Archil Zarnadze, Ph.D.
Environmental Consultant and Entrepreneur

Professional Experience

***Environmental Consultant*, Self-Employment**,
Woodbridge, NJ (2017 – present)

Providing consultations and in-depth analysis in wide variety of environmental issues for companies and organizations dealing with renewable energy, pollution remediation, hazardous waste control and other aspect of environmental problems.

***CEO, Project Manager,* SaGa Entertainment LLC**
Woodbridge, NJ (2016 – present)

Creating and managing multiple project within the company. Performing team building activities as part of the Project Team Development knowledge area for employees of various organizations and companies in wide variety of industry, such as academia, consulting, entertainment. Managing projects in cultural education for children and adults. Developing and performing intense marketing strategies and analysis for companies to boost the productivity and performance.

***Environmental Scientist*, Louis Berger Group**,
Morristown, NJ (2010 – 2016)

Mr. Zarnadze is experienced in the collection of soil, sediment, and water column samples to characterize contaminated sediment sites, including the collection and processing of high resolution sediment cores and sediment traps. He has also conducted geochemical data evaluations of sediment data to characterize contaminant nature and extent. Mr. Zarnadze's doctoral studies centered on the analysis of emerging, persistent organic pollutants in the NY/NJ harbor.

Cornell-Dubilier Electronics Superfund Site, South Plainfield, NJ. Conducted field investigations to support preparation of RI/FS to address PCB contamination in Bound Brook's sediments and floodplain. Collected and processed low resolution and high resolution sediment cores, sediment trap samples, surface sediment grab samples, water column samples, floodplain soil borings, and hydrodynamic data from dataloggers.

Gowanus Canal Superfund Site, Brooklyn, NY. Prepared 'fingerprinting' analysis to examine potential sources of PAHs in Gowanus Canal sediment samples using calculated ratios of PAHs to differentiate between potential coal tar, petroleum, and urban run-off PAH sources.

Newark Bay RI Oversight, Newark, NJ. Reviewed Data Evaluation and Analysis Report of Newark Bay sediment contamination on behalf of USEPA, evaluated spatial data analyses presented by PRPs in report document, and prepared technical comments recommending enhancements to statistical data evaluations and presentations with the goal of improving the understanding of contaminant nature and extent.

***Research Assistant*, Rutgers, the State University of New Jersey**,
New Brunswick, NJ (2001 – 2010)

Participated in all aspects of the NJ Atmospheric Deposition Network (NJADN) program modeling on Persistent Organic Pollutants (POPs) such as toxic chemicals and pesticides found in the NY/NJ harbor estuary. Major accomplishments include:
- Developed an analytical method on Gas Chromatogram Mass Spectrometer (GCMS 5973/6890) to identify hardly detectable organic compounds.
- Modeling seasonal fluctuations, air-water fluxes, as well as dry and wet depositions of POPs in the study area
- Managing the field teams for data collection and lab work.
- Performed statistical analysis of data and developed conclusions.
- Presented project findings at several international conferences and symposiums.

Managed the development of the Water Resources Plan for the Delaware River Basin Commission (DRBC) by identifying and analyzing ecological indicators for the New Jersey segment of the Delaware River basin. Major accomplishments include:
- Coordinating and analyzing environmental data on water quality and quantity, biological, land use and other indicators from various sources.

***Research Intern*, San Francisco Bay Joint Venture,**
Oakland, CA (Summer 2000)

Conducted independent research for the "Transportation Fund for Clean Water." Collected and analyzed data. Developed a report describing the impact of pollution from transportation on ambient waters in California.

***Assistant Deputy Minister*, Ministry of Foreign Affairs of Georgia,**
Tbilisi, Georgia (1997 – 1999)

Provided technical support and analysis to the Deputy Minister on comprehensive assessments of the country's environmental issues. Analyzed both local and international environmental trends and provided recommendations to the Deputy Minister. Major accomplishments included:
- Conducting a vulnerability assessment of oil and liquefied natural gas (LNG) pipelines running through Georgia, with an emphasis on existing physical security measures and anti-corrosion chemical protection. Conducted comparative analysis between the existing protections in Georgia's pipeline system and other major world-wide pipelines (trans-Canadian gas pipeline). Making recommendations on courses of action to reduce greenhouse gas emissions from pipelines and to minimize the consequences associated with a pipeline explosion.
- Analyzing the compliance requirements and determining Georgia's liabilities in implementation of the Kyoto protocol.

Education

Ph.D. in Environmental Sciences, Rutgers, the State University of New Jersey, New Brunswick, NJ, 2010

- Concentration: Fate and Transport of Chemicals in the Environment
- Ph.D. Thesis: Modeling of the Fate and Transport of Poly-brominated Diphenyl Ethers (PBDEs) in the NY/NJ Harbor Estuary

Master of Science, Environmental Science, Indiana University, Bloomington, IN, 2001
Concentration: Hazardous Material Management and Environmental Chemistry

Master of Science, Environmental Engineering, Georgian Technical University, Tbilisi, Georgia, 1998

- Environmental Problems Associated with Oil and Gas Pipelines Passing through Georgia.

Bachelor of Science, Environmental Engineering, Georgian Technical University, Tbilisi, Georgia, 1996

Publications

- Zarnadze, Archil. *PBDEs – Peril or Safeguard?* VDM Publishing House Ltd. Saarbrücken, Germany. 2011. Print
- Zarnadze, A,; Rodenburg, L. A. Water-column Concentrations and partitioning of Polybrominated Diphenyl Ethers in the New York/New Jersey harbor, USA. Environmental Toxicology and Chemistry 2008, 27, 1636 – 1642
- Zarnadze, A. and Radcliff, R. Application of Membrane Technology to the Production of Drinking Water. *Water Conditioning and Purification*. 2004. Vol. 46, 8
- Zarnadze, A. Global Warming and International Treatment. *Tbilisi,* (State newspaper of Georgia), 1998
- Zarnadze, A. Kyoto Protocol and Global Warming, *Tbilisi* (State newspaper of Georgia), 1997

Presentations

- Brominated Diphenyl Ethers in the New York/new Jersey Harbor," 2007 ACS 234th National Meeting, Boston, MA.
- BDEs in the NY/NJ Harbor," 2006 Society of Environmental Toxicology and Chemistry 27th Annual Meeting, Montreal, Canada.
- Measurements of Poly-brominated Diphenyl Ethers (PBDE) in the Air and Water of the Hudson River Estuary," 2004 Society of Environmental Toxicology and Chemistry 25th Annual Meeting, Portland, OR.
- PBDEs in the Atmosphere of New Jersey," DIOXIN 24th International Symposium on POPs, Berlin, Germany, 2004.
- Modeling of the Fate and Transport of Poly-brominated Diphenyl Ethers (PBDE) in the Air and Water of the NY/NJ Harbor Estuary," 2004 ACS 228th National Meeting, Philadelphia, PA.
- Measurements of Poly-brominated Diphenyl Ethers (PBDE) in the Air and Water of

the Hudson River Estuary," 2003 Society of Environmental Toxicology and Chemistry 24th Annual Meeting, Austin, TX.

Certificates

- Health and Safety Certificate for hazardous Waste Site Personnel. Certificate is active since 2008 to present.
- Certificate in special program on "Towards a More Sustainable Environment: Institutional Strategies for the FSU", Duke University, Durham, NC, (February 26, 2000)
- Certificate of completion of level 6 of the American Language and Cultural program at the University of Idaho. Moscow, ID (August 5, 1999)

Awards

- Travel award for SETAC North America 25th annual meeting in Portland, OR (2004)
- Delaware River Basin Commission Fellowship (2005 – 2006)
- Hudson River Foundation Fellowship: PBDE Studies in NY/NJ Harbor Estuary (2001 – 2005)
- MUSKIE – U.S. Government Scholarship for Graduate Studies (1999 – 2001)

Skills

- Proficient computer skills (Microsoft Office Suite, HP Chemstation, Arc Map GIS, JMP, CMB - Chemical Mass Balance, SPSS)
- Fluent Languages: English, Georgian, Russian