David Q. Andrews, Ph.D.

Senior Scientist, Environmental Working Group

Contact

Environmental Working Group, 1436 U street NW, Suite 100, Washington DC 20009
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Education

PhD Chemistry, 2008, Northwestern University, Evanston, Illinois
BA Chemistry, 2002, Wesleyan University, Middletown, Connecticut

Professional Experience

Environmental Working Group, Washington, D.C., 2008-Present

Qualifications and skills

Senior Scientist responsible for analyzing chemical policy, and the public health implications of chemicals detected in drinking water, consumer products, and cosmetics.

Authored five scientific manuscripts, co-authored over fifteen scientific manuscripts, co-authored two book chapters, and co-inventor of one patent.

Hundreds of media appearances on public health issues including coverage in print, TV and radio to discuss chemical regulation, drinking water, food additives, and sunscreens.

Select Professional Reports

EWG Proposed PFAS Standards that Protect Children's Health, 2019.
https://www.ewg.org/research/ewg-proposes-pfas-standards-fully-protect-children-s-health

EWG's Sunscreen Guide, 2010-2020. https://www.ewg.org/sunscreen/report/executive-summary/

INSIGHT: The Case for Regulating All PFAS Chemicals as a Class, 2019,
https://news.bloomberglaw.com/environment-and-energy/insight-the-case-for-regulating-all-pfas-chemicals-as-a-class.

Report: Up to 110 Million Americans Could have PFAS in their Drinking Water, 2018,
https://www.ewg.org/research/report-110-million-americans-could-have-pfas-contaminated-drinking-water.

'Erin Brockovich' Carcinogen in Tap Water of more than 200 Million Americans
https://www.ewg.org/research/chromium-six-found-in-us-tap-water

Poisoned Legacy, 2015. https://www.ewg.org/research/poisoned-legacy

Off the Books: Industry's Secret Chemicals, 2009.
https://www.ewg.org/sites/default/files/report/secret-chemicals.pdf

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Research Experience

Northwestern University, Evanston, IL, 2003-2008

Dissertation: “Molecular junctions: Control and dynamics at the single molecule limit”

Advisors: Professor Richard P. Van Duyne, Professor Mark A. Ratner

Wesleyan University, Middletown, Connecticut, 2000-2002

High Honors Thesis: “Calculating entropy from molecular dynamics simulations using covariance matrices”

Advisor: Professor David L. Beveridge

National Institutes of Health, Bethesda, Maryland, 1996-1997, 2000

Research: Mutation detection in patients with Gaucher disease using DNA sequencing techniques in an effort towards understanding genotype-phenotype correlation.

Mentor: Dr. Ellen Sidransky

Publications

Andrews, D. Q.; Naidenko, O. V., Population-Wide Exposure to Per-and Polyfluoroalkyl Substances from Drinking Water in the United States. Environmental Science & Technology Letters 2020.

Temkin, A. M.; Hocevar, B. A.; Andrews, D. Q.; Naidenko, O. V.; Kamendulis, L. M., Application of the Key Characteristics of Carcinogens to Per and Polyfluoroalkyl Substances. International Journal of Environmental Research and Public Health 2020, 17 (5), 1668.

Kwiatkowski, C. F.; Andrews, D. Q.; Birnbaum, L. S.; Bruton, T. A.; DeWitt, J. C.; Knappe, D. R.; Maffini, M. V.; Miller, M. F.; Pelch, K. E.; Reade, A., Scientific basis for managing PFAS as a chemical class. Environmental Science & Technology Letters 2020, 7 (8), 532-543.

Stoiber, T.; Temkin, A.; Andrews, D.; Campbell, C.; Naidenko, O. V., Applying a cumulative risk framework to drinking water assessment: a commentary. Environmental Health 2019, 18 (1), 37.

Hull, M.; Bowman, D., Nanotechnology environmental health and safety: risks, regulation, and management. William Andrew: 2018.

Schaider, L. A.; Balan, S. A.; Blum, A.; Andrews, D. Q.; Strynar, M. J.; Dickinson, M. E.; Lunderberg, D. M.; Lang, J. R.; Peaslee, G. F., Fluorinated Compounds in US Fast Food Packaging. Environmental Science & Technology Letters 2017.

Halden, R. U.; Lindeman, A. E.; Aiello, A. E.; Andrews, D.; Arnold, W. A.; Fair, P.; Fuoco, R. E.; Geer, L. A.; Johnson, P. I.; Lohmann, R., The Florence Statement on Triclosan and Triclocarban. Environmental Health Perspectives 2017, 64501, 1.

Hu, X. C.; Andrews, D. Q.; Lindstrom, A. B.; Bruton, T. A.; Schaider, L. A.; Grandjean, P.; Lohmann, R.; Carignan, C. C.; Blum, A.; Balan, S. A., Detection of Poly-and Perfluoroalkyl Substances (PFASs) in US Drinking Water Linked to Industrial Sites, Military Fire Training Areas, and Wastewater Treatment Plants. 2016.

Solomon, G. C.; Andrews, D. Q.; Ratner, M. A., Quantum interference in acyclic molecules. Charge and Exciton Transport through Molecular Wires 2011, 17-59.

Solomon, G.; Andrews, D.; Ratner, M., Molecular quantum interference apparatus and applications of same. US Patent. 2011.

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Bingham, J. M.; Willets, K. A.; Shah, N. C.; Andrews, D. Q.; Van Duyne, R. P., Localized surface plasmon resonance imaging: simultaneous single nanoparticle spectroscopy and diffusional dynamics. The Journal of Physical Chemistry C 2009, 113 (39), 16839-16842.

Hansen, T.; Solomon, G. C.; Andrews, D. Q.; Ratner, M. A., Interfering pathways in benzene: An analytical treatment. The Journal of chemical physics 2009, 131 (19), 194704.

Solomon, G. C.; Andrews, D. Q.; Van Duyne, R. P.; Ratner, M. A., Electron Transport Through Conjugated Molecules: When the Pi-System Only Tells Part of the Story, ChemPhysChem, 10, 257-264, 2008.

Andrews, D. Q.; Solomon, G. C.; Van Duyne, R. P.; Ratner, M. A., Single molecule electronics: Increasing dynamic range and switching speed to rival solid state devices. J. Am. Chem. Soc., 130 (51), 17309–17319, 2008.

Andrews, D. Q.; Solomon, G. C.; Goldsmith, R. H.; Hansen, T.; Wasielewski, M. R.; Van Duyne, R. P.; Ratner, M. A. Quantum Interference: The Structural Dependence of Electron Transmission through Model Systems and Cross-Conjugated Molecules. J. Phys. Chem. C, 112 (43), 16991–16998, 2008.

Solomon, G. C.; Andrews, D. Q.; Goldsmith, R. H.; Hansen, T.; Wasielewski, M. R.; Van Duyne, R. P.; Ratner, M. A. Understanding quantum interference in molecular conduction. J. Chem. Phys. 129, 054701, 2008.

Solomon, G. C.; Andrews, D. Q.; Goldsmith, R. H.; Hansen, T.; Wasielewski, M. R.; Van Duyne, R. P.; Ratner, M. A. Quantum interference in acyclic systems: The unexpected conductance of cross-conjugated molecules. J. Am. Chem. Soc., 130 (51), 17301–17308, 2008.

Solomon, G. C.; Andrews, D. Q.; Van Duyne, R. P.; Ratner, M. A. When things are not as they seem: Quantum interference turns molecular electron transfer “rules” upside down, J. Am. Chem. Soc., 130 (25), 7788–778, 2008.

Andrews, D. Q.; Van Duyne, R. P.; Ratner, M. A. Stochastic modulation in molecular electronic transport junctions: Molecular dynamics coupled with charge transport calculations, Nano Letters, 8 (4), 1120–1126, 2008.

Andrews, D. Q.; Cohen, R.; Van Duyne, R. P.; Ratner, M. A. Single molecule electron transport junctions: Charging and geometric effects on conductance, J. Chem. Phys., 125, 174718, 2006.

Dixit, S. B.; Andrews, D. Q.; Beveridge, D. L. Induced fit and the entropy of structural adaptation in the complexation of CAP and λ-repressor with cognate DNA sequences. Biophysical Journal, 88,3147-3157, 2005.

Tayebi, N.; Andrews, D.Q.; Park, J.K.; Orvisky, E.; McReynolds, J.; Sidransky, E. ; Krasnewich, D. M. A deletion-insertion mutation in the phosphomannomutase 2 gene in an African American patient with congenital disorders of glycosylation-Ia, American Journal of Medical Genetics, 108 (3), 241-246, 2002.

Park, J.K.; Koprivica, V. ; Andrews, D.Q.; Madike, V.; Tayebi, N.; Stone, D.L.; Sidransky, E. M.D. Glucocerebrosidase mutations among African-American patients with type 1 Gaucher disease, American Journal of Medical Genetics Part A, 99 (2), 147-151, 2001.