

94<sup>th</sup> OMICS Group Conference

# Scientific Program

2<sup>nd</sup> International Conference and Exhibition on



# Metabolomics & Systems Biology

April 08-10, 2013 Hilton Chicago/Northbrook, USA



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### OMICS Group Conferences

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## Keynote Forum

09:25-09:30 Introduction

09:30-09:55 **John Ryals**  
Metabolon Inc., USA

09:55-10:20 **Chris Beecher**  
NextGen Metabolomics, USA

Coffee Break 10:20-10:35

10:35-11:00 **Mukesh Verma**  
National Institutes of Health, USA

11:00-11:25 **Paul L Wood**  
Lincoln Memorial University, USA

## Group Photo

Track 1: Novel Approaches to Cancer Therapeutics

Track 2(ii): LC-MS and GC-MS based Metabolomics

Track 2(iii): HPLC and CE based Metabolomics

Chair: Georg F Weber, University of Cincinnati, USA

Co-Chair: Wei Jia, University of North Carolina - Greensboro, USA

## Session Introduction

- 11:30-11:50 **Cancer therapeutics**  
John Ryals, Metabolon Inc., USA
- 11:50-12:10 **Metabonomics of deadherent cancer cells**  
Georg F Weber, University of Cincinnati, USA
- 12:10-12:30 **Metabolome wide association studies (MWAS) in cancer epidemiology**  
Mukesh Verma, National Institutes of Health, USA
- 12:30-12:50 **Targeted metabolomics facilitates discovery of novel biomarkers of early stages of diabetes type 2 and its complications: Contributions to individualized medicine**  
Jerzy Adamski, Helmholtz Zentrum Munchen, Germany

## Lunch Break 12:50-13:35

- 13:35-13:55 **Metabolic profiling of human colorectal cancer: A top-down approach to translational cancer research**  
Wei Jia, University of North Carolina - Greensboro, USA
- 13:55-14:15 **The Metabolic and growth profile of glioma cells presenting with functional and non-functional p53**  
Aurelia Williams, University of California, USA
- 14:15-14:35 **Serum acylcarnitines as potential biomarkers of acetaminophen toxicity in the pediatric population**  
Sudeepa Bhattacharyya, University of Arkansas for Medical Sciences, USA
- 14:35-14:55 **Therapeutic potential of T-Oligo and its mechanism of action**  
Neelu Puri, University of Illinois at Urbana, USA
- 14:55-15:15 **Considerations in the selection of stable isotope labeled internal standards: Limitations of deuterated standards**  
Scott W Landvatter, IsoSciences, LLC, USA
- 15:15-15:35 **Recognition of aromatic compounds by bacterial ABC transporters and catabolic operon transcription regulator**  
A Joachimiak, Argonne National Laboratory, USA

## Coffee Break 15:35-15:50

- 15:50-16:10 **Inhaled methoxyflurane "Penthrox<sup>®</sup>" sedation for third molar extraction: A comparison to nitrous oxide sedation**  
Saad A Sheta, King Saud University, Saudi Arabia

- 16:10-16:30 **Non-target and target analysis of metabolites using Scan/MRM of GCMS/MS**  
Shuichi Kawana, Shimadzu Cooperation, Japan
- 16:30-16:50 **Roles of estrogen receptor alpha and its isoform 36 in the proliferation and autophagy of thyroid cancer cells**  
George G Chen, The Chinese University of Hong Kong, Hong Kong
- 16:50-17:10 **Association of aberrant expressions of ATM, H2AX and p53 proteins with the prognosis and development of gallbladder cancer: A cohort study**  
Suresh Kumar, Rajiv Gandhi Proudhyogiki Vishwavidyalaya, India
- 17:10-17:30 **Examining the relationship between religious attitudes with happiness and quality of life among cancer patients**  
Niloofar Ansari, Islamic Azad University, Iran
- 17:30-17:50 **Serum metabolomics analysis for early detection of colorectal cancer**  
Masaru Yoshida, Kobe University Graduate School of Medicine, Japan

#### Almond

**Track 2(i): NMR and Mass Spectroscopy in Metabolomics**

**Track 3: Advanced Research in Transcriptomics and Metabolomics**

**Chair: Seongkyu Yoon, University of Massachusetts Lowell, USA**

**Co-Chair: Richard D Beger, US Food and Drug Administration, USA**

#### Session Introduction

- 11:30-11:50 **Metabolomics and transcriptomics evaluation of preclinical biomarkers of hepatotoxicity: An update**  
Richard D Beger, US Food and Drug Administration, USA
- 11:50-12:10 **Gene transcription and metabolic effects of trace elements on productivity and product quality of mammalian cho cells**  
Seongkyu Yoon, University of Massachusetts Lowell, USA
- 12:10-12:30 **Insights into the kinetics of oxidative proline metabolism**  
Donald Becker, University of Nebraska-Lincoln, USA
- 12:30-12:50 **In vivo versus in vitro metabolomics profiling of vaginal lactobacilli for probiotic use**  
D E O' Hanlon, Johns Hopkins University, USA

#### Lunch Break 12:50-13:35

- 13:35-13:55 **Understanding carboxylic acid toxicity through omics analysis**  
Liam A Royce, Iowa State University, USA
- 13:55-14:15 **Timing genetic variation**  
Viktor Stolc, NASA Ames Research Center, USA
- 14:15-14:35 **The quest for candidate genes affecting the hypothalamic pituitary adrenal (HPA) axis: A linkage study in an F2 cross of mice bred for trait anxiety**  
Ludwig Czibere, Max Planck Institute of Psychiatry, Germany
- 14:35-14:55 **The advantages of mass accuracy and resolution in lipidomics and metabolomics-case studies using ultra-high resolution time of flight mass spectrometry with direct analysis and interfaced to separation techniques**  
Jeffrey S Patrick, LECO Corporation, USA
- 14:55-15:15 **Quantitative analysis of HIV/AIDS serum metabolites using 1H HRMASNMR spectroscopy**  
Tracy R McKnight, University of California, USA
- 15:15-15:35 **NMR-based metabolomics in food science**  
Massimiliano Valentini, Agricultural Research Council - Magnetic Resonance Laboratory, Italy

#### Coffee Break 15:35-15:50

- 15:50-16:10 **Comprehensive metabolic profiling validates the importance of synergy in Escherichia coli 1-propanol production**  
Sastia Prama Putri, Osaka University, Japan
- 16:10-16:30 **Systems medicine and metabolic profiling of diseases**  
Natal A W Van Riel, Eindhoven University of Technology, Netherlands
- 16:30-16:50 **Maternal-fetal transport and disposition of some essential trace elements in diabetic pregnancies**  
Moorkath Nandakumaran, University of Kuwait, Kuwait
- 16:50-17:10 **The use of metabolomics with human pluripotent stem cells (hPSCs) to predict developmental toxicity**  
Paul R. West, Stemina Biomarker Discovery, USA
- 17:10-17:30 **Effect of Plasmodium falciparum infection on serum metabolome: 1HNMR studies**  
Arjun Sengupta, Tata Institute of Fundamental Research, India
- 17:30-17:50 **1HNMR based metabonomics reveals distinct metabolic fingerprints in cerebral and non cerebral malaria**  
Soumita Ghosh, Tata Institute of Fundamental Research, India

**18:00-19:00 Cocktails Sponsored by Metabolomics: Open Access**

**@ Almond**

## Keynote Forum

**09:00-09:25 Christoph H Borchers**  
University of Victoria, Canada

**09:25-09:50 Jeffrey S Patrick**  
LECO Corporation, USA

09:50-10:50



## NASA Omics Workshop

Coffee Break 10:50-11:05

## Track 4: Current Trends and Innovations in Metabolomics

Chair: Chris Beecher, NextGen Metabolomics, USA

## Session Introduction

- 11:05-11:25 Finding the REAL differences among biochemical and chemical noise in Metabolomics profiling experiments**  
Yingying Huang, Thermo Fisher Scientific, USA
- 11:25-11:45 Using genomics and metabolism to discover novel genes regulating development of liver fibrosis**  
Colleen M Croniger, Case Western Reserve University School of Medicine, USA
- 11:45-12:05 H-NMR-based Metabolomic Profiling on Serum Biochemical Profiles after Chronic Morphine Dependence in Rats**  
Qian Bu, Sichuan University, China
- 12:05-12:25 The precise measurement of biological response in metabolomics using the IROA protocol: Yeast toxicity profiles**  
Chris Beecher, NextGen Metabolomics, USA
- 12:25-12:45 Understanding Alzheimer's disease mechanism using metabolomics**  
Eugenia Trushina, Mayo Clinic, USA
- 12:45-13:05 Proteomic profiling utilizing antibody, antigen and high-density peptide microarrays**  
Peter Nilsson, KTH Royal Institute of Technology, Sweden

Lunch Break 13:05-13:50

## 13:50-14:50 Poster Presentations

@ Birch

- 14:50-15:10 Personalized medicine: New perspectives in cancer treatments**  
Meral Guzey, University of Maryland University College, Germany
- 15:10-15:30 Encapsulated nanocurcumin: Effective strategy against lead induced oxidative stress in Swiss Albino mice to enhance the bioavailability**  
Archana Tiwari, Rajiv Gandhi Proudlyogiki Vishwavidyalaya, India
- 15:30-15:50 Quality evaluation of biocomposts prepared utilizing water hyacinth: An aquatic weed as substrate**  
Richa Gupta, Rajiv Gandhi Proudlyogiki Vishwavidyalaya, India

Coffee Break 15:50-16:05

## Track 8: Glycomics and Lipidomics

Chair: Xue-Long Sun, Cleveland State University, USA

## Session Introduction

- 16:05-16:25 Biomimetic glycan microarray for bioanalytical and biomedical applications**  
Xue-Long Sun, Cleveland State University, USA
- 16:25-16:45 Targeted and untargeted lipidomics reveal unique lipid profile in "omega-3" transgenic mice**  
Giorgis Isaac, Waters Corporation, USA
- 16:45-17:05 The damaging effects of short chain fatty acids on Escherichia coli membranes**  
Liam Royce, Iowa State University, USA
- 17:05-17:25 Lipidomic analysis using high resolution time of flight mass spectrometry - look no column needed**  
Jeffrey S Patrick, LECO Corporation, USA

17:25-17:45 **Blood levels of carnitine and acylcarnitine in patients with acute myocardial infarction**  
Abdullah Saleh Alhomida, King Saud University, Saudi Arabia

18:00-19:00 Cocktails Sponsored by **Journal of Computer Science & Systems Biology**

@ Almond

**Day 3 April 10, 2013**

**Oak**

**Track 5: Omics Trilogy and Medicine**

**Track 6: Systems Biology in Medicine**

**Chair: Manfred Spraul, BrukerBioSpin, Germany**

**Co-Chair: Irwin J Kurland, Albert Einstein College of Medicine, USA**

**Session Introduction**

09:00-09:20 **NMR based metabolomics in clinical and epidemiology screening**  
Manfred Spraul, BrukerBioSpin, Germany

09:20-09:40 **Metabolic studies of lead toxicity and tolerance in green microalgae**  
Sam F Y Li, National University of Singapore, Singapore

09:40-10:00 **Systems biology approach to study host response to *Y. pestis***  
Aarti Gautam, US Army Center for Environmental Health Research, USA

10:00-10:20 **PTMScan direct: Quantitative profiling of critical signaling pathways using immunoaffinity purification and LC-MS/MS**  
Matthew P Stokes, Cell Signaling Technology Inc., USA

**Coffee Break 10:20-10:35**

10:35-10:55 **Metabolomics of the extracellular matrix as diagnostic markers of disease**  
John M Whitelock, University of New South Wales, Australia

10:55-11:15 **Integrated systems analysis of genomic and proteomic data to identify oncogenic mutations**  
Suresh Mathivanan, La Trobe University, Australia

11:15-11:35 **Systemic analysis of human lung metabolites in pulmonary arterial hypertension**  
Yidan Zhao, University of Toronto, Canada

11:35-11:55 **Use of cross-omics to identify metabolic control points for therapeutic intervention in diabetes**  
Irwin J Kurland, Albert Einstein College of Medicine, USA

11:55-12:15 **Metabolomics reveals distinctive local and systemic metabolic alterations in experimental asthma**  
Wanxing Eugene Ho, National University Health System, Singapore

12:15-12:35 **Comparing optimal central carbon metabolic pathway of *S. cerevisiae* with and without feedback inhibition through a constraint based modeling approach**  
Rajat K De, Machine Intelligence Unit, India

**Lunch Break 12:35-13:20**

**Track 7: Recent Approaches in Proteomics and Genomics**

**Track 9: Synthetic Biological Systems**

**Track 10: Metabolic Networks**

**Track 11: Mechanistic Model in Systems Biology**

**Chair: Christoph H Borchers, University of Victoria, Canada**

**Co-Chair: Zuyi (Jacky) Huang, Villanova University, USA**

**Session Introduction**

13:20-13:40 **Targeted metabolite analysis of central carbon metabolism by LC-MS**  
Christoph H Borchers, University of Victoria, Canada

13:40-14:00 **Combination of mitochondrial DNA content and G10398A polymorphism defines a group of distinct molecular subset indicative for non-small cell lung cancer with different prognosis**  
Zhou Fuxiang, Zhongnan Hospital of Wuhan University, China

14:00-14:20 **Dissecting the extreme radiation resistance of *Deinococcus radiodurans* at proteome level**  
Shree Kumar Apte, Bhabha Atomic Research Centre, India

14:20-14:40 **Metabolomics applications of the metacyc family of metabolic databases**  
Peter D Karp, SRI International, USA

14:40-15:00 **A systems biology approach to investigate environmental influence on *Pseudomonas aeruginosa* biofilm formation**  
Zuyi (Jacky) Huang, Villanova University, USA

15:00-15:20 **Investigating altered liver metabolic function following spaceflight**  
Karen R Jonscher, University of Colorado Anschutz Medical Campus, USA

15:20-15:40 **Systems biology: A new approach to industrial yeast strain development**  
Cristian Varela, The Australian Wine Research Institute, Australia

**Award Ceremony**



# OMICS Group Upcoming Conferences

## Pharmaceutical/Chemistry

- 4<sup>th</sup> World Congress on  
**Bioavailability & Bioequivalence: Pharmaceutical R & D Summit**  
May 20-22, 2013 DoubleTree by Hilton Beijing, China
- 2<sup>nd</sup> International Conference and Exhibition on  
**Bioaivers & Biosimilars**  
September 23-25, 2013 Hilton Raleigh-Durham Airport at RTP, NC, USA
- International Conference and Exhibition on  
**Biochemical & Molecular Engineering**  
October 07-09, 2013 Hilton San Antonio Airport, TX, USA
- 2<sup>nd</sup> International Conference on  
**Medicinal Chemistry & Computer Aided Drug Designing**  
October 15-17, 2013 Hampton Inn Tropicana, Las Vegas, NV, USA
- 4<sup>th</sup> International Conference and Exhibition on  
**Analytical & Bioanalytical Techniques**  
October 15-17, 2013 Hampton Inn Tropicana, Las Vegas, NV, USA
- 3<sup>rd</sup> International Conference on  
**Pharmaceutical Regulatory Affairs**  
October 21-23, 2013 DoubleTree by Hilton Hotel San Francisco Airport, CA, USA
- 2<sup>nd</sup> International Summit on  
**GMP, QA & QC**  
November 12-14, 2013 DoubleTree by Hilton Hotel Chicago-North Shore, IL, USA
- 2<sup>nd</sup> International Summit on  
**GLP, GCP & Clinical Research**  
November 12-14, 2013 DoubleTree by Hilton Hotel Chicago-North Shore, IL, USA
- 2<sup>nd</sup> Annual  
**Pharmacovigilance & Clinical Trials Conference**  
November 18-19, 2013 Hilton San Antonio Airport, TX, USA
- International Summit on  
**Clinical Pharmacy & Dispensing**  
November 18-20, 2013 Hilton San Antonio Airport, TX, USA
- World Congress on  
**Petrochemistry and Chemical Engineering**  
November 18-20, 2013 Hilton San Antonio Airport, TX, USA
- International Conference & Exhibition on  
**Pharmacognosy & Phytochemistry**  
October 21-23, 2013 Hyderabad, India

## Medical Sciences

- 2<sup>nd</sup> International Conference on  
**Gastroenterology & Urology**  
June 10-12, 2013 Hilton Chicago, Northbrook, IL, USA
- 2<sup>nd</sup> International Conference and Exhibition on  
**Neurology & Therapeutics**  
June 17-19, 2013 Hilton Chicago, Northbrook, IL, USA
- 2<sup>nd</sup> International Conference and Exhibition on  
**Addiction Research & Therapy**  
July 22-24, 2013 Embassy Suites Las Vegas, NV, USA
- 2<sup>nd</sup> International Conference and Exhibition on  
**Nephrology & Therapeutics**  
July 29-31, 2013 Embassy Suites Las Vegas, NV, USA
- 2<sup>nd</sup> International Conference on  
**Translational Medicine**  
August 05-07, 2013 Holiday Inn Chicago-Northshore, IL, USA
- International Conference on  
**Predictive, Preventive, Personalized Medicine & Molecular Diagnostics**  
August 05-07, 2013 Holiday Inn Chicago-Northshore, IL, USA
- 4<sup>th</sup> World Congress on  
**Diabetes & Metabolism**  
August 14-16, 2013 Holiday Inn Chicago-Northshore, IL, USA
- 2<sup>nd</sup> International Conference and Exhibition on  
**Orthopedics & Rheumatology**  
August 19-21, 2013 Embassy Suites Las Vegas, NV, USA
- World Congress on  
**Endocrinology**  
August 26-28, 2013 DoubleTree by Hilton, Raleigh, NC, USA
- 2<sup>nd</sup> International Conference on  
**Tissue Science & Regenerative Medicine**  
August 26-28, 2013 DoubleTree by Hilton, Raleigh, NC, USA
- 2<sup>nd</sup> International Conference on  
**Surgery & Anesthesia**  
September 16-18, 2013 Hampton Inn Tropicana, Las Vegas, NV, USA

- International Conference on  
**Hematology & Blood Disorders**  
September 23-25, 2013 Hilton Raleigh-Durham Airport at RTP, NC, USA
- International Conference on  
**Psychology, Autism and Alzheimer's Disease**  
September 30-October 01, 2013 Hilton San Antonio Airport, TX, USA
- 2<sup>nd</sup> International Summit on  
**Toxicology**  
October 07-09, 2013 Hampton Inn Tropicana, Las Vegas, NV, USA
- 3<sup>rd</sup> World Congress on  
**Cancer Science & Therapy**  
October 21-23, 2013 DoubleTree by Hilton Hotel San Francisco Airport, CA, USA
- 2<sup>nd</sup> International Conference & Exhibition on  
**Cell & Gene Therapy**  
October 23-25, 2013 Holiday Inn Orlando International Airport, Orlando, FL, USA
- International Conference on  
**HIV/AIDS, STDs & STIs**  
October 24-25, 2013 Holiday Inn Orlando International Airport, Orlando, FL, USA
- 2<sup>nd</sup> International Conference and Exhibition on  
**Cosmetology & Trichology**  
November 12-14, 2013 DoubleTree by Hilton Hotel Chicago-North Shore, IL, USA
- 3<sup>rd</sup> World Congress on  
**Virology**  
November 20-22, 2013 DoubleTree by Hilton Baltimore-BWI Airport, MD, USA
- 3<sup>rd</sup> International Conference on  
**Cell Science & Stem Cell Research**  
November 20-22, 2013 DoubleTree by Hilton Baltimore-BWI Airport, MD, USA
- 2<sup>nd</sup> International Conference and Exhibition on  
**Obesity & Weight Management**  
December 02-04, 2013 Hampton Inn Tropicana, Las Vegas, NV, USA
- International Conference on  
**Traditional & Alternative Medicine**  
December 09-11, 2013 Hyderabad, India
- International Conference on  
**Recent Advances in Cancer Diagnosis & Therapy**  
February 03-05, 2014 HICC Novotel, Hyderabad, India

## Clinical

- 3<sup>rd</sup> International Conference on  
**Clinical & Experimental Dermatology**  
April 15-17, 2013 Hilton Chicago, Northbrook, IL, USA
- 3<sup>rd</sup> International Conference on  
**Clinical & Experimental Cardiology**  
April 15-17, 2013 Hilton Chicago, Northbrook, IL, USA
- 3<sup>rd</sup> International Conference on  
**Clinical & Experimental Ophthalmology**  
April 15-17, 2013 Hilton Chicago, Northbrook, IL, USA
- 2<sup>nd</sup> International Conference and Exhibition on  
**Nutritional Science & Therapy**  
July 15-17, 2013 Courtyard Marriott Philadelphia Down Town, PA, USA
- 4<sup>th</sup> International Conference on  
**Biomarkers & Clinical Research**  
July 15-17, 2013 Courtyard Marriott Philadelphia Down Town, PA, USA
- 3<sup>rd</sup> International Conference on  
**Vaccines & Vaccination**  
July 29-31, 2013 Embassy Suites Las Vegas, NV, USA
- International Conference on  
**Dental & Oral Health Care Conference**  
August 19-21, 2013 Embassy Suites Las Vegas, NV, USA
- International Conference and Exhibition on  
**Physical Medicine & Rehabilitation**  
August 19-21, 2013 Embassy Suites Las Vegas, NV, USA
- 2<sup>nd</sup> International Conference on  
**Clinical Microbiology & Microbial Genomics**  
September 16-18, 2013 Hampton Inn Tropicana, Las Vegas, NV, USA
- 2<sup>nd</sup> International Conference on  
**Clinical & Cellular Immunology**  
October 15-17, 2013 Hampton Inn Tropicana, Las Vegas, NV, USA
- International Conference on  
**Nursing & Emergency Medicine**  
December 02-04, 2013 Hampton Inn Tropicana, Las Vegas, NV, USA

## Engineering & Applied Sciences

- 2<sup>nd</sup> International Conference and Exhibition on  
**Biometrics & Biostatistics**  
June 10-12, 2013 Hilton Chicago, Northbrook, IL, USA
- 2<sup>nd</sup> International Conference and Exhibition on  
**Biosensors & Bioelectronics**  
June 17-19, 2013 Hilton Chicago, Northbrook, IL, USA
- International Conference and Exhibition on  
**Robotics & Mechatronics**  
August 12-14, 2013 DoubleTree by Hilton, Raleigh, NC, USA
- International Conference and Expo on  
**Astronomy & Cosmology**  
August 14-16, 2013 Holiday Inn Chicago-Northshore, IL, USA
- International Conference on  
**Radiology & Imaging**  
August 14-16, 2013 Holiday Inn Chicago-Northshore, IL, USA
- International Conference and Exhibition on  
**Solar Energy & Power Generation Technologies**  
September 27-28, 2013 Hyderabad, India
- International Conference on  
**Computer Science & Advanced Information Technology**  
September 27-28, 2013 Hyderabad, India
- International Conference and Exhibition on  
**Mechanical & Aerospace Engineering**  
September 30-October 02, 2013 Hilton San Antonio Airport, TX, USA
- International Conference and Exhibition on  
**Lasers, Optics & Photonics**  
October 07-09, 2013 Hilton San Antonio Airport, TX, USA
- 2<sup>nd</sup> International Conference on  
**Material Sciences & Engineering**  
October 07-09, 2013 Hampton Inn Tropicana, Las Vegas, NV, USA
- 2<sup>nd</sup> International Conference on  
**Forensic Research & Technology**  
October 07-09, 2013 Hampton Inn Tropicana, Las Vegas, NV, USA
- 3<sup>rd</sup> International Conference on  
**Nanotek & Expo**  
December 02-04, 2013 Hampton Inn Tropicana, Las Vegas, NV, USA

## Omics

- 3<sup>rd</sup> International Conference on  
**Proteomics & Bioinformatics**  
July 15-17, 2013 Courtyard Marriott Philadelphia Down Town, PA, USA
- International Conference on  
**Omics Studies**  
September 04-06, 2013 Holiday Inn, Orlando FL, USA
- International Conference on  
**Functional and Comparative Genomics & Pharmacogenomics**  
November 12-14, 2013 DoubleTree by Hilton Hotel Chicago-North Shore, IL, USA

## Life Sciences & Environmental

- 2<sup>nd</sup> International Conference and Exhibition on  
**Occupational Health & Safety**  
May 21-22, 2013 DoubleTree by Hilton Beijing, China
- 2<sup>nd</sup> International Conference on  
**Earth Science & Climate Change**  
July 22-24, 2013 Embassy Suites Las Vegas, NV, USA
- International Conference on  
**Animal & Dairy Sciences**  
July 23-24, 2013 Embassy Suites Las Vegas, NV, USA
- 2<sup>nd</sup> International Conference and Exhibition on  
**Pathology**  
August 05-07, 2013 Embassy Suites Las Vegas, NV, USA
- International Conference on  
**Integrative Biology Summit**  
August 05-07, 2013 Embassy Suites Las Vegas, NV, USA
- 2<sup>nd</sup> International Conference on  
**Biodiversity & Sustainable Energy Development**  
August 12-14, 2013 DoubleTree by Hilton, Raleigh, NC, USA
- International Conference on  
**Genetic Engineering & Genetically Modified Organisms**  
August 12-14, 2013 DoubleTree by Hilton, Raleigh, NC, USA
- International Conference on  
**Molecular Epidemiology & Evolutionary Genetics**  
August 21-23, 2013 Holiday Inn Orlando International Airport, Orlando, FL, USA
- International Conference on  
**Oceanography**  
August 21-23, 2013 Holiday Inn Orlando International Airport, Orlando, FL, USA
- 2<sup>nd</sup> International Conference on  
**Biodefense & Natural Disasters**  
August 21-23, 2013 Holiday Inn Orlando International Airport, Orlando, FL, USA
- 2<sup>nd</sup> International Conference on  
**Hydrology & Groundwater Expo**  
August 26-27, 2013 DoubleTree by Hilton, Raleigh, NC, USA
- International Symposia on  
**Entomology**  
September 04-06, 2013 Holiday Inn Orlando International Airport, Orlando, FL, USA
- 4<sup>th</sup> World Congress on  
**Biotechnology**  
September 23-25, 2013 Hilton Raleigh-Durham Airport at RTP, NC, USA
- 2<sup>nd</sup> International Conference and Exhibition on  
**Probiotics & Functional Foods**  
October 23-25, 2013 Holiday Inn Orlando International Airport, Orlando, FL, USA
- 2<sup>nd</sup> International Conference and Exhibition on  
**Food Processing & Technology**  
October 28-30, 2013 Kansas City Marriott Country Club Plaza, MO, USA
- International Conference on  
**Fermentation Technology, Bioprocess & Cell Culture**  
October 28-30, 2013 Kansas City Marriott Country Club Plaza, MO, USA
- International Congress on  
**Bacteriology & Infectious Diseases**  
November 20-22, 2013 DoubleTree by Hilton Baltimore-BWI Airport, MD, USA
- 2<sup>nd</sup> International Conference on  
**Agricultural & Horticultural Sciences**  
October 21-23, 2013 Hyderabad, India

Bookmark your dates



# 3<sup>rd</sup> International Conference and Exhibition on **Metabolomics & Systems Biology**

March 03-05, 2014 San Antonio, USA

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