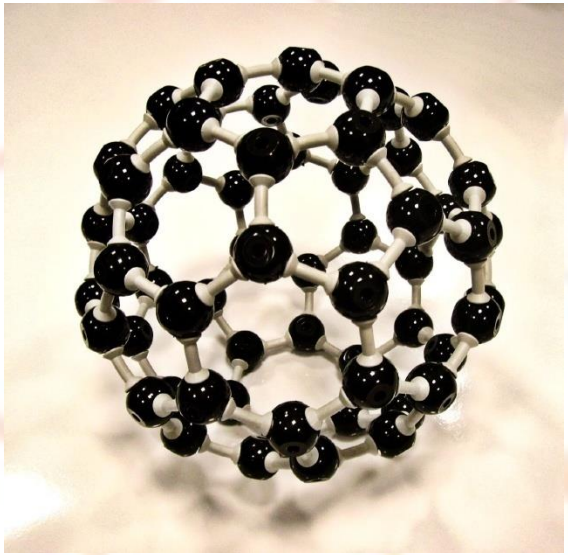
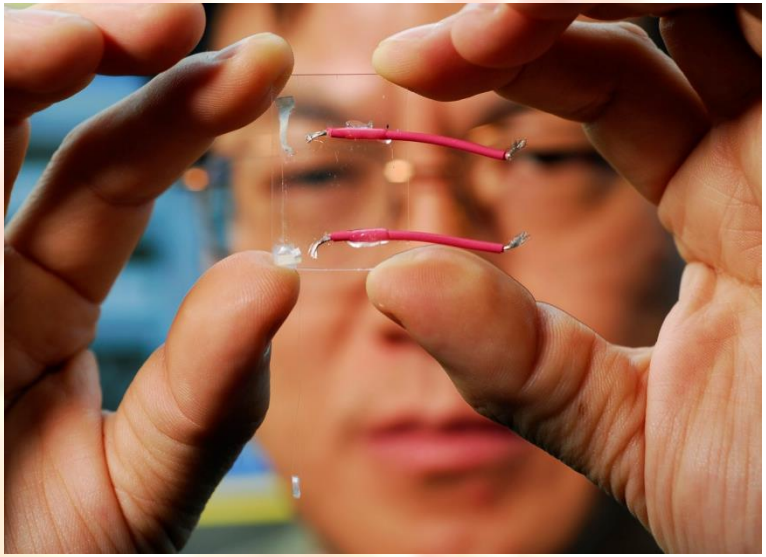
NANOTECHNOLOGY

THE POWER OF SMALL

Nanotechnology

The Next Very **Big** (Small) Thing





An Initiation by

NSTC
A Nanotechnology Platform

Nano Science and Technology Consortium

What is Nanotechnology?

- Nanotechnology is defined as: the application of scientific knowledge to manipulate and control matter at the Nano scale level to make use of size and structure dependent properties and phenomena distinct from those associated with individual atoms or molecules or with bulk materials
- **Nanotechnology is the art and science of manipulating matter at the nanoscale.** The Nano scale is the size range from approximately 1nm to 100nm.
- "Nanotechnology is an enabling technology that will change the nature of almost every human-made object in the next century."

How Small Is Nanoscale ?

A nanometer is…

– one billionth of a meter

DNA Sample: Approx. **2 nm**

Human Hair: Approx. **$1x10^5$ nm**

The Evolution of NanoTechology

Nanotechnology

Low

Opportunity

High

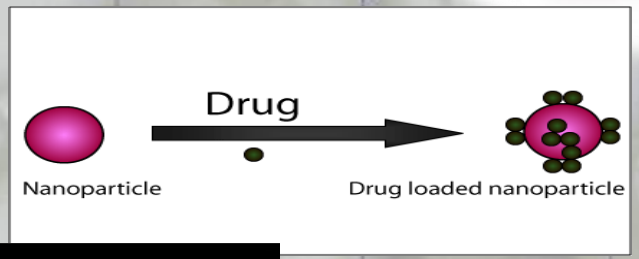
Basic Research

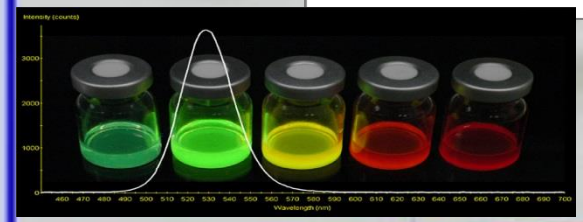
Applied Research

Early Adopters

Rapid Advancement

Mass Market





1970 1990 2000 2005 2010 2020

Who are we?

- NSTC is India's premier non-government, professional association working with the goal of fostering research, business collaboration and providing advanced education and training in nanotechnology and thus playing a proactive role in India's development process in the field of Nanotechnology.

Company

- Division of Consortium eLearning Pvt. Ltd. (CELNET)
- ISO 9001:2008 certified
- Pioneers in promoting Nanotechnology education, R&D, commercializing Nanotechnology and its application in India

Experience

- NSTC was established in 2005
- Acted as the most trusted Nanotechnology platform for 8 years.

Location

- Situated in Noida, Uttar Pradesh

Our Agenda

- Introduction Of Nanotechnology at School level
- Teaching Nanotechnology In Today's Life

✓ Advantages Of Nanotechnology

✓ Applications Of Nanotechnology

✓ Unfolding Career Aspects in Nanotechnology

Nano School Initiative

Nano For Young

Nanotechnology and its immense potential has taken the whole world by surprise today. The science will play a vital role to ensure that nanotechnology achieves its full promise and future benefits.

- How gecko(lizard) sticks to wall?
- Why butterfly wings have sparkling colours?
- How small robots can be used for surgery?
- How can we change the colour of the same shirt?
- Why do water droplets form on lotus leaf?

learn NANO!

introduction to nanotechnology

Class 5th – Class 8th

Basic Nano Awareness & Understanding

INTRODUCTION TO NANO SCIENCE

Understanding Nano

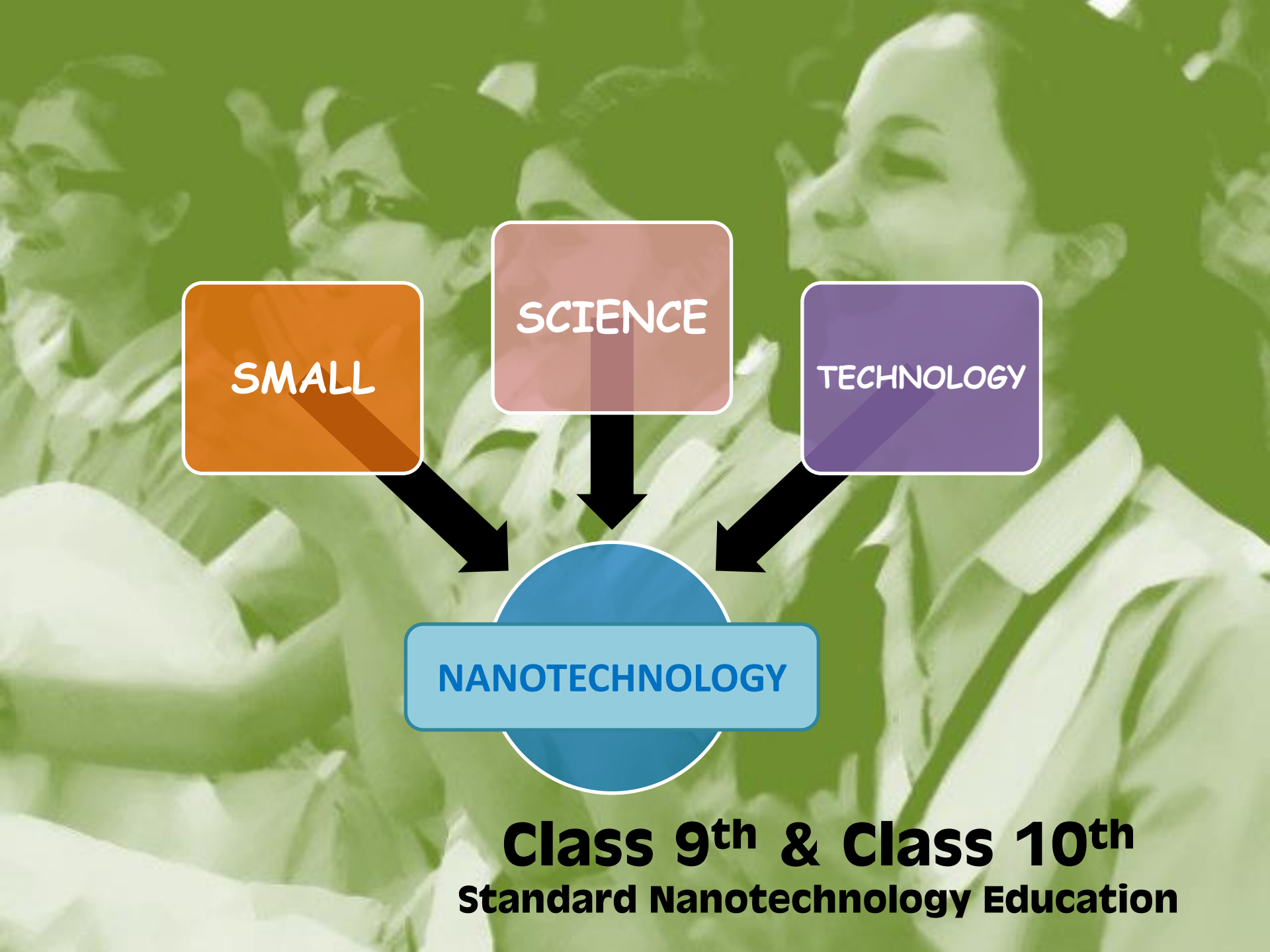
- Nanotechnology & Nanostructures in Nature
- Nano Galleries

Fun Activities

- Picture Cards
- Puzzles and Games

Booklets

- Cartoon books
- Comic characters



Class 9th & Class 10th

Standard Nanotechnology Education

STANDARD NANOTECHNOLOGY EDUCATION

- Nano Science and Technology Text Books
- Nanotech Encyclopedia
- Nanotechnology CD
- Nanotechnology Dictionary

- Nano Sensitization Book
- Nano Sensitization CD

nanotechnology

- Nanotechnology Dictionary
- Quizzes and Workshops
- Audio-Video sessions

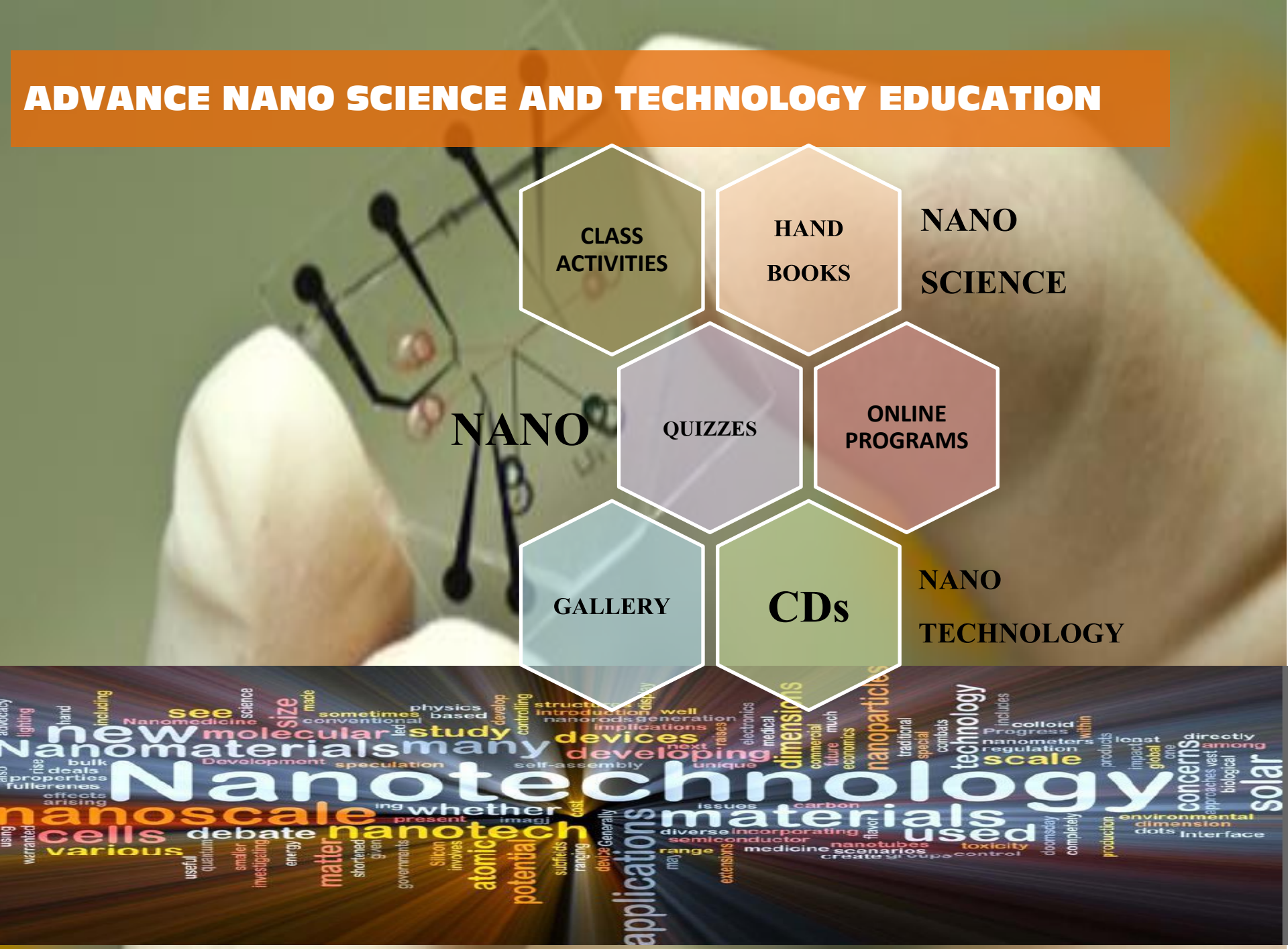
kits

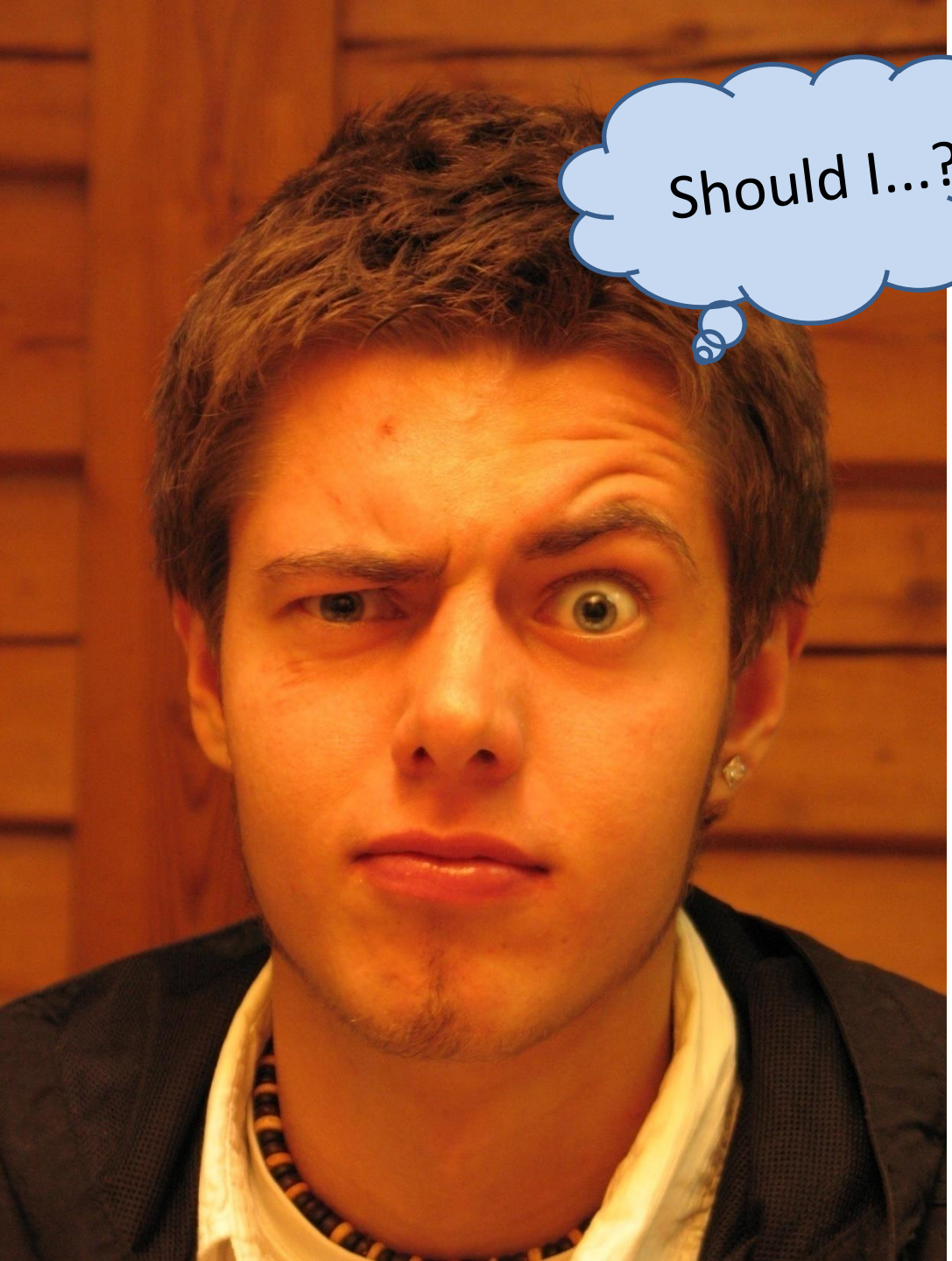
INNOVATION OPPORTUNITY COMMERCIALIZATION

Class XIth & Class XIIth

ADVANCED NANOTECHNOLOGY EDUCATION

ADVANCE NANO SCIENCE AND TECHNOLOGY EDUCATION



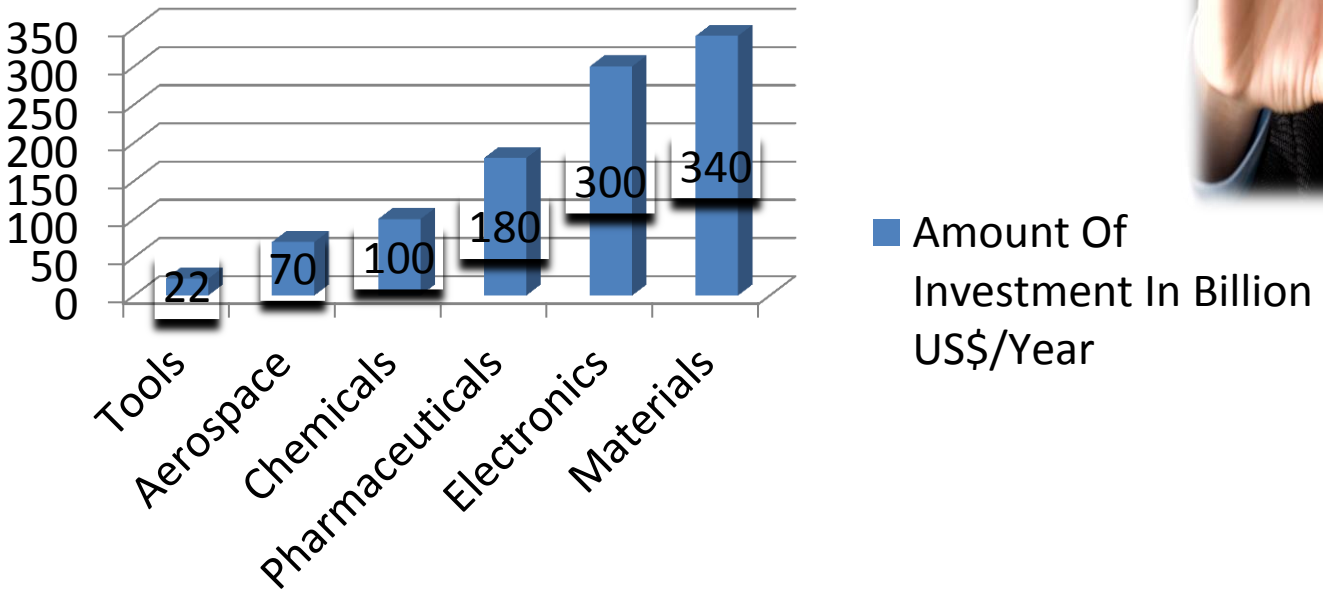


Who Cares About Nanotechnology

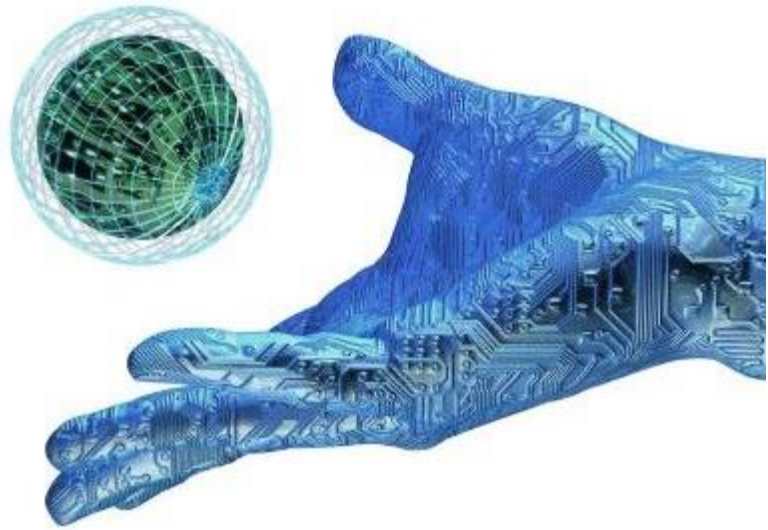
Who cares about Nanotechnology?

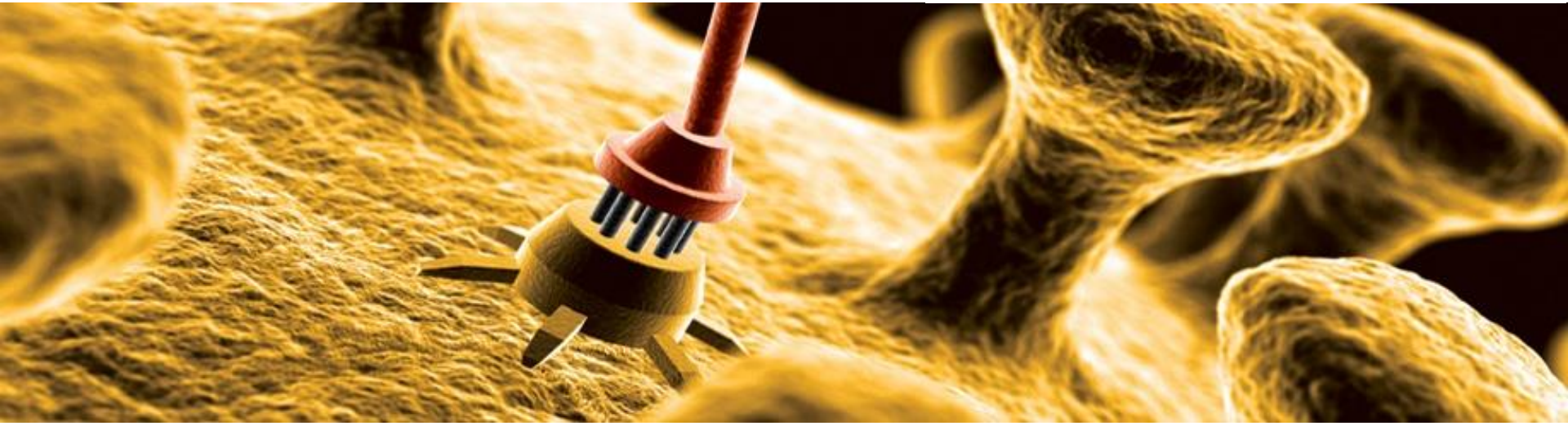
We All Should Care!

- Because it can bring revolution in the current industrialization and manufacturing processes.



Future of Nanotechnology



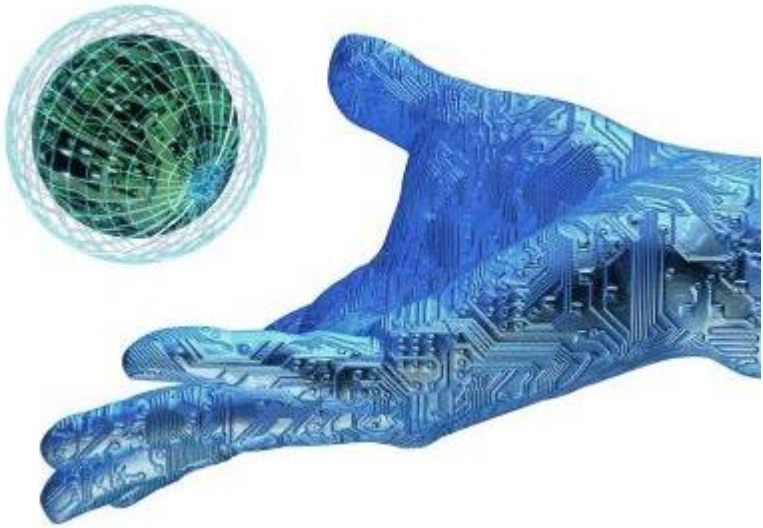


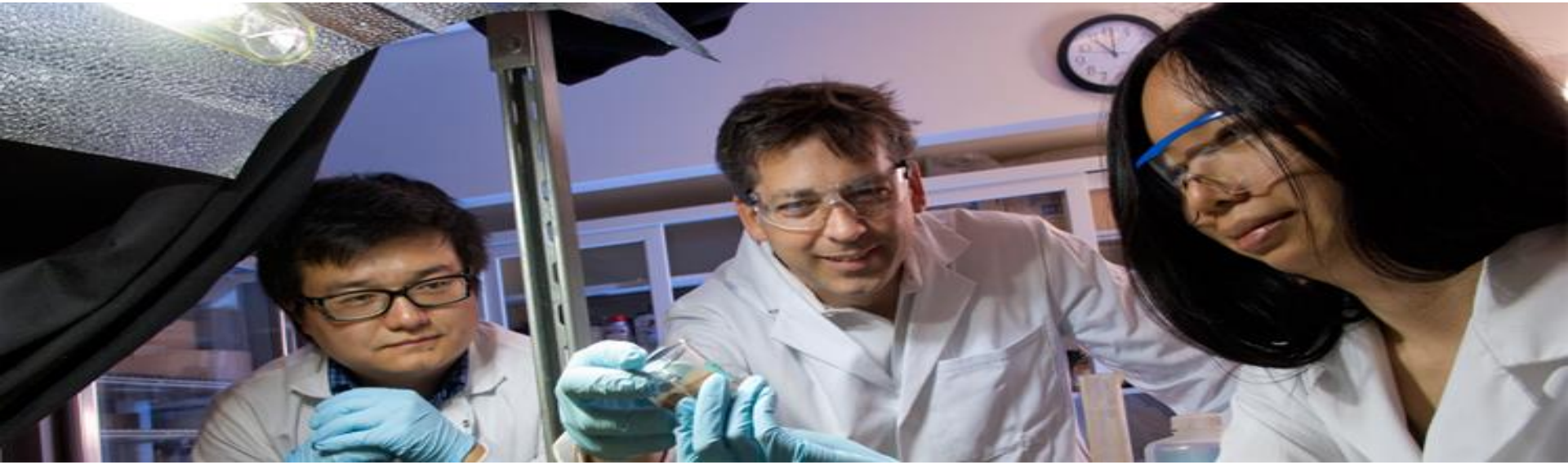
Future of Nanotechnology?

Nanotechnology in future everyday life

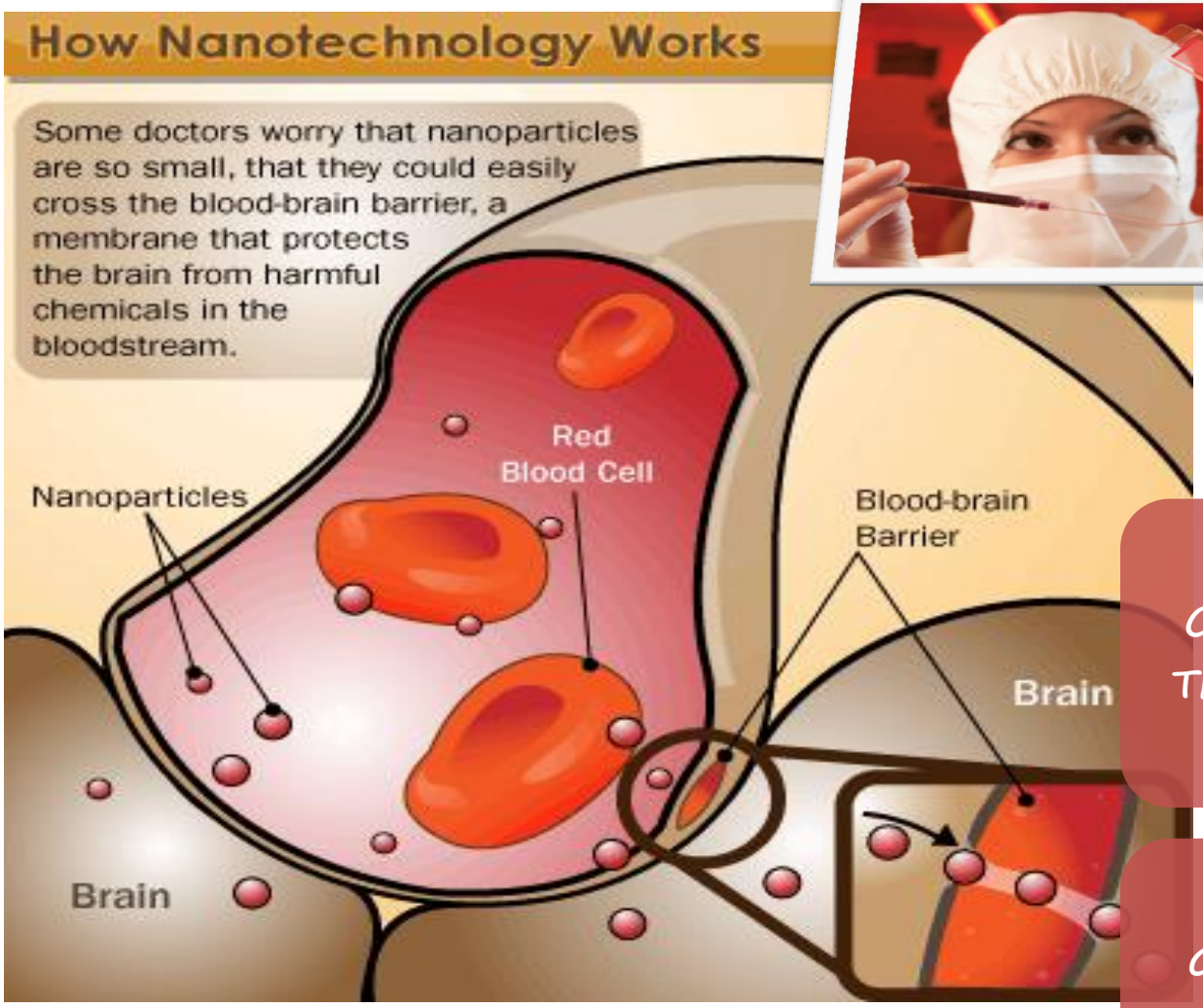
STUDENTS CAREER ASPECTS IN NANOTECHNOLOGY

The Applications





Nanotechnology –in Medical Science!!



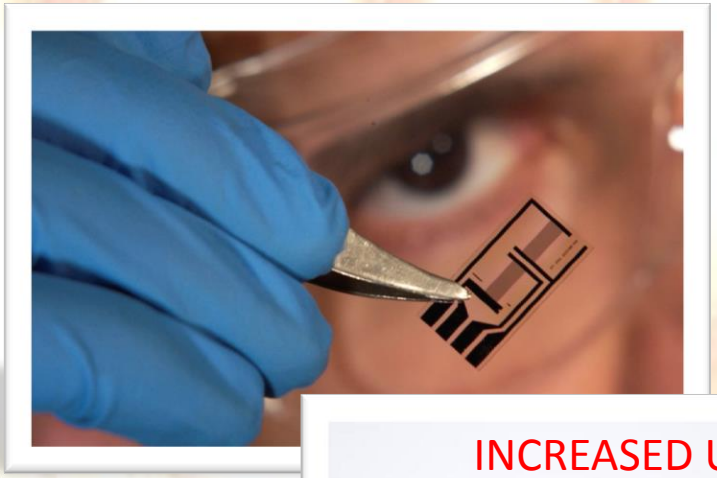
CANCER THERAPY

- Lung
- Colon
- Ovarian

GLIOMA THERAPIEY

- Tumor
- Metastases

Nanotechnology –in Electronics & Gadgets!!



APPLICATIONS IN NANODIAGNOSTICS

LATEST CUTTING EDGE ELECTRONIC GOODS

SELF ASSEMBLY BASED CHIP TECHNOLOGIES

INCREASED USABILITY OF CONSUMER ELECTRONICS AND DEVICES

WATER REPELLANT NANO COATING TECHNOLOGY

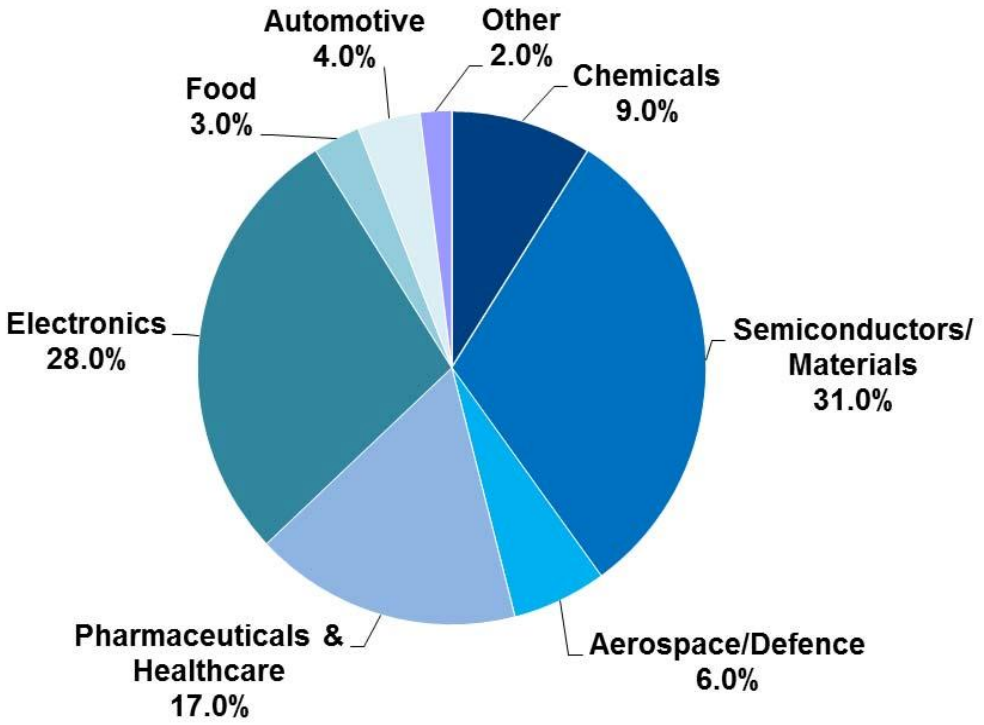
INCREASED RELIABILITY OF CONSUMER GADGETS

LATEST CUTTING EDGE TECHNOLOGIES

ADDED VALUE TO ACCESSORIES

Applications of Nanotechnology, 2015

- Rapid and continued advancements in the field of Nanotechnology is accelerating the demand for specific professional knowledge and skill.



- **Nanomaterials having a impact on sectors such as a Health, IT, Energy fields.**
- The major drivers for the nanotechnologies is in energy sector for the need of security and sustainability of energy supply, and growing consumer and government awareness of the implications of climate change.
- Nanomaterials will also contribute to the development of new drugs, therapies, and cures for currently chronic and fatal illnesses.
- The application of nanotechnologies has the widespread of vast capability and assurance for advanced diagnostics, improved public health and new therapeutic treatments.

How will Nano School Initiative help students ??

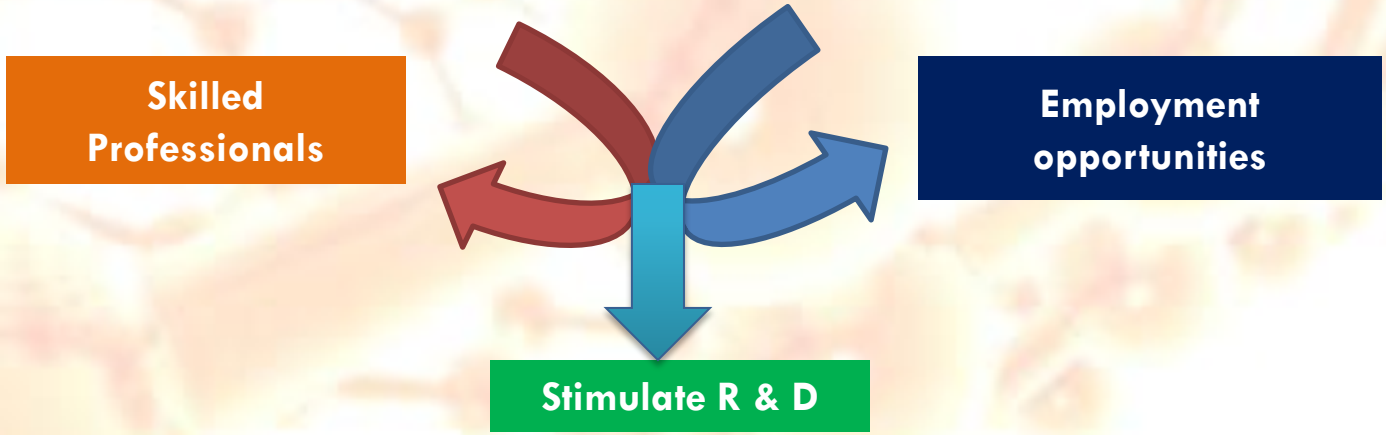
Nanotechnology Education in Schools –Why is it important?

The fields of Nanoscience and Nanotechnology (NST) have gained considerable global visibility and an explosion in both public funding and private investments.

These lines of technological discovery and improvement continue to unlock new content for classroom incorporation.

It is anticipated that Nanotechnology will be a major Transitional force that possesses the potential to change soci

Rapid and continued advancements in the field of Nanotechnology is accelerating the demand for specific professional knowledge and skill.



Nanotechnology -all over the Globe!!

Nanotechnology has potential opportunities in the health, energy, and the environmental remediation markets such as,

- Environment
- Water
- Agriculture
- Clean Technology
- Healthcare and Pharmaceuticals

- Growth and demand for clean technology and alternative energy products are likely to be stimulated by the introduction of nanotechnologies in the near future, enhancing efficacies of technologies embraced by the industry, and displacing older technologies and business enterprises relying on them.
- Nanotechnologies are expected to have a large impact on the health care industry.
- The applications of Convergence of Nano Technologies and products in the filed of medicine, dentistry and diagnostics.

Thank You for your Consideration!

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