169th OMICS Group Conference

Scientific Program

OMICS Group Conferences
Accelerating Scientific Discovery

3rd International Conference and Exhibition on
Metabolomics & Systems Biology

March 24-26, 2014 Hilton San Antonio Airport, San Antonio, USA



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OMICS Group Conferences
5716 Corsa Ave., Suite 110, Westlake Los Angeles, CA 91362-7354, USA
Phone: +1-650-268-9744, Fax: +1-650-618-1414, Toll free: +1-800-216-6499
Email: *metabolomics2014@omicsonline.us, metabolomics2014@omicsonline.net*

Day 1 March 24, 2014

08:00-09:00 Registrations

Texas E

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09:00-09:25 **Opening Ceremony**

Keynote Forum

09:25-09:30	**Introduction**
09:30-09:55	**Bernd Schneider** Max Planck Institute for Chemical Ecology, Germany
09:55-10:20	**Chris Beecher** IROA Technologies, USA
10:20-10:45	**Vladimir V. Tolstikov** Eli Lilly & Company, USA
10:45-11:10	**Stephen E. Reichenbach** University of Nebraska, USA

Coffee Break 11:10-11:20 @ Texas BC

Track 1: Novel Approaches to Cancer Therapeutics
Track 2(ii): LC-MS and GC-MS based metabolomics

Session Chair: **Stephen F. Previs**, Merck & Co., Inc., USA
Session Co-Chair: **Florence I. Raynaud**, ICR, UK

Session Introduction

11:20-11:40	**Kinetics and data normalization: Can we avoid being misled by "omic" investigations?** **Stephen F. Previs**, Merck & Co., Inc., USA
11:40-12:00	**Plasma metabolomic signature of novel signal transduction inhibitors: From preclinical identification to clinical validation** **Florence I. Raynaud**, The Institute of Cancer Research, UK
12:00-12:20	**Regulation of tumor metastasis by endogenous metabolite** **Sudhakar Akul Yakkanti**, Stanford Research Institute (SRI) International, USA
12:20-12:40	**EGFR signaling regulates lipid metabolism in glioblastoma** **Deliang Guo**, The Ohio State University, USA
12:40-13:00	**Mathematical model of β1-adrenergic signaling in mouse ventricular myocytes as an in silico tool for the cardiovascular drug test** **Vladimir E. Bondarenko**, Georgia State University, USA

Group Photo

Lunch Break 13:00-13:40 @ Texas BC

13:40-14:00	**Change in metabolomic profiles due to lung cancer progression in golden syrian hamsters: Preventative effect of curcumin** **Smiti V. Gupta**, Wayne State University, USA
14:00-14:20	**Clinical metabolomics: Case study CKD. cross-platform omics data integration in ingenuity systems** **Vladimir V. Tolstikov**, Eli Lilly & Company, USA
14:20-14:40	**Cancer metabolism meets systems biology: Understanding metabolic master regulators** **Fabian V. Filipp**, University of California Merced, USA
14:40-15:00	**Relative quantitation of diverse classes of lipids using a single step extraction protocol and targeted LC-MS/MS** **Hari Nair**, University of Washington Medical Center, USA
15:00-15:20	**'Omics' as a paradigm shift in investigating endometrial cancer risk among women with polycystic ovarian syndrome (PCOS)** **Mohamad Nasir Shafiee**, The University of Nottingham, UK

Coffee Break 15:20-15:30 @ Texas BC

15:30-15:50	**Identification of mitochondrial single stranded DNA binding protein (mtSSB) as a novel radioresistance-related protein** **Fuxiang Zhou**, Wuhan University, China
15:50-16:10	**Metabolic profiling in Aspergillus flavus to determine gene function** **Jose Diana Di Mavungu**, Ghent University, Belgium
16:10-16:30	**Bilirubin as a biological marker for metabolic, cardiovascular and oncological disorders; Analysis using GOBIOM database** **Pidugu Vijaya Rao**, GVK Biosciences Private Limited, India
16:30-18:30	**Workshop** **"Advancing metabolomics with high performance GCMS - practices and opportunities"** **By Jeffrey S Patrick**, LECO Corporation, USA
18:30-19:15	**Cocktails:** Sponsored by **Metabolomics: Open Access** @ Texas BC

Day 2 March 25, 2014

Texas E

Track 2(i): NMR and mass spectroscopy in metabolomics
Track 2(ii): LC-MS and GC-MS based metabolomics
Track 2(v): Shotgun proteomics

Session Chair: Stephen E. Reichenbach, University of Nebraska, USA
Session Co-Chair: Karen R. Jonscher, University of Colorado, USA

Session Introduction

09:00-09:20	**Application of metabolomics, lipidomics, and kinetic flux profiling to understand the metabolic role in microbial interactions** **Shawn R. Campagna,** University of Tennessee, USA
09:20-09:40	**Spaceflight alters liver metabolic function in mice** **Karen R. Jonscher,** University of Colorado, USA
09:40-10:00	**High performance gas chromatography mass spectrometry in addressing the challenges of metabolomic studies – separation in time and mass** **Jeffrey S Patrick,** LECO Corporation, USA
10:00-10:20	**Complimentary LC- and GC-Mass spectrometry techniques provide broader coverage of the metabolome** **Fadi A. Abdi,** AB SCIEX, USA
10:20-10:40	**Direct regulation of cupins by the metabolic network in C. elegans** **Shane L. Rea,** University of Texas Health Science Center at San Antonio, USA

Coffee Break 10:40-10:55 @ Texas BC

10:55-11:15	**NMR- and MS-based micrometabolic profiling of special plant cell types and tissue** **Bernd Schneider,** Max Planck Institute for Chemical Ecology, Germany
11:15-11:35	**Reverse metabolomics - Metabolomics in drug discovery: Connecting metabolomic profiles with phylogenetic, medicinal and flavoring properties** **Ludger A. Wessjohann,** Leibniz Institute of Plant Biochemistry, Germany
11:35-11:55	**Fast 2D NMR methods for quantitative metabolomics and fluxomics** **Patrick Giraudeau,** University of Nantes, France
11:55-12:15	**Isotope labeling-assisted metabolomics: Novel workflows for improved LC-HRMS based research** **Rainer Schuhmacher,** University of Natural Resources and Life Sciences, Austria
12:15-12:35	**Metabolomics reveals altered metabolic pathways to L-phenylalanine and its catabolic shift in Rubrivivax benzoatilyticus JA2** **Lakshmi Prasuna,** University of Hyderabad, India
12:35-12:55	**Data mining of urine H1-NMR data for metabolomics analysis of T2D diseases** **Halima Bensmail,** Qatar Computing Research Institute, Qatar

Lunch Break 12:55-13:55 @ Texas BC

ABSCIEX Luncheon Workshop Lunch Break 12:55-13:55 @ Texas BC

Track 4: Toxicology and Drug Metabolism
Track 5: Current Trends and Innovations in Metabolomics

Session Chair: Jun Han, University of Victoria-Genome BC Proteomics Centre, Canada
Session Co-Chair: Byung Hwa Jung, Korea Institute of Science and Technology (KIST), Republic of Korea

Session Introduction

13:55-14:15	**Application of metabolomics to investigate metabolic change in normal aging process** **Byung Hwa Jung,** Korea Institute of Science and Technology (KIST), Republic of Korea
14:15-14:35	**A UPLC/MRM-MS method for comprehensive metabolic profiling of >50 bile acids in human and mouse samples** **Jun Han,** University of Victoria-Genome BC Proteomics Centre, Canada
14:35-14:55	**Metabolic phenotyping: Applications in diagnosis, treatment prediction and system diagnostics** **Clarence Gillett,** BIOCRATES Life Sciences AG, Austria
14:55-15:15	**Metabolomics of inborn errors of metabolism: A strategy to inform on genetically predisposed allostasis** **Carolus Reinecke,** Manager of the National Metabolomics Platform, South Africa

Coffee Break 15:15-15:30 @ Texas BC

15:30-15:50	**Study on pharmacokinetics and drug-drug interactions of naringin** **Luodi Fan,** Sun Yat-sen University, China
15:50-16:10	**Personalizing drug treatment using pharmacometabonomic approach** **Baharudin Ibrahim,** Universiti Sains Malaysia, Malaysia
16:10-16:30	**Using neurotoxin proteolytic activity and mass spectrometry to determine botulinum neurotoxin A (BoNT/A) in pharmaceutical products** **Ray C T Hung,** Government Laboratory, China
16:30-18:30	**Workshops** **"Isotopic techniques in metabolomics"** **By Chris Beecher,** Chief Scientific Officer, IROA Technologies, USA **"Use of highly 13C enriched biological samples and pure tracer substances for LC-HRMS based metabolomics"** **By Rainer Schuhmacher,** University of Natural Resources and Life Sciences, Austria **"Stable isotope assisted metabolic profiling reveals chronic inflammation and oxidative stress as a consequence of a functional loss of the Parkinson's disease related gene DJ-1"** **By Johannes Meiser,** University of Luxembourg, UK
15:00-16:00	**Poster Presentations** @ Texas BC
18:40-19:25	**Cocktails:** Sponsored by **Journal of Computer Science & Systems Biology** @ Texas BC

Award Ceremony

Day 3 March 26, 2014

Texas E

Track 6: Computational Biology, Synthetic Biology and Systems Biology
Track 8: Metabolomics Syndrome
Track 10: Glycomics and Lipidomics

Session Chair: Chandra Richter, Senior Scientist E&J Gallo Winery, USA
Session Co-Chair: Peter Karp, SRI International, USA

Session Introduction

09:00-09:20	**Turning up the heat on enzyme design** **Corey J. Wilson,** Yale University, USA
09:20-09:40	**Integration of omics into metabolic flux distribution by complementary elementary mode analysis for large-scale metabolic networks** **Md Bahadur Badsha,** Kyushu Institute of Technology, Japan
09:40-10:00	**Impact of error on high content data** **Harry Harlow,** POET, LLC, USA
10:00-10:20	**Conversion of CO2 and xylose to ethylene and organic acids using cyanobacteria** **Jianping Yu,** National Renewable Energy Laboratory, USA

Coffee Break 10:20-10:35 @ Texas BC

10:35-10:55	**Analyzing metabolomics data with smart tables** **Peter Karp,** SRI International, USA
10:55-11:15	**Biomarker discovery in functional genomics using metabolomics** **Preeti Bais,** The Jackson Laboratory, USA
11:15-11:35	**2-aminoadipic acid is a novel biomarker of diabetes risk and modulates glucose homeostasis** **Nikolaos Psychogios,** Shire, Lexington, USA
11:35-11:55	**Untargeted metabolomics identifies numerous solutes that accumulate when the kidneys fail** **Pavel A Aronov,** Thermo Scientific, USA
11:55-12:15	**A metabolomic perspective on S. cerevisiae in chardonnay wine fermentation** **Chandra Richter,** Senior Scientist E&J Gallo Winery, USA
12:15-12:35	**The biological response of human skin tissue to low dose ionizing radiation - from a metabolomic perspective** **Zeping Hu,** University of Texas, USA
12:35-12:55	**Phospholipid profile of amniotic fluid: A potential tool for the evaluation of physiological and pathological development of fetal lung** **Maria Chiara Mimmi,** University of Udine, Italy
12:55-13:15	**Antioxidant and anti-epileptic activity ofAcalyphaindica leaf extracts** **Anupalli Roja Rani,** Osmania university, India
13:15-13:35	**Metabolic profile of murine melanoma studied by nuclear magnetic resonance** **Said Rahnamaye Rabbani,** Physics Institute of Sao Paulo University, Brazil

Lunch Break 13:35-14:10 @ Texas BC

14:10-14:30	**The protective efficiency of vitamin C against arsenic induced biochemical hazards in rats** **M. G. Shalan,** Al-Ghad International Colleges of Health Sciences, KSA
14:30-14:50	**Effect of monosaccharide rich diets on blood lipid profile of rats** **Manal Salah Abbas El Gendy,** Taibah University, KSA
14:50-15:10	**Effect of quinine therapy on plasma glucose and plasma insulin levels in pregnant women infected with Plasmodium falciparum malaria in Gezira state** **NourEldaim Elnoman Elbadawi,** University of Kassala, Sudan
15:10-15:30	**Dual action antidiabetic compounds obtained from Rhododendron arboreum** **Rabia Raza,** Bahauddin Zakariya University, Pakistan

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4th International Conference and Exhibition on
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OMICS Group Inc.
2360 Corporate Circle, Suite 400
Henderson, NV 89074-7722, USA
Ph: +1-888-843-8169
Fax: +1-650-618-1417
omicsonline@omicsonline.com

OMICS Publishing Group
5716 Corsa Ave., Suite 110, Westlake
Los Angeles, CA 91362-7354, USA
Ph: +1-650-268-9744
Fax: +1-650-618-1414
omicsonline@omicsonline.org

OMICS Group
SEZ Unit, Building No. 20, 9th Floor
APIIC Layout, HITEC City
Hyderabad-500081, AP, INDIA
Ph: 040-40131823, 040-47482222
omicsgroup@omicsgroup.org

Toll free
USA & Canada: 1-800-216-6499
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