ES&T’s Best Papers of 2017

On a typical day, approximately five new papers are posted to the home page of Environmental Science & Technology (ES&T). The act of posting the paper represents the penultimate step in a journey that a research project made from an initial idea to data collection, interpretation, writing, and peer review. With so many papers passing through this process it would be easy to lose track of the great accomplishments of our authors. To make sure that this does not happen, each year we asked the journal’s Editorial Advisory Board to rank approximately 100 papers that our Associate Editors had identified as exceptional contributions. From among the top-ranked papers, I have chosen best papers in the categories of Environmental Science, Environmental Technology, Environmental Policy, and Features. Ranking all of those papers was a tough job, and we are particularly grateful to tireless efforts of Professor Nathalie Tufenkji (McGill University), the chair of the selection committee, and the participating members of the Editorial Advisory Board.

Reading these extraordinary papers, or for that matter, any randomly selected group of papers from the journal, it becomes evident that advances in fields such as medicine, information technology, and materials science fueled by the rapid global economic expansion of the past three decades determine what we study and the way that we study it. In some cases, we have exploited the technological advances of other fields to enhance our ability to detect difficult-to-measure sources of pollution (e.g., by providing us with a means of pinpointing air pollution sources with mobile detectors or by employing a new generation of mass spectrometers capable of identifying unknown compounds in complex matrices). We are also leveraging tools developed in other disciplines to improve our ability to control pollution (e.g., by providing a means of repairing damaged water treatment membranes). Despite the remarkable tools that we have been able to access, we also grapple with the unintended consequences of technological advances, as evidenced by research into impacts on the environment and human health associated with the overuse of antibiotics and indiscriminate disposal of plastic. Our insatiable appetite for technology and economic growth also means that the transition to a sustainable society is going to require much better stewardship of metals, nutrients, and other resources.

With billions of people aspiring for a higher standard of living, and industries capable of providing a dizzying array of technologies to help them achieve it, environmental science and technology research will play a major role in determining the quality of life experienced by future generations. As demonstrated by these award-winning papers and the hundreds of other papers published by ES&T in 2017, our community is capable of leveraging the latest developments from other disciplines to enhance our understanding of the environment and offer effective solutions to pollution problems. It is also evident that we will face a widening array of problems associated with the expanding populations and the growth industries that use new technologies. We are grateful to these exceptional researchers and the thousands of other authors whose efforts have given us the tools to navigate the environmental challenges facing the modern world.

ENVIRONMENTAL SCIENCE


ENVIRONMENTAL TECHNOLOGY


ENVIRONMENTAL POLICY


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FEATURE


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Notes
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