April 21, 2015
Volume 49
Number 8
pubs.acs.org/est

Environmental Science & Technology

EARTH DAY 2015

Agromining with Hyperaccumulators

ACS Publications
Most Trusted. Most Cited. Most Read.

www.acs.org

Environmental Science & Technology
April 21, 2015: Vol. 49, Iss. 8

Content

10. **Direct Night-Time Ejection of Particle-Phase Reduced Biogenic Sulfur Compounds from the Ocean to the Atmosphere**
Cassandra J. Gaston, Hiroshi Furutani, Sergio A. Guazzotti, Keith R. Coffee, Jinyoung Jung, Mitsuo Uematsu, and Kimberly A. Prather
Environmental Science & Technology **2015** *49* (8), 4861-4867
DOI: 10.1021/es506177s

11. **Light Absorption Properties and Radiative Effects of Primary Organic Aerosol Emissions**
Zifeng Lu, David G. Streets, Ekbordin Winijkul, Fang Yan, Yanju Chen, Tami C. Bond, Yan Feng, Manvendra K. Dubey, Shang Liu, Joseph P. Pinto, and Gregory R. Carmichael
Environmental Science & Technology **2015** *49* (8), 4868-4877
DOI: 10.1021/acs.est.5b00211

12. **Measurements of the HO2 Uptake Coefficients onto Single Component Organic Aerosols**
P. S. J. Lakey, I. J. George, L. K. Whalley, M. T. Baeza-Romero, and D. E. Heard
Environmental Science & Technology **2015** *49* (8), 4878-4885
DOI: 10.1021/acs.est.5b00948

13. **Impacts of Aqueous Mn(II) on the Sorption of Zn(II) by Hexagonal Birnessite**
Joshua P. Lefkowitz and Evert J. Elzinga
Environmental Science & Technology **2015** *49* (8), 4886-4893
DOI: 10.1021/es506019j

14. **Sorption Mechanisms of Organic Compounds by Carbonaceous Materials: Site Energy Distribution Consideration**
Xiaofang Shen, Xiaoying Guo, Meng Zhang, Shu Tao, and Xilong Wang
Environmental Science & Technology **2015** *49* (8), 4894-4902
DOI: 10.1021/es506034e

15. **Effect of Aging on Phosphorus Speciation in Surface Deposit of a Vertical Flow Constructed Wetland**
Boram Kim, Mathieu Gautier, Camille Rivard, Corinne Sanglar, Philippe Michel, and Rémy Gourdon
Environmental Science & Technology **2015** *49* (8), 4903-4910
DOI: 10.1021/es506164v

16. **How Does Predation Affect the Bioaccumulation of Hydrophobic Organic Compounds in Aquatic Organisms?**
Xinghui Xia, Husheng Li, Zhifeng Yang, Xiaotian Zhang, and Haotian Wang
Environmental Science & Technology **2015** *49* (8), 4911-4920
DOI: 10.1021/acs.est.5b00071

17. **Experimental Evidence of Large Changes in Terrestrial Chlorine Cycling Following Altered Tree Species Composition**
Malin Montelius, Yves Thiry, Laura Marang, Jacques Ranger, Jean-Thomas Cornelis, Teresia Svensson, and David Bastviken
Environmental Science & Technology **2015** *49* (8), 4921-4928
DOI: 10.1021/acs.est.5b00137

18. **Effect of Humic Acids with Different Characteristics on Fermentative Short-Chain Fatty Acids Production from Waste Activated Sludge**
Kun Liu, Yinguang Chen, Naidong Xiao, Xiong Zheng, and Mu Li
Environmental Science & Technology **2015** *49* (8), 4929-4936
DOI: 10.1021/acs.est.5b00200

19. **Contributions of BrCl, Br2, BrOCl, Br2O, and HOBr to Regiospecific Bromination Rates of Anisole and Bromoanisoles in Aqueous Solution**
John D. Sivey, Mark A. Bickley, and Daniel A. Victor
Environmental Science & Technology **2015** *49* (8), 4937-4945
DOI: 10.1021/acs.est.5b00205

20. **Isomer Profiles of Perfluoroalkyl Substances in Water and Soil Surrounding a Chinese Fluorochemical Manufacturing Park**
Hangbiao Jin, Yifeng Zhang, Lingyan Zhu, and Jonathan W. Martin
Environmental Science & Technology **2015** *49* (8), 4946-4954
DOI: 10.1021/acs.est.5b00212

21. **Characterization of Particles from Ferrate Preoxidation**
Joseph E. Goodwill, Yanjun Jiang, David A. Reckhow, Joseph Gikonyo, and John E. Tobiason
Environmental Science & Technology **2015** *49* (8), 4955-4962
DOI: 10.1021/acs.est.5b00225

22. **PDF-Based Heterogeneous Multiscale Filtration Model**
Jian Gong and Christopher J. Rutland
Environmental Science & Technology **2015** *49* (8), 4963-4970
DOI: 10.1021/acs.est.5b00329

23. **Large-Scale Hydrological Modeling for Calculating Water Stress Indices: Implications of Improved Spatiotemporal Resolution, Surface-Groundwater Differentiation, and Uncertainty Characterization**
Laura Scherer, Aranya Venkatesh, Ramkumar Karuppiah, and Stephan Pfister
Environmental Science & Technology **2015** *49* (8), 4971-4979
DOI: 10.1021/acs.est.5b00429

24. **In Situ Measurements of Organic Carbon in Soil Profiles Using vis-NIR Spectroscopy on the Qinghai–Tibet Plateau**
Shuo Li, Zhou Shi, Songchao Chen, Wenjun Ji, Lianqing Zhou, Wu Yu, and Richard Webster
Environmental Science & Technology **2015** *49* (8), 4980-4987
DOI: 10.1021/es504272x

25. **High Levels of Polybrominated Diphenyl Ethers in Vacuum Cleaner Dust from California Fire Stations**
Beverly Shen, Todd P. Whitehead, Sandra McNeel, F. Reber Brown, Joginder Dhaliwal, Rupali Das, Leslie Israel, June-Soo Park, and Myrto Petreas
Environmental Science & Technology **2015** *49* (8), 4988-4994
DOI: 10.1021/es505463g

26. **Liquid–Liquid Phase Separation in Aerosol Particles: Imaging at the Nanometer Scale**
Rachel E. O'Brien, Bingbing Wang, Stephen T. Kelly, Nils Lundt, Yuan You, Allan K. Bertram, Stephen R. Leone, Alexander Laskin, and Mary K. Gilles
Environmental Science & Technology **2015** *49* (8), 4995-5002
DOI: 10.1021/acs.est.5b00062

27. **Evaluating the Toxicity of Silver Nanoparticles by Detecting Phosphorylation of Histone H3 in Combination with Flow Cytometry Side-Scattered Light**
Xiaoxu Zhao and Yuko Ibuki
Environmental Science & Technology **2015** *49* (8), 5003-5012
DOI: 10.1021/acs.est.5b00542

28. **Multiple Signal Amplified Electrochemiluminescent Immunoassay for Hg2+ Using Graphene-Coupled Quantum Dots and Gold Nanoparticles-Labeled Horseradish Peroxidase**
Fudong Cai, Qing Zhu, Kang Zhao, Anping Deng, and Jianguo Li
Environmental Science & Technology **2015** *49* (8), 5013-5020
DOI: 10.1021/acs.est.5b00690

29. **Effect of Cerium Oxide Doping on the Performance of CaO-Based Sorbents during Calcium Looping Cycles**
Shengping Wang, Shasha Fan, Lijing Fan, Yujun Zhao, and Xinbin Ma
Environmental Science & Technology **2015** *49* (8), 5021-5027
DOI: 10.1021/es5052843

30. **Synergetic Sustainability Enhancement via Utilization of Carbon Dioxide as Carbon Neutral Chemical Feedstock in the Thermo-Chemical Processing of Biomass**
Eilhann E. Kwon, Seong-Heon Cho, and Sungpyo Kim
Environmental Science & Technology **2015** *49* (8), 5028-5034
DOI: 10.1021/es505744n

31. **Long-Term Functionality of Rural Water Services in Developing Countries: A System Dynamics Approach to Understanding the Dynamic Interaction of Factors**
Jeffrey P. Walters and Amy N. Javernick-Will
Environmental Science & Technology **2015** *49* (8), 5035-5043
DOI: 10.1021/es505975h

32. **Impact of Chronic Lead Exposure on Metal Distribution and Biological Effects to Periphyton**
Theodora J. Stewart, Renata Behra, and Laura Sigg
Environmental Science & Technology **2015** *49* (8), 5044-5051
DOI: 10.1021/es505289b

33. **Urinary Metal Concentrations in Relation to Semen Quality: A Cross-Sectional Study in China**
Qiang Zeng, Wei Feng, Bin Zhou, Yi-Xin Wang, Xiao-Sheng He, Pan Yang, Ling You, Jing Yue, Yu-Feng Li, and Wen-Qing Lu
Environmental Science & Technology **2015** *49* (8), 5052-5059
DOI: 10.1021/es5053478

34. **Acute Toxicity of Runoff from Sealcoated Pavement to Ceriodaphnia dubia and Pimephales promelas**
Barbara J. Mahler, Christopher G. Ingersoll, Peter C. Van Metre, James L. Kunz, and Edward E. Little
Environmental Science & Technology **2015** *49* (8), 5060-5069
DOI: 10.1021/acs.est.5b00933

35. **Antibiotic Body Burden of Chinese School Children: A Multisite Biomonitoring-based Study**
Hexing Wang, Bin Wang, Qi Zhao, Yanping Zhao, Chaowei Fu, Xin Feng, Na Wang, Meifang Su, Chuanxi Tang, Feng Jiang, Ying Zhou, Yue Chen, and Qingwu Jiang
Environmental Science & Technology **2015** *49* (8), 5070-5079
DOI: 10.1021/es5059428

36. **Childhood Lead Exposure in an Industrial Town in China: Coupling Stable Isotope Ratios with Bioaccessible Lead**
Hong-Bo Li, Kai Chen, Albert L. Juhasz, Lei Huang, and Lena Q. Ma
Environmental Science & Technology **2015** *49* (8), 5080-5087
DOI: 10.1021/es5060622

37. **Large-Scale Deployment of Seed Treatments Has Driven Rapid Increase in Use of Neonicotinoid Insecticides and Preemptive Pest Management in U.S. Field Crops**
Margaret R. Douglas and John F. Tooker
Environmental Science & Technology **2015** *49* (8), 5088-5097
DOI: 10.1021/es506141g

38. **Indoor Emissions as a Primary Source of Airborne Allergenic Fungal Particles in Classrooms**
Naomichi Yamamoto, Denina Hospodsky, Karen C. Dannemiller, William W Nazaroff, and Jordan Peccia
Environmental Science & Technology **2015** *49* (8), 5098-5106
DOI: 10.1021/es506165z

39. **Higher PBDE Serum Concentrations May Be Associated with Feline Hyperthyroidism in Swedish Cats**
Jessica Norrgran, Bernt Jones, Anders Bignert, Ioannis Athanassiadis, and Åke Bergman