

Environmental Group Bimonthly Presentation:***Understanding How Hydrophobic Organic Pollutants Distribute in Urban Runoff by Using Perylene as a Probe***Thursday, August 24th, 2017 at 7:30 p.m.**Chris (Meng-Horng) Hsu, DEnv, PE, QISP, QSD****GSI Environmental, Inc.**chris.hsu519@gmail.com**Presentation Abstract:**

Polycyclic aromatic hydrocarbons (PAHs), a group of the hydrophobic organic pollutants (HOPs), are mainly generated from incomplete combustion and are commonly found in the urban runoff (Lau, et al., 2009). PAHs have been targeted for control due to their prevalence, persistency, carcinogenicity and toxicity. The discharge of urban runoff is managed in California by Federal Clean Water Act (CWA) and the California Porter-Cologne Water Quality Control Act (Swamikannu et al., 2003). Under these, State Water Resources Control Board issues National Pollutant Discharge Elimination System (NPDES) permit to control pollution by regulating point sources that discharge pollutants into waters. HOPs are managed under these regulations. Researchers have estimated that urban runoff results in 14-36% of the total PAHs loading into aquatic ecosystems (Menzie, et al, 2002). Dissolved organic matter (DOM) has the ability to associate (bind or sorb) with HOPs, such as PAHs, in natural waters from urban runoff. The association of HOPs and DOM occurs primarily as a linear association between a bound and free (bioavailable, hazardous) PAH (Carter and Suffet, 1982) and described by a binding equilibrium constant, KDOM. The objective of this talk is to understand how HOPs distribute between dissolved and bound DOM in urban runoff during the four seasons and how specific DOM characteristics affect the distribution behavior of HOPs in the dissolved phase.

Speaker Biography:

Dr. Hsu is a civil and environmental engineer with more than 7 years of professional experience in consulting and research associated with water quality treatment and analytical chemistry. He also has over 4 years of compliance experience in stormwater NPDES permitting and regulatory analysis, including Total Maximum Daily Load (TMDL). He gained extensive knowledge of MS4 permit compliance through DAMP and WQMP in Orange County while completing his doctoral project "Feasibility Study for the Dry Weather Flow Diversion of Storm Drain Outfalls to Sanitary Treatment System". He also has provided BMP recommendations, performed inspections and

prepared compliance documents, and provided technical support for municipalities and industrial facilities throughout California. Dr. Hsu is an expert in data analysis and interpretation. He is a licensed Professional Engineer (Civil) in the State of California and he holds numerous stormwater-related professional certifications issued through the California State Water Resources Control Board and various Regional Water Quality Control Boards.

Location: Kennedy/Jenks Consultants, 3210 El Camino Real, Suite 150, Irvine, CA 92602

To Register or for more information, contact Dr. Ganesh Rajagopalan at RGanesh@KennedyJenks.com by February 21, 2017.

