

Nanomaterials-2016

# (Theme: Advances in Nanomaterials & Nanotechnology)

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## Summary:

Nanomaterials are the materials which has at least one spatial dimension in the size range of 1 to 100 nanometre. Whereas *study and control of substance and processes at the nanoscale is known as nanotechnology*. Nanomaterials can be created with various modulation dimensionalities. It can be individual nanostructure such as atomic clusters, quantum dots, nanocrystals, nanowires, and nanotubes, while collection of nanostructures involves arrays, assemblies, and super lattices of individual nanostructure. The physical and chemical properties of nanomaterials can significantly differ from atomic-molecular or the bulk materials of the same composition. Uniqueness of structural characteristics, response, dynamics, chemistry, and energetics of nanostructures constitutes the basis of nanoscience. There are several areas of concern in the nanomaterials market which are projected to be explored in the coming years, for instance, nanoparticles or nanocrystals of metals and semiconductors, nanotubes, nanowires, and nanobiological systems. Nanoscience and nanotechnology have grown explosively in the recent decade. Increasing availability of several methods and tools to synthesize nanomaterials is driving the nanomaterials market. Synthetic methods such as covalent synthesis, self-assembly techniques and processing are now available for synthesis of nanomaterials. Novel methods of fabricating patterned nanostructures provide opportunity for better computer simulation and modelling. Besides, dispersions and coating, consolidated materials, bio-medical, and Nano devices are some of the emerging potential applications.

The organizing committee is gearing up for an 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. We invite you to join us at the **Nanomaterials-2016**, where you will be sure to have a meaningful experience with scholars from around the world. All members of the Nanomaterials-2016 organizing committee look forward to meeting you in Dubai, UAE.

For more details please visit- <http://nanomaterials.conferenceseries.com/>

## Importance& Scope:

Nanomaterials is an international platform for presenting research about marketing, exchanging ideas about it and thus, contributes to the dissemination of knowledge in marketing for the benefit of both the academia and business . It covers a broad area of Nanomaterials - quantum dots, Nanocrystals, Nanowires, and Nanotubes and others. It will help to gain knowledge about the recent advancements and it is of course a good opportunity to discuss various aspects of Nanomaterials and their advances along with Nanotechnology.

## Why Dubai?

UAE history dates back to 5,500 BC, with the first known habitation of the area. Archaeological evidence suggests those earliest inhabitants engaged in trade with their neighbors – a trait that remains vital to the country's identity today. For two and a half millennia, the Gulf coast has been a crossroads of the world. From the Persian Royal Road to the Han Dynasty's Silk Road, from the trading posts of the 19th century to the hypermodernity of today's UAE, people have always converged here. They come not only to do business, but also to share ideas, experience and inspiration. The Middle East has for thousands of years been a meeting point of religions, cultures and trade routes, but the newer states of the United Arab Emirates have in recent years acquired growing importance as an academic hub at the crossroads of Africa and Asia, Europe as well as of the US, with the building of a number of universities and satellite campuses. The UAE enjoys a strategic location on the new Southern Silk Road between Asia, Africa and Europe, a situation that provides optimum trading conditions and means the UAE is poised to take advantage of economic activity among the world's fastest growing and developing economies as part of the 'South-South' trade trajectory. Thousands of Chinese businesses use Dubai as a hub for Africa. Indian traders use the emirate to access the world. Latin American 'multi-Latinas' see Dubai as a launch pad into South Asia. Western multi-nationals use Dubai as a hub for the Middle East. Dubai is both a unique trans-continental trade hub and a nexus for innovation in the fields of technology, culture and the wider knowledge economy.

Dubai International Airport leads Paris, Hong Kong and London as the world's busiest in terms of international passengers. Last year more than 70.4 million people passed through its terminals, and it has the highest footfall of any international airport in 2015. Dubai's flag-carrier, Emirates Airline, is also on track to become the biggest in the world, while Dubai ranks sixth globally measured by air cargo traffic. The UAE continues to develop in areas ranging from environmental engineering to software development, and from film production to biotechnology. The country has the highest percentage of female high-school graduates who enroll in university anywhere in the world.

## List of top Universities in Dubai for Nanomaterials & Nanotechnology

Forty years ago there were few schools and no universities; now there are more than 1,200 schools and over 70 universities among which the top universities for Nanotechnology are listed as follows:

- ✓ Khalifa University
- ✓ Ras Al Khaimah Center for Advanced Materials (RAK CAM)
- ✓ Masdar Institute of Science and Technology
- ✓ United Arab Emirates University

## Why to attend???

Nanomaterials-2016 is an exciting opportunity to showcase the new technology, the new products of your company, and/or the service your industry may offer to a broad international audience. It covers a lot of topics and it will be a nice platform to showcase their recent researches on Nanomaterials & Nanotechnology and other interesting topics related to the Nanoworld.

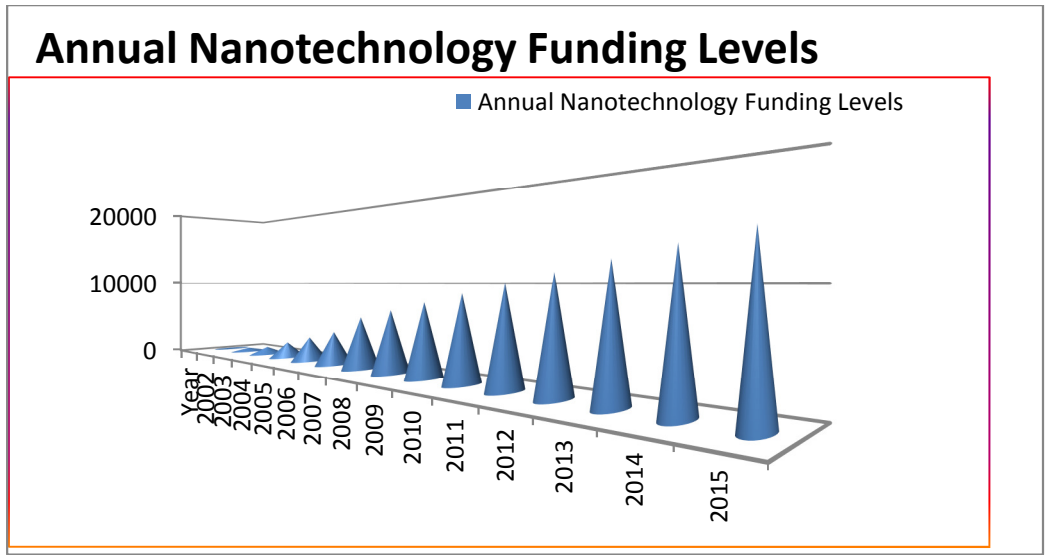
In the last 11 years, governments around the world have invested more than US\$67.5 billion in nanotechnology funding. When corporate research and various other forms of private funding are taken into account, nearly a quarter of a trillion dollars will have been invested in nanotechnology by 2015.

## **Nanotechnology Government Organizations around the Globe:**

- Brazilian Nanotechnology National Laboratory (Brazil)
- National Center for Nanoscience and Technology (China)
- Sri Lanka Institute of Nanotechnology (SLINTEC, Sri Lanka)
- National Institute for Nanotechnology (Canada)
- Iranian Nanotechnology Laboratory Network
- Russian Nanotechnology Corporation
- National Nanotechnology Center (NANOTEC, Thailand)
- National Nanotechnology Initiative (United States)
- National Cancer Institute Alliance for Nanotechnology in Cancer
- National Institutes of Health Nanomedicine Roadmap Initiative
- American National Standards Institute Nanotechnology Panel (ANSI-NSP)
- NanoNed -Netherlands
- Collaborative Centre for Applied Nanotechnology (CCAN, Ireland)
- Instituto Zuliano de Investigaciones Tecnológicas (INZIT, Venezuela)

## **Major Nanomaterials and Nanotechnology Organizations in USA**

- International Union of Materials Research societies
- Major Nanotechnology Associations around the Globe
- International Association of Nanotechnology
- Nanoscale Science Research Centers (NSRCs)
- Australian Research Council Nanotechnology Network (ARCNN)
- Asian Nanoscience and Nanotechnology Association
- Materials Research Society
- American Society for Testing and Materials (ASTM International).
- New England Nanotechnology Association (NENA)
- Global Nanotechnology Network (GNN)



**Annual Global Nanotechnology Research Funding Is Running at \$10 Billion Per Year**

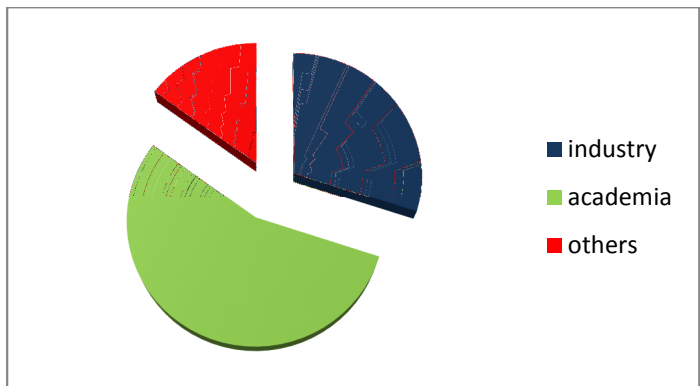
**Figure 1:** Global funding annually on Nanotechnology

**Target Audience:**

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

**Target Audience:**

- Industry 30%
- Academia 55%
- Others 15%



**Figure 2:** Target Audience

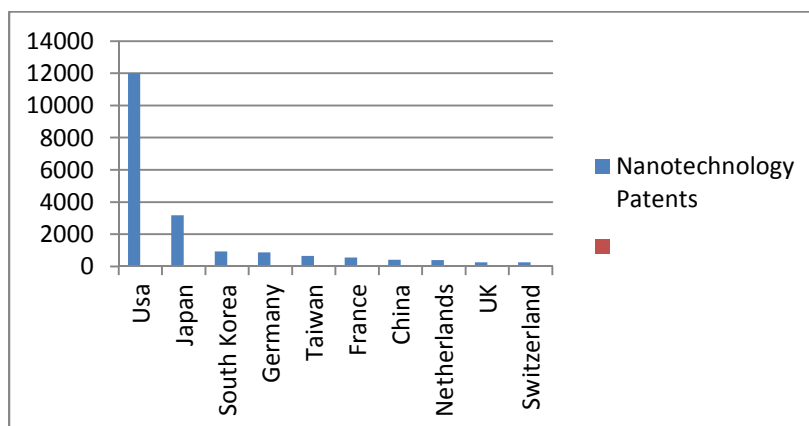
## Top Universities in Middle East:

- ✓ King Saud University
- ✓ King Fahd University of Petroleum & Minerals
- ✓ King Abdulaziz university
- ✓ Cairo University
- ✓ American University in Cairo
- ✓ American University of Beirut
- ✓ Ain Shams University
- ✓ United Arab Emirates University
- ✓ Kuwait University
- ✓ King Faisal University

## Top Universities in Dubai:

- Al Ghurair University (AGU)
- University of Dubai (UD)
- Zayed University
- Biotechnology University College Dubai (BUC)
- The Higher Colleges of Technology (HCT)
- American University in Dubai (AUD)
- University of Wollongong in Dubai (UOWD)
- British University in Dubai (BUiD)
- American University in the Emirates (AUE)

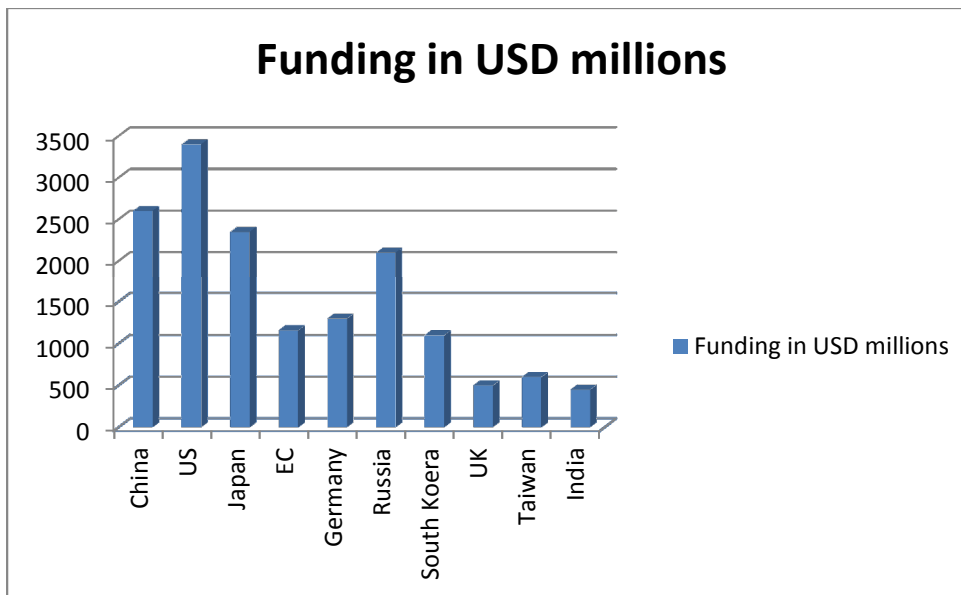
## Top countries with Patents in the Field of Nanotechnology:



**FIG 3:** Patents of Nanotechnology country wise

## Glance at Market of Nanomaterials and Nanotechnology:

The largest nanotechnology segments in 2009 were Nanomaterials. All Nanomaterials will increase from \$9,027.2 million in 2009 to nearly \$19,621.7 million in 2015, a compound annual growth rate (CAGR) of 14.7%. The UAE Nano Sensors market is expected to increase to \$15.19 Million by 2020 at a CAGR of 94.83% over the period 2014-2020. Currently the emirates spends 0.6% of GDP on R&D, but this expected to grow in the coming years, further reinforcing an already strong advanced technology ecosystem. This will help stimulate nanotechnology research, in particular semiconductors which is a focal area in UAE's strategy for moving forward. In the last 11 years, governments around the world have invested more than US\$67.5 billion in nanotechnology funding. When corporate research and various other forms of private funding are taken into account, nearly a quarter of a trillion dollars will have been invested in nanotechnology by 2015. Advanced Technology Investment Company (ATIC). As of January 2013, the UAE had invested over Dh100 million since 2009. Scientific's index of countries' ability to take advantage of emerging technologies indicates that the US, Germany, Taiwan and Japan have the combination of academic excellence, technology-hungry companies, skilled workforces and the availability of early stage capital to ensure effective technology transfer. Corporate research and private funding were thought to have surpassed government funding figures as far back as 2004. But China will spend US\$2.25 billion in nanotechnology research while the US will spend US\$2.18 billion. In real dollar terms, adjusted for currency exchange rates, China is only spending about US\$1.3 billion to the US's \$2.18 billion. US have invested \$2.46 billion while China has allotted \$2.2 billion.



**Figure 4:** Individual Funding of Countries in USD millions for Research and Development of Nanotechnology.