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## Areas of Expertise

- Ecological Risk Assessments
- Human Health Risk Assessments
- Exposure Modeling
- Data Analysis & Interpretation
- Data Management

## Services

- Exposure & Risk Assessment
- Ecological Risk & NRD
- Remedial Strategies
- Database Development

## Education

- M.P.H., Environmental Health Sciences, Columbia University Mailman School of Public Health
- B.A., Environmental Sciences, Barnard College of Columbia University

# Grace I. Greenberg, M.P.H., BCES

## Senior Environmental Toxicologist

Ms. Greenberg is a senior-level risk assessor with extensive experience in ecological and human health risk assessments. Her expertise includes conducting both ecological and human health site-specific risk assessments under federal and state regulations, calculating risk-based goals for cleanup and redevelopment, biomonitoring and sampling various media, modeling exposures, and managing databases for risk assessments. She also provides technical expertise and oversight on numerous multidisciplinary projects at manufacturing plants, MGP sites, and Superfund sites. Ms. Greenberg's main interests include evaluating risks for unique exposure pathways (e.g., towel-to-hand/mouth, ingestion of fish/game meat, indirect exposures to residual contaminants such as pesticides, naturally occurring radioactive materials) and conducting probabilistic risk assessments.

## Selected Projects

**Risk Assessments Related to Oil Production:** Evaluated human health risks from exposure to metals, petroleum hydrocarbons, and radionuclides in soil, water, and crabs at industrial properties.

**Risk Assessment for Former Coke Plant:** Conducted a human health risk assessment under state voluntary remediation program. Evaluated risks to workers, recreators, and residents exposed to contaminants in soil, surface water, groundwater, indoor air, trench air, and antelope.

**Exposure Evaluation:** Evaluated exposures and potential health risks for workers who cleaned buildings near the site of a major disaster. Estimated cumulative exposures for workers based on environmental sampling data and personal protective equipment worn by workers.

**Human Health Risk Assessment:** Assessed potential human health risks associated with exposure to metals from a zinc smelter used as fill for county roads, bridge abutments, and drainage ditches. Conducted a hand transfer study to quantify the transfer of metals from smelter material to hands.

**Human Health and Ecological Risk Assessments:** Conducted human health and ecological risk assessments on multiple receptors exposed to chemicals and radionuclides from a former nuclear power plant.

**Ecological Risk Evaluation:** Determined the effectiveness of a pump and treat remediation measure in protecting ecological receptors from exposure to polychlorinated biphenyls (PCBs) and chlorinated solvents in groundwater at a PCB Superfund Site.

## Selected Publications and Presentations

**Greenberg, GI;** Skall, DA. 2016. "Probabilistic Ecological Risk Assessments – Are they worth your time?" Poster presented at Society of Environmental Toxicology and Chemistry (SETAC) 37th Annual Meeting, Orlando, Florida.

Beyer, LA; **Greenberg, G;** Beck, BD. 2014. "Evaluation of potential exposure to metals in laundered shop towels." *Hum. Ecol. Risk Assess.* 20(1):111-136.

Seeley, M; **Greenberg, G;** Thakali, S; Beck, B. 2014. "Estimating Exposure to Metals in Smelter Material." Presented at Society of Toxicology (SOT) 53rd Annual Meeting, Phoenix, AZ, March 23-27.

Lynch, HN; **Greenberg, GI;** Pollock, MC; Lewis, AS. 2014. "A comprehensive evaluation of inorganic arsenic in food and considerations for dietary intake analyses." *Sci Total Environ.* 496:299-313.

**Greenberg, GI;** Beck, BD. 2011 "Use of Years of Potential Life Lost (YPLL) for Risk Assessment at Hazardous Waste Sites." In *Encyclopedia of Environmental Health*. (Ed.: Nriagu, JO), Elsevier Press, Burlington, MA, pp. 602-607.