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2227

**Bacterio-plankton transformation of diazepam and 2-amino-5-chlorobenzophenone in river waters**

Alan D. Tappin, J. Paul Loughnane, Alan J. McCarthy and Mark F. Fitzsimons\*

Benzodiazepines, including diazepam, are a large class of commonly-prescribed drugs used to treat a variety of clinical disorders.

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2237

**Organic compounds in produced waters from shale gas wells**

Samuel J. Maguire-Boyle and Andrew R. Barron\*

A detailed analysis is reported of the organic composition of produced water samples from typical shale gas wells.

2249

**Multi-criteria anomaly detection in urban noise sensor networks**

Samuel Dauwe,\* Damiano Oldoni, Bernard De Baets, Timothy Van Renterghem, Dick Botteldooren and Bart Dhoedt

The growing concern of citizens about the quality of their living environment and the emergence of low-cost microphones and data acquisition systems triggered the deployment of numerous noise monitoring networks spread over large geographical areas.

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2259

**Particulate metals and organic compounds from electronic and tobacco-containing cigarettes: comparison of emission rates and secondhand exposure**

Arian Saffari, Nancy Daher, Ario Ruprecht, Cinzia De Marco, Paolo Pozzi, Roberto Boffi, Samera H. Hamad, Martin M. Shafer, James J. Schauer, Dane Westerdahl and Constantinos Sioutas\*

Emission of organic compounds and metals from electronic cigarettes are quantified.

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2268

**Transport of graphene oxide nanoparticles in saturated sandy soil**

Zhichong Qi, Lunliang Zhang and Wei Chen\*

Graphene oxide nanoparticles can be highly mobile in saturated soils, even at high ionic strength.

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2278

**The immobilization of U(VI) on iron oxyhydroxides under various physicochemical conditions**

Li Ping, Yin Zhuoxin, Lin Jianfeng, Jin Qiang, Du Yaofang, Fan Qiaohui\* and Wu Wangsuo\*

The immobilization of U(VI) at the solid–water interface is an important process affecting its transportation and migration in the environment, and is predominantly controlled by the sorption behavior of U(VI).

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**Photosynthetic responses and accumulation of mesotrione in two freshwater algae**

Yan Ni, Jinhu Lai, Jinbao Wan\* and Lianshui Chen

Photosynthetic responses and accumulation of mesotrione in *Microcystis* sp. and *Scenedesmus quadricauda* were investigated by PAM fluorometry, HPLC and SDAPCI-MS.

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**Fractionation of carboxylated carbon nanotubes and the corresponding variation in their colloidal behavior**

Zheqiong Wu and Somenath Mitra\*

The colloidal behavior of aqueous dispersions of size sorted carbon nanotubes is presented and this shows a strong dependence on the length.

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**A plant chamber system with downstream reaction chamber to study the effects of pollution on biogenic emissions**

J. Timkovsky,\* P. Gankema, R. Pierik and R. Holzinger

A system of two plant chambers and a downstream reaction chamber has been set up to investigate the emission of biogenic volatile organic compounds (BVOCs) and possible effects of pollutants such as ozone.

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**Response of discharge, TSS, and *E. coli* to rainfall events in urban, suburban, and rural watersheds**

H. J. Chen and H. Chang\*

Understanding dominant processes influencing microorganism responses to storm events aids in the development of effective management controls on pathogen contamination in surface water so that they are suitable for water supply, recreation, and aquatic habitat.

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2325

**The fate of arsenic in a river acidified by volcanic activity and an acid thermal water and sedimentation mechanism**

Yasumasa Ogawa,\* Ryoichi Yamada, Kozo Shinoda, Chihiro Inoue and Noriyoshi Tsuchiya

Dissolved and sulfide forms of As are introduced into the Shozu-gawa river from a caldera lake and geothermal ponds. Fractionation between two types of As is discussed in this study.

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2335

**Contaminants of emerging concern in fresh leachate from landfills in the conterminous United States**

Jason R. Masoner,\* Dana W. Kolpin, Edward T. Furlong, Isabelle M. Cozzarelli, James L. Gray and Eric A. Schwab

To better understand the composition of contaminants of emerging concern (CECs) in landfill leachate, fresh leachate from 19 landfills was sampled across the United States during 2011.

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2355

**Assessment of arsenic availability in soils using the diffusive gradients in thin films (DGT) technique—a comparison study of DGT and classic extraction methods**

Jinjin Wang, Lingyu Bai, Xibai Zeng,\* Shiming Su, Yanan Wang and Cuixia Wu

This study was conducted to evaluate the feasibility and accuracy of available As measurement in soils using DGT and to shed further light on the risk evaluation of As-contaminated soils.

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2362

**Micro-segmented flow and multisensor-technology for microbial activity profiling**

Dana Kürsten,\* Erika Kothe, Katharina Wetzel, Katja Bergmann and J. Michael Köhler

A new strategy for metabolite-monitoring of soil micro-organisms with a segmented flow-method.

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**Organic aerosols and inorganic species from post-harvest agricultural-waste burning emissions over northern India: impact on mass absorption efficiency of elemental carbon**

Prashant Rajput, M. M. Sarin,\* Deepti Sharma and Darshan Singh

Impact of scattering species on the atmospheric MAE of EC from biomass burning emissions in northern India.

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**Linear-dendritic copolymers/indoxacarb supramolecular systems: biodegradable and efficient nano-pesticides**

Nargess Memarizadeh, Mohammad Ghadamyari, Mohsen Adeli\* and Khalil Talebi

Photodegradable and biocompatible nano-indoxacarb was prepared successfully by encapsulation of indoxacarb with PCA-PEG-PCA ABA type linear-dendritic copolymers both with (nano-IND/TiO<sub>2</sub>) and without (nano-IND) TiO<sub>2</sub> nanoparticles *via* supramolecular interactions.

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**Identifying sources of emerging organic contaminants in a mixed use watershed using principal components analysis**

M. Ekrem Karpuzcu,\* David Fairbairn, William A. Arnold, Brian L. Barber, Elizabeth Kaufenberg, William C. Koskinen, Paige J. Novak, Pamela J. Rice and Deborah L. Swackhamer

Principal components analysis is a powerful technique in identifying sources of emerging contaminants according to the structure of their concentration patterns.

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**Molecular signature of organic nitrogen in septic-impacted groundwater**

William A. Arnold,\* Krista Longnecker, Kevin D. Kroeger and Elizabeth B. Kujawinski

Dissolved organic nitrogen in septic-impacted groundwater is characterized using ultrahigh resolution mass spectrometry.

2408

**Study of weathering effects on the distribution of aromatic steroid hydrocarbons in crude oils and oil residues**

C. Wang,\* B. Chen, B. Zhang, P. Guo and M. Zhao

The composition and distribution of triaromatic steroid hydrocarbons in oil residues after biodegradation and photo-oxidation processes were detected, and the diagnostic ratios for oil spill identification were developed and evaluated based on the relative standard deviation (RSD) and the repeatability limit.

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2415

**Neurological abnormalities in a mercury exposed population among indigenous Wayana in Southeast Suriname**

Daniel Peplow\* and Sarah Augustine

The indigenous Wayana community of Puleowime (Apetina) in Suriname is susceptible to the effects of mercury because they consume large amounts of fish compared to mainstream communities.

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2423

**The applicability of proton transfer reaction-mass spectrometry (PTR-MS) for determination of isocyanic acid (ICA) in work room atmospheres**

Mikolaj Jan Jankowski,\* Raymond Olsen, Claus Jørgen Nielsen, Yngvar Thomassen and Paal Molander

This study presents a real-time method to quantitatively determine isocyanic acid (ICA) in workroom air using a proton transfer reaction-mass spectrometer (PTR-MS).

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2432

**Environmental impacts of large-scale CSP plants in northwestern China**

Zhiyong Wu,\* Anping Hou, Chun Chang, Xiang Huang, Duoqi Shi and Zhifeng Wang

Several concentrated solar power demonstration plants are being constructed, and a few commercial plants have been announced in northwestern China.

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**Wastewater micropollutants as tracers of sewage contamination: analysis of combined sewer overflow and stream sediments**

M. Hajj-Mohamad, K. Aboulfadl, H. Darwano, A.-S. Madoux-Humery, H. Guérineau, S. Sauvé,\* M. Prévost and S. Dorner

This work presents the first measurement of wastewater micropollutants in combined sewer sediments and compares with measurements from water and sediments in natural streams.

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**Organic removal assessment at full-scale treatment facilities using advanced organic characterization tools**

Ruyuan Jiao, Christopher W. K. Chow, Hui Xu, Xiaofang Yang\* and Dongsheng Wang\*

Advanced tools were used to assess the influence of organic matter characteristics on the removal of organic matter in drinking water treatment processes.