

GRACast: Frequently Asked Questions on Per- and Polyfluoroalkyl Substances (PFASs)



Groundwater Resources Association of California

GRACAST



Presented by:

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Perfluoroalkyl and Polyfluoroalkyl substances (PFAS), including perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA), were released to the environment at many federal and commercial facilities in the United States and elsewhere as a result of historical uses of aqueous film-forming foams (AFFF) to extinguish fuel-based fires. Due to the strength of their carbon-fluorine bonds, PFAS are persistent in the environment and difficult to remediate. This webinar will go over the findings of a draft PFAS FAQ which will be released by ESTCP as a technical transfer activity in 2017. The FAQ will provide answers for the following questions:

1. What are per- and polyfluoroalkyl substances (PFASs)?
2. What are aqueous film forming foams (AFFF)?
3. Which environmental media should be sampled?
4. Do PFASs transport in the environment?
5. What is the fate of PFASs in the environment?
6. What remedial tools are available or effective for PFASs?
7. What are the human exposure pathways and health effects?
8. What are the current regulatory issues?

Early Registration (by July 1) is \$75 for Members and \$100 for Non-Members**

Registration after July 1 is \$100 for Members and \$125 for Non-Members**

SPEAKER BIOS:

Dr. Jason Conder is a senior scientist based in California. He has more than 15 years of experience in environmental toxicology, ecological and human health risk assessment, bioaccumulation and bioavailability of environmental contaminants, environmental chemistry, environmental monitoring technology, ecology, and statistics. Jason has provided technical expertise in ecological risk assessment and environmental toxicology to multinational clients addressing environmental liability and

risk issues associated with contaminated sites. Jason has specific technical expertise associated with assisting several large, multi-stakeholder groups address the complex issues associated with contaminated sediment sites in North America, Europe and Asia. In addition, Jason focuses on evaluations of emerging chemicals of concern such as perfluoroalkyl and polyfluoroalkyl Substances (e.g., PFOA and PFOS). He has published more than 20 peer-reviewed articles in environmental toxicology and chemistry, presented technical work at numerous international scientific conferences, and has served on and co-chaired several technical workshops.

Dr. Rula A. Deeb is a senior principal civil and environmental engineer based in California. She has more than 25 years of experience in private practice and academia addressing the cross-media fate and transport of contaminants and the remediation of complex soil and groundwater sites impacted by non-aqueous phase liquids. Her focus on emerging contaminants over the last two decades has promoted awareness and improved the understanding of the sources, occurrence, fate and transport, and behavior of these compounds (including perfluorinated compounds, 1,4-dioxane, MTBE and other fuel oxygenates, perchlorate, NDMA, EDCs, PPCPs, and others) in natural and treatment environments. Dr. Deeb is heavily engaged in the National Academy of Engineering Frontiers of Engineering program, which brings together emerging engineering leaders from industry, academia, and government to discuss pioneering technical work and leading edge research in various engineering fields and industry sectors. She is the recipient of the 2008 Berkeley Engineering Innovation Young Outstanding Leader Award and the 2010 ITRC Industry Recognition Award. She was recently invited to serve as a member of the U.S. Environmental Protection Agency Science Advisory Board's Environmental Engineering Committee through September 2018. This prestigious appointment was made by the Administrator of the EPA.

Dr. Jennifer Field is a Professor with the Department of Environmental and Molecular Toxicology at Oregon State University. She holds a Ph.D. in Geochemistry from the Colorado School of Mines and was a Postdoctoral Fellow at the Swiss Federal Institute of Aquatic Science and Technology. Dr. Field's general research focuses on the development of quantitative analytical methods for organic micropollutants in natural and engineered systems and the application of methods for determining micropollutant fate and transport. Early in her career, she focused on field-based research to investigate the fate and transport of surfactants in groundwater and wastewater treatment systems. She participated in interdisciplinary research with hydrologists and engineers in order to develop 'push-pull' tracer test methods for determining in-situ rates of reductive dechlorination and anaerobic biodegradation of aromatic hydrocarbons. Dr. Field is a pioneer in the area of fluorochemical occurrence and behavior and has focused on groundwater contaminated by fire-fighting foams, municipal wastewater treatment systems, and municipal landfill leachates. She served as an editor for Water Research from 2004 to 2008, and has served as an associate editor for Environmental Science and Technology since 2008.

Dr. Christopher Higgins is an environmental chemist examining the fate of environmental contaminants in aquatic and terrestrial systems. Dr. Higgins' received his A.B. in Chemistry and Chemical Biology from Harvard University, and his M.S. and Ph.D. in Civil and Environmental Engineering from Stanford University. Prior to his graduate work, Dr. Higgins worked for the Cadmus Group, Inc., providing policy and regulatory support to the U.S. Environmental Protection Agency. Upon finishing his Ph.D. at Stanford in 2006, Dr. Higgins became a postdoctoral fellow at the Johns Hopkins

Bloomberg School of Public Health. He joined the faculty at the Colorado School of Mines as an Assistant Professor in 2009, and was promoted to Associate Professor with tenure in 2014. His research focuses on the movement of contaminants in the environment. In particular, he studies chemical fate and transport in natural and engineered systems as well as bioaccumulation in plants and animals. Contaminants under study in his laboratory include poly- and perfluoroalkyl substances used in stain-repellent fabrics and fire-fighting foams, nanoparticles, wastewater-derived pharmaceuticals and personal care products, trace organic chemicals in urban stormwater, and trace metals. Dr. Higgins has authored nearly 50 peer-reviewed publications to date and his research has been supported by the National Science Foundation, the National Institutes of Health, the U.S. Environmental Protection Agency, the U.S. Department of Agriculture, the U.S. Air Force, and the U.S. Department of Defense's Strategic Environmental Research and Development Program.

MODERATOR BIO:

Adnan Anabtawi is a professional engineer with MWH Global, now a part of Stantec. He is a State of California registered professional civil engineer with several years of experience in water resources planning and groundwater studies in California. Mr. Anabtawi has a Bachelor of Science in Civil Engineering from the University of California, Irvine and a Master of Science in Civil and Environmental Engineering from Stanford University.

Date: July 6, 2016, noon - July 6, 2016, 1:30 p.m.