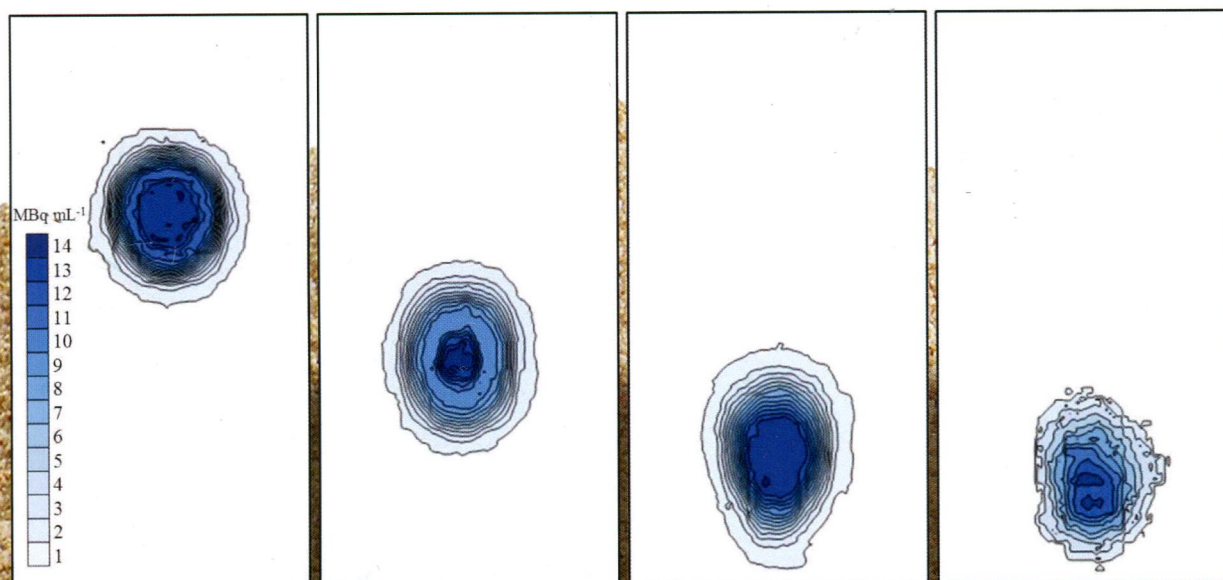


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# ENVIRONMENTAL Science & Technology

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## Measuring Containment: Anionic Radionuclide Transport Through Porous Media



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**ON THE COVER:** The major safety concern relating to the storage and disposal of nuclear wastes is the release and transport of hazardous, long-lived radionuclides to the environment. The quantitative gamma-imaging technique shown on this issue's cover is capable of rapidly and conveniently determining radionuclide transport in the subsurface and also in engineered materials for waste containment.

## Comment

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[dx.doi.org/10.1021/es404761f](http://dx.doi.org/10.1021/es404761f)**Good News for Peak Emissions**

Jerald L. Schnoor

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[dx.doi.org/10.1021/es404751a](http://dx.doi.org/10.1021/es404751a)**Heavy Metals in Atmospheric Particulate Matter: A Comprehensive Understanding Is Needed for Monitoring and Risk Mitigation**

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[dx.doi.org/10.1021/es4045743](http://dx.doi.org/10.1021/es4045743)**Increase of External Nutrient Input Impact on Carbon Sinks in Chinese Coastal Seas**

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[dx.doi.org/10.1021/es404840a](http://dx.doi.org/10.1021/es404840a)**Will Nicaragua's Interoceanic Canal Result in an Environmental Catastrophe for Central America?**

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13798  [dx.doi.org/10.1021/es4031529](https://doi.org/10.1021/es4031529)  
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[dx.doi.org/10.1021/es403269v](https://doi.org/10.1021/es403269v)

**Expression Pattern of Entire Cytochrome P450 Genes and Response of Defensomes in the Benzo[a]pyrene-Exposed Monogonont Rotifer *Brachionus koreanus***


Ryeo-Ok Kim, Bo-Mi Kim, Chang-Bum Jeong, David R. Nelson, Jae-Seong Lee,\* and Jae-Sung Rhee\*

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**High-Resolution Analytical Electron Microscopy Reveals Cell Culture Media-Induced Changes to the Chemistry of Silver Nanowires**


Shu Chen, Ioannis G. Theodorou, Angela E. Goode, Andrew Gow, Stephan Schwander, Junfeng (Jim) Zhang, Kian Fan Chung, Teresa D. Tetley, Milo S. Shaffer, Mary P. Ryan,\* and Alexandra E. Porter\*

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**Fate of ZnO Nanoparticles in Soils and Cowpea (*Vigna unguiculata*)**


Peng Wang,\* Neal W. Menzies, Enzo Lombi, Brigid A. McKenna, Bernt Johannessen, Chris J. Glover, Peter Kappen, and Peter M. Kopittke

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**Polybrominated Diphenyl Ether (PBDE) Accumulation by Earthworms (*Eisenia fetida*) Exposed to Biosolids-, Polyurethane Foam Microparticle-, and Penta-BDE-Amended Soils**


Michael O. Gaylor,\* Ellen Harvey, and Robert C. Hale

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**Impact of Wastewater Treatment Configuration and Seasonal Conditions on Thyroid Hormone Disruption and Stress Effects in *Rana catesbeiana* Tailfin**

Pola Wojnarowicz, Olumuyiwa O. Ogunlaja, Chen Xia, Wayne J. Parker, and Caren C. Helbing\*

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**Flame Retardant Exposure among Collegiate United States Gymnasts**

Courtney C. Carignan,\* Wendy Heiger-Bernays, Michael D. McClean, Simon C. Roberts, Heather M. Stapleton, Andreas Sjödin, and Thomas F. Webster

## Energy and the Environment

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**Real-Time Gamma Imaging of Technetium Transport through Natural and Engineered Porous Materials for Radioactive Waste Disposal**


Claire L. Corkhill,\* Jonathan W. Bridge, Xiaohui C. Chen, Phil Hillel, Steve F. Thornton, Maria E. Romero-Gonzalez, Steven A. Banwart, and Neil C. Hyatt

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**Impact of Higher Alcohols Blended in Gasoline on Light-Duty Vehicle Exhaust Emissions**

Matthew A. Ratcliff,\* Jon Luecke, Aaron Williams, Earl Christensen, Janet Yanowitz, Aaron Reek, and Robert L. McCormick

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**Quantifying On-Road Emissions from Gasoline-Powered Motor Vehicles: Accounting for the Presence of Medium- and Heavy-Duty Diesel Trucks**

Timothy R. Dallmann, Thomas W. Kirchstetter, Steven J. DeMartini, and Robert A. Harley\*

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**Enhanced Stability and Chemical Resistance of a New Nanoscale Biocatalyst for Accelerating CO<sub>2</sub> Absorption into a Carbonate Solution**

Shihan Zhang, Hong Lu, and Yongqi Lu\*

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[dx.doi.org/10.1021/es4032216](https://doi.org/10.1021/es4032216)

**Sustainable Energy Recovery in Wastewater Treatment by Microbial Fuel Cells: Stable Power Generation with Nitrogen-doped Graphene Cathode**

Yuan Liu, Hong Liu,\* Chuan Wang, Shuang-Xia Hou, and Nuan Yang

## Correspondence

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**Comments on "Prevented Mortality and Greenhouse Gas Emissions from Historical and Projected Nuclear Power"**

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[dx.doi.org/10.1021/es404806w](https://doi.org/10.1021/es404806w)

**Response to Comment by Rabilloud on "Prevented Mortality and Greenhouse Gas Emissions from Historical and Projected Nuclear Power"**

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