

Environmental Science Water Research & Technology

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Outstanding Reviewers for *Environmental Science: Water Research & Technology* in 2016

We would like to take this opportunity to highlight the Outstanding Reviewers for *Environmental Science: Water Research & Technology* in 2016, as selected by the editorial team for their significant contribution to the journal.

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Three promising applications of microbial electrochemistry for the water sector

Oskar Modin* and Federico Aulenta

The potential applications of microbial electrochemistry are many; three promising ones are sensors, *in situ* bioremediation, and metal recovery.

Mitigation options for chemicals of emerging concern in surface waters; operationalising solutions-focused risk assessment

Annemarie P. van Wezel,* Thomas L. ter Laak, Astrid Fischer, Patrick S. B auerlein, John Munthe and Leo Posthuma

The water system provides many services to society; industries, municipalities and agriculture all withdraw, use and return water and demand a water quality fit for the intended purposes.

Review of the molluscicide metaldehyde in the environment

G. D. Castle, G. A. Mills, A. Gravell, L. Jones, I. Townsend, D. G. Cameron and G. R. Fones*

Understanding the occurrence, fate and mitigation of the potent molluscicide, metaldehyde in the aquatic environment is now a major concern.

Exceptional sorption behaviour of porous tungsten oxide for aqueous lead

Cory K. Perkins, Travis M. Reed, Zachary A. Brown and Allen W. Apblett*

A nanoporous WO_3 sorbent was found to be highly reactive towards Pb^{2+} , exhibiting a molar sorption capacity of 42.5% and sorption half-lives as low as 47 s.

Demonstration of membrane distillation on textile waste water: assessment of long term performance, membrane cleaning and waste heat integration

Noel Dow, Jes us Villalobos Garc a, Leslie Niadoo, Nicholas Milne, Jianhua Zhang, Stephen Gray and Mikel Duke*

A three month membrane distillation trial demonstrated innovative pretreatments, cleaning and waste heat integration as an inland textile industry wastewater solution.

Formation of bioactive transformation products during glucocorticoid chlorination

Nicholas C. Pflug, Allison Kupsco, Edward P. Kolodziej, Daniel Schlenk, Lynn M. Teesch, James B. Gloer* and David M. Cwiertny*

Glucocorticoid (GC) release into the environment has led to widespread detection of glucocorticoid receptor (GR) activity in water resources that has been shown to persist throughout conventional and some advanced wastewater treatment processes.

Activity of methanogenic biomass after heat and freeze drying in air

Ujwal Bhattad, Kaushik Venkiteshwaran,* Keerthi Cherukuri, James S. Maki and Daniel H. Zitomer

This study successfully demonstrated that methanogenic communities can retain activity after freeze and heat drying in air.

Enhancement of the sensitivity of a microbial fuel cell sensor by transient-state operation

Yong Jiang, Peng Liang,* Panpan Liu, Bo Miao, Yanhong Bian, Helan Zhang and Xia Huang

The transient-state operation mode was applied in an MFC sensor and was further proved applicable for three kinds of detections with higher sensitivity.

Removal rates and energy demand of the electrochemical oxidation of ammonia and organic substances in real stored urine

Hanspeter Zöllig, Annette Remmele, Eberhard Morgenroth and Kai M. Udert*

Galvanostatic electrolysis of real stored urine leads to a fast removal of ammonia and organic substances by indirect oxidation. However, this comes with a price: high energy needs and harmful byproducts.

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Virus inactivation in stored human urine, sludge and animal manure under typical conditions of storage or mesophilic anaerobic digestion

Loïc Decrey and Tamar Kohn*

Viruses represent major disease transmitting agents carried by human excreta and animal manure.

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Defining the molecular properties of N-nitrosodimethylamine (NDMA) precursors using computational chemistry

Tom Bond,* Alexandra Simperler, Nigel Graham, Li Ling, Wenhui Gan, Xin Yang and Michael R. Templeton

Computational descriptors were used to identify previously unknown NDMA precursors.

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How sociopolitical factors affected the implementation of Cape Town's vacuum sewer

Lina Taing

This paper discusses various institutional and social conflicts that detrimentally affected the implementation of a vacuum sewer in South Africa.

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Water quality and filter performance of nutrient-, oxidant- and media-enhanced drinking water biofilters

Amina K. Stoddart and Graham A. Gagnon*

Enhancement strategies provided mixed outcomes for both water quality and filter performance metrics.

Inactivation of *E. coli* using a novel TiO₂ nanotube electrode

Amir Ahmadi and Tingting Wu*

The novel TiO₂ nanotube electrode can effectively inactivate *E. coli* with low byproduct formation and energy consumption.

Feasibility analysis and parameter optimization of organic steam to drive a MED system dealing with high salinity waste water

Jianliang Xue,* Yanan Wu, Qinqin Cui, Yu Gao, Wenrui Zhang, Bing Liu and Lin Li

A MED system driven by organic steam for processing high salinity water was studied. The feasibility of organic steam as a heat resource was firstly studied. Additionally, key parameters of the MED system were optimized.

Pharmaceutical removal in synthetic human urine using biochar

Avni Solanki* and Treavor H. Boyer

This research addresses the potential for biochar to remove pharmaceuticals from synthetic urine, thereby allowing the treated urine to be used as a contaminant-free nutrient product.

The influence of electromagnetic fields from two commercially available water-treatment devices on calcium carbonate precipitation

C. Piyadasa, T. R. Yeager, S. R. Gray, M. B. Stewart, H. F. Ridgway, C. Pelekani and J. D. Orbell*

CaCO₃ precipitation profiles, tracked by absorbance at 350 nm, showing accelerated precipitation upon exposure of the parent solutions to a pulsed electromagnetic field (PEMF) from a commercially available device.