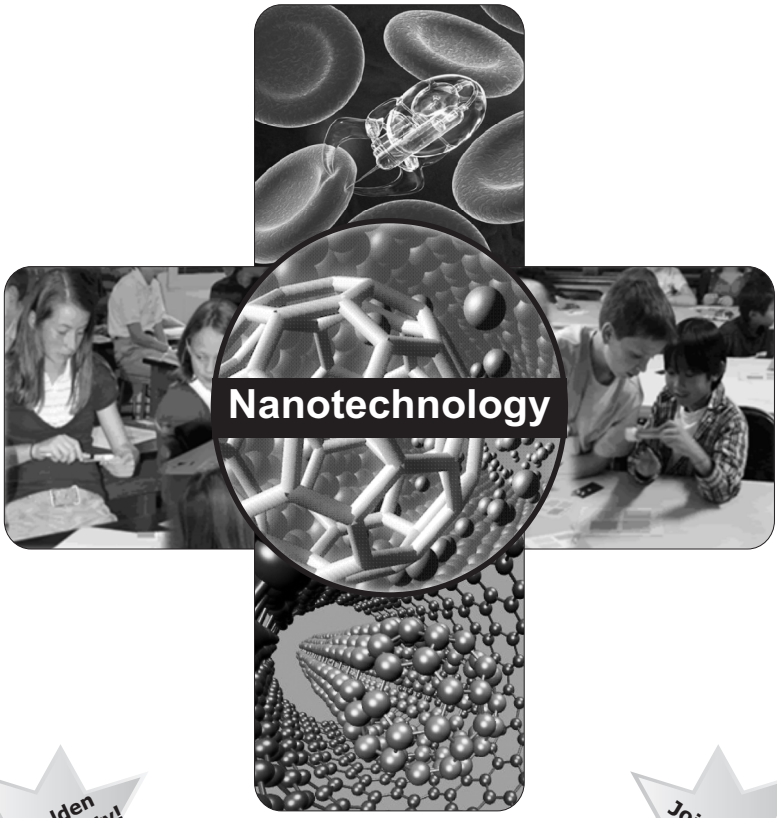
Introductory Program in Nanotechnology



A Golden Opportunity!

Join Now!

NSTC

A Nanotechnology platform

Nano Science & Technology Consortium

(Consultancy . Research . Outsourcing . Technology)

www.nstc.in

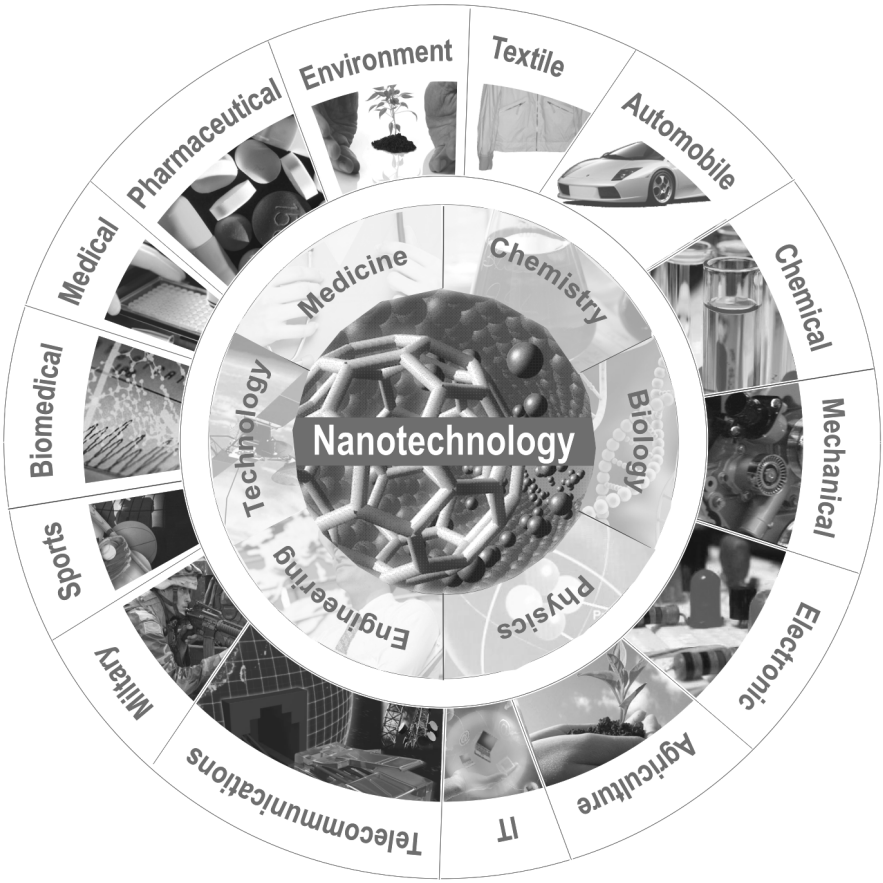
Prospectus

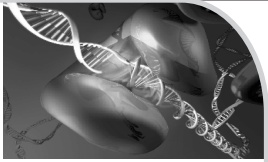
NSTC

A Nanotechnology platform

Your Gateway to a Successful Career

Be a part of the Next Industrial Revolution





NSTC: An Overview

NSTC is a non-governmental, privately run body, which came into existence in the year 2005. It aims to provide the services that lead to awareness creation, research and development, consultancy, collaborations, technology transfer and commercialization of budding Nano-based technologies. With over 250 corporate and industrial members and over 2,000 course participants till date, NSTC has positioned itself as a unique and dependable resource for providing quality Nanotechnology education. NSTC also runs India's only primary journal in the field of Nanotechnology, entitled "NanoTrends".

What is Nanotechnology?

Nanoscience and Nanotechnology are the current frontiers of all scientific and technological advancement. They deal with manipulation of materials at the 10^{-9}m scale. This essentially means rearranging bonds at the atomic level to create new substances with unheard of properties. Undersea cables 1/6th the weight of steel yet a hundred times stronger, extremely efficient solar panels, cement which is much stronger than existing concrete, unimaginably small and fast electronic circuits, and revolutionary new medical applications have already started changing human life. There is no area of our existence that can remain untouched by these advancements.

The increase in mobile and internet technology is an example for everyone to see. The unbelievable increase in speed of communication over the past 10 years has affected business, social networking, travel, education, technology transfer and a range of other areas. The increase in power of these devices is because of the miniaturization made possible by Nanotechnology. An average laptop or mobile phone contains transistors that are approximately

80nm in size, as opposed to 25 micrometers just a decade ago.

Which Areas Is Nanotechnology Affecting?

Some of the application areas of Nanotechnology are:

Medicine Drug delivery systems, surgery, pharmaceuticals. Capability of battling stubborn viruses such as H1N1 and AIDS.

Automobiles Fuel additives, scratch-proof nanopaints, self-cleaning nano-glass

Agriculture Nanofertilizers, nanopesticides, soil detoxifiers

Communication Ultra-efficient fibre-optic technologies, mobile phones

Computers Nanocomputers 1 million times faster than current computers

Construction Ultra strong cement, air purifying paint, self-cleaning paint

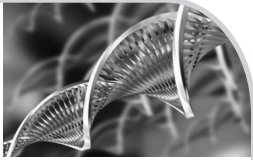
Food + Packaging Nano food preservatives, packaging that can preserve food for years, and give early warnings in case of rotting of foodstuffs.

Textiles Self-cleaning, water & stain resistant, temperature maintaining and odour-repellent fabric

Energy Ultra-efficient solar cells, enhanced windmill technology, button cells that can have a life of up to 80 years

"Nanotech will soon be a bigger field than IT and pharmacy combined ."





Water Purification Nano-silver enriched water purifiers, sea water purification for drinking and irrigation

Cosmetics Deodorants with antiseptic properties, transparent sunscreens, skin repairing face creams

Materials Ultra-strong light-weight materials for use in machines, aeroplanes, rockets. Electricity-conducting polymers.

Defence Light-weight, super-strong bullet-proof jackets, biowarfare sensors, advanced communication and espionage systems.

Robotics Nanorobots that can clean up oil spills, purify air and perform surgeries

Electronics Moleculesize transistors leading to billions of circuits/sq inch. Unimaginably high computing power.

Introductory Program in Nanotechnology

The Introductory Program in Nanotechnology explains the basic principles of this emerging field and then explains its applications in various fields. It is ideal for those who want to explore science and are curious about new technologies and their applications to everyday life.

Program Aim

The program can benefit participants by giving them a basic knowledge and exposure to a new technology. It opens an entirely new field of scientific thought, and keeps the participant updated about the latest developments in Nanotechnology. The participant can apply this exposure to applications areas in his/her respective fields.

The program makes the participant aware of:

The historical, modern and future aspects of this unique field.

Products that have been introduced in the market using Nanotechnology.

Applications of this field in various sectors.

The work going in this field in India and globally.

Program Features

- The Introductory Program is designed to provide a comprehensive understanding of Nanotechnology and its applications.
- The multidisciplinary field of Nanotechnology has been divided into five modules.

Module1 Fundamentals of Nanotechnology

Module 2 Nanotechnology in Various Sectors

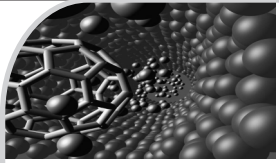
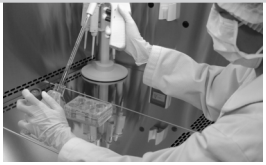
Module 3 Research & Development in Nanotechnology

Module 4 Indian Nanotechnology Perspective

Module 5 Global Nanotechnology Perspective

- A kit consisting of books, worksheets and a CD is provided to give a multi-mode form of learning.
- Worksheets that help the participant to assess his/her understanding of the course material.
- Excellent and highly experienced professionals form a rich

"Nanotech is set to become a $ 1 trillion industry by 2015" **- US Govt.**


- faculty and knowledge resource for the program.
- 24x7 telephone and online support by dedicated course co-ordinator.

Program Duration

Duration to complete the program is **three months**. In extreme cases, candidates have a maximum of six months to complete the program (inclusive of a grace period of three months against a re-registration fee of Rs.500 / US$ 25).

Eligibility

This is an introductory level program which any student / professional pursuing a diploma/10+2 /under-graduate /post-graduate course in any discipline/ industry can join. Experienced professionals, academicians and researchers too are advised to join this program to streamline their knowledge about Nanotechnology. There is no age limit for joining the program.

Syllabus

Module1 Fundamentals of Nanotechnology

Unit 1 Historical Aspects of Nanotechnology

Unit 2 What are Nano & Nanometer?

Unit 3 Nanoscience & Nanotechnology - Definitions & Components.

Unit 4 Modern Aspects of Nanotechnology.

Unit 5 How will Nanotechnology Affect us?

Module 2 Nanotechnology in Various Sectors

Unit 1 Nanotechnology in Agriculture / Food

Unit 2. Nanotechnology in Electronics

Unit 3. Nanotechnology in Textiles

Unit 4 Nanotechnology in Construction

Unit 5 Nanotechnology in Energy

Unit 6 Nanotechnology in Medicine & Pharmaceuticals

Unit 7 Nanotechnology in Automobiles

Unit 8 Nanotechnology in the Environment

Unit 9 Nanotechnology in Sports

Unit 10 Nanotechnology in Chemicals and Paints

"By 2015 the industry will need over 10 lakh trained Nanotech personnel per year"
NanoVictoria Australia

Module 3 Research & Development in Nanotechnology

Research & Development in Nanotechnology

Module 4 Indian Nanotechnology Perspective

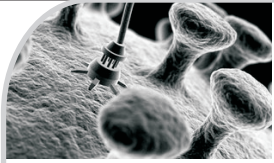
Unit 1 Role of Government in Promoting Nanotechnology

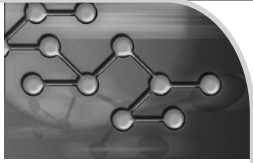
Unit 2 Role of Industries in Promoting Nanotechnology

Unit 3 Other Activities

Unit 4 Chronology of Major Conferences

Unit 5 Major Universities /Institutes/Companies in Nanotechnology





Module 5 Global Nanotechnology Perspective

Unit 1 Nanotechnology in Asia

Unit 2 Nanotechnology in Europe

Unit 3 Nanotechnology in Africa

Unit 4 Nanotechnology in Australia

Unit 5 Nanotechnology in North America

Unit 6 Nanotechnology in South America

Work Book for Nanotechnology

- Objective Type Questions.
- Subjective Type Questions
- Note on Topic of Interest
- Activity: Newspaper / Magazine Cuttings of Nanotechnology
- Activity: Pictorial Representation of Nanotechnology

Nanotechnology Multimedia Compact Disk (CD)

Contains supplementary course material.

Program Implementation Methodology

1) Join the program by submitting the application form along with the necessary fee.

2) Receive study kit (books) at your postal address.

3) Study the kit in the comfort of you home, without the need to be physically present at the NSTC.

4) Call the support numbers or communicate using chat/e-mail to resolve doubts/queries.

5) Receive certification from "Nano Science and Technology Consortium" after submission of the worksheets.

Admission Procedure & Fee Structure

Aspirants who wish to apply for the Introductory Program in Nanotechnology can do so as follows:

1) Fill the enclosed application form, or download the free application form www.nstc.in/programs.

2) Calculate the final payable fee as [Total Course Fee Scholarship Fee Waiver (if applicable details given below)] + 300/- as registration charges, and make a DD/at par cheque in favour of "Nano Science and Technology Consortium" payable at "Delhi" or "New Delhi".

3) Send the completed application form, DD/Cheque, a copy of the certificate/marksheet of the latest Degree/Diploma and one passport size photograph to:

Nano Science and Technology Consortium

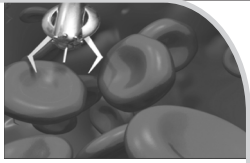
A-105, 3rd floor, Sector 63, NOIDA, UP.

Tel: 0120-4781217

"Indian Nanotech initiatives are producing products for worldwide applications"
Dr. APJ Abdul Kalam

Fee Details	Indian Students	Overseas Students
Program Fee*	Rs. 4000/-	US$ 300





Scholarships (Fee Waiver)

Applicants shall be awarded scholarships upto 40% on the basis of aggregate marks in diploma/10+2/ graduation/ post-graduation degree.

1. Women Candidates - 10% Fee waiver

2. Group - a) three and above - 20%
   (b) five and above - 30%
   (c) ten and above - 40% (Single DD payment)

3. Academic Scholarships: (based on marks in last board/univ.certification)

Scholarship	Eligibility
10% fee waiver	60% - 70% marks in last board/univ. certification
15% fee waiver	71% - 80% marks in last board/univ. certification
20% fee waiver	81% - 90% marks in last board/univ. certification
25% fee waiver	More than 90% marks in last board/univ. certification

(Check scholarship conditions on www.nstc.in/programs)

Dispatch of study material and certificates

The above program fee is inclusive of the charges towards the dispatch of Kit (study material) and the Certificate. However, in case of return of these documents owing to incorrectness/ insufficiency in the address or change of postal address, provided by the participant, the second time dispatch of the aforesaid material is charged as per the norms given on the NSTC website.

Award of Certification

Evaluation for course shall be conducted through submitted written assignments (worksheets). The time duration required to complete the program is three months. Students are instructed to complete and ensure submission of the said worksheets to NSTC within a stipulated time period of 3 months. Failing to meet this time-line requires a re-registration in the same program, by remitting a re-registration fee of Rs. 500/- or US$25=00. This facilitates an extension of three months (maximum) period for the submission of written assignments..

All candidates passing the course shall be provided a certificate by **"Nano Science and Technology Consortium"** in hard copy by registered post.

Change in Registration Information

Any change in information provided to NSTC at the time of registration, will only be considered through written communication by post. No other mode of communication will be accepted.

"Technologically superior nations will be the super powers of tomorrow. Nanotech is the future..."
Dr. APJ Abdul Kalam

Note

NSTC reserves the right to change the commencement/ conclusion dates of the program, with or without notice to the participants. NSTC strives to make the kit (study material) available to the participants in time. However, in the exceptional event of any delay from NSTC's side (excluding delay on account of postal/courier agencies) in providing the study material, the participant will be compensated with an extended timeline accordingly.

The Director NSTC is the final authority in all matters pertaining to this program.

A Nanotechnology platform

Nano Science and Technology Consortium
A-105, 3rd Floor, Sector 63, Noida, UP,
INDIA 201 301

APPLICATION FORM

Introductory Program in Nanotechnology

Three Month Distance Participation Program

Form No: .....

Affix your latest passport size photograph duly signed by you

(for office use only)

Enrolment No. | | | | | | | | | | |

1.**Name (Mr./Ms.)** _____ _____ _____
First Middle Last

2.**Father's/Husband's Name** _____

3.**Postal Address** (Capital Letters Only) _____

_____

City: _____ Pin Code: | | | | | | |

State:_____Email:_____

Phone No. with STD Code: _____ Date of Birth | | | | | | | | |
DD MM YYYY

Mobile No:_____

4.**Academic Qualification:**

Examination	Institution	Board/ University	Year of Passing	% of Marks
Intermediate				
Graduation				
Post Graduation				
Any other				

5. **Work Experience:**

Present Company (Name & Address)	Designation	Total Experience	Present Responsibility

6. (a) **Nationality**: _____(b) **Country of Residence**: _____

7. General information (✓) mark only relevant column

Sex Male ☐ Female ☐

8. Crossed Demand Draft/Cheque No._____date_____

Drawn on _____ for Rs./ $ _____

(Bank draft must be drawn in favour of "**Nano Science and Technology Consortium**". Payable at **Delhi** or **New Delhi.** Candidates are advised to write their name and address at the back of demand draft/ Cheque)

9. Scholarship (tick any one) Applicants must ensure that they have read scholarship terms & conditions given online at http://www. nstc.in before sending the application form and fee.

☐ SC/ST/OBC/ Physically challenged

☐ Female candidate

☐ Academic Scholarship

☐ Group Discount (Minimum 5 applicants with single DD are eligible)

Please attach relevant documents for support.

11. Documents to be attached with application form:
    i) Total Program Fee draft at the time of submitting application form
    ii) Photocopies of certificate & marksheet of the latest Degree / Diploma, Documents in support of scholarship
    iii) Passport size photograph
    Note: NSTC accepts payable at par cheques only, other cheque**s** are not acceptable.

Important Information

The program in which you are seeking participation, is NSTC's independent knowledge enhancement training program. The program neither promises any job guarantee nor provides any specific eligibility to pursue higher studies. In case of any dispute, it would have to be resolved through arbitration, under Arbitration and Conciliation Act 1996, by the sole arbitrator appointed by the NSTC, Noida. The jurisdiction of the same will be the Court of the District Gautam Buddha Nagar, Noida, India only.

Declaration by the Applicant

I hereby declare that I have read and understood the details of the program for which I seek admission. I have read scholarship & program terms & conditions given online and agree to the same. I have provided the necessary information in this regard. In the event that any information is found incorrect or misleading, my candidature shall be liable to cancellation by NSTC at any time and I shall not be entitled to refund of any fee paid by me to NSTC. I fully understand and agree that fee once paid is not refundable in any circumstances and is also not transferable.

Date:

Place: **Signature of Candidate**

Glimpses

C. N. R. Rao inaugurating Bangalore Nano 2007

Enthusiastic students enquiring about NSTC

A scholar reading about NSTC activities

Professionals at NSTC stall

MoU's

nDure Special Material , Australia
Dr. Ravi Krishnamurthy from Nanotechnology Victoria Ltd. visited NSTC.
MoU signed on 30th Oct. 2009.

Cinvestav Premises, Mexico
Dr. Velumani Subramaniam from Cinvestav visited NSTC.
MoU signed on 9th April 2008.

National NanoFab Center, Korea
Dr. Hee Chul Lee National NanoFab Center.
Signed an MOU in August 2008.

Midas System Co., Ltd, Korea
Mr. Lee, Gon Cheol
MoU signed on MoU in October 2009.

Over 2,000 participants have already completed NSTC's Nanotechnology programs

NSTC's Program Participant Affiliations

- Accenture
- AIIMS
- Alagappa University
- Aligarh Muslim University
- Amrita Institute of Medical Sciences
- Anna University
- Apollo Hospital
- Ashok Leyland
- BARC
- Bharat Earth Movers Ltd.
- Bharat Electronics
- BHEL
- Biocon Ltd.
- BSNL
- Central Forensic Science Laboratory
- Cognizant Technologies
- Covansys
- Deloitte Consulting
- Department of Atomic Energy
- Dr. Reddys Lab
- DRDO
- Excel Hitech India Enterprises
- Grasim Industries Ltd.
- HCL Technologies Ltd.
- Hewlett Packard
- Hindustan Lever
- Hindustan Petroleum
- Honeywell Technology Solutions
- IIT Delhi
- IIT Guwahati
- Indian Agriculture Research Institute
- Indian Air Force
- Indian Army
- Indian Institute of Science
- Indian Navy
- Indian Oil Corporation Ltd.
- Infosys Technologies Ltd.
- ISRO
- Johnson & Johnson
- Larsen & Toubro
- Mahindra & Mahindra Ltd.
- Manipal Institute of Technology
- MRF Ltd
- NALCO Ltd.
- National Aerospace Laboratories
- National Metallurgical Laboratory
- National Physical Laboratory
- ONGC Ltd.
- Pfizer Ltd.
- Polaris Software Labs Ltd.
- Reliance Energy Ltd.
- Robert Bosch India
- SAIL
- SAP Labs
- Siemens
- SRL Ranbaxy Ltd.
- Sterlite
- Satyam Computers
- Syntel Inc. India Ltd.
- Tata Consultancy Services Ltd.
- TATA Research Development and Design Centre
- Tata Steel
- TB Research Centre, ICME
- Tech Mahindra Ltd.
- Unichem Labs Ltd.
- Vellore Institute of Technology
- Vikram Sarabhai Space Center
- Wipro Technologies

Nano Science and Technology Consortium

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