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Environmental Science: Advances

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Cover
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CRITICAL REVIEW

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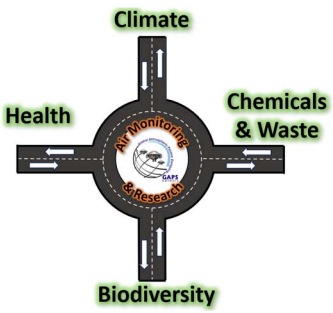
Cross-cutting research and future directions under the GAPS networks

Tom Harner,* Amandeep Saini, Pourya Shahpoury, Anita Eng, Jasmin K. Schuster, Egide Kalisa and Jacob Mastin



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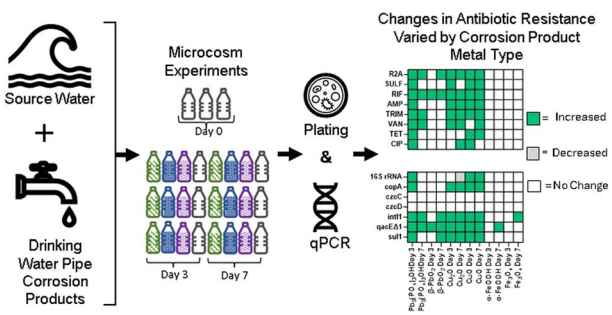
The effects of lead, copper, and iron corrosion products on antibiotic resistant bacteria and antibiotic resistance genes

Veronika Folvarska, San Marie Thomson, Zihao Lu, Maya Adelgren, Adam Schmidt, Ryan J. Newton, Yin Wang and Patrick J. McNamara*



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PAPERS

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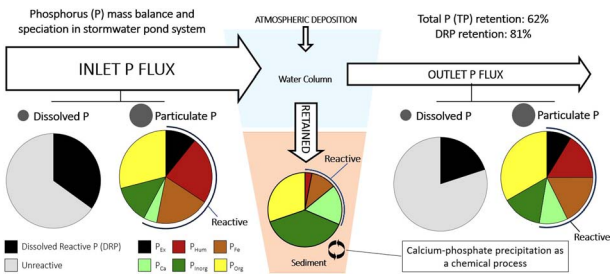
Mineral formation explains the high retention efficiency of dissolved reactive phosphorus in a residential stormwater pond

Mahyar Shafii,* Stephanie Slowinski, Md Abdus Sabur, Alina Arvisais, Yubraj Bhusal, William Withers, Konrad J. Krogstad, Chris T. Parsons and Philippe Van Cappellen



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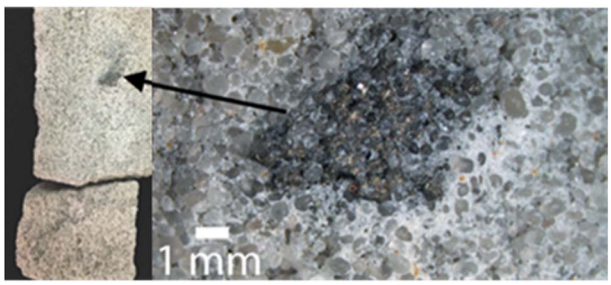
Microbially-mediated aerobic oxidation of trace element-bearing pyrite in neutral-pH sandstone aquifer sediments

Lisa Haas, Matthew Ginder-Vogel, James J. Zambito, IV, David Hart and Eric E. Roden*



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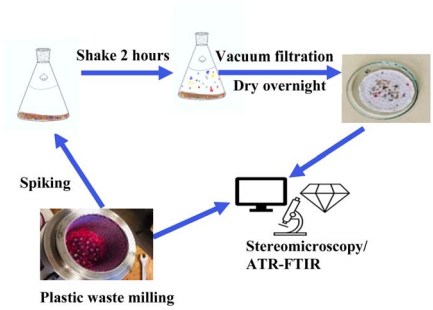
Microplastic occurrence in sediments of informal settlement in Durban, South Africa: assessing the ocean impact in the aftermath of floods

Nokwanda Hendricks, Olatunde S. Olatunji and Bhekumuzi P. Gumbi*



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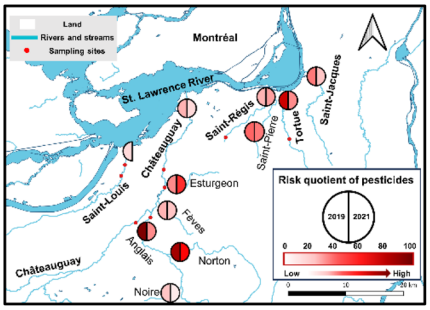
Pesticides and transformation products in surface waters of western Montérégie, Canada: occurrence, spatial distribution and ecotoxicological risks

Xiameng Feng, Zhen Liu, Sung Vo Duy, Gabriel Munoz, Lise Parent and Sébastien Sauvé*



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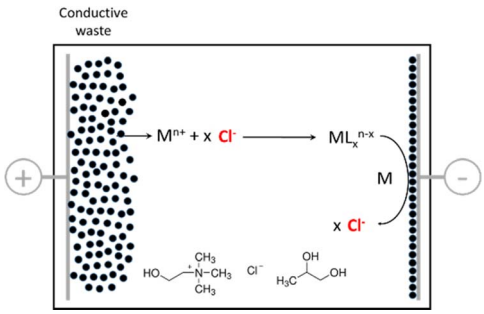

Electroleaching and electrodeposition of silver in ethaline 1 : 2 and propeline 1 : 3: transport properties and electrode phenomena

Calogera Bertoloni, Sophie Legeai,* Stéphanie Michel, Eric Meux and François Lapicque

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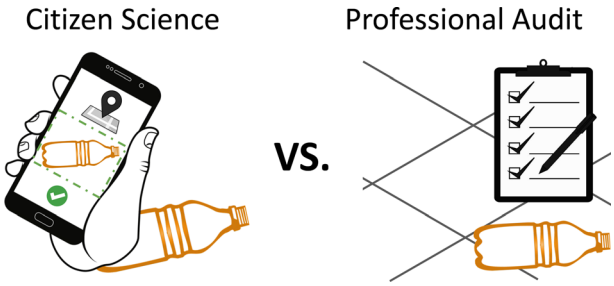

Methods for monitoring urban street litter: a comparison of municipal audits and an app-based citizen science approach

Lisa Watkins,* David N. Bonter, Patrick J. Sullivan and M. Todd Walter

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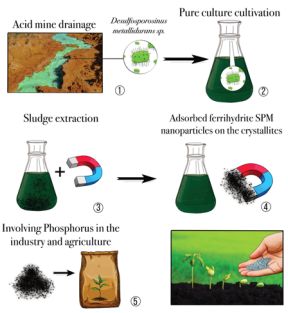

Microbially mediated synthesis of vivianite by *Desulfosporosinus* on the way to phosphorus recovery

Yuriy V. Knyazev,* Mikhail S. Platunov,* Olga P. Ikkert, Sergey V. Semenov, Oleg A. Bayukov, Anton D. Nikolenko, Vladimir P. Nazmov, Mikhail N. Volochaev, Andrey A. Dubrovskiy, Maksim S. Molokeev, Ekaterina D. Smorodina, Dmitry A. Balaev and Olga V. Karnachuk

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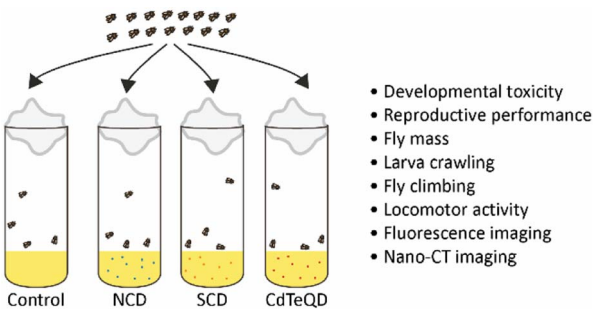

A comparison of carbon dot and CdTe quantum dot toxicity in *Drosophila melanogaster*

Shawninder Chahal, Jun-Ray Macairan, Hoai-Nam N. Bui, Anthony Smith, Hans C. E. Larsson, Rafik Naccache and Nathalie Tufenkji*

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PAPERS

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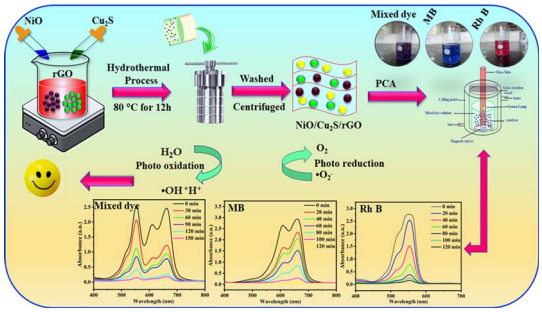
Proficient Engineering of NiO/Cu_2S/rGO heterojunction photocatalysts: fabrication, dye degradation, and mechanism pathways towards environmental remediation

Balaji Parasuraman, Paramasivam Shanmugam, Sambasivam Sangaraju, Hariprasath Rangaraju, Dhayal Raj Alphonse, Mohammed Nawaz Husain and Pazhanivel Thangavelu*



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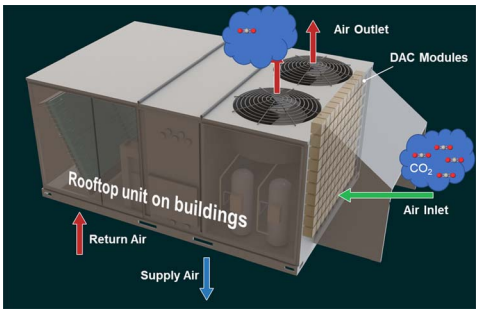
A multifunctional rooftop unit for direct air capture

Keju An, Jamieson Brechtl, Stephen Kowalski, Cheng-Min Yang, Michelle K. Kidder, Costas Tsouris, Christopher Janke, Meghan Lamm, Katie Copenhaver, Josh Thompson, Tugba Turnaoglu, Brian Fricke, Kai Li,* Xin Sun and Kashif Nawaz*



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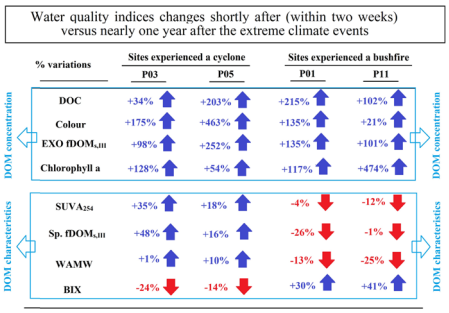
Organic matter concentration and characteristic dynamics in surface waters post-bushfires and cyclones: fDOM sensors for environmental monitoring and control

Hiua Daraei,* Edoardo Bertone, Rodney A. Stewart, John Awad, Adam Leavesley, Matthew Gale, Eriita Jones, Kathy Cinque, Mark Agnew, Hugh A. Burger and John Van Leeuwen