

## ES&T's Best Papers of 2010

In 2010, *ES&T* published more than 1400 papers on a wide range of topics. But which papers were the top papers—the best of the year?

This year, our Associate Editors nominated papers that they felt were of the highest caliber—these are papers expected to have a significant and long-lasting impact on the field. A subcommittee from our Editorial Advisory Board chaired by Susan Richardson pored over the nominations (of papers accepted and/or having an ASAP in 2010) to create a short list for consideration in each category: Science, Technology, Policy, and new for 2010, Feature. I had the difficult task of trying to choose the best of the best.

We hope this brings special recognition to you, our authors, and focuses attention on your high-quality papers. The Best Paper Awards are an annual event with the Top Papers announced online ahead of this April 1 issue. This year also includes Perspectives profiling the winners:

**Buzz About the Bees** (Top Feature), by Dr. Barbara A. Booth (*Environ. Sci. Technol.* DOI 10.1021/es200469g)

**Introducing High-Throughput Environmental Metabolomics** (Top Science Paper), by Dr. Jerald L. Schnoor (*Environ. Sci. Technol.* DOI 10.1021/es200415t)

**Shredding Light on Cyanobacteria Toxins** (Top Technology Paper), by Dr. Thanh Wang (*Environ. Sci. Technol.* DOI 10.1021/es200500a)

**Why Do People Choose What They Choose? And, Do They Use What They Choose?** (Top Policy Paper), by Dr. Barbara A. Booth (*Environ. Sci. Technol.* DOI 10.1021/es2004683)

**Last But Certainly Not Least** (Best Paper Runner-Up), by Dr. Jerald L. Schnoor (*Environ. Sci. Technol.* DOI 10.1021/es2005072)

There will also be video coverage of this year's awarded papers following on our Web site as with the 2009 Awards (<http://pubs.acs.org/page/esthag/video/top-papers.html>). In addition, each author receives a certificate of recognition and our heartiest congratulations.

### ■ FEATURE

**Top Paper.** Spivak, M.; Mader, E.; Vaughan, M.; Euliss, N. H., Jr. The Plight of the Bees. *Environ. Sci. Technol.* **2011**, *44* (1), 34–38 (*Environ. Sci. Technol.* DOI 10.1021/es101468w).

### ■ ENVIRONMENTAL SCIENCE

**Top Paper.** Helbling, D. E.; Hollender, J.; Kohler, H–P. E.; Singer, H.; Fenner, K. High-Throughput Identification of Microbial Transformation Products of Organic Micropollutants. *Environ. Sci. Technol.* **2010**, *44* (17), 6621–6627 (*Environ. Sci. Technol.* DOI 10.1021/es100970m).

**First Runner-Up.** Nierzwicki-Bauer, S. A.; Boylen, C. W.; Eichler, L. W.; Harrison, J. P.; Sutherland, J. W.; Shaw, W.; Daniels, R. A.; Charles, D. F.; Acker, F. W.; Sullivan, T. J.; Momen, B.; Bukaveckas, P. Acidification in the Adirondacks: Defining the Biota in Trophic Levels of 30 Chemically Diverse

Acid-Impacted Lakes. *Environ. Sci. Technol.* **2010**, *44* (15), 5721–5727 (*Environ. Sci. Technol.* DOI 10.1021/es1005626).

**Second Runner-Up.** Truong, H.; Lomnicki, S.; Dellinger, B. Potential for Misidentification of Environmentally Persistent Free Radicals as Molecular Pollutants in Particulate Matter. *Environ. Sci. Technol.* **2010**, *44* (6), 1933–1939 (*Environ. Sci. Technol.* DOI 10.1021/es902648t).

**Third Runner-Up.** Penning, H.; Sorensen, S. R.; Meyer, A. H.; Aamand, J.; Elsner, M. C, N, and H Isotope Fractionation of the Herbicide Isoproturon Reflects Different Microbial Transformation Pathways. *Environ. Sci. Technol.* **2010**, *44* (7), 2372–2378 (*Environ. Sci. Technol.* DOI 10.1021/es9031858).

### ■ ENVIRONMENTAL TECHNOLOGY

**Top Paper.** Yanfen, F.; Yingping, H.; Jing, Y.; Pan, W.; Genwei, C. Unique Ability of BiOBr To Decarboxylate D-Glu and D-MeAsp in the Photocatalytic Degradation of Microcystin-LR in Water. *Environ. Sci. Technol.* **2011**, *45* (4), 1593–1600 (*Environ. Sci. Technol.* DOI 10.1021/es103422j).

**First Runner-Up.** Peng, W.; Chen, Y.; Fan, S.; Zhang, F.; Zhang, G.; Fan, X. Use of 4,4'-Dinitrostilbene-2,2'-Disulfonic Acid Wastewater As a Raw Material for Paramycin Production. *Environ. Sci. Technol.* **2010**, *44* (23), 9157–9162 (*Environ. Sci. Technol.* DOI 10.1021/es101950k).

**Second Runner-Up.** Zhang, C.; Dehoff, K.; Hess, N.; Oostrom, M.; Wietsma, T. W.; Valocchi, A. J.; Fouke, B. W.; Werth, C. J. Pore-Scale Study of Transverse Mixing Induced CaCO<sub>3</sub> Precipitation and Permeability Reduction in a Model Subsurface Sedimentary System. *Environ. Sci. Technol.* **2010**, *44* (20), 7833–7838 (*Environ. Sci. Technol.* DOI 10.1021/es1019788).

**Third Runner-Up.** Grebel, J. E.; Pignatello, J. J.; Mitch, W. A. Effect of Halide Ions and Carbonates on Organic Contaminant Degradation by Hydroxyl Radical-Based Advanced Oxidation Processes in Saline Waters. *Environ. Sci. Technol.* **2010**, *44* (17), 6822–6828 (*Environ. Sci. Technol.* DOI 10.1021/es1010225).

### ■ ENVIRONMENTAL POLICY

**Top Paper.** Albert, J.; Luoto, J.; Levine, D. End-User Preferences for and Performance of Competing POU Water Treatment Technologies among the Rural Poor of Kenya. *Environ. Sci. Technol.* **2010**, *44* (12), 4426–4432 (*Environ. Sci. Technol.* DOI 10.1021/es1000566).

**First Runner-Up.** Mullins, K. A.; Griffin, W. M.; Matthews, H. S. Policy Implications of Uncertainty in Modeled Life-Cycle Greenhouse Gas Emissions of Biofuels. *Environ. Sci. Technol.* **2011**, *45* (1), 132–138 (*Environ. Sci. Technol.* DOI 10.1021/es1024993).

**Second Runner-Up.** Allwood, J. M.; Cullen, J. M.; Milford, R. L. Options for Achieving a 50% Cut in Industrial Carbon Emissions by 2050, California. *Environ. Sci. Technol.* **2010**, *44* (6), 1888–1894 (*Environ. Sci. Technol.* DOI 10.1021/es902909k).

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Editor

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