

Regular Papers

- 1749 Responses of a soil bacterium, *Pseudomonas chlororaphis* O6 to commercial metal oxide nanoparticles compared with responses to metal ions**  
C.O. Dimkpa, A. Calder, D.W. Britt, J.E. McLean, A.J. Anderson  
*Aggregated CuO and ZnO nanoparticles release ions and cause different toxicities in a beneficial soil bacterium.*
- 1757 Occurrence of arsenic in brown rice and its relationship to soil properties from Hainan Island, China**  
Y. Fu, M. Chen, X. Bi, Y. He, L. Ren, W. Xiang, S. Qiao, S. Yan, Z. Li, Z. Ma  
*Arsenic in brown rice grain from Hainan, China showed low concentrations and correlated most closely to soil humic acid bound and Fe–Mn oxides bound As fractions.*
- 1763 Biosorption of divalent Pb, Cd and Zn on aragonite and calcite mollusk shells**  
Y. Du, F. Lian, L. Zhu  
*Mollusk shells display high sorption ability to heavy metals and crystal structure similarity between precipitates and substrates affects the sorption.*
- 1769 Long-term environmental monitoring of persistent organic pollutants and metals in a chemical/petrochemical area: Human health risks**  
M. Nadal, M. Schuhmacher, J.L. Domingo  
*Human exposure to environmental micropollutants in the industrial area of Tarragona does not mean additional health risks.*
- 1778 The effect of nitrogen deposition on the species richness of acid grasslands in Denmark: A comparison with a study performed on a European scale**  
C. Damgaard, L. Jensen, L.M. Frohn, F. Borchsenius, K.E. Nielsen, R. Ejrnæs, C.J. Stevens  
*Both nitrogen deposition as well as current and historical land use affect the species richness in remnant patches of acid grassland in intensively cultivated agricultural landscapes.*
- 1783 Zinc accumulation and synthesis of ZnO nanoparticles using *Physalis alkekengi* L.**  
J. Qu, X. Yuan, X. Wang, P. Shao  
*ZnO nanoparticles were synthesized using *P. alkekengi* plants, which absorbed large amounts of Zn from contaminated soils.*
- 1789 Assessing the relationship between global warming and mortality: Lag effects of temperature fluctuations by age and mortality categories**  
W. Yu, K. Mengersen, W. Hu, Y. Guo, X. Pan, S. Tong  
*In Brisbane, the lag effects lasted longer for cold temperatures, and shorter for hot temperatures. Elderly people and cardiovascular mortality were vulnerable to temperature stress.*
- 1794 Atmospheric concentrations, sources and gas-particle partitioning of PAHs in Beijing after the 29th Olympic Games**  
W.-L. Ma, D.-Z. Sun, W.-G. Shen, M. Yang, H. Qi, L.-Y. Liu, J.-M. Shen, Y.-F. Li  
*The source control measures implemented before and during the 29th Olympic Games were effective for reducing the emissions of air pollutants in Beijing.*
- 1802 Modelling the extraction of soil contaminants with supercritical carbon dioxide**  
M.N. Baig, G.A. Leeke, P.J. Hammond, R.C.D. Santos  
*Supercritical CO<sub>2</sub> is the most suitable environmentally friendly technique to remove (≤85%) harmful volatile organic compounds from contaminated soils.*

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- 1810 Variation in indoor levels of polycyclic aromatic hydrocarbons from burning various biomass types in the traditional grass-roofed households in Western Kenya**  
F.A. Lisouza, O.P. Owuor, J.O. Lalah  
*Indoor burning of biomass fuel in open fires places emit PAHs, which adsorb onto soot particles.*
- 1816 Altitudinal distributions of BDE-209 and other polybromodiphenyl ethers in high mountain lakes**  
M. Bartrons, J.O. Grimalt, J. Catalan  
*Decabromodiphenyl ether and the other polybromodiphenyl congeners show vertical distributions in high mountains due to temperature effects and microbial degradation.*
- 1823 Growth, leaf traits and litter decomposition of roadside hybrid aspen (*Populus tremula* L. × *P. tremuloides* Michx.) clones**  
S. Nikula, S. Manninen, E. Vapaavuori, P. Pulkkinen  
*Hybrid aspen had more xeromorphic leaves, displayed reduced growth, and showed retarded litter decomposition at an early stage in the roadside environment.*
- 1831 Evidence of lead biomagnification in invertebrate predators from laboratory and field experiments**  
I. Rubio-Franchini, R. Rico-Martínez  
*This study shows evidence (from field and laboratory experiments) of lead biomagnification in a freshwater reservoir where the main predators are invertebrates.*
- 1836 Reproduction and biochemical responses in *Enchytraeus albidus* (Oligochaeta) to zinc or cadmium exposures**  
S.C. Novais, S.I.L. Gomes, C. Gravato, L. Guilhermino, W. De Coen, A.M.V.M. Soares, M.J.B. Amorim  
*Zinc and cadmium cause oxidative stress and membrane damage in *Enchytraeus albidus* at reproduction effect concentrations.*
- 1844 Combined effects of soil moisture and carbaryl to earthworms and plants: Simulation of flood and drought scenarios**  
M.P.R. Lima, A.M.V.M. Soares, S. Loureiro  
*Soil moisture can play an important role in carbaryl toxicity towards plants and earthworms.*
- 1852 Impact of earthworms on trace element solubility in contaminated mine soils amended with green waste compost**  
T. Sizmur, B. Palumbo-Roe, M.E. Hodson  
*The effect of earthworms on metal solubility was due to changes in dissolved organic carbon and pH but was reduced with increasing compost amendments.*
- 1861 Seasonal variation and source estimation of organic compounds in urban aerosol of Augsburg, Germany**  
M.C. Pietrogrande, G. Abbaszade, J. Schnelle-Kreis, D. Bacco, M. Mercuriali, R. Zimmermann  
*Organic composition of the urban PM<sub>2.5</sub> identifies seasonal trend of the main sources: fossil fuel and biomass combustion sources, vegetative detritus, atmospheric photochemical reactions.*
- 1869 Mercury cycling and sequestration in salt marshes sediments: An ecosystem service provided by *Juncus maritimus* and *Scirpus maritimus***  
B. Marques, A.I. Lillebø, E. Pereira, A.C. Duarte  
**Juncus maritimus* provide an ecosystem service through Hg-phytostabilization and Hg-phytoaccumulation.*
- 1877 Trends in the occurrence of human and veterinary antibiotics in the sediments of the Yellow River, Hai River and Liao River in northern China**  
L.-J. Zhou, G.-G. Ying, J.-L. Zhao, J.-F. Yang, L. Wang, B. Yang, S. Liu  
*Higher concentrations of selected antibiotics were determined in the sediments of the Hai River than in the Liao River and Yellow River.*
- 1886 Effect of pyrene on denitrification activity and abundance and composition of denitrifying community in an agricultural soil**  
G.-X. Guo, H. Deng, M. Qiao, Y.-J. Mu, Y.-G. Zhu  
*Denitrifiers harboring *nirK*, *nirS* or *nosZ* gene are more sensitive to pyrene contamination than potential denitrification activity in soils.*
- 1896 Influence of ionic strength and pH on the limitation of latex microsphere deposition sites on iron-oxide coated sand by humic acid**  
X. Yang, R. Flynn, F. von der Kammer, T. Hofmann  
*This paper quantifies the impact of pH and ionic strength on the transient deposition behaviour of colloids in porous medium in the presence of humic acid.*
- 1905 Contrasting effects of black carbon amendments on PAH bioaccumulation by *Chironomus plumosus* larvae in two distinct sediments: Role of water absorption and particle ingestion**  
F. Wang, Q. Bu, X. Xia, M. Shen  
*Contrasting effects of chars on PAH bioaccumulation by *Chironomus plumosus* larvae in two distinct sediments were attributed to the shift of main biouptake routes.*
- 1914 Biomarker responsiveness in different tissues of caged *Ruditapes philippinarum* and its use within an integrated sediment quality assessment**  
J. Ramos-Gómez, A. Coz, J.R. Viguri, Á. Luque, M.L. Martín-Díaz, T.Á. DelValls  
*Integration of *Ruditapes philippinarum* biomarker results and sediment chemistry distinguished xenobiotic exposure and sediment toxicity in coastal areas of Spain.*

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**1923 The effects of tertiary treated municipal wastewater on fish communities of a small river tributary in Southern Ontario, Canada**

C.J.M. Brown, B.W. Knight, M.E. McMaster, K.R. Munkittrick, K.D. Oakes, G.R. Tetreault, M.R. Servos

*Tertiary treated effluent altered fish community composition in a small receiving stream possibly as a result of altered availability of resources (diet) as indicated by stable isotopes.*

**1932 Urban nonpoint source pollution buildup and washoff models for simulating storm runoff quality in the Los Angeles County**

L. Wang, J. Wei, Y. Huang, G. Wang, I. Maqsood

*An improved urban NPS model was developed. Threshold of total runoff volume for ignoring residual pollutant was determined.*

**1941 A novel method dependent only on the mixture information (MIM) for evaluating the toxicity of mixture**

J. Zhang, S.-S. Liu, H.-L. Liu, X.-W. Zhu, X.-J. Mi

*A novel method depends only on mixture information but not on pure component toxicity profiles for evaluating the combined toxicity.*

**1948 Atmospheric concentrations, occurrence and deposition of persistent organic pollutants (POPs) in a Mediterranean coastal site (Etang de Thau, France)**

J. Castro-Jiménez, G. Mariani, I. Vives, H. Skejo, G. Umlauf, J.M. Zaldívar, S. Dueri, G. Messiaen, T. Laugier

*PCDD/F and PCB atmospheric concentrations over Thau lagoon and inputs to surface waters are very variable, even changing between the same week of the month in two consecutive years.*

**1957 Incidence of polybrominated diphenyl ethers in central air conditioner filter dust from a new office building**

H.-G. Ni, S.-P. Cao, W.-J. Chang, H. Zeng

*PBDEs in central air conditioner filter dust from a new building were investigated.*