



Thursday, October 12th, 2017 – Leighton Auditorium, Siebens Building, Second Level, Rochester, Minnesota

7:45 am	Registration and Breakfast	
8:30-10:45 am	Session 1: Introduction and stable isotope applications. Chair: K. Sreekumaran Nair, MD, PhD, and Petras Dzeja, PhD	
8:30 am	Introduction and Welcome	K. Sreekumaran Nair, MD, PhD Meeting Chair and Principal Investigator Mayo Clinic Metabolomics Resource Core
8:40 am	A Preamble to Metabolomics	Ian R. Lanza, PhD Director, Mayo Clinic Metabolomics Core
9:00 am	Measurements of Gluconeogenesis and Glycogenolysis	Robert Rizza, MD Mayo Clinic
9:35 am	Regional Fatty Acid Kinetics	Michael Jensen, MD Mayo Clinic
10:10 am	Tracers to Track Krebs Cycle in Body Compartments	Wilson Gonsalves, MD Mayo Clinic
10:45 am	Break	
11:00 am-12:00 pm	Session 2: Microbiome. Chair: Ian Lanza, PhD	
11:00 am	Application of Metabolomics to Discover Metabolic Associations with Disease and the Gut Microbiome	Clary B. Clish, PhD Broad Institute
11:40 am	<i>Pilot and Feasibility Project Awardee</i> The Influence of Sugar, Artificial Sweeteners, and the Microbiome on Metabolism	Brian Hoffmann, PhD Medical College of Wisconsin
12:00 pm	Lunch	
1:00-3:00 pm	Session 3: Applications of metabolomics to human disease. Chair: Adrian Vella, MD	
1:00 pm	Improving Data Quality and Metabolome Coverage with Applications to Colon Cancer	Daniel Raftery, PhD University of Washington
1:40 pm	<i>Pilot and Feasibility Project Awardee</i> Metabolomic Regulation in Cancer Cachexia	Denis Guttridge, PhD The Ohio State University
2:00 pm	<i>Pilot and Feasibility Project Awardee</i> Estimating Circadian Phase in Humans: An Untargeted Urine Metabolomics Approach	Melissa St. Hilaire, PhD Harvard Medical School
2:20 pm	<i>Pilot and Feasibility Project Awardee</i> The Effect of Obesity and Exercise on Amino Acid Metabolites in Adolescents	Kevin Short, PhD University of Oklahoma
2:40 pm	<i>Pilot and Feasibility Project Awardee</i> Effect of Insulin on Lysine $\alpha$ -Aminoadipic Acid Metabolism – Stable Isotope-Based Approach with High Resolution Mass Spectrometry	Alice Chang, MD Mayo Clinic
3:00 pm	Break, sponsored by Cambridge Isotope Laboratories, Inc.	
3:15-5:00 pm	Session 4: Applications of metabolomics to human disease (cont.) Chair: Slobodan Macura, PhD	
3:15 pm	Sex-specific Metabolic and Epigenetic Changes in Fibroblasts from AD and MS Patients	Eugenia Trushina, PhD Mayo Clinic
3:45 pm	<i>Scholarship Recipient Presentation</i> Identifying Lipids as Regulators of Skeletal Muscle Rac1 Using Targeted Lipidomics	Harrison Stierwalt, MS Oregon State University

4:05 pm	<i>Scholarship Recipient Presentation</i> Precision Medicine Geographic Information Systems Display of Aneurysmal Subarachnoid Hemorrhage	Neeharika Thottempudi, MBBS Mayo Clinic
4:25 pm	Metabolomics Analyses Reveals Mitochondrial Abnormalities in Polycystic Kidney Disease	Maria Irazabal Mira, MD Mayo Clinic
5:00-6:30 pm	Poster Session/Conference Reception	Leighton Auditorium Foyer

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7:45 am	Breakfast	
8:30 am-12:00 pm	Session 5: Integration of metabolomics with other -omics technologies. Chair: Surendra Dasari, PhD	
8:30 am	Integration of Transcriptome, Proteome, Metabolome, and Functional Adaptation to Exercise	K. Sreekumaran Nair, MD, PhD Mayo Clinic
9:10 am	Transomic Analyses of Mitochondrial Function and Biogenesis	David J. Pagliarini, PhD University of Wisconsin, Madison
9:50 am	Break	
10:05 am	Identification of Unknown Metabolites	Ivan Vuckovic, PhD Mayo Clinic
10:45 am	Metabolomics Enhances Precision Diagnosis	Thomas Caskey, M.D. Baylor College of Medicine
12:00-1:00 pm	Keynote Luncheon Lecture, introduction by K. Sreekumaran Nair, MD, PhD	
12:00 pm	What's Next for Medical Metabolomics?	David Wishart, PhD University of Alberta, Canada
1:00 pm	Adjourn	

*The External Advisory Committee will meet in the Siebens Building, 4th floor 04-05A*

***Limited participant, focused workshop (must apply and be accepted to attend)***

**Friday, October 13, 1pm – 5pm Siebens Building, 4<sup>th</sup> floor, 04-10**

1:00 pm	Bioinformatics Applications for Metabolomics Data Analysis <ul style="list-style-type: none"> <li>▪ Untargeted metabolomics informatics workflow</li> <li>▪ Integrating gene and protein expression with metabolomics for improved metabolic pathway analysis</li> <li>▪ A user case of integrative analysis for better molecular phenotyping</li> </ul>	Surendra Dasari, PhD Mayo Clinic
3:00 pm	NMR-based metabolomics <ul style="list-style-type: none"> <li>▪ Introduction to metabolomics</li> <li>▪ Why NMR</li> <li>▪ Sample preparation</li> <li>▪ Data acquisition</li> <li>▪ NMR binning and profiling</li> <li>▪ Basic statistical analysis</li> </ul>	Ivan Vuckovic, PhD Mayo Clinic

*Thank you to our vendors who supported scholarships for researchers who are early in their careers to attend this symposium at no cost.*

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