

The NIH West Coast Metabolomics Center: Integration of Metabolomics Data with Genomics Integration

Frontiers in Biological Sciences Seminar Series

Presented by...

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The National Institutes of Health (NIH) Common Fund has created six U.S.-national metabolomics centers to increase the capacity for metabolomic research for NIH-funded investigators. At UC Davis, the West Coast Metabolomics Center integrates more than 30 mass spectrometers and 5 NMR instruments in eight laboratories, focusing on glycomics, complex lipids, eicosanoids, steroids and lipid mediators, imaging, primary metabolism, and identification of unknowns. In addition, integration with genomic data including pathway mapping and statistics is part of research advancements. The Center currently conducts 12 pilot projects, with additional projects to be decided for 2014. The Center also hosts metabolomic training workshops and has organized three symposia on cancer metabolism, microbial metabolism, and mouse metabolism in its first year.

Professor Fiehn will present advancements in methods, specifically in software and lipid metabolism, that enabled true high-throughput projects with >20,000 samples in >200 projects conducted in 2013. Example projects will be highlighted to show metabolomic data can help formulating hypotheses that are subsequently validated by genomic data. Three pharmacometabolomic studies will highlight how mass spectrometry-driven data provided a basis to search for single-nucleotide polymorphisms, or SNPs, in human cohort studies that differentiated between responders and non-responders to pharmaceutical treatments. It will further be demonstrated how quantitative proteomic data can be integrated with metabolomics data to derive novel targets on biochemical dysregulation in hormone-receptor negative breast cancers.

More info?

See

<http://fiehnlab.ucdavis.edu/>

<http://ffhi.ucdavis.edu/news/2012/september/west-coast-metabolomics-center-uc-davis>



Date: Monday,
March 10, 2014

Location: EMSL
Auditorium

Time: 10:00 a.m.