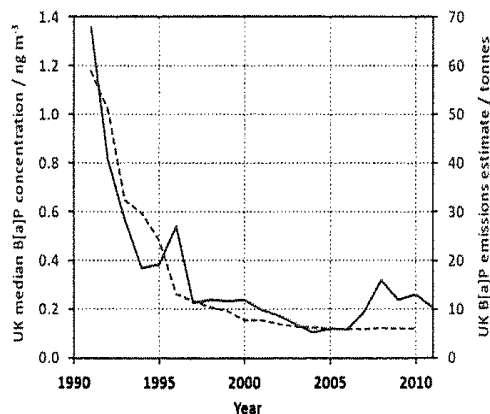
This work compared the measurement of ultrafine titanium dioxide on filters using three techniques.

1199

## Twenty years of measurement of polycyclic aromatic hydrocarbons (PAHs) in UK ambient air by nationwide air quality networks

Andrew S. Brown,\* Richard J. C. Brown, Peter J. Coleman, Christopher Conolly, Andrew J. Sweetman, Kevin C. Jones, David M. Butterfield, Dimitris Sarantaridis, Brian J. Donovan and Ian Roberts

A critical review of the data produced since the commencement of nationwide monitoring of PAHs in UK ambient air.

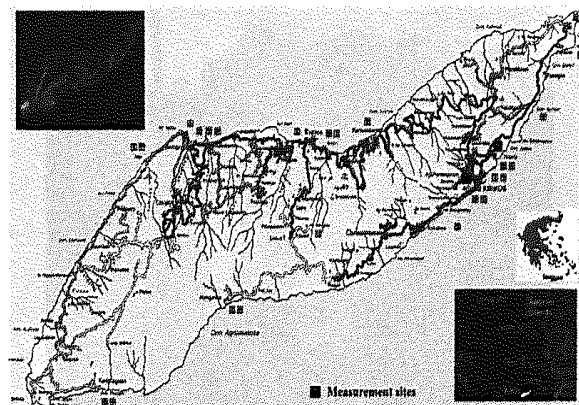


1216

## Dosimetry modelling of transient radon and progeny concentration peaks: results from *in situ* measurements in Ikaria spas, Greece

Dimitrios Nikolopoulos,\* Efstratios Vogianis, Ermioni Petraki, Sofia Kottou, Panayiotis Yannakopoulos, Maria Leontaridou and Anna Louizi

Radon and progeny ( $^{218}\text{Po}$ ,  $^{214}\text{Pb}$ ,  $^{214}\text{Bi}$  and  $^{214}\text{Po}$ ) are radioactive indoor pollutants recognised for the human radiation burden that they induce.



1228

## Furry pet allergens, fungal DNA and microbial volatile organic compounds (MVOCs) in the commercial aircraft cabin environment

Xi Fu,\* Torsten Lindgren, Moran Guo, Gui-Hong Cai, Håkan Lundgren and Dan Norbäck

New data on cat, dog and horse allergens and microbial contamination in aircraft cabins are presented in the study.

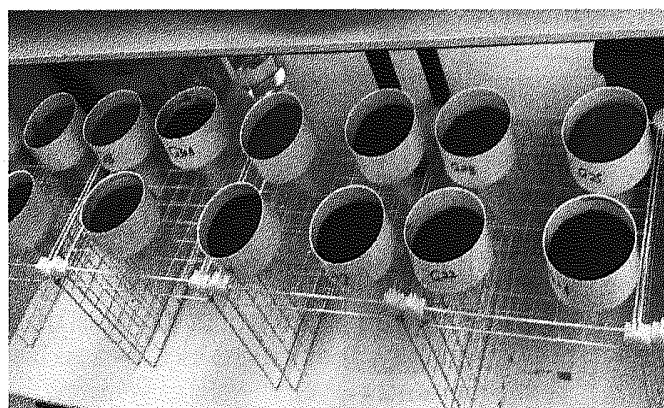


1235

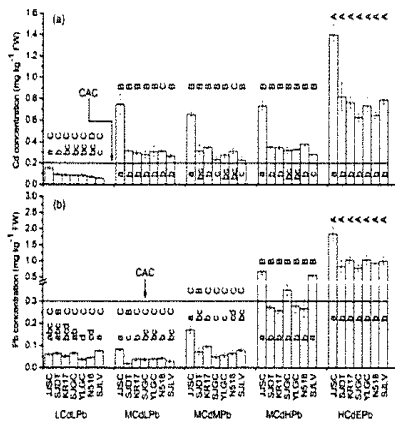
## Geochemical assessments and classification of coal mine spoils for better understanding of potential salinity issues at closure

Jin Hee Park, Xiaofang Li, Mansour Edraki,\* Thomas Baumgartl and Bernie Kirsch

Leaching behavior of the salts and trace elements from coal mine spoils can be easily predicted based on original geology.



1245



### Genotype variations in cadmium and lead accumulations of leafy lettuce (*Lactuca sativa* L.) and screening for pollution-safe cultivars for food safety

Kun Zhang, Jiangang Yuan, Wei Kong and Zhongyi Yang\*

Pollution-safe cultivars are useful for lowering risks of Cd and Pb pollution in lettuce.

1256

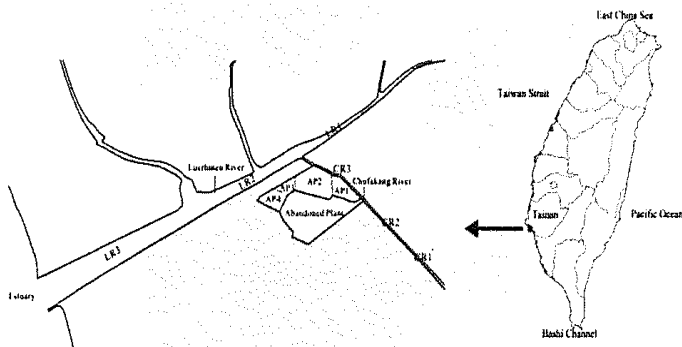


### A temperature-based approach to predicting lost data from highly seasonal pollutant data sets

Richard J. C. Brown,\* Andrew S. Brown and Ki-Hyun Kim

A temperature-based approach to predicting lost data from highly seasonal pollutant data sets is presented.

1264

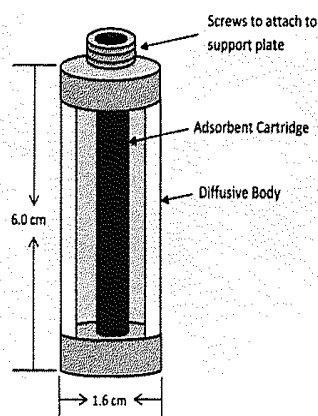


### Use of a highly sensitive recombinant hepatoma cell method to determine dioxin concentrations in samples of fish and crab from a hotspot area

Ding-Yan Lin, Cherng-Gueih Shy, Fu-An Chen, Ya-Fan Wang, Kuan-Chung Chen, Lien-Te Hsieh, Feng-Yuan Tsai, Tsui-Chun Tsou and How-Ran Chao\*

A new and easy fast-screening test (the Ad-DR bioassay) for dioxins in biological samples from highly dioxin-contaminated areas was developed.

1271



### Passive monitors to measure hydrogen sulfide near concentrated animal feeding operations

Brian T. Pavilonis,\* Patrick T. O'Shaughnessy, Ralph Altmaier, Nervana Metwali and Peter S. Thorne

Hydrogen sulfide ( $H_2S$ ) is one of many airborne pollutants emitted by concentrated animal feeding operations (CAFOs).

1279

## Spatial distribution and vertical migration of $^{137}\text{Cs}$ in soils of Belgrade (Serbia) 25 years after the Chernobyl accident

Jelena Petrović,\* Mirjana Čujić, Milan Đorđević,  
Ranko Dragović, Boško Gajić, Sćepan Miljanić  
and Snežana Dragović

In this study, the specific activity of  $^{137}\text{Cs}$  was determined by gamma-ray spectrometry in 72 surface soil samples and 11 soil profiles collected from the territory of Belgrade 25 years after the Chernobyl accident.

