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**Special Section on the 18th International Conference on Environmental Indicators****Electromagnetic irradiation exposure and its bioindication – An overview**

Osimo Hänninen, Paavo Huttunen, Reijo Ekman ..... 1409

Animals suffer from electromagnetic irradiation, birds have reproduction problems and people have headache, sleeping problems and fatigue, even brain tumors on mobile phone use side, electromagnetic-load can be measured from human skin.

**Millennial mercury records derived from ornithogenic sediment on Dongdao Island, South China Sea**

Hong Yan, Yuhong Wang, Wenhan Cheng, Liguang Sun ... 1415

The determined mercury concentrations of the two cores on Dongdao Island showed similar and substantial fluctuations during the past millennium, and the fluctuations are most likely caused by the changes in mercury level of the ocean environment and in anthropogenic Hg emission.

**Atmospheric mercury over the marine boundary layer observed during the third China Arctic Research Expedition**

Hui Kang, Zhouqing Xie ..... 1424

The levels and sources of total gaseous mercury over the marine boundary layer in Japan Sea, North Western Pacific Ocean and Bering Sea were determined.

**Ecosystem evolution of seal colony and the influencing factors in the 20th century on Fildes Peninsula, West Antarctica**

Jing Huang, Liguang Sun, Xinming Wang, Yuhong Wang, Tao Huang ..... 1431

The sealing industry in the early 20th century caused the decline of seal population and krill density.

**Responses of butachlor degradation and microbial properties in a riparian soil to the cultivation of three different plants**

Changming Yang, Mengmeng Wang, Haiyan Chen, Jianhua Li ..... 1437

Rhizospheric soil microbial ecophysiological responses to butachlor addition differed between riparian plant species. *Acorus calamus* displays a significantly higher microbial activities and degradation efficiency of butachlor in the

rhizosphere soils.

**Distribution and characteristic of PAHs in snow of Fildes Peninsula**

Guangshui Na, Chunyang Liu, Zhen Wang, Linke Ge, Xindong Ma, Ziwei Yao ..... 1445

The study indicated that in snow samples of Fildes Peninsula 2 rings and 3 rings PAHs were the main components and the ecological risk values of PAHs were low.

**Anomalous Ba/Ca signals associated with low temperature stresses in *Porites* corals from Daya Bay, northern South China Sea**

Tianran Chen, Kefu Yu, Shu Li, Tegu Chen, Qi Shi ..... 1452

The Ba/Ca ratios in the skeletons of two *Porites* corals collected from Daya Bay were determined and it has been concluded that Ba/Ca in relatively high-latitude corals can be a potential proxy for tracing the low temperature stress.

**Aquatic environment****Multivariate analysis of surface water quality in the Three Gorges area of China and implications for water management**

Jian Zhao, Guo Fu, Kun Lei, Yanwu Li ..... 1460

Domestic wastewater and agricultural runoff were mainly responsible for the low water quality in the Three Gorges area, and the pollution patterns varied spatially and temporally.

**Effect of ultrasonic pretreatment on anaerobic digestion and its sludge dewaterability**

Huacheng Xu, Pinjing He, Guanghui Yu, Liming Shao ..... 1472

Ultrasonic pretreatment firstly deteriorated the sludge dewaterability, while subsequent anaerobic digestion offset this effect and ultimately improved the sludge dewaterability.

**Role of quantum dots nanoparticles in the chemical treatment of colored wastewater: Catalysts or additional pollutants**

Hrvoje Kusic, Danuta Leszczynska, Natalija Koprivanac, Igor Peternel ..... 1479

The potential catalytic activity of quantum dots nanoparticles in colored wastewaters during the typical treatments was investigated.

**Reversibly enhanced aqueous solubilization of volatile organic compounds using a redox-reversible surfactant**

Yingjie Li, Senlin Tian, Hong Mo, Ping Ning ..... 1486

The reversible solubilization of VOCs using ferrocenyl surfactants in the reduced and oxidized states was evaluated.

**Pilot study on bromate reduction in ozonation of water with low carbonate alkalinities by carbon dioxide**

Ji Li, Li Zou, Lulu Guo, Jialin Ji ..... 1491

Bromate reduction in ozonation of water with low carbonate alkalinities by carbon dioxide was investigated, and results demonstrated that the joint use of CO<sub>2</sub> and ammonia might be a plausible strategy of blocking all three bromate formation pathways.

**Removal of heavy metal ions from aqueous solution using red loess as an adsorbent**

Shengtao Xing, Meiqing Zhao, Zichuan Ma ..... 1497

Red loess was found to be a cost-effective adsorbent for removing heavy metals from aqueous solution.

**Seasonal variation effects on the formation of trihalomethane during chlorination of water from Yangtze River and associated cancer risk assessment**

Shaogang Liu, Zhiliang Zhu, Chenfeng Fan, Yanling Qiu, Jianfu Zhao ..... 1503

For water samples from Yangtze River, effects of seasonal variation and Fe(III) concentrations on the formation of trihalomethanes during chlorination were investigated. The corresponding cancer risk was also estimated.

**Atmospheric environment**

**Comparison of polycyclic aromatic hydrocarbon pollution in Chinese and Japanese residential air**

Hao Lu, Takashi Amagai, Takeshi Ohura ..... 1512

Polycyclic aromatic hydrocarbon pollution in residential air of Hangzhou (China) and Shizuoka (Japan) were evaluated and compared. The difference might be due to the different life styles of two countries.

**Terrestrial environment**

**Soil pollution by polycyclic aromatic hydrocarbons: A comparison of two Chinese cities**

Jin Ma, Yongzhang Zhou ..... 1518

Great differences in concentrations and sources of PAHs in soils from Huizhou and Zhanjiang, south China were observed.

**Adsorption and desorption of herbicide monosulfuron-ester in Chinese soils**

Chunxian Wu, Suzhi Zhang, Guo Nie, Zhongming Zhang, Jinjun Wang ..... 1524

The adsorption and desorption behaviors of herbicide monosulfuron-ester in Chinese soils were determined. The results indicated that adsorption of monosulfuron-ester was mainly a physical process, while desorption was hysteretic in all tested soils.

**Environmental biology**

**Succession of bacterial community along with the removal of heavy crude oil pollutants by multiple biostimulation treatments in the Yellow River Delta, China**

Sulin Yu, Shuguang Li, Yueqin Tang, Xiaolei Wu ..... 1533

Succession of bacterial community along with the removal of heavy crude oil pollutants was significant using the terminal restriction fragment length polymorphism (T-RFLP) and clone library analyses.

**Arsenic removal from contaminated soil via biovolatilization by genetically engineered bacteria under laboratory conditions**

Shuang Liu, Fan Zhang, Jian Chen, Guoxin Sun ..... 1544

Arsenic biovolatilization from contaminated soil could be improved by genetically engineered bacteria.

**Potential of *Nassarius nitidus* for monitoring organotin pollution in the lagoon of Bizerta (northern Tunisia)**

Youssef Lahbib, Sami Abidli, Pablo Rodríguez González, José Ignacio García Alonso, Najoua Trigui-El Menif ..... 1551

The snail *Nassarius nitidus* was less sensitive to TBT pollution as compared to *Hexaplex trunculus* and *Bolinus brandaris*, but the expression of imposex following type a allowed using this snail as a complementary species for organotin monitoring programs in Tunisia.

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## Environmental health and toxicology

### **Growth response and toxic effects of three antibiotics on *Selenastrum capricornutum* evaluated by photosynthetic rate and chlorophyll biosynthesis**

Binyang Liu, Weiqiu Liu, Xiangping Nie, Chao Guan, Yufeng Yang, Zhaohui Wang, Wei Liao ..... 1558

Antibiotics pharmaceuticals may affect the photosynthesis of freshwater algae, especially on the chloroplast pigments precursors biosynthesis process.

### **Determination and assessment of total mercury levels in local, frozen and canned fish in Lebanon**

Pierre J Obeid, Bilal El-Khoury, Joanne Burger, Samer Aouad, Mira Younis, Amal Aoun, John Hanna El-Nakat ..... 1564

The work provides vital information regarding the extent of exposure to mercury through the consumption of various types of fish in Lebanon.

## Environmental catalysis and materials

### **Antimicrobial activity of thin metallic silver flakes, waste products of a manufacturing process**

Manuela Anzano, Alessandra Tosti, Marina Lasagni, Alfredo Campiglio, Demetrio Pitea, Elena Collina ..... 1570

The thin metallic silver flakes from a manufacturing waste in an Italian metallurgic company were developed as an antimicrobial agent in aqueous phase.

### **Silver impregnated carbon for adsorption and desorption of elemental mercury vapors**

Despina Karatza, Marina Prisciandaro, Amedeo Lancia, Dino Musmarra ..... 1578

The elemental mercury adsorption and desorption behaviors by using a silver nitrate impregnated carbon were investigated, the mechanism with kinetic and thermodynamic parameter was also determined.

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