

土壤及地下水污染場址植物整治講習會

Workshop on Phytotechnologies as Remediation for Contaminated Sites

講習會議程：

Date/Time		Duration (min)	Topic	Speaker
26 June (Tuesday)				
09:00	–	30	Registration	
09:30	–	15	Opening Remarks	Taiwan EPA
09:45	–	60	Introduction to Phytotechnologies	Steve Rock
10:45	–	15	BREAK	
11:00	–	60	Groundwater and Tree Basics	James Landmeyer
12:00	–	60	LUNCH	
01:00	–	45	Regulatory Concerns	All
01:45	–	75	Organic Compounds: Degradation in Soil and Sediment	James Landmeyer
03:00	–	15	BREAK	
03:15	–	75	Phytoextraction of Inorganic Compounds	Steve Rock
04:30	–	60	Hands-on small group exercise	All
05:30			Day One Concludes	
27 June (Wednesday)				
08:30	–	30	Registration	
09:00	–	60	PhytoForensics	James Landmeyer
10:00	–	30	Vegetative Covers I	Steve Rock
10:30	–	15	BREAK	
10:45	–	30	Vegetative Covers II	Steve Rock
11:15	–	45	Urban and Brownfields Applications	James Landmeyer
12:00	–	60	LUNCH	
01:00	–	60	Group discussion – will it work on my site?	All
02:00	–	60	Field Case Studies	James Landmeyer
03:00	–	15	BREAK	
03:15	–	60	Constructed Wetlands / Riparian Case Studies	Steve Rock
04:15	–	45	Questions and Evaluation	Taiwan EPA
05:00			Workshop Ends	

Introduction of Phytotechnologies Workshop

June 26-27, 2012, at Kaohsiung, Taiwan

This workshop was developed by the Taiwan EPA, USGS, and USEPA.

Phytotechnologies use plants to contain, stabilize, sequester, assimilate, reduce, detoxify, degrade, metabolize and/or mineralize contaminants in soil, ground water, surface water, or sediments. Phytotechnologies can be applied *in-situ* or *ex-situ* and can address organic compounds such as petroleum hydrocarbons, chlorinated compounds, pesticides and explosive compounds, chlorinated solvents, and some heavy metals, metalloids and radioactive materials. As a regulator, site owner, or remediation contractor you should stay current with the application of emerging environmental technologies.

Due to low relative costs and the inherently aesthetic nature of planted sites, phytotechnologies have become an attractive alternative to conventional clean-up technologies.

Workshop Description

This workshop provides scientific, engineering and regulatory information designed to help regulators and practitioners uniformly conduct site remediation using phytotechnologies in a variety of applications. The workshop will also explain the advantages and limitations, and will highlight the phytotechnologies that are ready for application and indicate which are still in research. The workshop includes an introduction to the science, case studies, hands-on group exercises, and an open discussion of the regulatory issues regarding application of phytotechnologies based on the ITRC Phytotechnology Technical and Regulatory Guidance document, **available at:** <http://www.itrcweb.org/Documents/PHYTO-3.pdf> and the Introduction to Phytoremediation of Contaminated Groundwater by James Landmeyer, Ph.D.

Invited Speakers

1. Dr. Steve Rock is an Environmental Engineer in the Remediation and Contaminant Branch at EPA's National Risk Management Research Laboratory in Cincinnati, Ohio. He is the author of several phytotechnology publications, including the EPA's Introduction to Phytoremediation, and a chapter in the Standard Handbook of Environmental Engineering. He is an associate editor on the International Journal of Phytoremediation and founder of the International Phytotechnology Society. He participates in EPA in-house research, and provides technical assistance on phytoremediation, urban agriculture, and vegetative covers for waste containment.

2. Dr. James Landmeyer has been a research hydrologist with the U.S. Geological Survey, South Carolina Water Science Center, in Columbia, SC, since 1990. Landmeyer received his B.S. from Allegheny College in 1989, and his M.S. and Ph.D. from the University of South Carolina in 1991 and 1995, respectively. He has been the author or co-author of more than 70 peer-reviewed publications, and in 2011 authored the textbook "Introduction to Phytoremediation of Contaminated Groundwater". His research interests include the interaction between plants, microbes, and pristine and contaminated groundwater and surface-water systems.