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1 A five-year study of particulate matter (PM2.5) and cerebrovascular diseases M.A. Leiva G. D.A. Santibañez, S. Ibarra E. P. Matus C. R. Seguel

Relationship between PM pollution and strokes is not well characterized. In Santiago the risk of the stroke increased by 1.29%; for every increase of 10 μ g m⁻³ in PM2.5.

7 Hexabromocyclododecane in alpine fish from the Tibetan Plateau, China N. Zhu, J. Fu, Y. Gao, P. Ssebugere, Y. Wang, G. Jiang

HBCD was ubiquitous in fish of the Tibetan Plateau, and its concentration was significantly correlated with lipid content.

Seasonal and spatial variation of trace elements and metals in quasi-ultrafine (PM_{0.25}) particles in the Los Angeles metropolitan area and characterization of their sources
A. Saffari, N. Daher, M.M. Shafer, J.J. Schauer, C. Sioutas

Characterization of sources of trace elements and metals in quasi-ultrafine particles in the Los Angeles south coast air basin and explaining their seasonal and spatial variability.

24 Chronic exposure to volcanogenic air pollution as cause of lung injury R. Camarinho, P.V. Garcia, A.S. Rodrigues

Non-eruptive active volcanism as a cause of lung injury.

Occurrence of estrogenic activities in second-grade surface water and ground water in the Yangtze River Delta, China W. Shi, G. Hu, S. Chen, S. Wei, X. Cai, B. Chen, J. Feng, X. Hu, X. Wang, H. Yu

Estrogenic activities were observed in second-grade surface water and ground water in Yangtze River Delta, and BPA was the responsible contaminant.

Total arsenic, inorganic arsenic, and other elements concentrations in Italian rice grain varies with origin and type A. Sommella, C. Deacon, G. Norton, M. Pigna, A. Violante, A.A. Meharg

There was significant geographical variation for both Ast and Asi for Italian rice with percentage of Asi varying between 0.4% and 96%.

44 Influence of biochar on isoproturon partitioning and bioaccessibility in soil B.J. Reid, F.L. Pickering, A. Freddo, M.J. Whelan, F. Coulon

Biochar dramatically reduced 14 C-IPU extractability (<2%) with K_{BW} being ×123 greater than the apparent K_{foc} . Correspondingly, microbial bioaccessibility of IPU was negligible.

51 Effects of dilution on the properties of nC_{60} X. Chang, P.J. Vikesland

The simple act of dilution has the potential to alter the colloidal properties of nC_{60} . Extreme care should be taken to ensure that dilution does not alter nC_{60} in undetected ways.

Sorption of antibiotic sulfamethoxazole varies with biochars produced at different temperatures H. Zheng, Z. Wang, J. Zhao, S. Herbert, B. Xing

Solution pH and biochar property control the sorption amount and mechanisms of antibiotic sulfamethoxazole.

68 Titanium distribution in swimming pool water is dominated by dissolved species R. David Holbrook, D. Motabar, O. Quiñones, B. Stanford, B. Vanderford, D. Moss

In children's swimming pool water, the majority of titanium is found in the dissolved phase.

75 Dioxin-related compounds in house dust from New York State: Occurrence, *in vitro* toxic evaluation and implications for indoor exposure

N.M. Tue, G. Suzuki, S. Takahashi, K. Kannan, H. Takigami, S. Tanabe

PBDFs—degradation products of PBDEs—and unknown contaminants contributed significantly to the dioxin-like activities in New York house dust.

81 A comparison of methane emission measurements using eddy covariance and manual and automated chamber-based techniques in Tibetan Plateau alpine wetland

L. Yu, H. Wang, G. Wang, W. Song, Y. Huang, S.-G. Li, N. Liang, Y. Tang, J.-S. He

The chamber-based methods and the eddy covariance method showed similar seasonal CH₄ flux patterns, but the manual static chamber method resulted in a higher CH₄ flux measurement.

91 Variations and constancy of mercury and methylmercury accumulation in rice grown at contaminated paddy field sites in three Provinces of China

B. Li, J.B. Shi, X. Wang, M. Meng, L. Huang, X.L. Qi, B. He, Z.H. Ye

Rice possesses widescale variations between cultivars and stability within a cultivar in grain THg and MeHg under different filed conditions.

Fate of pharmaceutical compounds in hydroponic mesocosms planted with *Scirpus validus* D.Q. Zhang, R.M. Gersberg, T. Hua, J. Zhu, M.K. Goval, W.J. Ng, S.K. Tan

All the tested pharmaceuticals (carbamazepine, naproxen, diclofenac, clofibric acid and caffeine) were efficiently removed from nutrient solution.

107 Source contributions to carbonaceous species in PM_{2.5} and their uncertainty analysis at typical urban, peri-urban and background sites in southeast China

Z. Niu, S. Wang, J. Chen, F. Zhang, X. Chen, C. He, L. Lin, L. Yin, L. Xu

The contributions of OC_{bio} and OC_{bb} to TC have a natural logarithmic relationship with the levoglucosan/ OC_{bb} ratios.

Multimedia fate and source apportionment of polycyclic aromatic hydrocarbons in a coking industry city in Northern China Y.L. Wang, Z.H. Xia, D. Liu, W.X. Qiu, X.L. Duan, R. Wang, W.J. Liu, Y.H. Zhang, D. Wang, S. Tao, W.X. Liu

Based on multimedia model correction, the specific isomeric ratios could provide reasonable apportionments for the local PAHs emission sources.

122 Fungal hyphae stimulate bacterial degradation of 2,6-dichlorobenzamide (BAM)

B.E. Knudsen, L. Ellegaard-Jensen, C.N. Albers, S. Rosendahl, J. Aamand

This study brings new knowledge to the benefits of applying bacterial-fungal consortia for bioremediation.

128 Is there sufficient 'sink' in current bioaccessibility determinations of organic pollutants in soils?
C.D. Collins, M. Mosquera-Vazquez, J.L. Gomez-Eyles, P. Mayer, V. Gouliarmou, F. Blum

The inclusion of a 'contaminant trap' within physiologically based extraction tests significantly increases the bioaccessibility estimates of PAHs in contaminated soils.

133 Attribution of sources to metal accumulation in an alpine tarn, the Snowy Mountains, Australia N. Stromsoe, J.N. Callow, H.A. McGowan, S.K. Marx

Fluvial geogenic metals subdue the anthropogenic enrichment signal in a region previously demonstrated to receive atmospheric pollutants.

144 Critical evaluation of a new passive exchange-meter for assessing multimedia fate of persistent organic pollutants at the air-soil interface

X. Liu, L.-L. Ming, L. Nizzetto, K. Borgå, T. Larssen, Q. Zheng, J. Li, G. Zhang

Time integrated multimedia exchange of POPs in vegetation litter is resolved under dynamic conditions of OM ageing.

151 Feasibility of using low density polyethylene sheets to detect atmospheric organochlorine pesticides in Alexandria, Egypt M.A. Khairy, R. Lohmann

LDPE passive air samplers spiked with PRCs can be used as a practical low cost technique for monitoring gas phase OCPs in Egypt.

Passive air sampling of organochlorine pesticides and polychlorinated biphenyls in the Yangtze River Delta, China: Concentrations, distributions, and cancer risk assessment

L. Zhang, L. Dong, W. Yang, L. Zhou, S. Shi, X. Zhang, S. Niu, L. Li, Z. Wu, Y. Huang

A detailed study of organochlorine pesticides and polychlorinated biphenyls in air across the Yangtze River Delta area using passive air samplers.

167 Soil humic-like organic compounds in prescribed fire emissions using nuclear magnetic resonance spectroscopy M.-C. Chalbot, G. Nikolich, V. Etyemezian, D.W. Dubois, J. King, D. Shafer, G. Gamboa da Costa, J.F. Hinton, I.G. Kavouras

Humic-like soil organic matter may be an important component of particulate emissions in the early stages of wildfires.

An intercomparison of satellite-derived ground-level NO₂ concentrations with GMSMB modeling results and in-situ measurements – A North American study

B. Wang, Z. Chen

The satellite derived NO₂ data are cross-validated with air quality modeling and in-situ measurement results with extended analyses, to help assessing and managing air pollution issues.

182 Role of arbuscular mycorrhizal fungus *Rhizophagus custos* in the dissipation of PAHs under root-organ culture conditions E. Aranda, J.M. Scervino, P. Godoy, R. Reina, J.A. Ocampo, R.-M. Wittich, I. García-Romera

The AM fungus Rhizophagus custos is involved in PAH dissipation in absence of other microorganisms and could be potentially effective in protecting anthracene exposed plants.

325 Sensitivity of a green alga to atrazine is not enhanced by previous acute exposure L. Baxter, R. Brain, R. Prosser, K. Solomon, M. Hanson

A pulsed exposure to atrazine does not influence subsequent response to a second, reduced range of exposures in an alga. Recovery in all endpoints is rapid.

329 Effects of chlorothalonil on development and growth of amphibian embryos and larvae S. Yu, M.R. Wages, G.P. Cobb, J.D. Maul

The fungicide chlorothalonil causes growth and developmental effects in larval amphibians at aqueous concentrations reported in the environment.

Degradation of multiwall carbon nanotubes by bacteria
L. Zhang, E.J. Petersen, M.Y. Habteselassie, L. Mao, Q. Huang

The ¹⁴C-labeled multiwall carbon nanotubes can be degraded to ¹⁴CO₂ and other byproducts by a bacteria community under natural conditions.

340 Cd isotopes as a potential source tracer of metal pollution in river sediments B. Gao, H. Zhou, X. Liang, X. Tu

The information and application of Cd isotopic compositions will provide a new direction in tracing metal pollution in water environment.

190 Design and field-scale implementation of an "on site" bioremediation treatment in PAH-polluted soil A.I. Pelaez, I. Lores, A. Sotres, C. Mendez-Garcia, C. Fernandez-Velarde, J.A. Santos, J.L.R. Gallego, J. Sanchez

PAH-polluted soil underwent biostimulation at the microcosms and pilot-scale to optimize subsequent field-scale bioremediation.

Impact of activated carbon, biochar and compost on the desorption and mineralization of phenanthrene in soil
 G. Marchal, K.E.C. Smith, A. Rein, A. Winding, L. Wollensen de Jonge, S. Trapp, U.G. Karlson

Extraction into an exhaustive silicone sink measures the maximum phenanthrene desorption from soils with amendments, and this is reflected in the extent of mineralization.

211 Variations in exposure to traffic pollution while travelling by different modes in a low density, less congested city S. Kingham, I. Longley, J. Salmond, W. Pattinson, K. Shrestha

This study carried out in a low density, less congested city, found that like studies in large or densely populated urban areas car drivers are still exposed to the worst quality air.

219 Chlorinated pesticides in stream sediments from organic, integrated and conventional farms P. Shahpoury, K.J. Hageman, C.D. Matthaei, F.S. Magbanua

Higher concentrations of several chlorinated pesticides were found in conventional farms; however, organic and integrated practices were not pesticide-free.

226 Effect of long-term human exposure to environmental heavy metals on the expression of detoxification and DNA repair genes

S.A. Al Bakheet, I.M. Attafi, Z.H. Maayah, A.R. Abd-Allah, Y.A. Asiri, H.M. Korashy

Long-term human exposure to environmental metals increased the risk of metals contamination and altered expression of detoxifying, metabolizing, and DNA repair genes.

233 Photosynthetic performance of restored and natural mangroves under different environmental constraints
A.S. Rovai, J.B. Barufi, P.R. Pagliosa, F. Scherner, M.A. Torres, P.A. Horta, J.C. Simonassi, D.P.C. Quadros, D.L.G. Borges,
E.J. Soriano-Sierra

Photosynthetic performance of mangroves is reduced due to Cu and Pb contamination.

242 Phytotoxicity and oxidative stress effect of 1-octyl-3-methylimidazolium chloride ionic liquid on rice seedlings H. Liu, S. Zhang, X. Hu, C. Chen

Rice morphology and physiological indicators has been affected by [OMIM]CI. Oxidative stress and changes in cellular ultrastructural morphology were observed.

250 An SPE LC-MS/MS method for the analysis of human and veterinary chemical markers within surface waters: An environmental forensics application

C. Fenech, K. Nolan, L. Rock, A. Morrissey

A study on the identification and application of a suite of chemical markers that is suitable for differentiating and characterising sewage and manure inputs to surface waters.

257 Quantitative analysis on the urban flood mitigation effect by the extensive green roof system J.Y. Lee, H.J. Moon, T.I. Kim, H.W. Kim, M.Y. Han

Extensive green-roofs are an effective storm water best-management practice and the proposed parameters can be applied to mitigate urban runoff.

262 Short- and long-term temporal changes in soil concentrations of selected endocrine disrupting compounds (EDCs) following single or multiple applications of sewage sludge to pastures

S.M. Rhind, C.E. Kyle, H. Ruffie, E. Calmettes, M. Osprey, Z.L. Zhang, D. Hamilton, C. McKenzie

Effects of sewage sludge application to pastures on temporal changes in soil concentrations of endocrine disrupting compounds differ with chemical class and season.

271 Carbon black vs. black carbon and other airborne materials containing elemental carbon: Physical and chemical distinctions C.M. Long, M.A. Nascarella, P.A. Valberg

This review demonstrates the significant physical and chemical distinctions between elemental carbon-containing particles e.g., carbon black, black carbon, and engineered nanomaterials.

287 Environmental concentrations of engineered nanomaterials: Review of modeling and analytical studies F. Gottschalk, T. Sun, B. Nowack

Modeled and measured environmental concentrations of engineered nanomaterials are reviewed and critically discussed.

301 Measurement of humic-like substances in aerosols: A review G. Zheng, K. He, F. Duan, Y. Cheng, Y. Ma

This review summarized important developments in measurement of aerosol-phase humic-like substances in the last decade.

315 Influence of age, sex and breeding status on mercury accumulation patterns in the wandering albatross *Diomedea exulans* S. Tavares, J.C. Xavier, R.A. Phillips, M.E. Pereira, M.A. Pardal

We address the influence of age, sex and breeding status on the accumulation of very high mercury levels in the wandering albatross.

321 Increased antioxidant response and capability to produce ROS in hemocytes of *Pinna nobilis* L. exposed to anthropogenic activity

A. Sureda, A. Natalotto, E. Álvarez, S. Deudero

Pinna nobilis responds to the anthropogenic activity with an antioxidant adaptation to the increased capability to generate reactive oxygen species.