

# UNIVERSITY of HOUSTON

## CULLEN COLLEGE of ENGINEERING

Department of Civil & Environmental Engineering

### CIVE 6111 Graduate Seminar

**Shen Wang, Ph.D., P.E.**

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Halliburton

***Some Environmental Issues and Technical Challenges in Upstream Oil & Gas Industry - What does the industry need***

**Friday, January 27, 2017**

2:45 pm - 3:45 pm  
CBB 120

**Abstract:** Oil and gas (O&G) industries include upstream, midstream and downstream sectors. Among which, the upstream sector may have more diversified operations; and the environmental people in the industry encounter a variety of environmental issues in these operations such as barite mining, discharge and treatment of flowback and produced water from hydraulic fracturing, processing and storage of extremely hazardous substances, down-hole chemical injection, proppant handling, treatment of drill cutting waste, disposal of spent primary lithium metal batteries, treatment and discharge of process wastewater at the field camp, groundwater impact by chlorinated hydrocarbons due to the use of chlorinated solvents in the service and maintenance operations, managing NORM-contaminated wastes, and emergency response to oil spills. The environmental people in the upstream O&G industry face some technical challenges in dealing with these issues. Many factors, such as remote geographic location, different environmental standards in individual counties or regions, modification to the existing regulatory standards, economical consideration, and limited resource of readily-available or effective technologies, may increase the difficulty in resolving these issues; and the environmental people in the industry have a demand to the environmental researchers and engineers on the research and release of new technologies.

Meanwhile, the environmental researchers and engineers, especially those in the universities and research institutes, may want to hear future details of these environmental concerns from the industry so that they can take the challenge and be more specific on their future research and study for the problem-solving outcomes that will immediately benefit the industry.

**About the speaker:**



**Dr. Shen Wang** currently is a Principal Environmental Specialist with Halliburton located in Houston, Texas. Dr. Wang obtained his B.S. degree in Chemical Engineering from Beijing University of Chemical Technology and both M.S. and Ph.D. degrees in Chemical Engineering from Oklahoma State University. He is a registered Professional Engineer (P.E.) in State of Texas and a certified Leaking Petroleum Storage Tank (LPST) Corrective Action Project Manager (CAPM) with Texas Commission on Environmental Quality (TCEQ). Dr. Wang has some 30 years of working experience in chemical engineering and environmental engineering process designs, chemical process simulation, soil and groundwater remediation, wastewater treatment design and trouble-shooting, air pollution control, and environmental project management. His experiences include post-doctoral research, environmental consulting business and O&G industries in upstream, midstream, and downstream sectors. He has a number of publications in journals and conference proceedings.