# (Theme: Highlighting innovations and challenges in the field of Physics)

#### Summary:

Physics is one of the oldest academic disciplines, perhaps the oldest through its inclusion of astronomy. It is the general analysis of nature, conducted in order to understand how the universe behaves. Physics intersects with many interdisciplinary areas of research, such as biophysics and quantum chemistry, and the boundaries of physics are not rigidly defined. Contemporary research in physics can be broadly divided into condensed matter physics; atomic, molecular, and optical physics; particle physics; astrophysics; geophysics and biophysics. New ideas in physics often explain the fundamental mechanisms of other sciences while opening new avenues of research in areas such as mathematics and philosophy. Physics also makes significant contributions through advances in new technologies that arise from theoretical breakthroughs. For example, advances in the understanding of electromagnetism or nuclear physics led directly to the development of new products that have dramatically transformed modern day society, such as television, computers, domestic appliances, and nuclear weapons; advances in thermodynamics led to the development of industrialization, and advances in mechanics inspired the development of calculus. Physics aims to describe the various phenomena that occur in nature in terms of simpler phenomena. Thus, physics aims to both connect the things observable to humans to root causes, and then connect these causes together.

We invite you, on behalf of the Organizing Committee, to this excellent meeting with great scientists from different countries around the world and sharing new and exciting results in Physics World, which will be held in USA from June 27-29 2016. This exciting and informative conference program including plenary lectures, symposia, workshops on a variety of topics, poster presentations and various programs for participants from all over the world.

#### Importance& Scope:

The field of physics have not only helped the development in different fields in science and technology but also contributed towards the improvement of the quality of human life to a great extent. All this has become possible with the different discoveries and inventions leading to the development of various applications. The core aim of Physics-2016 conference is to provide an opportunity for the delegates to meet, interact and exchange new ideas in the various areas of physics.

## Why New Orleans, USA?

New Orleans is a major United States port and the largest city and metropolitan area in the state of Louisiana and is located in the southeast part of the state, between the Mississippi River and Lake Ponchartrain. Its name comes from Orléans, a city on the Loire River in France. Known for its French Creole architecture and multilingual and cultural heritage, New Orleans is often called the most unique city in the United States. The population of the city was 378,715 as of the 2013 U.S. Census Bureau. In 2012, 24/7 Wall St. identified the 10 largest cities with the fastest growing populations in the US based on Census Bureau data. New Orleans ranked #1, with 4.9% growth from 2010 to 2011.

New Orleans has one of the world's greatest international ports and it is a major focus of the city's economy. New Orleans is home to the corporate offices of oil companies with major offshore operations in the Gulf of Mexico, as well as the distribution and service centres of offshore equipment suppliers and fabricators. The manufacturing industry is a significant part of the economy, with petroleum, petrochemical, shipbuilding, and aerospace industries all playing a role. The New Orleans region also functions as a mining, processing, and transportation centre for other minerals, principally sulphur. Service industries are playing a larger role, with health care and telecommunications leading the way. The New Orleans region is widely regarded as a leading centre of medicine and health care in the South.

In New Orleans a wide-scope of research take place in several areas of physics, including information technologies, optics, photonics, semiconductors, Acoustics, Photovoltaics, Solid-state devices and Vehicle dynamics. Currently there are more than 20 Physics research institutes.

#### Why to attend?

International conference on Physics-2016 which is going to be the biggest conference dedicated to Physics provides a premier technical forum for reporting and learning about the latest research and development, along with launching new applications and technologies. Events include hot topics presentations from all over the world and professional networking with industries, leading working groups and panels.

#### **Major Physics Associations around the Globe**

- International Union of Pure and Applied Physics
- International Astronomical Union
- > The international society for optics and photonics
- International Union of Crystallography
- Society of Non-Linear and Dynamics Econometrics
- > The International Association of Mathematical Physics (IAMP)
- > The international society for optics and photonics (IUPAB)

#### **Major Physics Associations in USA**

- American Physical Society
- > American Association of Physicists in Medicine
- American Astronomical Society
- American Crystallographic Association
- American Meteorological Society
- American Physical Society
- American Association of Physics Teachers

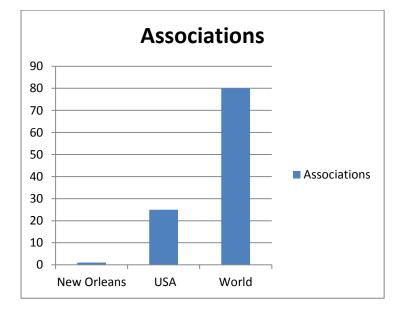


Figure 1: Statistical Analysis of Associations

## **Target Audience:**

Eminent Scientists/Research Professors, Junior/Senior research fellows, Students, Directors of companies, Engineers, Members of different physics associations.

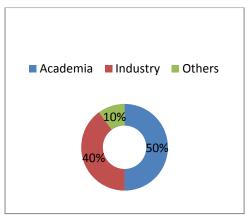


Figure 2: Target Audience

# **Top Universities in USA:**

Harvard University

Stanford University

University of California, Berkeley

Massachusetts Institute of Technology (MIT)

**Princeton University** 

Columbia University

University of Chicago

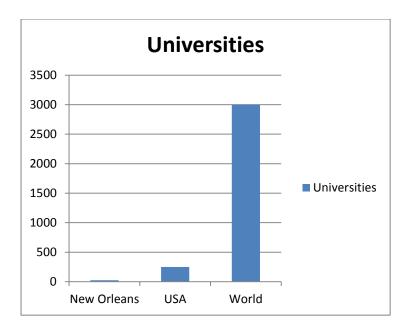


Figure 3: Top Universities

# **Glance at Market of Physics:**

The processing, sensing and communications semiconductor device portion of the Internet of Things (IoT) will be a rapidly growing segment of the total semiconductor market, growing 36.2 percent in 2015, compared with the overall semiconductor market growth of 5.7 percent, according to Gartner, Inc. Processing will be the largest revenue contributor to the IoT "things" semiconductor device forecast, at \$7.58 billion in 2015, while sensors will see the strongest growth, with 47.5 percent growth in 2015.

The global market for lasers was nearly \$10.8 billion in 2014. This market is expected to reach \$11.7 billion in 2015 and \$16 billion in 2020, with a compound annual growth rate (CAGR) of 6.5%.

The global passive optical components market will expand at a remarkable 21.1% CAGR from 2014 to 2020. If the figure holds true, the overall valuation of the market will be US\$38.19 billion in 2020 increasing from US\$10.01 billion in 2013.

The photovoltaics market is expected to grow from \$89.52 billion in 2013 to \$345.59 billion by 2020, at a CAGR of 18.30% between 2014 and 2020. In terms of geography, APAC is expected to hold the major market share at 53.25% in 2013, followed by Europe at 23.52%. The key driving factor behind this would be the presence of the major players in the region and increasing government support.

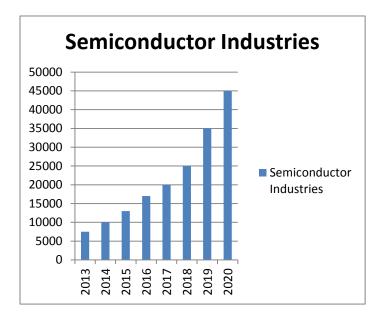


Figure 4: Growth forecast of semiconductor industries. (In Million Dollars)

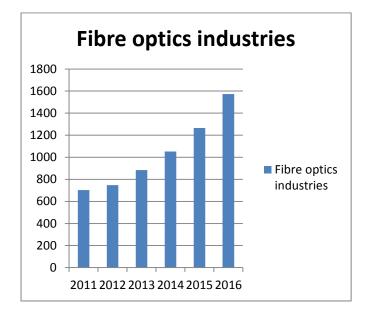


Figure 5: Growth forecast of Fibre optics industries. (In Million Dollars)

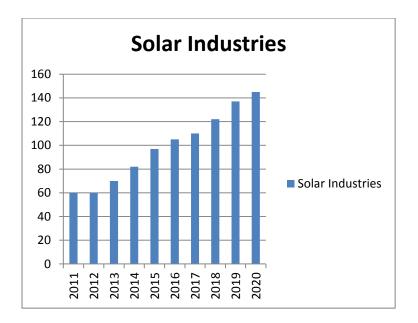


Figure 6: Growth forecast of solar industries. (In Billion Dollars)