

# **Diffuse Optical Methods for Assessing Breast Cancer Chemotherapy (Presentation Video)**

**Bruce Tromberg**, Beckman Laser Institute and Medical Clinic (United States)



## **BIOS 2014 Hot Topics Presentation**

In his talk, "Diffuse Optical Methods for Assessing Breast Cancer Chemotherapy," SPIE Fellow Bruce Tromberg (Beckman Laser Institute and Medical Clinic) describes a method combining frequency domain photon migration, essentially a method of tracking photon motion in tissue, with a NIR spectroscopy technique using 850nm LEDs. The result is a scatter corrected absorption spectra. The technique takes advantage of elevated blood and water levels and decreased lipid levels in the presence of tumors to provide a more accurate mapping of the breast, allowing more effective treatment.

Tromberg's team recently completed their first full mapping of the breast and have taken the instrument from a standalone unit to a portable one suitable for travel. In addition to providing feedback to enhance breast cancer treatment, Tromberg expects that this technique will be applicable in treating other forms of cancer as well.

View presentation video on SPIE's Digital Library: <http://dx.doi.org/10.1117/12.2064489>