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Novel Approaches for Evaluating and Remediating Contaminated Sediments: Passive Samplers and In-Situ Remediation

Instructor Biographies

Meg Jalalizadeh, Ph.D. is a Senior Associate at Exponent. Dr. Jalalizadeh has more than 10 years of research and consulting experience in assessing, measuring, and modeling the fate and mobility of contaminants within sediments and water. She has provided technical, analytical, field and laboratory support for numerous projects involving hazardous waste sites that exhibit a wide range of characteristics (e.g., saline to freshwater). Dr. Jalalizadeh's expertise also includes environmental modeling and she has used Matlab and CapSim to simulate diffusive processes within sediments. Dr. Jalalizadeh received her PhD in Environmental Engineering from the University of Maryland, where she studied contaminant dynamics within sediments using novel passive sampling devices. She has also patented the invention of an actively shaken in-situ passive sampler for accelerating the movement of the freely dissolved concentration of contaminants in sediment porewater.

Charles Menzie, Ph.D. is a Principal Scientist at Exponent and Co-Owner of Sediment Solutions. Dr. Menzie has specialized in the incorporation of bioavailability concepts into environmental and health risk assessments as well as remedial technologies for a broad range of contaminants including PCBs, PAHs, PFAS, and metals. To that end, he has conducted studies for and received grants from industry, DoD, EPA and ESTCP to evaluate measurement methods for assessing bioavailable contaminants with passive samplers and to reduce the bioavailability of compounds in sediments using activated carbon. This work led to several guidance documents and also the technology of remediating contaminants in sediments. He has over forty years' experience evaluating contaminated sediments including the development of food chain models that relate sediments to water column and human and ecological exposures. These have been applied at many industrial, municipal, and DoD sites. He managed the ESTCP projects related to the demonstration of activated carbon as a remedial technology in open waters and wetlands as well as the project on the use of passive samplers to evaluate exposures and potential for effects. Dr. Menzie holds a Ph.D. in Biology from the City University of New York.