

Jason Hnatko, PhD, PE.

Principal Engineer



VINE BROOK
ENVIRONMENTAL

Dr. Jason Hnatko, PhD, PE, is an environmental engineer with more than 20 years of experience investigating and remediating sites and solving complex environmental challenges. As a licensed Professional Engineer in Massachusetts, Jason specializes in contaminated site investigation, remediation system design, emerging contaminants, and regulatory strategy, with particular expertise in per- and polyfluoroalkyl substances (PFAS). He has managed projects ranging from Superfund site investigations and groundwater remediation to the evaluation and deployment of innovative treatment technologies, helping industrial, commercial, and public-sector clients navigate technically challenging environmental issues.



Email: jason@vinebrookenv.com

Education:

🌿 Doctor of Philosophy. Civil and Environmental Engineering, Tufts University, USA, 2020

🌿 Master of Science. Civil and Environmental Engineering, Tufts University, USA, 2016

🌿 Bachelor of Science. Biological and Environmental Engineering, Cornell University, USA, 2005

Professional Registrations:

🌿 Registered Professional Engineer, Environmental, Massachusetts #48676,

Areas of Expertise:

- 🌿 PFAS investigation and delineation
- 🌿 PFAS remediation technology selection and treatment system design
- 🌿 Pilot test design and implementation
- 🌿 Treatment system evaluation and design
- 🌿 Contaminant fate and transport

Activities and Affiliations:

- 🌿 Remediation Journal PFAS Environmental Professionals Group
- 🌿 Lexington, MA Conservation Commission

Professional Experience:

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| • Allonnia LLC, Boston, MA
<i>Engineer Manager – Emerging Contaminants</i> | March 2024-July 2026 |
| • Environmental Resources Management (ERM), Boston, MA
<i>Senior Associate</i> | June 2020-March 2024 |
| • Tufts University, Medford, MA
<i>Graduate Student/Research Assistant/Teaching Assistant</i> | Aug. 2014-June 2020 |
| • RAMBOLL/ENVIRON International Corporation, Boston, MA
<i>Senior Associate</i> | March 2011-Jan. 2016 |
| • ARCADIS-US, Inc./Malcolm Pirnie, Inc., Wakefield, MA
<i>Project Engineer</i> | June 2005-March 2011 |



Select Publications and Presentations:

- DiGuseppi, W., ...**Hnatko, J.P.** et al.. 2024. Available and emerging liquid treatment technologies for PFASs. Remediation Journal. 34. 10.
<https://onlinelibrary.wiley.com/doi/abs/10.1002/rem.21782>
- **Hnatko, J.P.**, Liu, C., et al. 2023. Microbial reductive dechlorination by a commercially-available dechlorinating consortium is not inhibited by perfluoroalkyl acids (PFAAs) at field-relevant concentrations. Environmental Science and Technology. 57(22) 8301-8312.
<https://pubs.acs.org/doi/abs/10.1021/acs.est.2c04815>
- Yang, L., **Hnatko, J.P.**, et al. 2021. Exploration of processes governing microbial reductive dechlorination in a heterogeneous aquifer flow cell. Water Research 193, 116842.
<https://doi.org/10.1016/j.watres.2021.116842>
- **Hnatko, J.P.**, Yang, L., Pennell, K., Abriola, L., and Cápiro, N. 2020. Bioenhanced diffusion and dynamics of *Dehalococcoides mccartyi* strains in heterogeneous porous media. Chemosphere 254, 12682. <https://doi.org/10.1016/j.watres.2021.116842>
- **Hnatko, J.P.**, Schaefer C., Alspach, B., Ozekin, K., Weinrich, L. 2026. Distinguished Panel Session: Translational Research in PFAS Decontamination Technologies – Industry Technology Translation Perspective [Panel Presentation-Panelist]. CTR Workshop on PFAS Decontamination and Management. Newark, NJ. April.
- **Hnatko, J.P.**, Banerjee, A., Saran, D., Sorenson, K. 2025. Perspectives in Bioremediation: Present Results and Future Developments. [Platform Presentation-Presenter]. 41st Annual International Conference on Soils Sediments and Water. Amherst, MA. October.
<https://www.xcdsystem.com/AEHS/program/WJtUQVP/index.cfm?pgid=5579&sid=53437&abid=331726>
- Denly, E., Gwinn, R., Sorell, T., **Hnatko, J.P.**, Fenstermacher, J., Hale, J. 2024. PFAS Regulations: Do We Need a Paradigm Shift? National Pollutant Discharge Elimination System (NPDES): PFAS in Permits and Effluent Limitations Guidelines (ELGs). [Panel Presentation-Panelist]. 39th Annual International Conference on Soils Sediments and Water. Amherst, MA. October.

Key Project Experience:

Foam Fractionation to Remove PFAS from Water

Managed the engineering team responsible for laboratory studies and field deployments of Surface Active Foam Fractionation (SAFF®) to remove per- and polyfluoroalkyl substances (PFAS) from impacted waters including remediation groundwater, drinking water, industrial process water, reverse osmosis reject water, and landfill leachate. Coordinated and managed 5 permanent SAFF deployments, 20 field-scale pilot tests, and more than 30 laboratory bench scale studies.

Testing and Evaluation of PFAS Destruction Technologies

Partnered with firms to test and evaluate PFAS destruction technologies including Super Critical Water Oxidation, Electrochemical Oxidation, Hydrothermal Alkaline Treatment, UV/Sulfide Reduction, and plasma.

Technical Sales Support

Developed tools to support sales and deployments for a rapidly growing startup including cost calculator and evaluation tools, technical proposal templates, and marketing materials. Developed and presented customer webinars, client presentations to support technical sales, public and regulatory meetings, and conference presentations.

PFAS Investigation, Remedy Selection, and Conceptual Site Model (CSM) Development – Multiple Sites



Developed and proposed PFAS delineation approach for PFAS and carbon tetrachloride that relies on source signature and PCA to differentiate site impacts from anthropogenic background. Completed conceptual design of hydraulic containment remedy to prevent migration of source. Developed bench and pilot testing work plans for a multi-stage treatment process including dissolved air flotation (DAF), foam fractionation, ion exchange (IEX) resin filtration, and granular activated carbon (GAC) polishing. Identified different mixtures of PFAS in upgradient, on-site, and downgradient wells to identify locations of potential on-site sources and demonstrate that the existing hydraulic capture system captures most on-site PFAS impacts. Assisted in the optimization of the existing treatment system to reduce the frequency of GAC changeouts before PFAS breakthrough. Supported planning, design, and cost estimating for two additional hydraulic containment systems. Contributed to the development of a comprehensive CSM integrating surficial releases, underground releases, air emissions and deposition, groundwater flow, and surface water discharges to support regulatory decision making.

PFAS Regulatory Dashboard

Managed the maintenance of a subscription-based dashboard tracking PFAS regulations and news from around the world. Worked with staff in all global regions to track changes to published and proposed standards for PFAS.

Radium Investigation at Missouri Superfund Site

Served as technical expert evaluating the fate and transport of radionuclides, especially radium isotopes, from both radiologically impacted material (RIM) placed at the site and from naturally-occurring sources. Developed a conceptual site model that integrates multiple lines of evidence, including organic and inorganic analyte distributions, to determine the likely sources of radium and other constituents of potential concern in on- and off-site groundwater. Coordinated management and analyses of large data set, including trend analyses, data visualization, statistical analyses, contaminant of concern screening, and report preparation.

Source Signature Differentiation and Remedy Selection – Multiple Sites

Part of a multi-disciplinary team that evaluated sources of organic and inorganic contaminants in soil and groundwater at a former manufactured gas plant, including heavy metals (e.g. lead, mercury, and arsenic) and polycyclic aromatic hydrocarbons (PAHs). Evaluated remedial alternatives for soil, sediment, groundwater, and surface water at an active electrical substation and surrounding pastureland.

Bioremediation Design and Implementation – Multiple Sites

Served as technical expert for the design and implementation of an enhanced *in situ* bioremediation remedy for chlorinated solvent-impacted groundwater at multiple sites

Development of Coupled Physiochemical and Biological Systems for In Situ Remediation of Mixed Perfluorinated Chemical and Chlorinated Solvent Groundwater Plumes

Examined the impact of per- and polyfluoroalkyl substances (PFAS) on microbial reductive dechlorination by *Dehalococcoides mccartyi* using batch reactor and microcosm experiments.

Development of an Integrated Field Test/Modeling Protocol for Efficient In Situ Bioremediation Design and Performance

Conducted experiments of chlorinated solvent biodegradation by *Dehalococcoides mccartyi* using microcosm batch reactors, flowing aquifer cell systems, and an *in situ* pilot test to support numerical modeling and examine the impact of geochemical conditions on reductive dehalogenase genes.

Environmental Compliance Experience

Supported comprehensive environmental compliance programs including hazardous waste management, storm water pollution prevention (SWPPP), spill prevention control and countermeasures (SPCC), and on site facility inspections and staff training. Coordinated spill response and reporting in accordance with the Massachusetts Contingency Plan (MCP).

