



Paul G. Tratnyek (Chair), Oregon Health & Science University

Professor, Institute of Environmental Health; Division of Environmental and Biomolecular Systems
Portland, Oregon 97239-3098

(W) 503-346-3431

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Dr. Paul G. Tratnyek is currently Professor, and Associate Head, in the Division of Environmental and Biomolecular Systems (EBS) and Institute of Environmental Health (IEH), at the Oregon Health & Science University (OHSU).

He received his Ph.D. in Applied Chemistry from the Colorado School of Mines (CSM) in 1987; served as a National Research Council Postdoctoral Fellow at the U.S. Environmental Protection Agency Laboratory in Athens, GA (ERD-Athens), during 1988; and as a Research Associate at the Swiss Federal Institute for Water Resources and Water Pollution Control (EAWAG) from 1989 to 1991.

His research concerns the physico-chemical processes that control the fate and effects of environmental substances, including minerals, metals (for remediation), organics (as contaminants), and nanoparticles (for remediation, as contaminants, and in biomedical applications). Since 1992, when he joined the Waterloo University Solvents-In-Groundwater Research Programme, Dr. Tratnyek has led research on the chemistry of permeable reactive barriers containing zero-valent iron.

His recent work on the structure and reactivity Fe(0)-containing nanoparticles has helped to clarify the potential benefits and drawbacks of using reactive nanoparticles for environmental remediation. Other areas of interest include the physico-chemical properties of iron oxide nanoparticles used in biomedical imaging, oxidation-reduction reactions mediated by naturally-occurring nanoparticles (or nano-structured surfaces), the electrochemical response of nanoparticle based sensors, the effect of micro-scale heterogeneities on photocatalyzed environmental processes, and kinetics of contaminant degradation by chemical oxidants (especially [in situ chemical oxidation](#) for groundwater remediation, but also including drinking water disinfection processes).

Dr. Tratnyek has been an EMSL user since 2000, served as a Guest Scientist from 2000 -2001, and has served on EMSL's User Executive Committee since 2006.