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RESEARCH INTERESTS	Environmental Geochemistry, Aquatic Chemistry, Metal Speciation, Biogeochemical Cycles, Sediments, Early Diagenesis, Synchrotron Radiation, X-ray Absorption Spectroscopy	
EDUCATION	Université Paris 7 & Institut de Physique du Globe de Paris, France <i>Docteur Ès Sciences Physiques: Chimie-Géochimie</i> • Title: About some Processes in Early Diagenesis • Advisor: Professor Gil Michard	June 1987
	Université Pierre et Marie Curie, Paris VI, France <i>Docteur 3^{ieme} Cycle: Water Sciences,</i> • Title: Early Diagenesis in Canadian Shield Lakes • Advisor: Professor Gil Michard	September 1982
	Université Pierre et Marie Curie, Paris VI, France <i>Diplôme d'Etudes Approfondies: Sciences de l'Eau,</i> • MS in Water Sciences • Project: Modeling Silica Dynamics in Lake Léman (Lake Geneva)	June 1980
	Université Savoie Mont Blanc, Chambéry, France <i>Maîtrise de Sciences et Techniques Air et Eau,</i> • BS in Environmental Engineering: Air and Water	June 1979
PROFESSIONAL EXPERIENCE	Northwestern University, Evanston, Illinois, USA <i>Assistant, Associate, and then Professor</i> Department of Civil and Environmental Engineering, and Department of Earth and Planetary Sciences	September 1995 – present
	University of Notre Dame, Notre Dame, Indiana, USA <i>Visiting Professor and then Assistant Professor</i> Department of Civil Engineering and Geological Sciences	August 1991 – August 1995
	Université Paris 7 & Institut de Physique du Globe de Paris, Paris, France <i>Maître de Conférences</i> Laboratoire de Géochimie des Eaux, Unité de Formation et de Recherche de Chimie.	September 1989 – July 2023
	Université de Genève, Genève, Switzerland <i>Maître Assistant</i> Département de Chimie Minérale Analytique et Appliquée	September 1988 – August 1989
	Université Paris 7 & Institut de Physique du Globe de Paris, Paris, France <i>Assistant des Universités</i> Laboratoire de Géochimie des Eaux, Unité de Formation et de Recherche de Chimie.	September 1982 – August 1989

HONOURS AND AWARDS

Research Initiation Awards, National Science Foundation, 1993-1996
IUPAC Fellow (International Union of Pure and Applied Chemistry), 2007
Elected Member: Sigma Xi (Scientific Research Honor Society), 2019 -.

PUBLICATIONS

- Wallace S., Zhou L., Ma Q., Denslow N.D., Bonzongo J.-C., Gaillard J.-F. (2024) An XAS study of Hg(II) Sorption to Al-based Drinking Water Treatment Residuals. *Chemosphere*
DOI:10.1016/j.chemosphere.2023.140922
- Fu H., Shewfelt S., Sylvan L.D., Gaillard J.F., Gray K.A. (2024) Polyaniline-metal oxide coatings for biocidal applications: Mechanisms of activation and deactivation. *Chemosphere*, **346**, 140543
- Wallace S.M., Zhang Y., Zhou L., Ma Q., Guise W.E., Denslow N.D., Bonzongo J.-C., Gaillard J.-F. (2023) The Diversity of Aluminum-Based Drinking Water Treatment Residuals for Use in Environmental Remediation. *Environmental Science: Water Research & Technology*, **9** 935 - 947.
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- Vargas, A. Alsina M.A., Gaillard J.-F., Pastén P., Lopez M. (2021) Copper entrapment and immobilization during cement hydration in concrete mixtures containing copper tailings. *Journal of Cleaner Production*, **312**, 127547
- Wallace S.M., Alsina, M.A., Gaillard J.-F. (2021) An algorithm for the automatic deglitching of X-ray absorption spectroscopy data. *Journal of Synchrotron Radiation*, **28**, 1178–1183
- Zhou L., Wallace S.M., Kroll K.J., Denslow N.D., Gaillard J.-F., Meyer P., Bonzongo J.-C. (2021) Acute and Chronic Toxicity Testing of Drinking Water Treatment Residuals in Freshwater Systems. *Environmental Toxicology and Chemistry*, **40**(7), 2003-2012.
- Wu S., Gaillard J.-F., Gray K.A. (2021) The impacts of metal-based engineered nanomaterial mixtures on microbial systems: A review. *Science of the Total Environment*, **780**, 146496.
- Zhou L., Wallace S.M., Denslow N.D., Gaillard J.-F., Meyer P., Bonzongo J.-C. (2021) A Screening Approach for the Selection of Drinking Water Treatment Residuals (DWTRs) for their Introduction to Marine Systems. *Environmental Toxicology and Chemistry*, **40**(4), 1194–1203.
- Desmau M., Alsina M.A., Gaillard J.-F. (2021) XAS study of Sn speciation in toothpaste. *Journal of Analytical Atomic Spectrometry*, **36**, 407–415
- Chen X., Wilke C.M., Gaillard J.-F., Gray K.A. (2020) Combined toxicity of nano-CuO/nano-TiO₂ and CuSO₄/nano-TiO₂ on *Escherichia coli* in aquatic environments under dark and light conditions. *Nanoimpact*, **19**, 100250.
- Jung J.K., Alam K.K., Verosloff M.S., Capdevila D.A., Desmau M., Clauer P.R., Lee J.K., Nguyen P.Q., Pastén P.A., Matiasek S.J., Gaillard J.-F., Giedroc D.P., Collins J.J., Lucks J.B. (2020) Cell-free biosensors for rapid detection of water contaminants. *Nature Biotechnology*, <https://doi.org/10.1038/s41587-020-0571-7>
- Montecinos M., Coquery M., Alsina M.A., Bretier M., Gaillard J.-F., Dabrin A., Pastén P.A. (2020) Partitioning of copper at the confluences of Andean rivers. *Chemosphere*, **259**, 127318.
- Thomas S.A., Catty P., Hazemann J.-L., Michaud-Soret I., Gaillard J.-F. (2019) The role of cysteine and sulfide in the interplay between microbial Hg(II) uptake and sulfur metabolism. *Metallomics*, **11**, 1219-1229.
- Huang R., Huo G., Song S., Li Y., Xia L., Gaillard J.-F. (2019) Immobilization of mercury using high-phosphate culture-modified microalgae. *Environmental Pollution*, **254**, 112966

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- Thomas S.A., Rodby K. E., Roth E.W., Wu J., Gaillard J.-F. (2018) Spectroscopic and Microscopic Evidence of Biomediated HgS Species Formation from Hg(II)-Cysteine Complexes: Implications for Hg(II) Bioavailability. *Environmental Science & Technology*, **52**: 10030-10039.
- Alsina M. A., Gaillard J.-F. (2018) Structural characterization of metal complexes in aqueous solutions: A XAS study of stannous fluoride. *Physical Chemistry Chemical Physics*, **20**, 12727–12735.
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- Xie M., Wang N., Gaillard J.-F., Packman A.I. (2018) Interplay between Flow and Bioturbation Enhances Metal Efflux from Low-Permeability Sediments. *Journal of Hazardous Materials*, **341**, 304-312.
- Thomas S.A., Gaillard J.-F. (2017) Cysteine Addition Promotes Sulfide Production and 4-Fold Hg(II)-S Coordination in Actively Metabolizing *Escherichia coli*. *Environmental Science & Technology*, **51**, 4642-4651.
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- Thomas S.A., Ma Q., Gaillard J.-F. (2016) Probing changes in Hg(II) coordination during its bacterial uptake. *Journal of Physics: Conference Series*, **712**(1), 012078.
- Xie M., Wang N., Gaillard J.-F., Packman A.I. (2016) Hydrodynamic Forcing Mobilizes Cu in Low-Permeability Estuarine Sediments. *Environmental Science & Technology*, **50** (9), 4615-4623.
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