

Cover
See Shigeyoshi Otosaka and Yoshihisa Kato, pp. 978–990. Image reproduced by permission of Shigeyoshi Otosaka from *Environ. Sci.: Processes Impacts*, 2014, 16, 978.

PERSPECTIVES

954

Air quality concerns of unconventional oil and natural gas production

R. A. Field,* J. Soltis and S. Murphy

Air quality impacts from unconventional oil and gas development range from local to global scales impacting human health and climate.

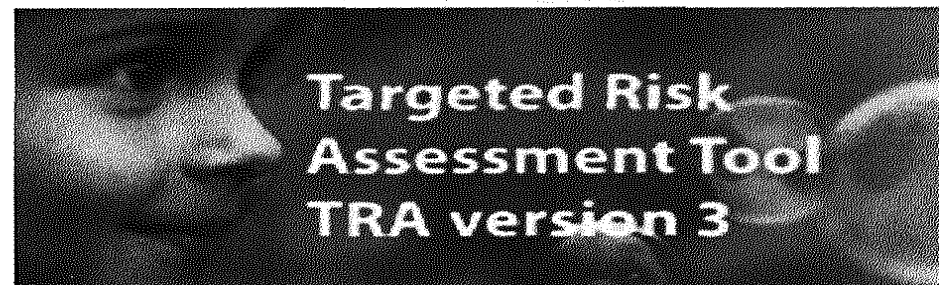


970

ECETOC TRA version 3: capturing and consolidating the experiences of REACH

Chris Money, Frank Schnoeder, Dook Noij,* Hsieng-Ye Chang and Jan Urbanus

This article outlines the pertinent considerations when developing and sustaining exposure models that are intended for use in regulatory processes.

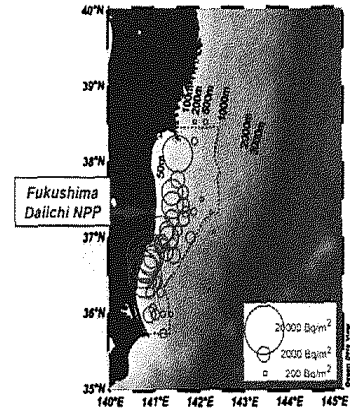


979

Radiocesium derived from the Fukushima Daiichi Nuclear Power Plant accident in seabed sediments: initial deposition and inventories

Shigeyoshi Otosaka* and Yoshihisa Kato

About seven months after the accident in Fukushima, approximately 0.2 PBq of ^{134}Cs was accumulated in seabed sediments.

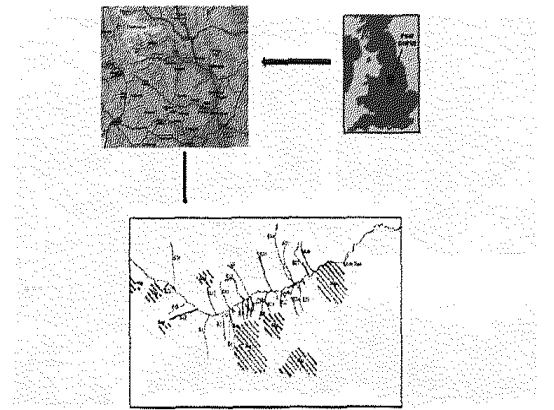


991

Dispersion of U-series natural radionuclides in stream sediments from Edale, UK

Saifeldin M. Siddeeg*, Nicholas D. Bryan and Francis R. Livens

The spatial distribution of ^{238}U -series radionuclides, specifically ^{238}U , ^{234}U , ^{230}Th and ^{226}Ra , has been determined in stream sediments from Edale, Derbyshire, United Kingdom, to explore the behaviour of U-series radionuclides during weathering.

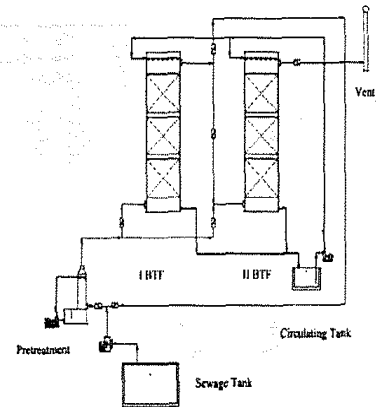


1001

A demonstration of biofiltration for VOC removal in petrochemical industries

Lan Zhao*, Shaobin Huang and Zongmin Wei

A biotrickling filter demo has been set up in a petrochemical factory in Sinopec Group for about 10 months with a maximum inlet gas flow rate of $3000 \text{ m}^3 \text{ h}^{-1}$.



1008

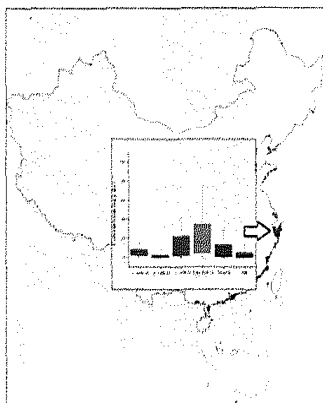
Evaluation of three types of passive samplers for measuring 1,3-butadiene and benzene at workplaces

Bo Strandberg*, Kerstin Bergemalm-Rynell and Gerd Sallsten

Thermal desorption passive samplers filled with Carboxen X adsorbent can be used to measure benzene under occupational air conditions.



1015



Levels of flame retardants HBCD, TBBPA and TBC in surface soils from an industrialized region of East China

Jianfeng Tang,* Jiayong Feng, Xihu Li and Gang Li

Brominated flame retardants hexabromocyclododecanes, tetrabromobisphenol A and tris-(2,3-dibromopropyl)-isocyanurate are ubiquitous contaminants in the surface soils of an industrialized region of East China.

1022

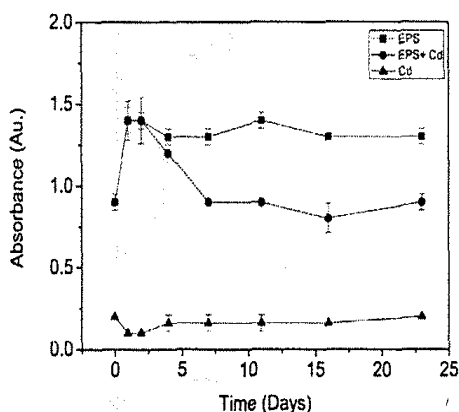


Factors influencing the accumulation of organochlorine pesticides in the surface soil across the Central Tibetan Plateau, China

Guo-Li Yuan,* Jian-Xun Qin, Xin-Xin Lang, Jun Li and Gen-Hou Wang

The equation between the soil concentrations of OCPs and their influencing factors was fitted logically in the Central Tibetan Plateau.

1029



Influence of the microbial loop on trophodynamics and toxicity of cadmium complexed by cyanobacterium exudates

Patricia F. M. Nogueira,* Marcelo M. Nogueira and Ana T. Lombardi

Cyanobacteria exudates affect cadmium trophodynamics.

1035



Visualisation and identification of peak exposure events in aluminium smelter pot rooms using hydrogen fluoride and aerosol real-time portable spectrometers

Nils Petter Skaugset,* Balázs Berlinger, Bernhard Radziuk, Håvard Tørring, Ole Synnes and Yngvar Thomassen

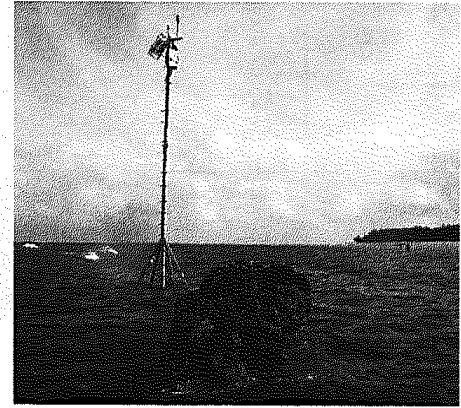
This study presents the use of PIMEX and direct reading spectrometers for identification of short-term peak exposure events during production of aluminium.

1041

The use of climatologies and Bayesian models to link observations to outcomes; an example from the Torres Strait

Scott Bainbridge* and Ray Berkelmans

In response to coral bleaching in the Torres Strait in 2009–10 an ocean monitoring program was established. This included a bleaching early warning system that uses real time data, climatologies and Bayesian models to deliver risk indicators linked to management outcomes.

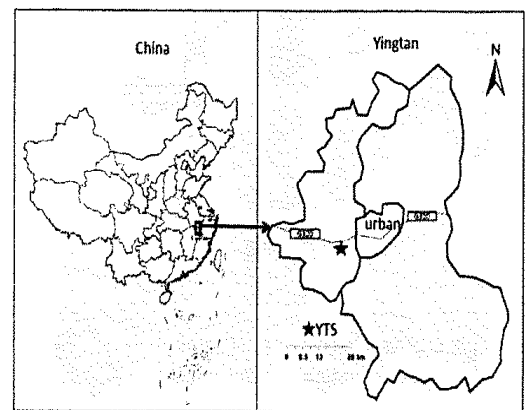


1050

Long-term atmospheric wet deposition of dissolved organic nitrogen in a typical red-soil agro-ecosystem, Southeastern China

Jian Cui,* Jing Zhou,* Ying Peng, Yuan Q. He, Hao Yang, Liang J. Xu and Andy Chan

Dissolved organic nitrogen (DON) from atmospheric deposition has been a growing concern in the world and atmospheric nitrogen (N) deposition is increasing quickly in China especially Southeastern China.

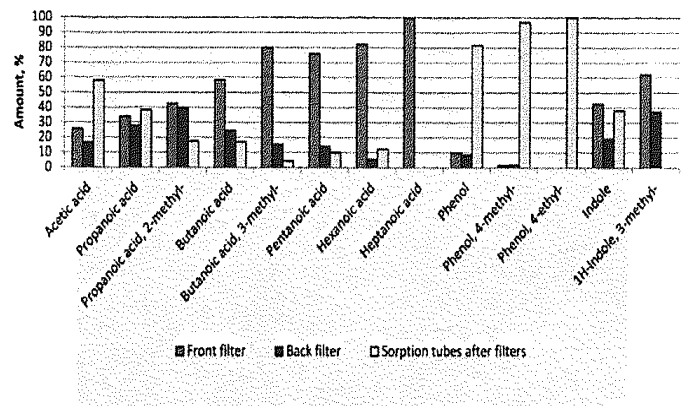


1059

Gas-particle partitioning of odorants in a pig house measured by thermal desorption GC/MS

Kristin Barkve Andersen, Marianne Glasius and Anders Feilberg*

Gas-particle partitioning of pig odorants is for the first time documented by taking into account filter adsorption during sampling.

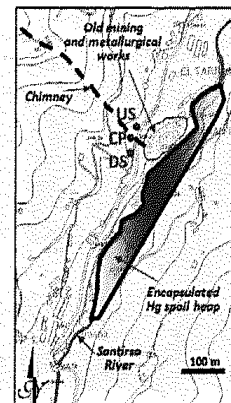


1069

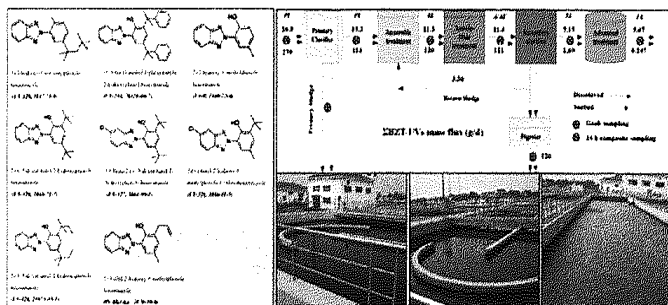
Mercury availability by operationally defined fractionation in granulometric distributions of soils and mine wastes from an abandoned cinnabar mine

R. Fernández-Martínez, J. Loredó, A. Ordóñez and I. Rucandío*

Mercury contamination from historic cinnabar mines represents a potential risk to the environment.



1076

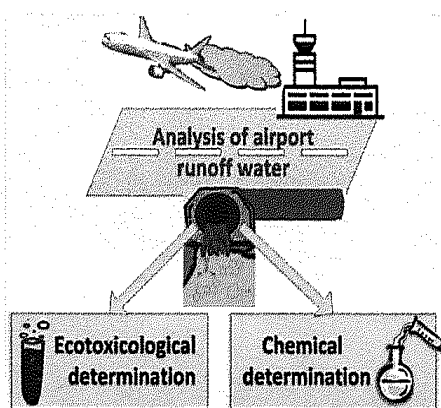


Occurrence and removal of benzotriazole ultraviolet stabilizers in a wastewater treatment plant in China.

Shanjun Song, Ting Ruan, Thanh Wang, Runzeng Liu and Guibin Jiang*

The majority of benzotriazole UV stabilizers (BZT-UVs) could be effectively removed in a full scale WWTP in China and the sedimentation of organic solids with adsorbed BZT-UVs was considered as the predominant removal mechanism.

1083

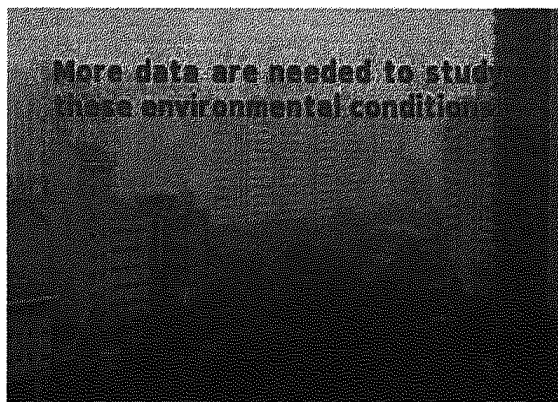


Toxicity and chemical analyses of airport runoff waters in Poland

Anna Maria Sulej,* Żaneta Polkowska, Lidia Wolska, Monika Cieszyńska and Jacek Namieśnik

This article reports the analysis of new environmental samples – airport runoff waters, new analytical protocols for the determination of contaminants in stormwater, and an estimation of the environmental effects of compounds in airport runoff using a chemical and ecotoxicological strategy.

1094

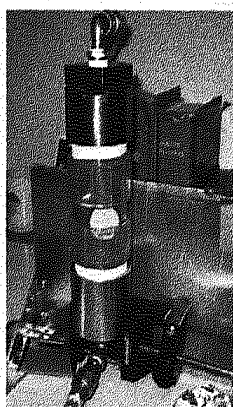


Enhancement of PM_{2.5} exposure estimation using PM₁₀ observations

Yuval* and David M. Broday

The adverse consequences of particulate matter (PM) inhalation on human health are well documented.

1103



Quantitative passive soil vapor sampling for VOCs – part 4: flow-through cell

Todd McAlary,* Hester Groenevelt, Suresh Seethapathy, Paolo Sacco, Derrick Crump, Michael Tuday, Brian Schumacher, Heidi Hayes, Paul Johnson, Louise Parker and Tadeusz Górecki

Passive diffusive samplers can be used in a flow-through cell to monitor VOC vapor concentrations during vapor intrusion investigations.

1112

Patterns and source analysis for atmospheric mercury at Auchencorth Moss, Scotland

J. Kentisbeer,* S. R. Leeson, H. M. Malcolm, I. D. Leith, C. F. Braban and J. N. Cape

This unique data set details fractionation of atmospheric mercury in the UK using wind sector and air mass back trajectory analysis to assess a range of influences and sources.

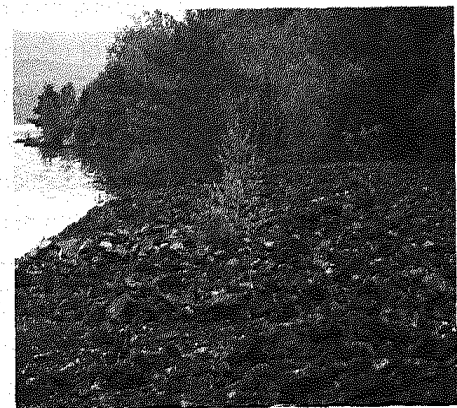


1124

Mobility of radionuclides and trace elements in soil from legacy NORM and undisturbed naturally ^{232}Th -rich sites

Jelena Mrdakovic Popic,* Sondre Meland, Brit Salbu and Lindis Skipperud

The enhanced ecological and human health risk is often demonstrated at the legacy NORM sites in comparison with the surrounding area. Elevated radionuclide mobility, commonly observed at these sites, leads to transport toward environmental compartments and living organisms.

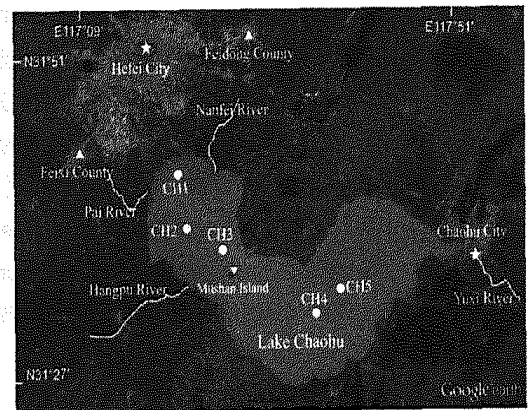


1135

Matrix-bound phosphine, phosphorus fractions and phosphatase activity through sediment profiles in Lake Chaohu, China

Wei Ding, Renbin Zhu,* Lijun Hou and Qing Wang

The distribution patterns of matrix-bound phosphine (MBP), phosphorus (P) fractions and neutral phosphatase activity (NPA) were investigated through five sediment profiles in Lake Chaohu, China.



1145

Evaluation of imputation methods for microbial surface water quality studies

Chiping Nieh,* Samuel Dorevitch, Li C. Liu and Rachael M. Jones

A comparison of imputation techniques for handling missing values in microbial surface water quality data.

