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Engineering & Scientific Consulting

Olivia Paradis, Ph.D.

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Professional Profile

Dr. Olivia Paradis is an environmental chemist and geobiologist in Exponent's Environmental & Earth Sciences practice. Her work supports clients with a variety of environmental needs including site assessment, litigation support, regulatory compliance, and site remediation.

Dr. Paradis uses field and laboratory-based analytical methods to understand the fate and occurrence of chemical constituents (including chlorinated solvents, radioisotopes, and metals) in terrestrial and marine environments, including how microbial metabolism may transform environmental conditions, including the precipitation and dissolution of minerals.

She has expertise in experimental design, sample collection, analysis, and interpretation and visualization of environmental data sets. She has analyzed the stable isotope composition of environmental samples to evaluate the natural attenuation of chlorinated solvents (including PCE, TCE, c-DCE, and VC), as well as the radioisotope (radiocarbon, Uranium-series, Thorium-series) composition of various water, sediment, and mineralogical samples.

Dr. Paradis has utilized her expertise in environmental chemistry to support contaminated site remediation and management for large CERCLA sites, manufacturing sites, and power generation facilities. She has supported the environmental aspects of nuclear power plant decommissioning projects as well as dry fuel storage projects for utility clients and decommissioning general contractors. Her environmental permitting experience includes assisting clients with implementing and complying with industrial wastewater permits (NPDES), stormwater discharge permits (MSGP), and construction general permit (erosion and sediment control). Dr. Paradis has collaborated with state agency officials to understand how construction activities will impact threatened and endangered species and how to mitigate those impacts. Additionally, Dr. Paradis has experience developing work plans for the site characterization of soil and groundwater in compliance with state regulatory programs to support site closure.

Academic Credentials & Professional Honors

Ph.D., Geological Sciences, University of Southern California, 2019

B.S., Geological Sciences, University of Miami, 2013

Prior Experience

Staff Geologist/Geochemist, Haley & Aldrich, 2019-2021

Professional Affiliations

American Geophysical Union (AGU)

Geological Society of America

SETAC

American Bar Association

Publications

Paradis, O., 2019. "Modern" Ooids in Great Salt Lake as High-Resolution Archives of Environmental Change: from 21st Century to the Holocene. Thesis. University of Southern California.

Corsetti, F.A., Ritterbush, K.A., Bottjer, D.J., Greene, S., Ibarra, Y., Yager, J.A., West, A.J., Berelson, W.M., Rosas, S., Becker, T.W., Levine, N.M., Loyd, S.J., Martindale, R.C., Petryshyn, V.A., Carroll, N.R., Petsios, E., Piazza, O., Pietsch, C., Stellmann, J.L., Thompson, J.R., Washington, K.A., Wilmeth, D.T., 2015. Investigating the Paleocological Consequences of Supercontinent Breakup: Sponges Clean Up in the Early Jurassic. *The Sedimentary Record*, 13: 4-10.

Wilmeth, D.T., Johnson, H.A., Stamps, B.W., Berelson, W.M., Stevenson, B.S., Nunn, H.S., Grim, S.L., Dillon, M.L., Paradis, O., Corsetti, F.A., Spear, J.R., 2018. Environmental and biological influences on carbonate precipitation within hot spring microbial mats in Little Hot Creek, CA. *Frontiers in Microbiology*, Volume 9.

Presentations

Paradis, Olivia. Lake Bonneville Geologic Conference and Short Course. Salt Lake City, UT. October 2018. Invited speaker. "Radial ooids from Great Salt Lake (Utah) as paleoenvironmental archives: Insights from radiocarbon chronology and stable isotopes."

Paradis, O., Corsetti, F., Bardsley, A., Hammond, D., Xu, X., and Walker, J. American Geophysical Union Meeting, 2017. New Orleans, LA. "Radial ooids from Great Salt Lake (Utah) as paleoenvironmental archives: Insights from radiocarbon chronology and stable isotopes."

Paradis, O., Corsetti, F., Bardsley, A., Hammond, D., Xu, X., Stamps, B., Stevenson, B., Walker, J., and Berelson, W. Geological Society of America, 2017. Seattle, WA. "Unraveling radial ooid formation in Great Salt Lake (Utah): Insights from radiocarbon chronology and molecular biology."

Piazza, O., Corsetti, F., Stamps, B., Stevenson, B., Bardsley, A., Hammond, D., Nunn, H., and Berelson, W. Geobiology Society Conference 2017. Banff, CAN. "Unraveling enigmatic ooid formation in Great Salt Lake, Utah: Insights from Sequential 14C Chronology and Molecular Biology."

Piazza, O., Corsetti, F., Stamps, B., Stevenson, B., Bardsley, A., Hammond, D., Nunn, H., Berelson, W., and Spear, J. American Geophysical Union Meeting, 2016. San Francisco, CA. "Microbial Composition and Preliminary Age of Ooids from the Great Salt Lake, Utah."

Piazza, Olivia. Friends of the Great Salt Lake: Great Salt Lake Issues Forum. Salt Lake City, UT. May 2016. Invited speaker.

van Maldegem, L., Chou, L., Buongiorno, J., Zinke, L., Petryshyn, V., Shapiro, R., Piazza, O., Loyd, S., Tripathi, A., Spear, J., and Corsetti, F. American Geophysical Union Meeting, 2015. San Francisco, CA. "Paleoenvironmental reconstruction of ~40ka stromatolites from the ancient Lake Lahontan, Nevada, USA."

Rampfert, K., Santiago Ramos, D., Nascimento, G., Zhang, F., Loyd, S., Piazza, O., Bertran, E., Stamps, B., Stevenson, B., Spear, J., and Corsetti, F. American Geophysical Union Meeting, 2015. San Francisco, CA. "Preservation Potential of Life in Little Hot Creek, California: Implications for the use of Hot Spring Systems as Astrobiological Targets."

Piazza, O., Corsetti, F., Spear, J., Stamps, B., Stevenson, B., and Berelson, W. Geological Society of America, 2015. Baltimore, MD. "Microbial Diversity of Ooids from Great Salt Lake, UT."

Chou, L., van Maldegem, L., Buongiorno, J., Zinke, L., Petryshan, V., Shapiro, R., Loyd, S., Piazza, O., and Corsetti, F. Geological Society of America, 2015. Baltimore, MD. "Coupled Stratigraphy, Petrography, and Delta-47 of Ancient Walker Lake, NV Reveals Unique Analog for Studying Proterozoic Stromatolite Formation and Climatic Forcings."

Wilmeth, D., Grim, S., Krusor, M., Johnson, H., Berelson, W., Stamps, B., Stevenson, B., Piazza, O., Corsetti, F., and Spear, J. Geological Society of America, 2015. "Microbial Metabolisms Influence Carbonate Precipitation in a Laminated Microbial Mat."

Piazza, O., Demott, L., Bertran, E., Bonis, B., Frantz, C., Corsetti, F., Loyd, S., Stevenson, B., Stamps, B., and Spear, J. Geological Society of America, 2014. Vancouver, CAN. "Biogenicity of Mixed Silica-Carbonate Accretionary Structures from a Hot Spring (Little Hot Creek, CA)".