Ninth International Conference on Environmental Science and Technology (ICEST 2018)

Houston, Texas, USA 25-29 June 2018

Editors:

George A. Sorial Jihua Hong

ISBN: 978-1-5108-8079-5

Printed from e-media with permission by:

Curran Associates, Inc. 57 Morehouse Lane Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2018) by American Science Press All rights reserved.

Printed by Curran Associates, Inc. (2019)

For permission requests, please contact American Academy of Sciences at the address below.

American Academy of Sciences 9720 Town Park Drive, Suite 18 Houston TX 77036 USA

Phone: 504-486-6332

info@AASci.org

Additional copies of this publication are available from:

Curran Associates, Inc. 57 Morehouse Lane Red Hook, NY 12571 USA

Phone: 845-758-0400 Fax: 845-758-2633

Email: curran@proceedings.com Web: www.proceedings.com

TABLE OF CONTENTS

INTRODUCTION George A. Sorial and Jihua Hong	1
PLENARY PRESENTATIONS	
Engineering Applications in Food, Energy, and Water Nexus. Bahram Asiabanpour	4
To See or Not To See the Shortcomings of Priority Pollutants - The Case of the 16 EPA PAHs. <i>Jan T. Andersson</i>	5
WATER POLLUTION AND WATER QUALITY	
Rivers, Lakes and Estuary Systems	
Findings of Hyporheic Zone Studies in Coastal California Watersheds Dominated by Monterey-Modelo Formation Substrate. <i>Marissa DeHoyos and Barry Hibbs</i> . Phosphorous Removal in Eutrophic Surface Water to Control Algae Bloom Using Novel Sorption-Precipitation Based Natural Materials. <i>Chunlong Zhang, Rio Carlo Lirag, Steven Wu, Richard H. Zhang</i> . Distribution and Evaluating the Fate of Cyclic Volatile Methyl Siloxanes in a High Altitude Lake. <i>Junyu Guo</i> and <i>Jianbo Zhang</i> .	18 24
Water Resources and Assessment	
Factors in Developing Salt Balance Load Estimates in Aquifers. <i>Barry Hibbs</i> and <i>Godina Ying</i> Assessment of the Water Supply Alternative for a Mining Prospect in the Western Region of Saudi Arabia: A Case Study. <i>Bassam Tawabini</i> , <i>Abdulaziz Shaibani</i>	25 36
Groundwater	
Redox Transformation of Arsenic and Selenium Along a Groundwater Flowpath Beneath a Drained Terrestrial Marsh. h. <i>Barry Hibbs, Rachel Ridgway, and James Walker.</i> Gibberellic Acid Surface Complexation and Desorption Retention on the Ferrihydrite/Water Interface. <i>Li Zhang, Liang Chen, and Fei Liu.</i> Protection of the Columbia River from Contamination of the Hanford Site Nuclear Facility, Washington State. <i>Dibakar (Dib) Goswami.</i> Quality Assessment of Groundwater by Graphical Models in Rural Provinces of Korea. <i>Jong Yeon Hwang, Sunhwa Park, Moon-Su Kim, Hun-Je Jo, Ji-In Kim, Gyeong–Mi Lee, InKyu Shin, Sang Ho Jeon, Da Hee Song, Deok-Hyun Kim, Hyen Mi Chung, Hyun-Koo Kim.</i>	37 48 49

Wastewater Discharge Management

Risk Reduction / Cost Savings by Effective Oil Spill Response and Spill Countermeasure Plans. Steven Pedigo, Diane Wagenbrenner, Cody Kaduce, Paul W. Sammarco.	51
Challenges of Municipal Waste Management and Disposal Criteria. Eyilachew Yitayew Abate	52
Drinking Water	
Formation of Disinfection Byproducts in Desalinated Drinking Water: An Assessment and Control Strategy. Shakhawat Chowdhury.	53
Smart Sensing and Control of Thermoelectric Coolers for Atmospheric Water Generation. <i>Natalie Ownby, Melina Mijares, Mark Summers, and Bahram Asiabanpour.</i>	61
Improvement of Vacuum Membrane Distillation Desalination Performance by Micro-Nano Bubbles Aeration. Yubing Ye, Shuili Yu, Li'an Hou, Baosen Liu and Qing Xia.	67
Reduction of Power Consumption in Atmospheric Water Generation. Reduction of Power Consumption in Atmospheric Water Generation. Natalie Ownby, Melina Mijares, Mark	
Summers, Bahram Asiabanpour.	68
Water Quality Assessment/Management	
Assessment of Water Quality Degradation in the Drinking Water Sources Based on 18 Years Data from 441 Water Supply Systems. <i>Shakhawat Chowdhury</i> .	69
Quantifying Inland Surface Water Quality via Remote Sensing of Water Surface Reflectance. <i>Rose</i> S. Sobel, Amin Kiaghadi, and Hanadi S. Rifai.	76
Framework for Developing Groundwater Protection Management Model for Saudi Arabia. M. S. Al-Suwaiyan	77
Chemical Leaching from Two Low Impact Development Techniques. Musa Akther, Anton Skorobogatov, <i>Jianxun He, Angus Chu, and Bert van Duin</i> .	78
Riverine Water Quality Response to Hydro-Meteorological Conditions. Sajjad Rostami, Jianxun He, and Quazi K. Hassan.	79
Nitrogen-Phosphorus Wastewater Treatment	
Nitrogen Removal by New-Type Rotating Biological Contactors with Anoxic Filter for Domestic Sewage Treatment in Rural Area. <i>Xiao Zha, Jun Ma, Xiwu Lu</i>	80
Strategies for Maintaining Nitritation in Membrane Bioreactors Operated under Long Solids Retention Time. Yishuai Jiang, Leong Soon Poh, and Wun Jern Ng	94
The Deammonification for Nitrogen Removal from the THP (Thermal Hydrolysis Process)'S Sidestream with Immobilization Technology. <i>Yifeng Yang, Yuan Li, Siqing Xia and Slawomir Hermanowicz.</i>	95
Application of MgO Modified Diatomite for Simultaneous Recovery of Chlorella Vulgaris, Nitrogen and Phosphate: Interaction Mechanism. <i>Jing Li and Xuejiang Wang</i>	96
Sludge Treatment	
Research on Interchange Ratio (IR) Parameter Optimization and Mechanism of A ² /O-MOSA Process with Source Sludge Reduction Characteristics. <i>Yuji Lin, Zhixiong Fan, Weibin Guo, Chenyi Shi, Tingjin Ye, Wuzhen Guo, Lianpeng Sun.</i>	97
Impact of Reported Flocculative and Deflocculative Conditions on Laboratory Cultivated Sludge Flocs. Akshaykumar Suresh. Wun Jern Ng, Ewa Grygolowicz-Pawlak, Leong Soon Poh	108

The Efficiency of the Multi-Plate Screw Press in the Sludge Dewatering Process, Is It the Best Solution? <i>Anne Wambui Mumbi</i> , <i>Li Fengting</i> ,	t 109
Municipal Wastewater Biotreatment	
Dissolved Methane Recovery from Novel Anaerobic Attached Growth Reactor Treating Synthetic Domestic Wastewater. <i>Brian Crone, George Sorial, Jay Garland.</i> Isolation and Optimization of Native Microorganisms for the Aerobic Treatment of Oil and Grease Wastewaters. <i>Zhiwei Liang, Guofang Liu and Ancheng Luo.</i>	110
Industrial Wastewater Biotreatment	
Comparative Analysis of Persistent Organics Removal Based on the Aeration Source Supplied to Biological Treatment of Textile Industry Wastewater. <i>Ninad Oke and S. Mohan.</i>	112 1 118
Assessing the Effects of Operational Parameters on Membrane Fouling in Ultrafiltration of ASF Flooding Wastewater by Membrane Fouling Structure Model. <i>Liumo Ren and Shuili Yu.</i> Metagenomic Analysis of Relationships between Carbon and Denitrification Metabolisms in Tannery Wastewater Treatment Plant Bioaugmented with Novel Microbial Consortium BMS-1. Aalfin Emmanuel, Chaeyoung Rhee, <i>Sung-Cheol Koh, Woo-Jun Sul and Hoon-Je Seong.</i>	125
Synthesis & Characterization of PDMS (Polydimethylsiloxane) Membrane and Enhance its Dye Degradability Property by Incorporating the Silica Nanoparticle. <i>P.Kumar, Naresh K. Sethy, Zeenat Arif, P.K. Mishra.</i> Efficient Biodegradation of Azo Dye Acid Blue 113 by Bacterial and Yeast Consortium and Molecular Analysis of Bacterial Biodegradative Pathway. <i>Chaeyoung Rhee, Aalfin Emmanuel, Hong-gi Kim, and Sung-Cheol Koh.</i> Decolorization Azo Dyes by Fungus Isolated from Industrial Sewage Contaminated Soil. <i>Pater</i>	127 I 128
Bhavinee, Mehra Bhavna K, Tank Shantilal K. Biodegradation of Phenol by Bacterial Strain Isolated from Industrial Sewage. Desai Jigna ,Mehra Bhavna K, Tank Shantilal K.	129
Adsorption/Desorption for Wastewater Treatment	
Synthesis and Properties of Magnetic Graphene Oxide/Fe ₃ O ₄ Nano-adsorbent for Dye Wastewater Purification. Shengyan PU, Shengyang XUE, Yaqi HOU, Zeng YANG and Rongxin ZHU A Comparative Study of COD Removal from wastewater using Biochar and Activated Carbon from Hardwood and Pine Tree. Hafiz Ahmad, Korhan Adalier, Brandon Madden, Douglas Brown and Andres Rodrigues	r 131 153 169
Adsorption of Lead(II) onto Phosphate Modified Ordered Mesoporous Carbon: Kinetics, Equilibrium and Thermodynamic Study. <i>Qiyu Lian, Zaki Uddin Ahmad, Mark E. Zappi, Daniel</i>	

Dianchen Gang.
Statistical Optimization of Adsorption Parameters for Removal of Glyphosate Using Response
Surface Methodology. Gayana Anjali Dissanayake Herath, Richard D. Webster, Wun Jern Ng
External Phosphorus Adsorption and Immobility with the Addition of Amend Calcium Peroxide
Material. Jing Zhou, Dapeng Li, Shutong Chen.
The Effect of Conditioning on Improving Ammonium Removal Capacity of Clinoptilolites. Bilsen
BELER-BAYKAL, Ahu YURTOGLU
Reduced Graphene Oxide as an Efficient Adsorbent in Waste Water Treatment. Meena Ejjada, Ravi
K. Biroju, P. K. Giri, Chandan Mahanta.
Kinetics, Isotherm Studies, and Uptake Mechanisms of Anionic and Cationic Heavy Metal
Adsorption onto Polymer-based Graphene Oxide Nanocomposite Beads. <i>Jem Valerie D. Perez</i>
and Maria Lourdes P. Dalida, Debora F. Rodrigues.
Removal of Long and Short Chain Perfluoroalkyl Substances via Granular Activated Carbon
Adsorption. Eric Forrester and Ralph Franco.
Irreversible Adsorption of Sulfonamides Antibiotics on Luffa cylindrica fiber and Its Bioavailability.
Lan Zhang, Yun Liu and Yuan-hua Dong.
Lan Zhang, 1an Liu ana 1aan haa Dong.
Physico-chemical Wastewater Treatment
Reinvestigating the Role of Reactive Species in the Oxidation of Organic Co-Contaminants during
Cr(VI) Reactions with Sulfite. Hongyu Dong, Xiaohong Guan, and Timothy J. Strathmann
The Effect of Sodium Hypochlorite(NaOCl) on RO Membrane Surface During Backwashing in
Seawater Desalination Process. Minjin Kim, Jayeong Seong, Nayoung Park, Hyungsoo Kim
Removal of COD from Pigment Industrial Wastewater by Fenton Oxidation Process. Vishnu Tejani,
Nibedita Pani, Dr. Anantha Singh TS
Efficient Degradation of Organic Pollutants by a Dual-Reaction-Center Fenton-Like Process over 4-
Phenoxyphenol-Functionalized Reduced Graphene Oxide Nanosheets. Lai Lyu, Yumeng Wang,
Wenrui Cao and Chun Hu
Reactions and Degradation of Wastewater Contaminants
Enhanced Catalytic Ozonation Oxidation Using Magnetic Carbon Nanotubes Composites for
Removal of Bisphenol A With Coexistence of Humic Acid in Aqueous Solution. <i>Yajing Huang</i> ,
Qing Zhang, Chun He *, Wenjun Xu, Lingling Hu
Efficient Catalytic Ozonation of Bisphenol-A with Three-Dimensional MnO ₂ Porous Hollow
Microspheres and an Insight into Probable Catalytic Mechanism. Lingling Hu, Qing Zhang,
Wenjun Xu, Yajing Huang, Chun He.
Influence of Polyelectrolyte Modification on Nanoscale Zero-Valent Iron (nZVI): Aggregation,
Sedimentation, and Reactivity with Ni(II) in Water. Liu Jing, Liu Airong, Zhang Wei-xian
Micropollutant Removal Efficiency in an Activated Sludge System Operated at Low Sludge
Retention Time. Maggie Green, Emel Topuz, Gülten Yüksek, Emine Ubay Cokgor, and Didem
Okutman Tas.
Remediation of Polluted Wetlands through Phytoremediation. S Mohan and Abhishek Tippa. S.
Mohan, Abhishek Tippa.
Accelerated Photocatalytic Degradation of Organic Pollutant over Metal-organic Framework MIL-
53(Fe) under Visible LED Light Mediated by Persulfate. Yaowen Gao, Chun Hu, and Hui
Zhang
Lituing.

Nanotechnology Applications

Continuous Treatment of Emulsion Effluents of Steel-Rolling Mills Using Magnetite (Fe ₃ O ₄)	
1	223
Effect of HCO ₃ on Physicochemical Properties of Silver Nanoparticles and Toxicity to E.Coli. <i>Bojie</i>	220
	229
Kinetics, Mechanisms and Pathways of Sulfadiazine Photodegradation by ZnO/ZnFe ₂ O ₄ /g-C ₃ N ₄	220
1 0 ,	230
Physico-chemical Approach of Harvesting Chlorella Sorokiniana and Scenedesmus Obliquus with	
Magnetic Ferrite Nanoparticles Containing Mn. Louie Lapenas, Mark Daniel De Luna, and	221
8	231
Fabrication of Cu-Ni/graphene Catalysts for Eletrochemical Degradation of Chloramphenicol. Xiaozhe Song, Hui Wang, and Zhaoyong Bian.	232
Effect of Environmental Factors on Interaction between Tetracycline and Copper Oxide	232
•	233
Nanoparticle. <i>Jun Ma and G. Daniel Sheng.</i> Plasmonic Photocatalysts for Environmental Applications in Detection and Treatment of Organic	233
	234
Effects of Fabrication and Modification Method of Magnetic Nanomaterials on Green Algae Capture	254
	235
1 chomance. Tet-tut Liu, Tu Hong.	233
AIR POLLUTION AND AIR QUALITY CONTROL	
Aerosol / Air Quality Assessment	
Trend Analysis of Air Pollutants from Non-Conventional Emission Sources in the North Texas	
· · · · · · · · · · · · · · · · · · ·	237
Episodic Air Pollution Events in Delhi during Crop Residue Burning: A Comprehensive Study of	231
	238
Analysis of Land Use on Air Quality in Pennsylvania Using Geospatial Technologies. <i>Alex Criswell</i>	
	239
Evaluation of PM2.5 Emissions and PAHs Concentration in PM2.5 from the Exhausts of Diesel	
Vehicles. Kassian T.T. Amesho, Ya-Ching Li, Feng-Chih Chou, Syu-Ruei Jhang, Yu-Chieh	
	240
Transport of Pollutants	
Reducing Emissions from Gasoline Engines Using Hydrogen. Yu-Chieh Lin, Syu-Ruei Jhang, Kang-	
	241
Occurrence and Health Risk Assessment of Phthalate Esters in Road Dust in Parks of Tianjin City	
during Spring and Winter. Yaqin Ji, Lei Zhang, Shibao Wang.	242
Waste Gas Control Techniques	
Adsorptive Removal of Formaldehyde from Indoor Air using Mixed-Metal Oxides. Fateme Rezaei,	
Anirudh Krishnamurthy.	243
The Dechlorination Effect of Chlorobenzene on Vanadium-based Catalysts for Low-temperature	
NH ₃ -SCR. Dong Wang, Yue Peng, Jun-hua Li and Ji-ming Hao.	261
Pb and SO ₂ Poisoning Effect on CeO ₂ -WO ₃ /TiO ₂ -SiO ₂ Catalyst for SCR. Yue Peng, Dong Wang,	
Jun-hua Li, John Crittenden and Ji-ming Hao	262

Air Pollutant Monitoring

Characterization of Volatile Organic Compound Emissions from A Wastewater Treatment Plant	
Hakan Pekey, Kadir Ulutaş, Selami Demir, Faruk Dinçer	1
Jianbo Zhang.	•
Air Pollution Distribution, Modelling and Development of an Air Quality Index based on land use	
profiles, Trinidad, WI. Himawatee Baboolal and Valerie Stoute.	
Characterizing Spatial Distribution of Coarse Particle Concentrations Using Passive Aeroso Sampler in Kocaeli, Turkey. Beyhan Pekey, Robert D. Willis.	1
Insight into the Sources of PM2.5 at Roadside Micro-Environment in Tianjin, China. Shi-Bao Wang Ya-Qin Ji, Lei Zhang.	
Hazardous Gas Biofiltration / Catalysts for Reducing Emission	
Degradation of Ternary Mixture of Trihalomethanes in a Biotrickling Filter Seeded with Biosurfactant and Fungi. Sanaiya Islam, George Sorial, and Bineyam Mezgebe	1
Catalysts for Reducing Emission	
Effects of Nanoparticle Based Fuel Additives on Diesel Engine Performance and Emissions. <i>Asange Wijesinghe, Fanxu Meng, Carolyn LaFleur and Richard Haut.</i>	
A Novel Cu _w Mg _{2-w} Mn _y Al _{1-y} O _x Catalyst from LDHs for NH ₃ -SCR Catalyst and Resistance to Its SO ₂	
	2
and H ₂ O. Qinghua Yan and Qiang Wang.	
· · · · · · · · · · · · · · · · · · ·	•
and H ₂ O. Qinghua Yan and Qiang Wang.	•
and H ₂ O. Qinghua Yan and Qiang Wang. LAND (SOIL, SOLID WASTE) POLLUTION AND REMEDIATION Contaminants in the Subsurface / Natural Attenuation of Contaminants An Investigation into the Microbial Attenuation of Hydrocarbon Contaminated Soil. Grace	
and H ₂ O. Qinghua Yan and Qiang Wang. LAND (SOIL, SOLID WASTE) POLLUTION AND REMEDIATION Contaminants in the Subsurface / Natural Attenuation of Contaminants	2
and H ₂ O. Qinghua Yan and Qiang Wang. LAND (SOIL, SOLID WASTE) POLLUTION AND REMEDIATION Contaminants in the Subsurface / Natural Attenuation of Contaminants An Investigation into the Microbial Attenuation of Hydrocarbon Contaminated Soil. Grace Zvinowanda and Memory Tekere. Interacting Effects of Salinity, Sewage Sludge, and Earthworms on the Fractionation of Heavy	2
and H ₂ O. Qinghua Yan and Qiang Wang. LAND (SOIL, SOLID WASTE) POLLUTION AND REMEDIATION Contaminants in the Subsurface / Natural Attenuation of Contaminants An Investigation into the Microbial Attenuation of Hydrocarbon Contaminated Soil. Grace Zvinowanda and Memory Tekere. Interacting Effects of Salinity, Sewage Sludge, and Earthworms on the Fractionation of Heavy Metals in Soil around A Lead-Zinc Mine. Ghasem Rahimi, Fatereh Karimi. Solid Waste Management A New Concept for Utilization of Industrial Solid Wastes in Building Structures. Arunima Shuklangan Andread No. 100 Memory 1	7
An Investigation into the Microbial Attenuation of Hydrocarbon Contaminated Soil. Grace Zvinowanda and Memory Tekere. Interacting Effects of Salinity, Sewage Sludge, and Earthworms on the Fractionation of Heavy Metals in Soil around A Lead-Zinc Mine. Ghasem Rahimi, Fatereh Karimi. Solid Waste Management A New Concept for Utilization of Industrial Solid Wastes in Building Structures. Arunima Shukle and Ashok N. Bhaskarwar. Analysis of Municipal Solid Waste Producing Law and Internet Technology-Based Enterprises in	; /
and H ₂ O. Qinghua Yan and Qiang Wang. LAND (SOIL, SOLID WASTE) POLLUTION AND REMEDIATION Contaminants in the Subsurface / Natural Attenuation of Contaminants An Investigation into the Microbial Attenuation of Hydrocarbon Contaminated Soil. Grace Zvinowanda and Memory Tekere. Interacting Effects of Salinity, Sewage Sludge, and Earthworms on the Fractionation of Heavy Metals in Soil around A Lead-Zinc Mine. Ghasem Rahimi, Fatereh Karimi. Solid Waste Management A New Concept for Utilization of Industrial Solid Wastes in Building Structures. Arunima Shukle and Ashok N. Bhaskarwar.	

Kholood Yousef, Soud AL-Mutairy, Haitham Fouzy	31
Utilization of Wood Waste for Container Media by Accelerated Composting. <i>Hoda Bakhshizadeh</i> ,	<i>J</i> 1
H.Borazjani, R.C.Sloan, and S.S.Worthey	32
Sustainable Utilization for Lead Immobilization in Contaminated Soil by Recovered Struvite Supported Diatomite Complex: Potential, Mechanism, Efficiency and Risk Assessment. Huanping Jing, Xuejiang Wang.	32
Indigenization to Improve Access to Affordable Refuse Disposal Services in Non-Urban South African Households. Fannie Machete.	32
Radioactive Waste and Land Pollution	
Decontamination of Liquid Effluents from Uranium Mine by Using Natural Zeolite. Ahmet Erdal Osmanlioglu.	33
A New Formula of Active Powder Concrete for Curing Radioactive Waste. <i>Baosen Liu, Li'an Hou, Shuili Yu, and Yubing Ye.</i>	33
Statistic Methods for Assessments of Risks and Damages at Nuclear Power Plants, Alexander Valyaev, Gurgen Aleksanyan, Alexey Valyaev, Oleg Arkhipkin.	33
Phytoremediation of Organic Pollutants	
Potentialities of Six Plant Species on Phytoremediation Attempts of Fuel Oil-Contaminated Soils. Matsodoum N. P., Djumyom Wafo G. V., Djocgoue P. F., Kengne Noumsi I. M., Wanko N. A	33
Plants and Eco/Soil Stabilization	
Study of Shear Strength of Reinforced Soil. Manas Kumar Bhoi, Gloria James and Poornima Menon	33
ECOSYSTEM ASSESSMENT AND RESTORATION	
Ecosystem Assessment	
Stress Factors to Fish Habitat in Urban Rivers. Yuta Yamauchi, Tetsuya Nakata, and Yutaka Sakakibara.	34
Spatial Variability of Macroinvertebrates in Kashmir Himalaya. Sami Ullah Bhat, Inam Sabha, Sheikh Tajamul and Shabir Ahmad Rather.	3:
Nutrients and Functions of Ecosystems	
Carbon Sequestration on Application of Biochar Pellet Cooperated with Pig Manure Compost during Rice Cultivation. <i>JoungDu Shin, EunSuk Jang.</i>	3:
Restoration of Ecosystems	
Developing a Sustainable Eco-Fishing Village in Riverine Nigeria: A Review of Iworkiri Fishing Village Bonny Island, Nigeria. <i>Ikechukwu Onyegiri, Ben Ugochukwu, Iwuagwu, Roland, Dan-Wachuku.</i>	3
BIO-ASSESSMENT AND TOXICOLOGY	

Human Exposure

Christine Achten. Unraveling the Molecular Mechanism behind UV-B Induced Skin Cancer. Rayala Sure
Kumar
Bio-response and Ecotoxicology
Toxicity of silver Nanoparticles on E. crypticus in Soils Applied with Biosolid: Effect Transformation Ratio to Silver Sulfide Nanoparticles and Biosolid Application Rates. <i>Er TOPUZ and Ismail KOYUNCU</i> .
Trans-Generational Immune Toxicity Effect of Benzo[A]Pyrene on oryzias melastigma. Xiaoh Yin and Kejian Wang.
Persistent Physiological Concentration ROS Generated by BaP Exposure Blocking NF-κB Pathw in Medaka (Oryzias melatigma). Qian Cui, and Kejian Wang.
In Vitro Study on the Joint Hepatoxicity upon Combined Exposure of Cadmium and BDE-209. Li. Wang, Tong Wu, Lulu Zhang, Jiansheng Cui.
Cd-Induced Phytotoxicity Reduces Lindane Accumulation in Rice Seedlings. Shidi Huang, and Daniel Sheng.
Genotoxicity and Cytotoxicity of Nine Benzothiazoles: Development and Application of A Hi Content Screening in Vitro Micronucleus Test for Genotoxicity and Cytotoxicty Assessme Mei Ma, ChaoHuang, Ye Yan, Na Li, Kaifeng Rao, Yiping Xu
Nanoparticles as Emerging Contaminants of Concern: Ecotoxicity Effects on the Growth at Survival of Bacteria. Sidney Stokes, Lucas Ringo and Lynal Albert
Multigeneration Effects of Pentachlorophenol and 2,2',4,4'-tetrabromodiphenyl ether on Folsor Candida. <i>Min Qiao and Qian-qian Zhang</i> .
Bioavailability and Bio-accumulation
Organotin Contamination in Commercial and Wild Marine Bivalves from China: Increase Occurrence of Triphenyltin after the TBT Ban. Chunzhao Chen, Qinghui Huang, and W. Zhang.
Microbiology and Microbial Degradation
Comparison of Inactivation of Disinfectant- and Antibiotic- Resistant Bacteria by Free Chlorine a
UV. Jingyu Wang and Minghao Sui. Existed to Acquire or Evolved to Destroy? -The Story of Bacterial Phosphotriesterases. Dayanan
Siddavattam
Sheng.
WETLANDS AND SEDIMENTS
06-1 Wetland Conservation
Wetland Conservation and Protection. Kwang, Daniel Kwasi.

Assessment of Sediments

Metal Processing

Assessment of the Impact of Land Cover and Land Use Changes on the Water Quality of Sediments and Nutrients in Cahaba River Basin Using SWAT. <i>Pooja P. Preetha, Ashraf Z. Al-Hamdan,</i>	
Assessment of Quality of Sediments and Nutrients with Land Use Land Cover Changes in Cahaba River Basin Using SWAT. Pooja P. Preetha, Mohammad Z. Al-Hamdan and Michael D.	373
Anderson	374
Enhanced Nitrogen Removal by the Integrated Constructed Wetlands with Artificial Aeration. <i>Jizheng Pan.</i>	
Hexabromocyclododecane (HBCDD) Biodegradation in Anaerobic Sediment Mesocosms. <i>Irem Karahan, Hale Demirtepe and Ipek Imamoğlu.</i>	375 376
GLOBAL CHANGE GLOBAL WARMING AND CLIMATE CHANGE	
Global Warming and its Impacts	
Effects of Global Warming on Reproductive Functions, Heat Shock Protein Expression and Cellular Apoptosis of Eastern Oyster Gonad. Sarah Nash, and M.D Saydur Rahman.	378
A Socio-Epidemiological Study on Global Climate Change and Malaria Risk in Lombok, Indonesia: 2005-2014. <i>Hisayoshi MITSUDA</i> .	379
Carbon Discharge Reduction	
CO ₂ Absorption Studies Using Amine Solvents with Fourier Transform Infrared Analysis. Funmilola Avoseh, Khalid Osman, Paramespri Naidoo and Deresh Ramjugernath	380
METALS	
Metal Distribution	
Accumulation and Sources of Trace Metals in Roadside Soils in Shanghai, China: A Case Study of Two. rban/Rural Roads. <i>Geng Yan, Ling Chen, and Lingchen Mao.</i>	382
Vertical Distribution and Chemical Behavior of Uranium in the Tailings Material of Schneckenstein (Germany). <i>Taoufik Naamoun, Broder Merkel.</i>	383
Metal Removal and Remediation	
Accumulation of Metals and Hydrocarbons in Mangrove sediments of Arabian Gulf at the Eastern Province of Saudi Arabia. Md Iqram Uddin Al Amran, Omer Al Alhaiqi, Abideen Ojo Salawudeen and Mohamed Ali Qurban.	384

Potential of Mechanical Activation and Ultrasound Combination towards Mineral Extraction: A Case Study of Low-Grade Rhodochrosite. <i>Hongping He, Ning Duan</i>	385
MODELING	
Environmental Simulation	
Probing the Water Quality Transformation of Underground Caverns in a Tropical Region Using Elcom-Caedym Model. <i>Ming Chen, Jian Li, and Xiaosheng Qin.</i> Numerical Analysis for a Series of Recent Catastrophic Floods (2011-2017): New Verification of the Groundwater and Tectonic Processes Possible Impact. <i>T. Trifonova</i> ,	387
S. Arakelian, D. Trifonov, S. Abrakhin, V. Koneshov, A. Nikolaev	394
and Subhadeep Chakrabarti	395
Improving Human Health in China through Alternative Energy. Melissa Scott, Robert Sander, Greg Nemet, Jonathan Patz.	396
Water Quality Modeling	
Numerical Simulation on Algae Bloom in Chaohu Lake, China. Xin Qian, Mei Li and Liuyan Yang.	397
GIS, DATABASE, AND REMOTE SENSING	
GIS for Environmental Assessment	
Geospatial Assessment of Selected Wheat Producing Areas of Punjab, Pakistan. Sheikh Saeed Ahmad.	399
Groundwater Exploration and Geochemical Analysis of Its Sediments: A GIS Approach to Combat Climate Change for Sustainable Water Resource Management. Satyanarayan Shashtri, Salanieta Tuisuva, and Chander kumar Singh.	400
Investigation of the Spatial Relationships between Groundwater Quality and Hydro-geological Physical Controls using Geographically Weighted Regression Model. <i>Jena S. and Panda R. K.</i>	401
Assessment of Soil Quality Using Decision Tree by Integration of Spatial Distribution of Soil Physio-Chemical Properties Using GIS. <i>Mohamed A.E. AbdelRahman, Salah A. Tahoun.</i>	402
Evaluation Soil Organic Carbon in Some Areas in Nile Delta Using Remote Sensing and GIS Techniques. Mohamed Elsayed, Mohamed A. E. AbdelRahman, Mohamed Abu-hashim	403
12-2 Data Management and Statistics	
Apply Data Science to Rapid Modeling of Dual Fuel Technology for Life Cycle Assessment (LCA). Fanxu Meng, Carolyn LaFleur, Asanga Wijesinghe and Richard Haut.	404
ENVIRONMENTAL ANALYSIS AND MEASUREMENTS	

Χ

Environmental Analysis

Nylon 6 Nanofiber Membrane Enrichment/ Solid-Phase Surface Spectrofluorimetry. Zhi-gang Wang, Jian Chen.	412
Field Measurment Technologies	
On-Line Monitoring of Heavy Metals in Industrial Wasterwater by LIBS Technique. Nanjing Zhao, Yao Jia, Li Fang, Mingjun Ma and Deshuo Meng. Influence of Physical Properties and Constitutions of Soil on the Laser Induced Fluorescence Spectra of PAHs in Soil. Deshuo Meng, Nanjing Zhao, Yao Huang, Zhaolu Zuo, Mingjun Ma, Xiang Wang, Wenqing Liu and Jianguo Liu. Occurrences, Sources, and Transport of Organophosphorus Flame Retardants in the Waters of Fildes Peninsula, Antarctica. Kaifeng Rao, Xiaozhong Gao, Yiping Xu, and Mei Ma. New Method Applications	413 414 415
Water Biosensor Challenge to Address Toxicity of Water Eunice Varughese, Sid Hunter, Denice Shaw, Jay Garland.	416
Environmental Monitoring	
Design of Chlorophyll Fluorescence Detection System based on Pseudo-random Sequence Modulation. Chaoyi Shi, Xianhe Gao, Jun Lu, and Yanhong Gu. The Influence of Urban Ecology on the Native Flora. Mohamed A. El-Sheikh and Amro M. El-Sheikh. SOCIETY AND THE ENVIRONMENT	417 418
Society and the Environment / Environmental Ethics and Laws	
Environmental and Social Sustainability. Sukhmander Singh. Migration, Climate Change and Livelihood Crisis in Fiji: A Historical and Holistic Perspective. Mumtaz Alam and S. N. Shashtri.	420 421
Water Environment Protection in the Farmhouse Tourism Village—A Case Study on Shiling Village, Anji County. Ancheng Luo, Yanping Sun, Zhiwei Liang. Access to Environmental Benefits: Interest Driven or Need Driven? Ajay Karki.	422 423
SUBSTAINABLE DEVELOPMENT AND ENVIRONMENTAL MANAGEMENT	
Environmental Quality and Planning	
Demonstration of Enhanced Net Anthropogenic Nitrogen and Phosphorus Input Models for Estimating Commodity-specific and System-wide Agricultural Nitrogen and Phosphorus Flows. Mikaela Algren, Amy Landis, Chris Costello. Potential Environmental and Health Impact of RF Radiation on Riggers in Telecommunication Industry in Ghana. Owusu Akyaw Kwarteng and Lydia Michelle Tawiah.	425 432
Substainable Development	

Environmental Science & Technology 2018

The Challenges to Sustainable Development in Rural Regions of the Kyrgyz Republic. <i>Matsu Kenichi and Kasymbekova Lira.</i>	l
Engineering Approach Used in Hydroponics Designs and Automation. Riley Horner, Elizabeth	'n
Alviso, Michelle Mata, and Bahram Asiabanpour	
Aqueous Phosphorus Removal and Recovery by Pervious Concrete. Vincent D. Hwang, Yaileen M.	
Acevedo Badillo, Anaira Román Santiago, Carla M. Moreno Cortés, Rafael A. Terán Rondón	,
Sangchul S. Hwang	
Bayesian Network Analysis of Reforestation Decisions by Local Communities in Vietnam. <i>Thi Ma Anh Tran, Hai Dinh Le, Dongwook W. Ko.</i>	i
Maximizing Biochar and Biooil Yield from Pyrolysis of Albizia: An Invasive Plant Evaluation. <i>Hafis Ahmad, Jordan Mayers and Brandon Madden.</i>	Z
An Appraisal on the Potential of Ecosan (Ecoloical Sanitation) to Serve the Three Tiers of Water	_
Food-Energy Nexus. Bilsen BELER-BAYKAL.	
Ecotourism and Sustainable Development; Evidence from Lope National Park, Gabon. <i>Frimpong</i>	,
ORNELIUS.	
Environmental Policy and Management	
A Computable General Equilibrium Model for Liberia with Carbon Taxes and Exemptions. <i>Presley K. Wesseh, Jr Band Bogiang Lin.</i>	y
,	
RENEWABLE ENERGY DEVELOPMENT	
Solar Energy	
Feasibility Comparison of Passive and Active Optical Fiber Daylighting Systems Utilizing PMMA	4
Optical Fiber. Richard Ramirez, Katherine Casey, Juan Silva Febres, Bahran	\imath
Asiabanpour	
Renewable Energy Storage & Utilization for Cooling and Desalination: Energy & Environmenta Impact Analysis. <i>Muhammad Wakil Shahzad</i> , <i>Muhammad Burhan and Kim Choon Ng</i>	
Bio-fuels	
Hydrogen Production from Spirulina Algae by Atmospheric Pressure Microwave Plasma. Sumarlin SHANGDIAR, Ken-Lin Chang, Yu-Chieh Lin, Feng-Chih Chou, Yi-Hsing Hsiao, Yuan-Chung	
Lin	,
Role of Microwave Irradiation in Enhancing the Saccharification Rate of Water Hyacinth. <i>Sumarlin</i>	ı
SHANGDIAR, Shang-Cyuan Chen, Yu-Chieh Lin, Feng-Chih Chou, Che-An Cho, Yuan-Chung	
Lin.	,
Harvesting Microalgae from Urban Sewage for Biodiesel Production by Magnetic Flocculation	ı
Using Nano-Fe ₃ O ₄ Coated with Polyethyleneimine. Yuxi Liu, Hongyi Chen, Wenbiao Jin and	l
Using Nano-Fe ₃ O ₄ Coated with Polyethyleneimine. Yuxi Liu, Hongyi Chen, Wenbiao Jin and Peng Zhao	d