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Biographical Info

Research Areas

My main area of research has focused on heavy metals exposure and effect. The current emphasis is on the relationship between mercury and selenium exposure and balancing the risks against benefits of fish consumption. Much of this work involves Native American and Alaskan Native communities.

A second area focuses on the environmental consequences of energy options, examining nuclear options in the light of the spent nuclear fuel impasse and the Fukushima disaster vs unintended consequences of renewable energy. This has been developed as an outgrowth of our CRESP work on hazardous waste, risk management, and land use decisions with the U.S. Department of Energy.

A third area focuses on incorporating workplace health and safety equity into the EPA's "Environmental Justice" paradigm.

Research Highlights

- Participation in an EPA Environmental Justice Symposium resulted in exploration of the importance of outliers in risk management and the importance of occupational exposures as part of a comprehensive Environmental Justice paradigm.
- The role of selenium in protecting against mercury toxicity has been known for 40 years, but the mechanism(s) of the interaction remain unclear. This study examines whether the Se:Hg molar ratio predicts mercury toxicity from fish consumption.

Scholarly Activities

- Department of Environmental and Occupational Medicine: Chair of Curriculum Committee
- Robert Wood Johnson Medical School: M1 Block Directors Committee
- Special Committee on Health, Productivity, and Disability Management, American College of Occupational and Environmental Medicine.
- Chair Committee on History of OSHA Permissible Exposure Limits

Recent Publications

1. Burger, J, Tsipoura, N, Gochfeld, M. Metal Levels in Blood of Three Species of Shorebirds during Stopover on Delaware Bay Reflect Levels in Their Food, Horseshoe Crab Eggs. *Toxics*. 2017;5 (3):. doi: [10.3390/toxics5030020](https://doi.org/10.3390/toxics5030020). PubMed [PMID:29051452](https://pubmed.ncbi.nlm.nih.gov/29051452/) PubMed Central [PMC5634703](https://pubmed.ncbi.nlm.nih.gov/PMC5634703)
2. Burger, J, Gochfeld, M, Pittfield, T, Jeitner, C. Responses of a vulnerable Hispanic population in New Jersey to Hurricane Sandy: Access to care, medical needs, concerns, and ecological ratings. *J. Toxicol. Environ. Health Part A*. 2017;80 (6):315-325. doi: [10.1080/15287394.2017.1297275](https://doi.org/10.1080/15287394.2017.1297275). PubMed [PMID:28644717](https://pubmed.ncbi.nlm.nih.gov/28644717/) PubMed Central [PMC5531200](https://pubmed.ncbi.nlm.nih.gov/PMC5531200)
3. Tsipoura, N, Burger, J, Niles, L, Dey, A, Gochfeld, M, Peck, M, Mizrahi, D. Metal Levels in Shorebird Feathers and Blood During Migration Through Delaware Bay. *Arch. Environ. Contam. Toxicol.* 2017;72 (4):562-574. doi: [10.1007/s00244-017-0400-2](https://doi.org/10.1007/s00244-017-0400-2). PubMed [PMID:28444421](https://pubmed.ncbi.nlm.nih.gov/28444421/)
4. Burger, J, Gochfeld, M, Jeitner, C, Zappalorti, R, Pittfield, T, DeVito, E. Arsenic, Cadmium, Chromium, Lead, Mercury and Selenium Concentrations in Pine Snakes (*Pituophis melanoleucus*) from the New Jersey Pine Barrens. *Arch. Environ. Contam. Toxicol.* 2017;72 (4):586-595. doi: [10.1007/s00244-017-0398-5](https://doi.org/10.1007/s00244-017-0398-5). PubMed [PMID:28424837](https://pubmed.ncbi.nlm.nih.gov/28424837/)
5. Burger, J, Gochfeld, M, Niles, L, Tsipoura, N, Mizrahi, D, Dey, A, Jeitner, C, Pittfield, T. Stakeholder contributions to assessment, monitoring, and conservation of threatened species: black skimmer and red knot as case studies. *Environ Monit Assess.* 2017;189 (2):60. doi: [10.1007/s10661-016-5731-3](https://doi.org/10.1007/s10661-016-5731-3). PubMed [PMID:28097613](https://pubmed.ncbi.nlm.nih.gov/28097613/)
6. Burger, J, Gochfeld, M, Bunn, A, Downs, J, Jeitner, C, Pittfield, T, Salisbury, J, Kosson, D. A Methodology to Evaluate Ecological Resources and Risk Using Two Case Studies at the Department of Energy's Hanford Site. *Environ Manage.* 2017;59 (3):357-372. doi: [10.1007/s00267-016-0798-8](https://doi.org/10.1007/s00267-016-0798-8). PubMed [PMID:27904947](https://pubmed.ncbi.nlm.nih.gov/27904947/)
7. Gochfeld, M. Sex Differences in Human and Animal Toxicology. *Toxicol Pathol.* 2017;45 (1):172-189. doi: [10.1177/0192623316677327](https://doi.org/10.1177/0192623316677327). PubMed [PMID:27895264](https://pubmed.ncbi.nlm.nih.gov/27895264/) PubMed Central [PMC5371029](https://pubmed.ncbi.nlm.nih.gov/PMC5371029)