



SWANA Oregon Presents

In conjunction with the 2008 Northwest Regional Symposium

Alternative Covers for Landfills, Waste Repositories: Design, Modeling, Construction, and Monitoring

This 2 day workshop is intended to teach consultants and engineers how to design and submit quality proposals for ET covers, and to teach regulators how to evaluate those proposals. Participants will get an understanding of the hydraulic properties of these covers, how to optimize designs with models, and how to ensure that the final product is environmentally protective. The most current research on field performance, monitoring, economics and construction techniques will be presented. Topics may include alternative cover design, construction, operation, and monitoring, including discussions of regulatory issues, soil physics, plant-soil-water relations, hydraulic balance, saturated/unsaturated water movement, and computer modeling. Regional case studies will be emphasized. Study results and lessons learned from the USEPA Alternative Covers Assessment Program will be discussed.

Tue-Wed, April 15-16, 2008
McMenamins, Edgefield
Troutdale, Oregon



Who Should Attend?

Site owners, consulting engineers, regulators, and scientists involved in design, permitting, operation, and monitoring of alternative cover systems should attend. Participation is limited so register early to ensure your spot in this course.

Course Outline

The workshop format will include slideshows, discussions, and local case studies. Lunch is served to participants in the meeting room, and a luncheon speaker each day will present a case study of local interest.

Topics covered may include:

- Introduction to alternative covers
 - Design concepts
- Overview of regulations
- Design selection and validation
- A local case study
- Soil physics basics
- Water balance components
- Hydraulic conductivity
- Soil water retention
- Soil sampling, parameter measurement
- Soil structure and hydraulic properties
- Preliminary design
- Plant physiology
 - Plant/soil/water interactions
 - Important plant parameters
- Climate
 - Precipitation
 - Evapotranspiration
- Modeling landfill covers
 - Why model?
 - Which model?
 - Important data and input
 - Application examples
- Construction issues for alternative covers
 - Integration of site characterization, design, and construction
 - Technical specifications
- CQA plan and implementation
- Construction procedures and equipment
- A regional case study
- Alternative covers in mining
- Alternative Cover Assessment Program (ACAP): Design of study, construction, and monitoring
- Bioreactors and landfill gas
- ACAP results, model comparisons, conclusions, applications, and implications

Instructors

Bill Albright, Ph.D.
Desert Research Institute

Craig Benson, Ph.D., P.E.
University of Wisconsin, Madison

Steve Rock
U.S. Environmental Protection
Agency

Fees

The course fee is \$350. The fee includes a binder with the complete set of course notes and a CD, two breakfasts and two lunches.

**REGISTER ON THE SYMPOSIUM REGISTRATION FORM
available at www.SWANAoregon.org/symposium_2008.htm**



SWANA Oregon / Beaver Chapter

www.SWANAoregon.org • info@SWANAoregon.org

