

**Name:** Stuart Strand

**Presentation title:** Progress in transgenic plants for degradation of organic pollutants, Mammalian P450 2E1 in plants

**Abstract:** Mammalian cytochrome P450 2E1 has been expressed in plants, tobacco and poplar, and shown to increase the degradation of its cosubstrates -- trichloroethylene, benzene, and carbon tetrachloride -- by hundreds of times. The pollutants that our plants can degrade include the most commonly found groundwater pollutants that are probable human carcinogens. Their degradation rates by transformed and wild type trees will be presented. The range of substrates degraded by the 2E1 transformed plants and their limitations will be reviewed. Results from ongoing full-scale tests of 2E1 transformed poplar will be reported.

**Short Bio:** Stuart Strand, Ph.D., has a Ph.D. in Environmental Engineering from Pennsylvania State University. He is a Research Professor at the University of Washington in Seattle with a joint appointment in Civil and Environmental Engineering, College of Engineering, and the College of Forest Resources. Dr. Strand's research spans a broad range of interests, including environmental engineering and environmental microbiology, and phytoremediation of water, soil and air. Dr. Strand's research has been supported by NSF, EPA, NIH, DOE, DoD, NOAA, and private industry and he has served as a consultant to several engineering firms.

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