



EMERGING SCIENCE
FOR ENVIRONMENTAL
HEALTH DECISIONS

**Personal Environmental Exposure Measurements:
Making Sense and Making Use of Emerging Capabilities – A Workshop**
November 16-17, 2016

Key Background Articles

1. Monica Ramirez-Andreotta, Julia Green Brody, Nathan Lothrop, Miranda Loh, Paloma I. Beamer, and Phil Brown. Improving Environmental Health Literacy and Justice Through Environmental Exposure Results Communication. *International Journal of Environmental Research and Public Health*. 2016 13(7):690. <http://www.mdpi.com/1660-4601/13/7/690>
2. Baruch Fischhoff, Dietram A. Scheufele. The Science of Science Communication II. *PNAS*, 2014 111(Suppl4): 13583-13584, DOI: 10.1073/pnas.1414635111
http://www.pnas.org/content/111/Supplement_4/13583.extract
3. Wan Jiao, Gayle S. W. Hagler, Ronald W. Williams, Robert N. Sharpe, Lewis Weinstock, and Joann Rice. Field Assessment of the Village Green Project: An Autonomous Community Air Quality Monitoring System. *Environmental Science & Technology*. 2015 49 (10), 6085-6092, DOI: 10.1021/acs.est.5b01245 <http://pubs.acs.org/doi/abs/10.1021/acs.est.5b01245>
4. Matthew Judge, Phil Brown, Julia Brody, Ruthann Rudel, and Serena Ryan. The Exposure Experience: Participant Responses to a Biomonitoring Study of Perfluorooctanoic Acid (PFOA). *Journal of Health and Social Behavior*. 2016 57: 333-350, doi:10.1177/0022146516661595
5. Anne M. Land-Zandstra, Jeroen L. A. Devilee, Frans Snik, Franka Buurmeijer, Jos M. van den Broek. Citizen science on a smartphone: Participants' motivations and learning. *Public Underst Sci*. 2016 Jan;25(1):45-60. doi: 10.1177/0963662515602406.
<http://pus.sagepub.com/content/early/2015/09/04/0963662515602406.abstract>
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<https://www.nap.edu/catalog/21798/trust-and-confidence-at-the-interfaces-of-the-life-sciences-and-society>
7. David B. Resnik, Kevin C. Elliott, Aubrey K. Miller. A framework for addressing ethical issues in citizen science. *Environmental Science & Policy*. 2015 54: 475-481. DOI.org/10.1016/j.envsci.2015.05.008
<http://www.sciencedirect.com/science/article/pii/S1462901115001057>
8. Chantel D. Sloan, Tyler J. Philipp, Rebecca K. Bradshaw, Sara Chronister, W. Bradford Barber & James D. Johnston. Applications of GPS-tracked personal and fixed-location PM2.5 continuous exposure monitoring. *Journal of the Air & Waste Management Association*. 2016 66:1, 53-65, DOI: 10.1080/10962247.2015.1108942 <https://www.ncbi.nlm.nih.gov/pubmed/26512925>

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Additional Background Reading

9. Monica Ramirez-Andreotta, Julia Green Brody, Nathan Lothrop, Miranda Loh, Paloma I Beamer, and Phil Brown. "Reporting back environmental exposure data and free choice learning." *Environmental Health*. 2016 15:2. <https://ehjournal.biomedcentral.com/articles/10.1186/s12940-015-0080-1>
10. Gilsenan MB, Abbinante F, O'Dea E, Canals A and Tritscher A, 2016. Special issue: open risk assessment: data. *EFSA Journal* 2016;14(S1):s0509, 16 pp. doi:10.2903/j.efsa.2016.s0509
11. Dvera I. Saxton, Phil Brown, Samarys Seguinot-Medina, Lorraine Eckstein, David O. Carpenter, Pamela K. Miller, and Vi Waghiyi, "Environmental Justice and the Right to Research: IRB Opposition to Chemical Biomonitoring of Breast Milk." *Environmental Health*. 2015, 14:90. <http://ehjournal.biomedcentral.com/articles/10.1186/s12940-015-0076-x>
12. Rachel Morello-Frosch, Julia Varshavsky, Max Liboiron, Phil Brown, and Julia Green Brody, "Communicating Results in Post-Belmont Era Biomonitoring Studies: Lessons from Genetics and Neuroimaging Research," *Environmental Research*, 2015, 136:363-372. DOI:10.1016/j.envres.2014.10.001. <http://www.sciencedirect.com/science/article/pii/S0013935114003417>
13. Julia G Brody, Sarah C Dunagan, Rachel Morello-Frosch, Phil Brown, Sharylle Patton and Ruthann A Rudel, "Reporting individual results for biomonitoring and environmental exposures: Lessons learned from environmental communication case studies," *Environmental Health*, 2014, 13:40. DOI: 10.1186/1476-069X-13-40. PMID: PMC4098947. <https://ehjournal.biomedcentral.com/articles/10.1186/1476-069X-13-40>
14. Baruch Fischhoff and Alex L. Davis. Communicating scientific uncertainty. *PNAS* 2014 111 (Supplement 4) 13664-13671; doi:10.1073/pnas.1317504111
15. McCormick, S. 2012. After the cap: risk assessment, citizen science, and disaster recovery. *Ecology and Society* 17(4): 31. <http://dx.doi.org/10.5751/ES-05263-170431>
16. Phil Brown, Julia Green Brody, Rachel Morello-Frosch, Jessica Tovar, Ami R. Zota, and Ruthann A. Rudel, "Measuring The Success Of Community Science: The Northern California Household Exposure Study," *Environmental Health Perspectives*, 2012, 120:326–331. DOI: 10.1289/ehp.1103734. PMID: PMC3295345.
17. Crystal Adams, Phil Brown, Rachel Morello-Frosch, Julia Green Brody, Ruthann Rudel, Ami Zota, Sarah Dunagan, Jessica Tovar, and Sharylle Patton, "Disentangling the Exposure Experience: The Roles of Community Context and Report-back of Environmental Exposure Data," *Journal of Health and Social Behavior*, 2011, 52(2):180-196. DOI: 10.1177/0022146510395593. PMID: PMC3175404.

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18. Rachel Morello-Frosch, Phil Brown, Julia Green Brody, Rebecca Gasior Altman, Ruthann A. Rudel, Ami Zota, and Carla Perez, "Experts, Ethics, and Environmental Justice: Communicating and Contesting Results from Personal Exposure Science," In Gwen Ottinger and Benjamin Cohen (eds.) *Engineers, Scientists, and Environmental Justice*, Cambridge, MA: MIT Press, 2011. DOI: 10.7551/mitpress/9780262015790.001.0001.
19. Gwen Ottinger. Buckets of Resistance: Standards and the Effectiveness of Citizen Science. *Science Technology Human Values*. 2010 35: 244. DOI: 10.1177/0162243909337121
20. Phil Brown, Rachel Morello-Frosch, Julia Green Brody, Rebecca Gasior Altman, Ruthann A. Rudel, Laura Senier, Carla Pérez and Ruth Simpson, "Institutional Review Board Challenges Related to Community-Based Participatory Research on Human Exposure to Environmental Toxins: A Case Study," *Environmental Health*, 2010, 9:39. DOI: 10.1186/1476-069X-9-39. PMCID: PMC2914003.
21. Julia Green Brody, Rachel Morello-Frosch, Ami Zota, Phil Brown, Carla Pérez, and Ruthann A. Rudel, "Linking Exposure Assessment Science with Policy Objectives for Environmental Justice and Breast Cancer Advocacy: The Northern California Household Exposure Study," *American Journal of Public Health*, 2009, 99:S600-S609. DOI: 10.2105/AJPH.2008.149088. PMCID: PMC2774181.
22. Julia Brody, Rachel Morello-Frosch, Phil Brown, and Ruthann Rudel, "Reporting Individual Results for Environmental Chemicals in Breastmilk in a Context That Supports Breastfeeding," *Breastfeeding Medicine*, 2009, 4(2): 121–121. DOI: 10.1089/bfm.2009.0006. PMCID: PMC2932546.
23. Rachel Morello-Frosch, Julia Green Brody, Phil Brown, Rebecca Gasior Altman, Ruthann A. Rudel, Carla Pérez, "'Toxic Ignorance' and the Right-to-Know: Assessing Strategies for Biomonitoring Results Communication in a Survey of Scientists and Study Participants," *Environmental Health*, 2009, 8:6. DOI: 10.1186/1476-069X-8-6.
24. Rebecca Altman, Julia Brody, Ruthann Rudel, Rachel Morello-Frosch, Phil Brown, and Mara Averick, "Pollution Comes Home and Pollution Gets Personal: Women's Experience of Household Toxic Exposure," *Journal of Health and Social Behavior*, 2008, 49:417-435. DOI: 10.1177/002214650804900404. PMCID: PMC2720130.
25. Julia Green Brody, Rachel Morello-Frosch, Phil Brown, Ruthann A. Rudel, Rebecca Gasior Altman, Margaret Frye, Cheryl C. Osimo, Carla Perez, and Liesel M. Seryak, "Is It Safe? New Ethics for Reporting Personal Exposures to Environmental Chemicals," *American Journal of Public Health*, 2007, 97: 1547-1554. DOI: 10.2105/AJPH.2006.094813. PMCID: PMC1963285.