



# The NIH West Coast Metabolomics Center: Using Metabolomics to for precision medicine

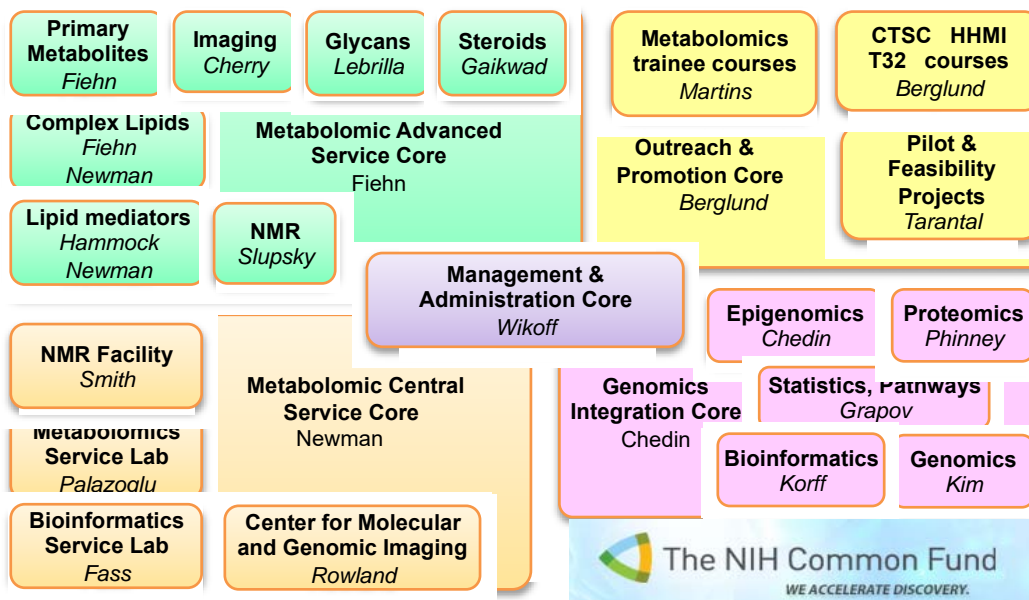
Prof. Oliver Fiehn

**NIH Pilot Grants:** \$100K direct,  
Feb 11, 2016 20 grants

**Other NIH grants:** collaborations welcome

**Pilot Grants:** \$50K in services,  
March 16, 2016 5-8 grants

**Training courses:**  
March 2016  
September 2016

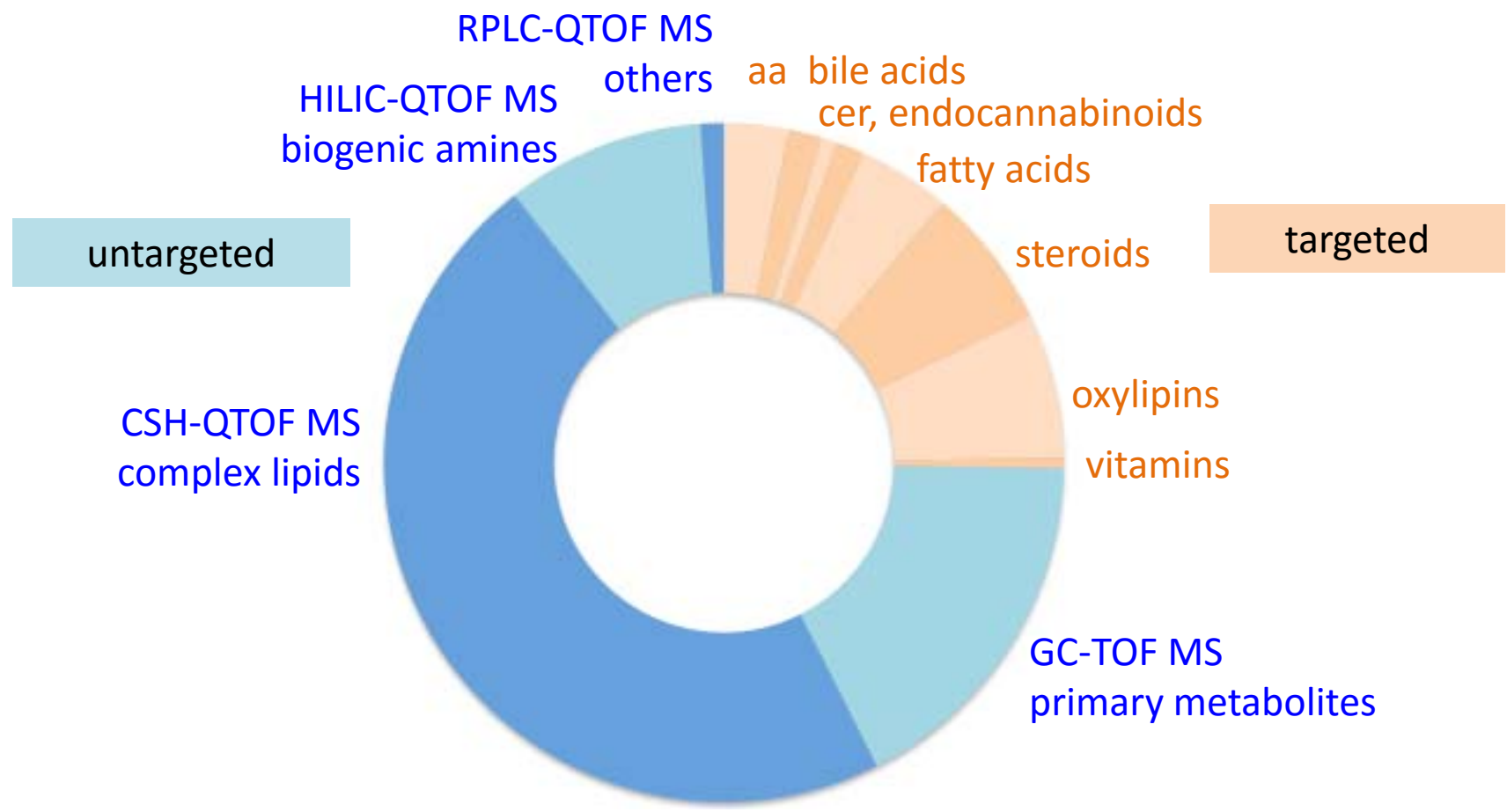


**Fee-for-service:** \$69 / assay per sample  
(\$45 for UC)



# Example: blood metabolome & exposome

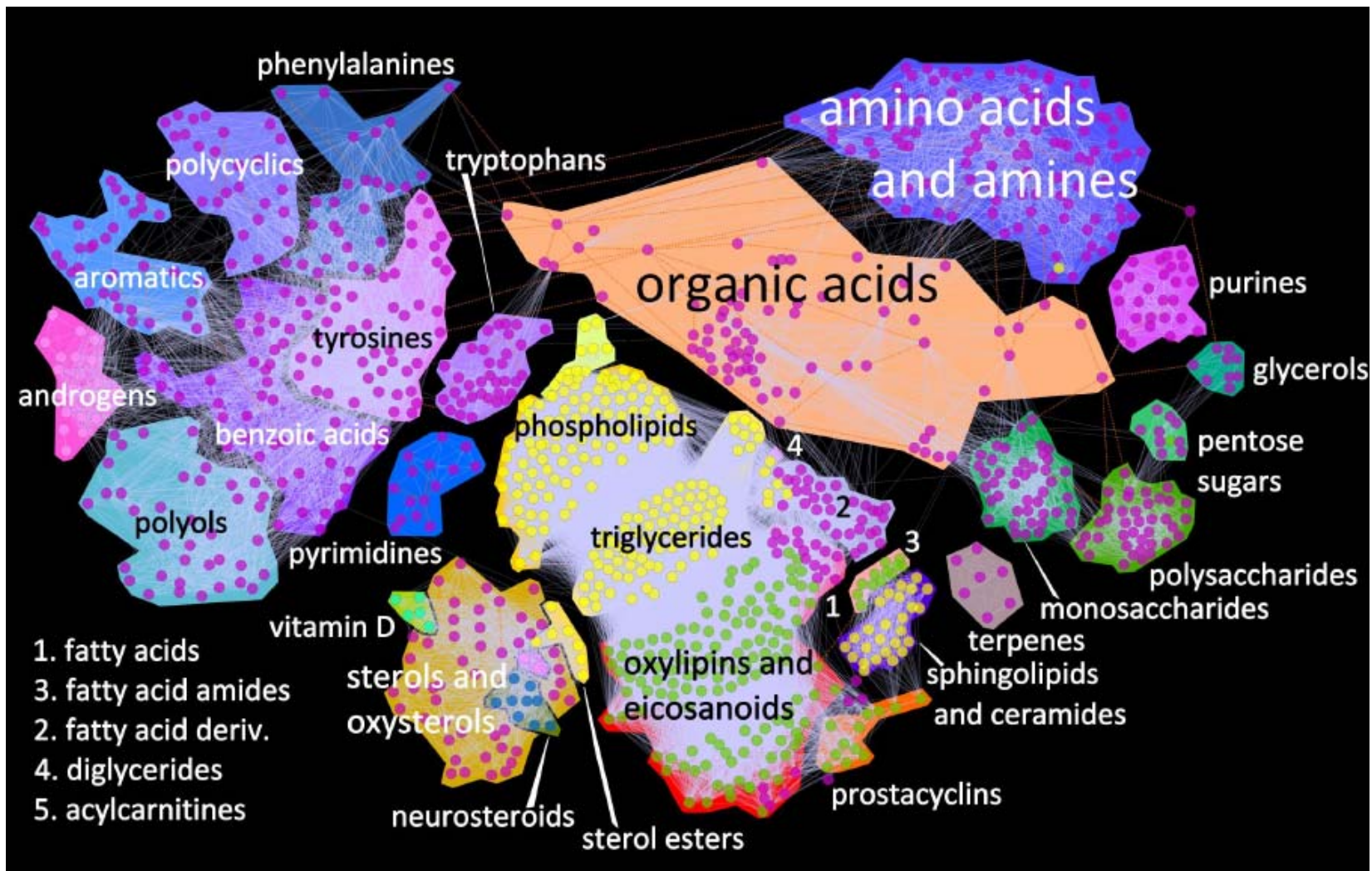
WCMC combined platforms : 816 unique identified compounds



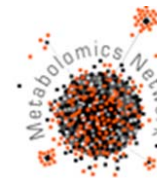
# Integrate metabolomic data across platforms?



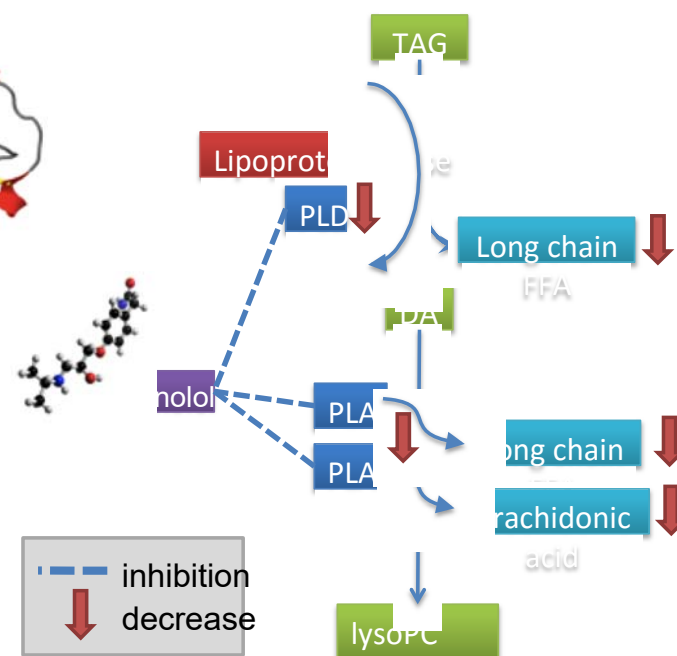
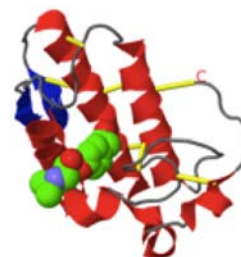
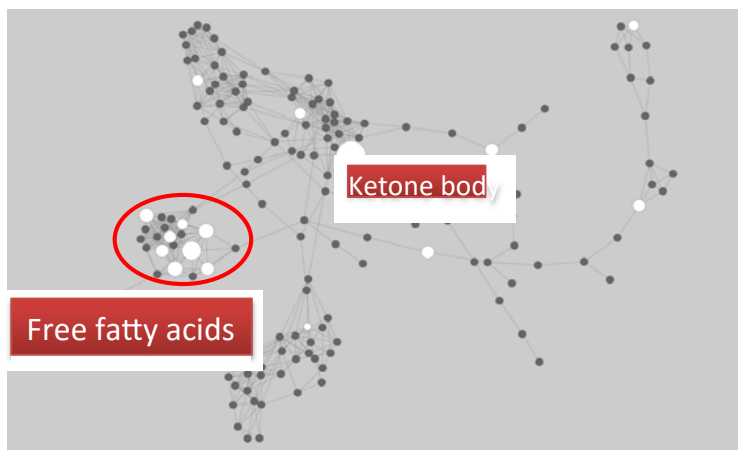
- 8 laboratories w/ 30 mass spectrometers, 1 corelab w/ 5 NMRs
- Data integration on the level of identified compounds
- More than 1,200 target compounds



# The NIH West Coast Metabolomics Center: Atenolol response in whites, but not in African-Americans



U Florida (Julie Johnson), Duke U (Rima Kaddurah Daouk), UC Davis (Fiehn) et al



gene	chromosome	SNP	p-value Caucasian	p-value African American
PLA2G2A	1	rs1796923	0.002	0.6
PLA2G5	1	rs11573185	0.003	1.0
PLA2G5	1	rs475753	0.004	0.4
PLA2G5	1	rs565503	0.004	0.5
PLA2G5	1	rs10916706	0.005	0.7
PLA2G5	1	rs656110	0.005	0.6
PLA2G5	1	rs528614	0.006	0.5
PLA2G5	1	rs622450	0.008	0.45
PLA2G5	1	rs1891318	0.008	0.5
PLD1	3	rs9290428	0.008	0.1
PLD1	3	rs2290480	0.004	0.4
PLD1	3	rs9869368	0.006	0.63