



Clinical Applications of Affymetrix Microarrays

*Presented by Affymetrix and GenomeDx Biosciences
Organized by the OHSU Gene Microarray Shared Resource (GMSR)*

Part I - 2pm - 245pm: Expression Profiling in Formalin-fixed Paraffin-embedded Samples by Affymetrix Microarrays

Elai Davicioni, PhD, Chief Scientific Officer, GenomeDx Biosciences

In recent years, microarray technology has been used to develop gene-expression based tests designed to aid in the treatment and management of patients with diseases such as cancer. These tests measure the expression of a number of genes, often referred to as an 'expression signature', of a clinical or pathological state with mathematical algorithms to derive patient scores. One of the main barriers to the development of such cancer tests are the availability of large numbers of patient samples with rich outcome data that is necessary for the retrospective correlative analyses used to discover expression signatures. Formalin-fixation and paraffin-embedding (FFPE) of clinical tissue specimens remains the standard method used to preserve tissue morphology for pathological diagnosis and sample archiving and, in many cases, the only source of biological material where long-term outcomes and follow up patient data are available. However, the degraded nature and quantities of RNA extractable from FFPE specimens pose many challenges for whole-transcriptome microarray analysis. In this talk we present data characterizing microarray gene expression signal performance with degraded RNA from fixed (FFPE) in comparison to intact RNA from unfixed fresh-frozen (FF) specimens. We will show (with caveats) that archived FFPE samples can be used to profile expression signatures and assess differential expression with a quality similar to unfixed tissue sources.

Wednesday November 4

2pm to 4pm

**Hatfield Research Center (HRC) Building, room HRC 14D03
Adjacent to the Main Hospital Building, OHSU Main Campus
Portland, OR**

Coffee Break - 245pm - 3pm: The Affymetrix Medical Genomics Research Program

Mark Daly, Affymetrix Inc.

The Medical Genomics Research Program, or MGRP, is a collaborative program that is designed to help researchers take signatures from the lab to the clinic. Affymetrix arrays have been cited in more than 20,000 publications to date. We are the first and only array company to have a fully FDA-approved scanner, and FDA-approved tests on the market. The MGRP program provides subsidies for clinically relevant array projects. In addition, we help our customers navigate the FDA process, and provide valuable commercialization opportunities with our PbA (Powered by Affymetrix) diagnostics partners.

Part II - 3pm - 345pm: DMET™: A Unique Panel of Genetic Markers for Drug Metabolism Studies

Anthony Green, Affymetrix Inc.

The Affymetrix DMET™ (Drug Metabolism Enzymes and Transporters) Plus assay is a unique panel of 1936 genetic markers in 225 metabolism genes. Standardize drug metabolism studies by testing for 1936 markers simultaneously, in one easy-to-use assay. We will provide recent case studies, including how the Marshfield Clinic used the panel to more accurately define warfarin dosing. The DMET™ Plus panel can be used to discover new biomarker associations, determine drug responders vs. non-responders, optimize drug dosing, selectively recruit for clinical trials, and much more.

Kindly RSVP to Michelle at garredm@ohsu.edu