

Cover

See Jörg Feldmann *et al.*, pp. 1639–1651.
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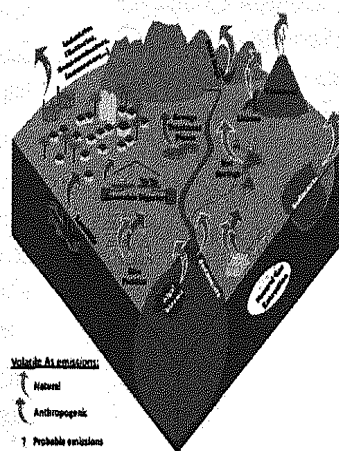
CRITICAL REVIEWS

1639

Biovolatilisation: a poorly studied pathway of the arsenic biogeochemical cycle

Adrien Mestrot, Britta Planer-Friedrich and Jörg Feldmann*

It has been known for over a hundred years that microorganisms can produce volatile arsenic (As) species, termed "arsines".

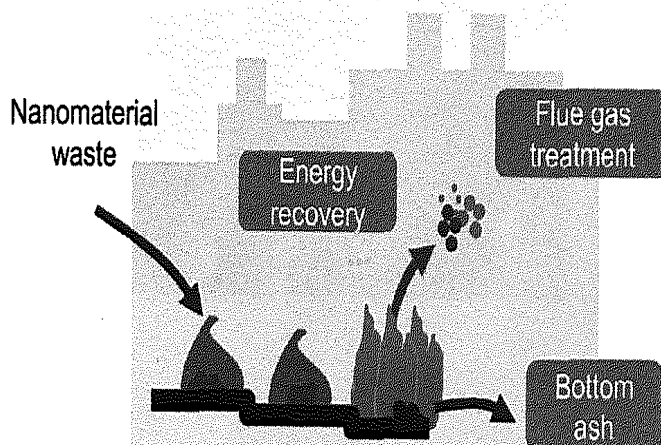


1652

Nanomaterial disposal by incineration

Amara L. Holder, Eric P. Vejerano, Xinzhe Zhou and Linsey C. Marr*

Nanomaterials are becoming ubiquitous in waste streams, and this review considers their behavior and fate in incinerators.

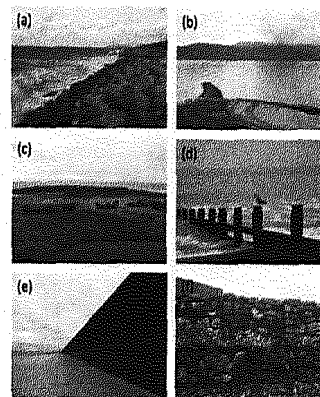


1665

Climate change and adaptational impacts in coastal systems: the case of sea defences

Louise B. Firth,* Nova Mieszowska, Richard C. Thompson and Stephen J. Hawkins

We briefly review how coastal ecosystems are responding to and being impacted by climate change, one of the greatest challenges facing society today.



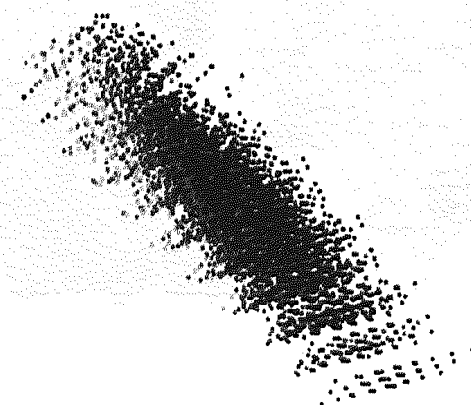
PAPERS

1671

Using quantitative structural property relationships, chemical fate models, and the chemical partitioning space to investigate the potential for long range transport and bioaccumulation of complex halogenated chemical mixtures

Anya Gawor and Frank Wania*

Some substances are mixtures of very large number of constituents which vary widely in their properties, and thus also in terms of their environmental fate and the hazard that they may pose to humans and the environment.

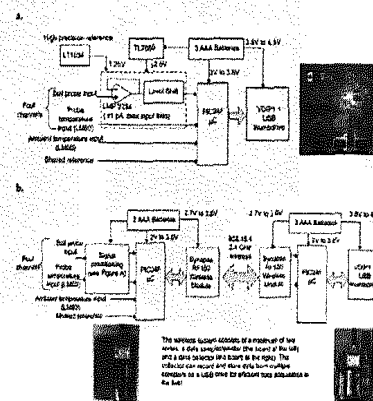


1685

Continuous, short-interval redox data loggers: verification and setup considerations

C. Shoemaker, R. Kröger,* B. Reese and S. C. Pierce

Reduction–oxidation or redox potential is typically collected by measuring redox at a single time interval and returning to the electrode to collect subsequent intervals to generate a temporal gradient of changes in redox.

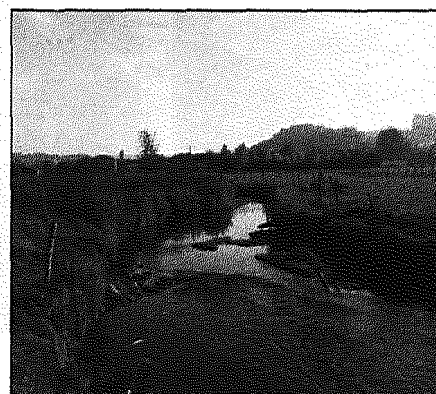


1692

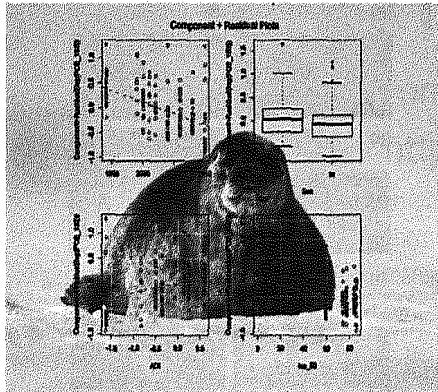
Combining multivariate statistics and analysis of variance to redesign a water quality monitoring network

Nathalie Guigues,* Michèle Desenfant and Emmanuel Hance

A methodology was developed to support decision-making during the process of redesigning a water quality monitoring network characterised by heterogeneous datasets in terms of time and space.



1706

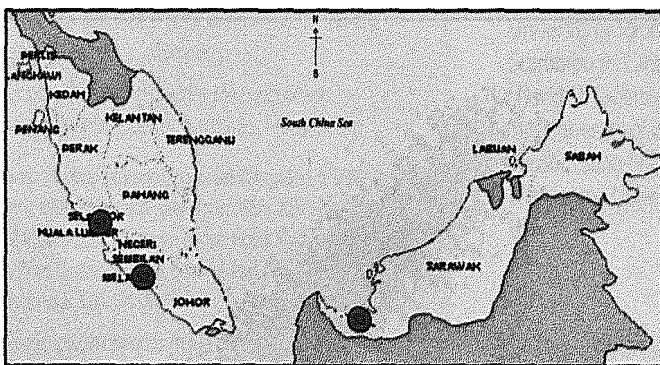


Temporal trends of selected POPs and the potential influence of climate variability in a Greenland ringed seal population

Frank Rigét,* Katrin Vorkamp, Keith A. Hobson, Derek C. G. Muir and Rune Dietz

Temporal trends of selected POPs (PCB-52 and 153, *p,p'*-DDE, HCB, α - and β -HCH) in blubber of ringed seals (*Pusa hispida*) collected from the early 1990s to 2010 from central West Greenland were studied.

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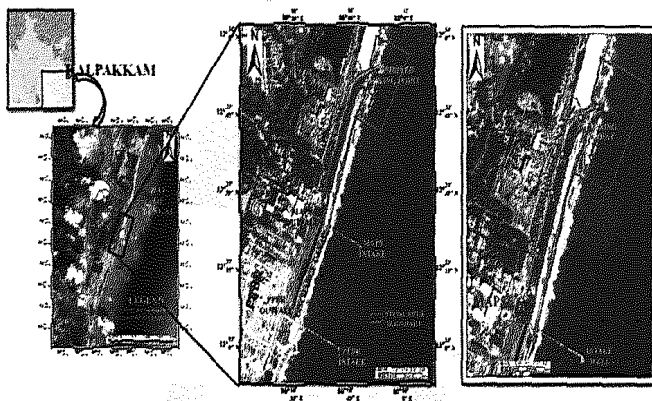


Spatial and temporal air quality pattern recognition using environmetric techniques: a case study in Malaysia

Sharifah Norsukhairin Syed Abdul Mutalib, Hafizan Juhair,* Azman Azid, Sharifah Mohd Sharif, Mohd Talib Latif, Ahmad Zaharin Aris, Sharifuddin M. Zain and Dorena Dominick

The objective of this study is to identify spatial and temporal patterns in the air quality at three selected Malaysian air monitoring stations based on an eleven-year database (January 2000–December 2010).

1729

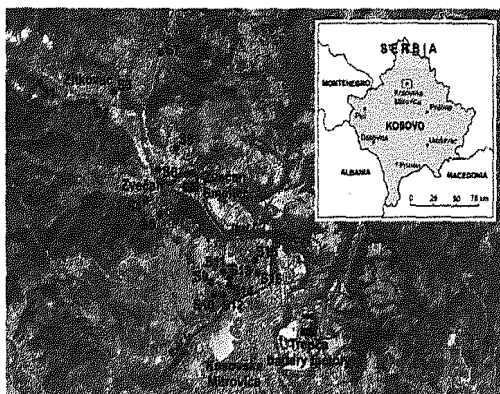


A novel technique to monitor thermal discharges using thermal infrared imaging

A. L. Muthulakshmi, Usha Natesan,* Vincent A. Ferrer, K. Deepthi, V. P. Venugopalan and S. V. Narasimhan

Coastal temperature is an important indicator of water quality, particularly in regions where delicate ecosystems sensitive to water temperature are present.

1735



Correlation between radioactivity levels and heavy metal content in the soils of the North Kosovska Mitrovica environment

Ljiljana Gulan, Biljana Milenkovic, Jelena M. Stajic, Biljana Vuckovic, Dragana Krstic,* Tijana Zeremski and Jordana Ninkov

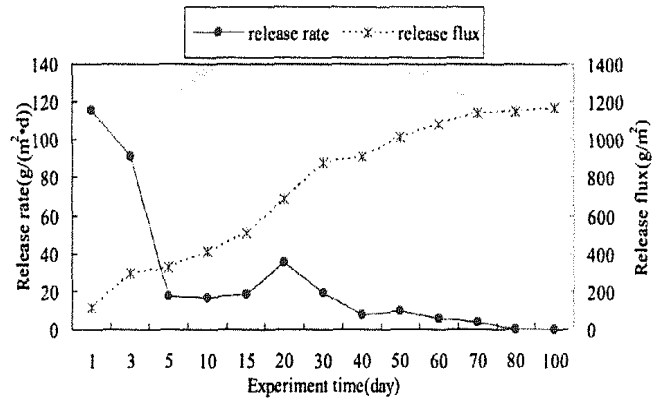
This paper reports the results of radioactivity concentrations and heavy metal content in soil samples collected from non-agricultural areas of North Kosovska Mitrovica, formerly the most important mining area in Europe.

1743

A risk assessment of water salinization during the initial impounding period of a proposed reservoir in Tianjin, China

Liqin Zhu,* Cuiling Jiang, Youheng Wang, Yanmei Peng and Peng Zhang

Soil saline release, evaporation and leakage will cause water salinization of the proposed reservoir during the initial impounding period. The saline release is the prevailing factor, then the evaporation and leakage effects gradually become notable over time.

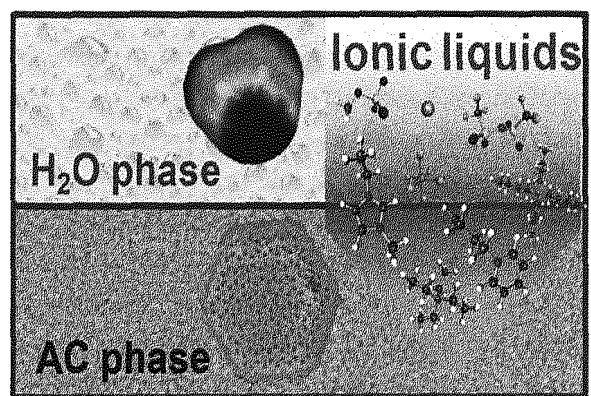


1752

Composition and structural effects on the adsorption of ionic liquids onto activated carbon

Jesús Lemus,* Catarina M. S. S. Neves, Carlos F. C. Marques, Mara G. Freire, João A. P. Coutinho and Jose Palomar

Ionic liquids use at a large scale will require their removal/recovery from wastewater streams. Adsorption on activated carbon has been proposed for this purpose and this work presents a systematic analysis of the influence of the IL structures on its adsorption onto commercial AC from water solution.

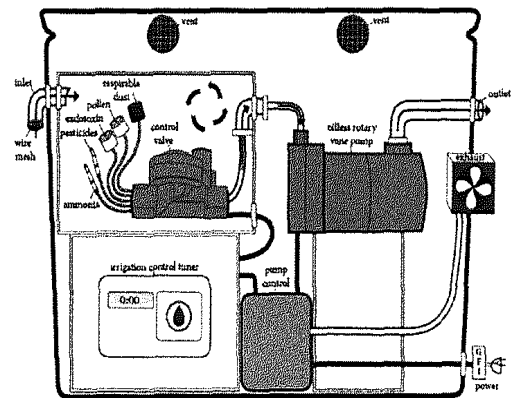


1760

Development of a unique multi-contaminant air sampling device for a childhood asthma cohort in an agricultural environment

Jenna L. Armstrong,* Cole F. Fitzpatrick, Christine T. Loftus, Michael G. Yost, Maria Tchung-French and Catherine J. Karr

A novel outdoor active air sampler for multiple contaminants is deployed in a rural agricultural environment to examine potential triggers of pediatric asthma.

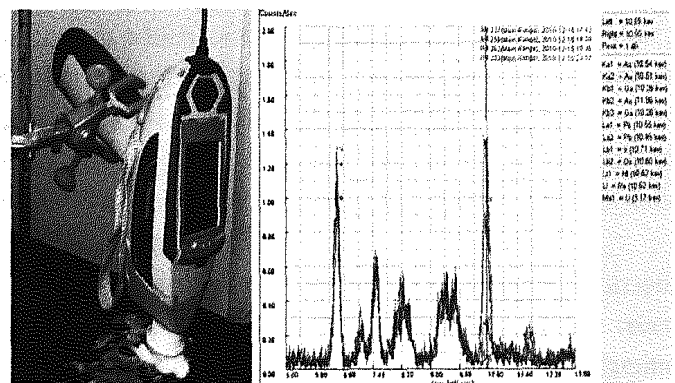


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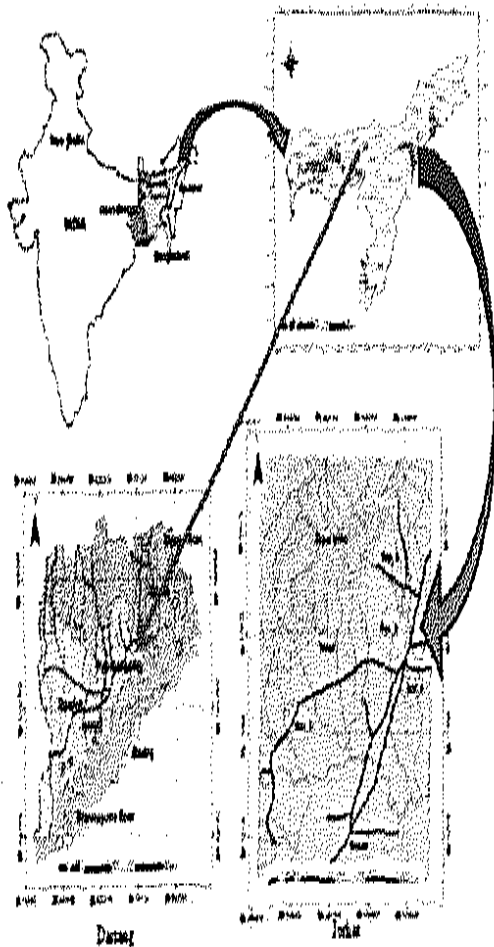
Rapid and nondestructive measurement of labile Mn, Cu, Zn, Pb and As in DGT by using field portable-XRF

Zheng Chen, Paul N. Williams* and Hao Zhang

This study evaluated the capability of field-portable X-ray fluorescence to swiftly generate elemental speciation information with DGT.



1775



Hydrogeochemical factors affecting the mobilization of As into the groundwater of the Brahmaputra alluvial plains of Assam, Northeast India

Lalsangzela Sailo* and Chandan Mahanta

Groundwater in the Brahmaputra river basin is known to contain an elevated concentration of naturally occurring arsenic (As).