

## Workshop Overview

*Thursday, 29 September 2016 16:00 (0:05)*

### Content

The Fukushima Daiichi accident in March 2011 created a need for both regulatory agencies and citizens to have access to radionuclide data from a vast array of environmental media (e.g. air, water, biota). Several projects utilized citizen science to address the data gaps. The Principle Investigators from two of these projects will discuss the lessons learned and critical elements of each project that shaped the ability of citizen science to influence scientists, decision-makers, and/or the public. The workshop will then discuss several critical elements in citizen science including the development of standards and standardized practices to ensure data credibility, the use of open modeling and data platforms versus closed, and the role of new technology in enabling citizen science.

Objective: The workshop will explore lessons learned from citizen science initiatives organized in response to Fukushima and other events and discuss factors that shape the ability of citizen science to influence scientists, decision-makers, and the public.

### About the Presenter

Jill M. Brandenberger is a coastal oceanographer with over 20 years of experience in research to identify signatures and indicators of human derived versus natural changes in the coastal environment. Ms. Brandenberger's specific research focus is on coastal management using both current and historical reconstructions to identify indicators of ecosystem-level changes. Recently, she worked with a team of high-energy physicist to development new ultra-low background radiological detectors that allow the measurement of new radio-chronometers to better understand the climate change impacts on groundwater resources and land-use changes on coastal water quality. The historical reconstructions provide a baseline from which to measure the impacts of stormwater quality and land-use and land-cover changes on ecosystem health. Measuring the effectiveness of environmental regulations is extremely complex in dynamic coastal environments. Historical reconstructions require a suite of paleoecological indicators derived from the sedimentary record extending back 200+ years to support the elucidation of natural biogeochemical cycles from those altered by anthropogenic activities. Her research in Puget Sound, WA, USA used sedimentary reconstructions of diatom and foraminifera fossils, pollen, stable isotopes of carbon and nitrogen, biomarkers for terrestrial/marine carbon, black carbon and stable and redox-sensitive metals to determine trends in the anthropogenic burden of the watershed (1850s to present) compared to changes driven by large-scale climate processes (pre-western settlement).

**Presenter(s) :** Ms. BRANDENBERGER, Jill (Pacific Northwest National Laboratory)

**Session Classification :** Metrology and Citizen Initiatives Workshop