

# 4th International Conference and Exhibition on Metabolomics & Systems Biology

Date & Venue: April 27-29, 2015 Philadelphia, USA

(Theme: Metabolomics Technology and Omics Sciences - A Roadmap for Advanced Research Initiatives)

## Summary:

Metabolomics is an emerging field which combines strategies to identify and quantify cellular metabolites using sophisticated analytical technologies with the application of statistical and multi-variant methods for information extraction and data interpretation. Metabolomics is the study of small metabolites. Metabolomics Conference deals with topics like Bioinformatics, proteomics, systems biology, Analytical Techniques like NMR, GC-MS, LC-MS and CE-MS, Lipidomics, Metabolic Modelling, Metabolic profiling, clinical metabolomics, Translational sciences, Mass spectrometry, Metabolomics Syndrome, HPLC and CE based metabolomics and more. Metabolomics - the new "omics" - is a dynamic and developing field, joining genomics, transcriptomics and proteomics in empowering an integrative frameworks science methodology to drug discovery and development. In spite of the fact that metabolomics is still at an early evolutionary stage it is conjecture that throughout the following decade the biopharma business will apply this innovation all the more generally in drug development and information.

'The Future of Metabolomics' gives full fledged understanding into the compelling utilization of metabolomics all through drug discovery, preclinical development and clinical trials. The report also highlights the use of metabolomics in maximizing and sustaining revenues post-marketing and in the development of clinical diagnostics.

For more details please visit: <http://metabolomicsconference.com/>

## Importance & Scope:

Metabolomics is now being extensively used in pharmaceutical and biotechnology industries for biomarker and drug discovery; pharmaceutical and biotechnology industries are expected to grow at a high rate in coming years, which is expected to boost the growth of the market.

Marianna Tcherpakov from BCC Research said "Like other omics, a metabolomics approach has big impacts in research and product development, especially in the area of biomarker and drug discovery applications".

In 2012 The National Institutes of Health said that they are to invest \$14.3 million for metabolomics research, potentially investing more than \$51.4 million over five years, to accelerate an emerging field of biomedical research known as metabolomics. As per National Center for Biotechnology Information, metabolomics has matured over the past 10 years. Over 300 studies have been completed over the past 5 years. [Source: Ref1]

## Why Philadelphia?

According to Greater Philadelphia Regional 2013 report, The region is home to nearly 1,200 Life Science establishments from global pharmaceutical leaders to medical device and diagnostics to biotech and contract research organizations. Universities in Greater Philadelphia award 2,612 certificates and degrees in biological and biomedical sciences and an additional 661 degrees in pharmacy majors, creating a large pool of skilled graduates. Home to 101 degree-granting institutions, Greater Philadelphia ranks as one of the nation's leading centers for higher education with a total of 91,844 degrees and certificates awarded. This provides a steady pipeline of highly-educated people who enter the workforce or launch startup companies in the Greater Philadelphia region.

The Greater Philadelphia region is among the nation's top 5 research and development (R&D) centers by spending according to Select Greater Philadelphia's Research & Development Study conducted in 2011. Greater Philadelphia's private sectors made up the bulk of this spending with a total of \$8.9 billion, followed by colleges and universities which accounted for more than \$1.3 billion in spending.

Top Fortune 1,000 Companies are Head quartered in the region with 1,000+ employees.

As per pagoppolicy.com The Greater Philadelphia region (GPR) is the tri-state, 11-county region covering Northern Delaware, Southern New Jersey, and South eastern Pennsylvania. Strategically located midway between New York and Washington D.C., the GPR is at the center of the United States' largest consumer and business markets.

Importance of R&D Activities to Enhancing Regional Economic Competitiveness: Total R&D spending in the region in 2008 was just under \$10.5 billion or 2.9% of Greater Philadelphia's GRP. According to the National Science Foundation (NSF), total spending in 2008, the most recent year for which data is available, for R&D activities performed in the U.S. was \$397.6 billion, or just under 2.8% of GDP.

## Conference Highlights:

- Metabolomics and cancer research
- Analytical techniques in metabolomics
- Applications of separation sciences in metabolomics
- Frontiers of metabolomics research
- Metabolomics syndrome
- Metabolic modeling
- Systems biology and computational biology
- Bioinformatics and advancements
- Data analysis and interpretation
- Proteomics and genomics

## Why to attend???

Meet Your Target Market with recent business reports on Metabolomics making news which manifests the tremendous growth in market value for metabolomics technology till 2019. Since metabolomics interrelated with omics sciences like Genomics, Proteomics, Lipidomics, Fluxomics and Transcriptomics, it would be a great opportunity for companies dealing with Analytical instruments useful in these fields. Also many upcoming students and researchers can benefit themselves by participating world class International

workshops, symposia during the conference which will be conducted by experts in the respective fields.

A Unique Opportunity for Sponsors at this International event:  
<http://www.metabolomicsconference.com/Sponsorship.pdf>

## Major Metabolomics Related Associations around the Globe

Metabolomics Society  
 American association for the advancement of science  
 American association for clinical chemistry  
 American association for cancer research  
 American association of pharmaceutical scientists  
 Association for Consumer Research (ACR)  
 American cancer society  
 Bioinformatics society of India  
 Nutrigenomics Organization  
 The British Society for Genetic Medicine  
 The Genetics Society  
 The Australian biotechnology association  
 Human Proteome Organization  
 Indiana Proteomics Consortium  
 Proteome Society  
 European federation of biotechnology  
 Australasian Proteomics Society  
**Clinical Genetics Society**

## Major Metabolomics Related Research Units in Philadelphia

The Patterson Research Group  
 DRC Regional Metabolomics Core  
 Center for Applied Genomics  
 Fox Chase Cancer Center  
 Linda Creed Breast Cancer Foundation  
 Center for Cancer Pharmacology  
 Abramson Cancer Center  
 Perelman School of Medicine  
 European Sales & Marketing Association (ESMA)  
 The Incentive Marketing Association (IMA Europe)  
 European Marketing Academy

## Target Audience:

Directors/Managers & Business Delegates, Director of Laboratories, Universities, Industries, Investigators, Post Doctoral Fellows, Research and Diagnostic Laboratories, Clinical Fellows, Students, Biomedical Research companies.

Rise in the number of clinical trials, toxicological studies, and health awareness for nutritional products, rapid growth of metabolomics data analysis software and solutions, and use of metabolomics as

diagnostics tool for biomarker screening of diseases is expected to propel the growth of this market.

## Target Audience:

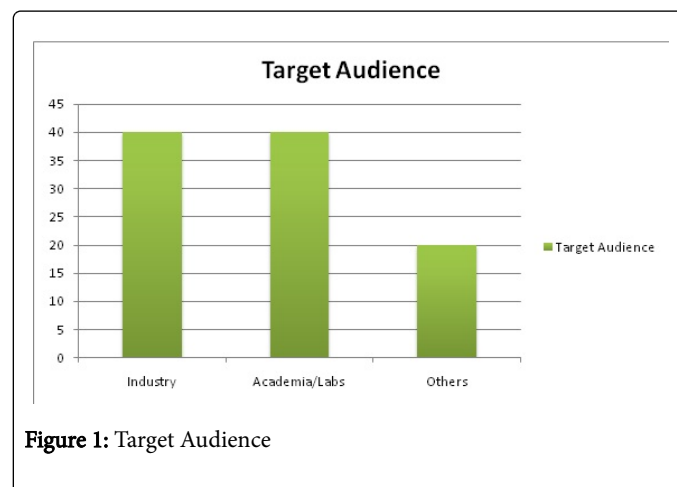


Figure 1: Target Audience

## Top Universities in Pennsylvania:

There are around 100 plus universities in Pennsylvania State and according to Greater Philadelphia regional report top universities in Philadelphia number 25 out of which 5-6 universities are involved in metabolomics related research. [Source: Ref2]

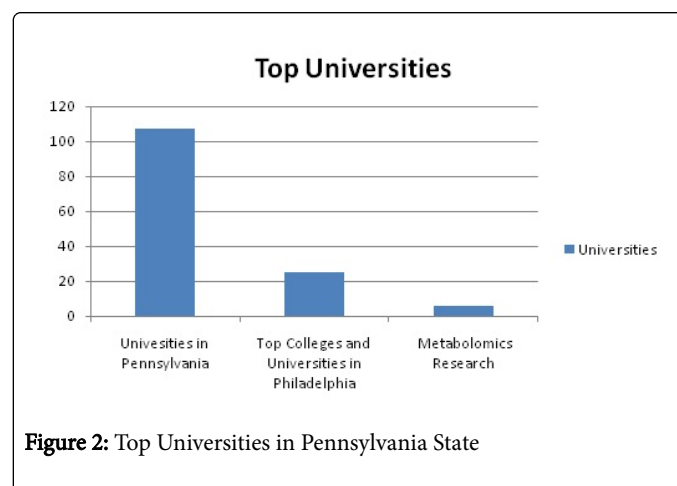


Figure 2: Top Universities in Pennsylvania State

## Glance at Market of Metabolomics:

The technological progress in biochemistry and molecular biology has played a significant role in the development of the metabolomics market during the last decade. Also, the improvements in analytical instruments, and data processing and analysis software have contributed significantly in the advancement of the metabolomics field. The presence of research funding and government support for conducting research and commercialization of the products in the metabolomics market is the primary driver for the growth of this market. Metabolomics science is used extensively in biomarker discovery and drug assessment. Thus, the rapid growth experienced by pharmaceutical and biotechnology industries is assisting the growth of the metabolomics market.

In 2013, North America was the market leader with a share of ~42% of the global market, followed by Europe with a share of ~38%. The presence of a large number of analytical equipment manufacturers has contributed significantly to the North American and European metabolomics market. However, the Asia-Pacific region represents a significant growth opportunity for the metabolomics market during

the forecast period of 2014 to 2019. The APAC market is expected to grow at a CAGR of 23% during the forecast period. The growth in this market is driven by the growing pharmaceutical and biotechnology industries.

The global metabolomics market was valued at \$565 million in 2014 and is expected to grow at a CAGR of 30% from 2014 to 2019.

### Statistics which shows growth in importance of Metabolomics

Metabolomics Market Worth \$2,100 Million by 2019 - New Report by Markets and Markets.

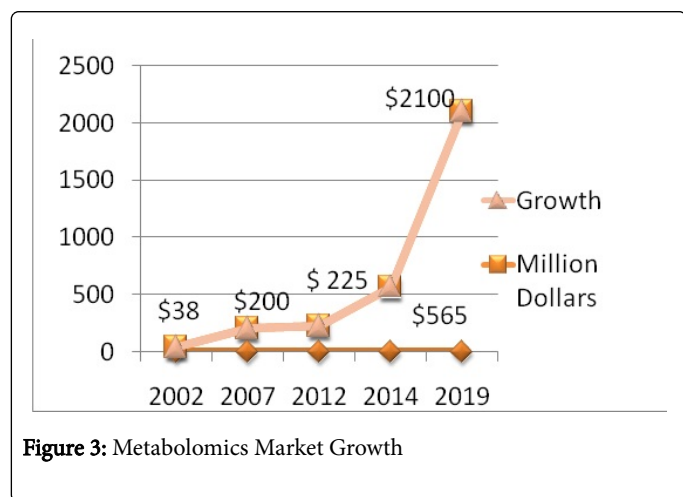


Figure 3: Metabolomics Market Growth

### Statistics of Industries Associated with Metabolomics

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The major players in the metabolomics market include Thermo Fisher Scientific (U.S.), Metabolon, Inc. (U.S.), Danaher Corporation (U.S.), Shimadzu Corporation (Japan), Waters Corporation (U.S.), Agilent Technologies (U.S.), and Bruker Corporation (U.S.). [Source: Ref3]

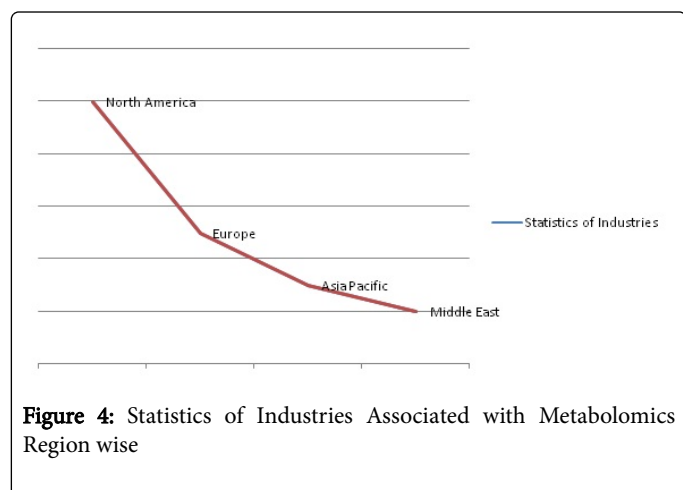


Figure 4: Statistics of Industries Associated with Metabolomics Region wise

The National Institutes of Health has provided tens of millions of dollars in new funding to support three new Comprehensive Metabolomics Centers at Mayo Clinic, the University of Kentucky, and the University of Florida. [Source: Ref4]

These three centers will receive an estimated \$9 million to \$10 million each over the next five years to create resources and initiate research programs that will ramp up the national metabolomics science capabilities.

In 2012, NIH provided \$14.3 million to fund the launch of three other metabolomics resource centers at the University of Michigan, the Research Triangle Institute, and the University of California, Davis.

Michigan Regional Comprehensive Metabolomics Resource Core (MRC2)

- NIH West Coast Metabolomics Center at UC Davis
- Southeast Center for Integrated Metabolomics (SECIM)
- Metabolomics Core at Mayo Clinic
- Research Center for Stable Isotope Resolved Metabolomics
- Funding to UC San Diego for this project is \$6 million over five years, part of a total investment by the NIH of \$51.4 for the metabolomics project. The awards are supported by the NIH Common Fund.

Metabolomic Diagnostics is engaged in a study called IMPROVED, which has received €6m in European FP7 funding. [Source: Ref5]

Mayo Clinic is one of six new federally-funded Comprehensive Metabolomics centres to support medical research on metabolomics - the study, at the cellular level, of how molecules are metabolized in the body. The award from the National Institutes of Health (NIH) is for \$8.8 million over five years.

NCI to Provide \$10M in SBIR Funds for 'Omics Projects' [Source: Ref6, Ref7]

### References:

1. <http://www.nih.gov/news/health/sep2012/od-19.htm>
2. <http://www.selectgreaterphiladelphia.com/wp-content/uploads/2013/05/SelectRR-2013.pdf>
3. <http://www.marketsandmarkets.com/PressReleases/metabolomics-technology.asp>
4. <http://www.genomeweb.com/nih-funds-three-metabolomics-resource-center>
5. <http://www.siliconrepublic.com/start-ups/item/35259-bioscience-start-up-metabol>
6. <http://www.genomeweb.com/mdx/nci-provide-10m-sbir-funds-omics-projects>
7. <http://www.transparencymarketresearch.com/metabolomics-market.html>