

Water, Air, and Soil Pollution

Volume 216 · Numbers 1–4 · March 2011

EDITORIAL

If Humans Can Change for the Better, We Can Change the World

J.T. Trevors 1

ORIGINAL ARTICLES

Characterization of AMD Pollution in the River Tinto (SW Spain). Geochemical Comparison Between Generating Source and Receiving Environment

M.L. de la Torre · J.A. Grande · J. Graño · T. Gómez · J.C. Cerón 3

Multivariate Statistical Techniques for the Assessment of Surface Water Quality at the Mid-Black Sea Coast of Turkey

F. Akbal · L. Gürel · T. Bahadır · İ. Güler · G. Bakan · H. Büyükgüngör 21

Responses of Biochemical Markers in the Fish *Prochilodus lineatus* Exposed to a Commercial Formulation of Endosulfan

C. Bacchetta · J. Cazenave · M.J. Parma 39

Enhanced Tolerance to Mercury in a Streptomycin-Resistant Strain of *Euglena gracilis*

S. Devars · J.S. Rodríguez-Zavala · R. Moreno-Sánchez 51

Growth and Physiological Responses of *Triticum aestivum* and *Deschampsia caespitosa* Exposed to Petroleum Coke

C. Nakata · C. Qualizza · M. MacKinnon · S. Renault 59

Changes in Mercury Deposition in a Mining and Smelting Region as Recorded in Tree Rings

M. Hojdrová · T. Navrátil · J. Rohovec · K. Žák · A. Vaněk · V. Chrastný · R. Bače · M. Svoboda 73

A Pilot-Scale Evaluation of Greenroof Runoff Retention, Detention, and Quality

N. Buccola · G. Spolek 83

Phytoremediation of Cadmium and Phytostabilisation with Mugwort (*Artemisia vulgaris*)

F. Rebele · C. Lehmann 93

Heterogeneous Atmospheric Nitrogen Deposition Effects Upon the Nitrate Concentration of Stream Waters in a Forested Mountain Area

Y. Tabayashi · K. Koba 105

Photocatalytic Degradation of Textile Dye and Wastewater

D. Gümüş · F. Akbal 117

Evaluation of Urban Groundwater Contamination from Sewage Network in Kuwait City

A. Mukhopadhyay · A. Akber · E. Al-Awadi 125

Surface Soil Geochemistry for Environmental Assessment in Kavala Area, Northern Greece

G. Papastergiou · A. Filippidis · J.-L. Fernandez-Turiel · D. Gimeno · C. Sikalidis 141

Evaluation of the Affinity of Some Toxic Elements to Schwertmannite in Natural Streams Contaminated with Acid Mine Drainage

T. Nagano · N. Yanase · Y. Hanzawa · M. Takada · H. Mitamura · T. Sato · H. Naganawa 153

Escherichia coli and Enterococci Attachment to Particles in Runoff from Highly and Sparsely Vegetated Grassland

M.L. Soupir · S. Mostaghimi 167

Perfluorooctane Sulfonate (PFOS) and Perfluorooctanoic Acid (PFOA) in Water Environment of Singapore

J. Hu · J. Yu · S. Tanaka · S. Fujii 179

Critical Nitrogen Deposition Loads in High-elevation Lakes of the Western US Inferred from Paleolimnological Records

J.E. Saros · D.W. Clow · T. Blett · A.P. Wolfe 193

Fluctuating Asymmetry of *Chironomus* spp. (Diptera: Chironomidae) Larvae in Association with Water Quality and Metal Pollution in Permatang Rawa River in the Juru River Basin, Penang, Malaysia

S.A. Al-Shami · M.R. Che Salmah · A. Abu Hassan · M.N. Siti Azizah 203

Regional Pattern of Heavy Metal Content in Lake Sediments in Northeastern Poland

W. Tylmann · K. Łysek · M. Kinder · J. Pempkowiak 217

Mixed Inorganic and Organic Nitrogen Addition Enhanced Extracellular Enzymatic Activities in a Subtropical Forest Soil in East China

P. Guo · C. Wang · X. Feng · M. Su · W. Zhu · X. Tian 229

Processes in Pathogenic Biocolloidal Contaminants Transport in Saturated and Unsaturated Porous Media: A Review

T.K. Sen 239

Occurrence of PPCPs at a Wastewater Treatment Plant and in Soil and Groundwater at a Land Application Site

A. Karnjanapiboonwong · J.G. Suski · A.A. Shah · Q. Cai · A.N. Morse · T.A. Anderson 257

Evaluating the Absorption of Boron by Plants—A Potential Tool to Remediate Contaminated Sediments from Cecina River Basin in Italy

E.L. Tassi · F. Pedron · M. Barbaieri 275

Exploring Ground Vegetation Change for Different Deposition Scenarios and Methods for Estimating Critical Loads for Biodiversity Using the ForSAFE-VEG Model in Switzerland and Sweden

S. Belyazid · H. Sverdrup · D. Kurz · S. Braun 289

Accumulation and Distribution of Metals in *Bolboschoenus maritimus* (Cyperaceae), from a South African River

L.S. Shuping · R.G. Snyman · J.P. Odendaal · P.A. Ndakidemi 319

Bioremediation of Mangroves Impacted by Petroleum

H.F. Santos · F.L. Carmo · J.E.S. Paes · A.S. Rosado · R.S. Peixoto 329

Copper Ions Adsorption from Aqueous Medium Using the Biosorbent Sugarcane Bagasse *In Natura* and Chemically Modified

V.C.G. Dos Santos · J.V.T.M. De Souza · C.R.T. Tarley · J. Caetano · D.C. Dragunski 351

Hg, Cu, Pb, Cd, and Zn Accumulation in Macrophytes Growing in Tropical Wetlands

S.E.R. Núñez · J.L.M. Negrete · J.E.A. Rios · H.R. Hadad · M.A. Maine 361

Soil Contamination Interpretation by the Use of Monitoring Data Analysis

A.M. Astel · L. Chepanova · V. Simeonov 375

The Effects of Substrate Type on Diatom-Based Multivariate Water Quality Assessment in a Tropical River (Monjolinho), São Carlos, SP, Brazil

T. Bere · J.G. Tundisi 391

Utilisation of Magnesium Phosphate Cements to Facilitate Biodegradation within a Stabilised/Solidified Contaminated Soil

R.B. Kogbara · A. Al-Tabbaa · S.R. Iyengar 411

Photolysis, Sonolysis, and Photosonolysis of Trichloroethane (TCA), Trichloroethylene (TCE), and Tetrachloroethylene (PCE) Without Catalyst

M.M. Rashid · C. Sato 429

The Fate of Polymeric Quaternary Ammonium Salts from Cosmetics in Wastewater Treatment Plants

J. Cumming · D. Hawker · H. Chapman · K. Nugent 441

Inter- and Intra-specific Differences in the Response of Chinese Leafy Vegetables to Ozone

Y. Zhao · J.N.B. Bell · A. Wahid · S.A. Power 451

Removal Capacity of Caffeine, Hormones, and Bisphenol by Aerobic and Anaerobic Sewage Treatment

S. Froehner · W. Piccioni · K.S. Machado · M.M. Aisse 463

Influences of Humic Acid on Cr(VI) Removal by Zero-Valent Iron From Groundwater with Various Constituents: Implication for Long-Term PRB Performance

T. Liu · I.M.C. Lo 473

Heavy Metal Concentration Survey in Soils and Plants of the Les Malines Mining District (Southern France): Implications for Soil Restoration

J. Escarré · C. Lefèvre · S. Raboyeau · A. Dossantos · W. Gruber · J.C. Cleyet Marel · H. Frérot · N. Noret · S. Mahieu · C. Collin · F. van Oort 485

Salicaceae Establishment in a Heavy Metal-contaminated Site Revealed by Eco-physiological Characterization of the Culturable Soil Bacterial Fraction

M.R. De Paolis · L. Pietrosanti · G. Capotorti · A. Massacci · D. Lippi 505

Just Add Water and Salt: the Optimisation of Petrogenic Hydrocarbon Biodegradation in Soils from Semi-arid Barrow Island, Western Australia

M. Tibbett · S.J. George · A. Davie · A. Barron · N. Milton · P.F. Greenwood **513**

Cupric Reductase Activity in Copper-Resistant *Amycolatopsis tucumanensis*

J.S. Dávila Costa · V.H. Albarracín · C.M. Abate **527**

Reuse of Stabilized Fowl Manure as Soil Amendment and Its Implication on Organic Agriculture Nutrition Management

R. Posmanik · B.B. Sinay · R. Golan · A. Nejidat · A. Gross **537**

Monitoring of Waste Water Samples Using the ECOTOX Biosystem and the Flagellate Alga *Euglena gracilis*

H. Ahmed · D.-P. Häder **547**

Impact of Chemical Substances on ^{137}Cs Accumulation in Spring Wheat Seedlings and Their Cell Nuclei Reactions

B. Lukšienė · M. Konstantinova · R. Druteikienė · J. Darginavičienė · V. Gavelienė · D. Butkus **561**

Exchangeable and Bioavailable Aluminium in the Mountain Forest Soil of Barania Góra Range (Silesian Beskids, Poland)

M. Zołotajkin · J. Ciba · J. Kluczka · M. Skwira · A. Smoliński **571**

The Nature and Distribution of Metals in Soils of the Sydney Estuary Catchment, Australia

G.F. Birch · M. Vanderhayden · M. Olmos **581**

A Synoptic Survey of Nitrogen and Phosphorus in Tributary Streams and Great Rivers of the Upper Mississippi, Missouri, and Ohio River Basins

B.H. Hill · D.W. Bolgrien · A.T. Herlihy · T.M. Jicha · T.R. Angradi **605**

Effect of Metals on Decolorization of Reactive Blue HERD by *Comamonas* sp. UVS

U.U. Jadhav · V.V. Dawkar · A.N. Kagalkar · S.P. Govindwar **621**

Microbially Mediated Degradation of Common Pharmaceuticals and Personal Care Products in Soil Under Aerobic and Reduced Oxygen Conditions

D.L. Carr · A.N. Morse · J.C. Zak · T.A. Anderson **633**

An Approach to Temporally Disaggregate Benzo(a)pyrene Emissions and Their Application to a 3D Eulerian Atmospheric Chemistry Transport Model

A. Aulinger · V. Matthias · M. Quante **643**

Lead Isotopic and Metallic Pollution Record in Tree Rings from the Copperbelt Mining-Smelting Area, Zambia

M. Mihaljević · V. Ettler · O. Šebek · O. Sracek · B. Kříbek · T. Kyncl · V. Majer · F. Veselovský **657**

Effects of Nitrogenous Fertilizer Application on the Establishment of Vegetation System in Weathered Particles of Coal Gob in Shanxi Mining Areas, China

D. Wu · S. Li · X. Di · J. Wu **669**

Complexation Study of Humic Acids Extracted from Forest and Sahara Soils with Zinc (II) and Cadmium (II) by Differential Pulse Anodic Stripping Voltammetry (DPASV) and Conductimetric Methods

A. Terbouche · S. Djebbar · O. Benali-Baitich · D. Hauchard **679**

Seasonal and Diurnal Concentrations of Ambient Formaldehyde and Acetaldehyde in Bangkok

D. Morknoy · P. Khummongkol · T. Prueaksasit **693**