

## Key Note Address

**Prof. Bajpai Parmendra Kumar**

Professor & Head Department of Pure & Applied Physics

Guru Ghasidas University, Bilaspur, Chhatisgarh.

## ~Resource Persons~

**Prof. Pralay Maiti**

Professor,  
Material Science & Technology,  
Indian Institute of Technology, Kanpur

**Prof. Ramphal Sharma**

Head, Department of Nanotechnology,  
Chhatrapati Shri Chhatrapati Sambhaji Maharaj Marathwada University,  
Aurangabad

**Dr. Pallavi Chaudhari**

National Chung Cheng University,  
Taiwan

**Dr. Prakash Chaudhary**

National Chung Cheng University,  
Taiwan

## Valedictory Function

Chief Guest:

Dr. Nanaso Thorat, Marie Curie Fellow, Oxford University, United Kingdom

## Conference Schedule

### Day-I Monday 15/03/2021

Inaugural Function	11:00 - 11:30 pm	Dignitaries of Karmaveer Bhaurao Patil College, Vashi
Keynote	11:30am - 12:10 pm	Prof. Bajpai Parmendra Kumar
Session-1	12.10pm - 01:10 pm	Dr. Pralay Maiti
Session-2	1.15 pm - 2:15 pm	Dr. Pallavi Chaudhari
Session-3	2.15 pm - 4:15 pm	Paper presentation of participants

### Day-II Tuesday 16/03/2021

Session-1	11:00am - 12:00 pm	Prof. Ramphal Sharma
Session-2	12.00pm - 01:00 pm	Dr. Prakash Chaudhary
Session-3	1.00 pm - 2:00 pm	Valedictory Function Chief Guest: Dr Nanaso Thorat

## ~Organizing Committee~

**Dr. Shubhada Nayak**

Director & I/C Principal

**Dr. Ramesh Mohite**

Coordinator & Head of the department

**Dr. Gurumeet Wadhawa**

Co-Convener

**Mr. Yashwant Gaikwad**

**Ms. Gayatri Gaidhane**

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Convener

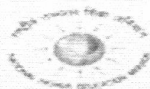
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**Two Day International E-Conference  
On  
'Futuristic Aspects in Nanotechnology'  
(IC-FAN-2021)  
March 15 - 16, 2021  
Under the Aegis of RUSA  
Organized By**

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Ahmednagar College, Ahmednagar.

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Dr. Ramesh Mohite Coordinator & Head of the department

Dr. Laxman Gavali Convener

Dr. Gurumeet Wadhawa Co-Convener

Mr. Prasad Mane Organizing Secretary

**Number of beneficiaries -879**

**Number of Full papers**

**Paper presentation 15**

**Abstract of the conference -67**

**Three winners from the participants**

**Frist prize**

**Second prize**

**Third prize**

**Fourth prize**

**Fifth prize**

## Session 2

### Dr.Pralay Maiti In second Lecture

#### On Nano catalyst and Polymer

The field of nanotechnology is one of the most popular areas for current research and development in basically all technical disciplines. This obviously includes polymer science and technology and even in this field the investigations cover a broad range of topics. This would include microelectronics (which could now be referred to as nanoelectronics) as the critical dimension scale for modern devices is now below 100 nm. Other areas include polymer-based biomaterials, nanoparticle drug delivery, miniemulsion particles, fuel cell electrode polymer bound catalysts, layer-by-layer self-assembled polymer films, electrospun nanofibers, imprint lithography, polymer blends and nanocomposites. Even in the field of nanocomposites, many diverse topics exist including composite reinforcement, barrier properties, flame resistance, electro-optical properties, cosmetic applications, bactericidal properties. Nanotechnology is not new to polymer science as prior studies before the age of nanotechnology involved nanoscale dimensions but were not specifically referred to as nanotechnology until recently. Phase separated polymer blends often achieve nanoscale phase dimensions; block copolymer domain morphology is usually at the nanoscale level; asymmetric membranes often have nanoscale void structure, miniemulsion particles are below 100 nm; and interfacial phenomena in blends and composites involve nanoscale dimensions. Even with nanocomposites, carbon black reinforcement of elastomers, colloidal silica modification and even naturally occurring fiber (e.g., asbestos-nanoscale fiber diameter) reinforcement are subjects that have been investigated for decades. Almost lost in the present nanocomposite discussions are the organic-inorganic nanocomposites based on sol-gel chemistry which have been investigated for several decades [1-3]. In essence, the nanoscale of dimensions is the transition zone between the macrolevel and the molecular level. Recent interest in polymer matrix based nanocomposites has emerged initially with interesting observations involving exfoliated clay and more recent studies with carbon nanotubes, carbon nanofibers, exfoliated graphite (graphene), nanocrystalline metals and a host of additional nanoscale inorganic filler or fiber modifications.

## **Day 1**

### **Session 1**

**Dr.Parmendra Bajpai**

#### **Nanotechnology and Semiconductor**

Delivered the Keynote Address in the Nanotechnology for the semiconductotes

Growing with the development of semiconductor fabrication industry, micro electrical mechanical systems (MEMS; also called nanotechnology) technology has begun to impact highway pavement construction materials and the pavement infrastructure condition monitoring sensor network. In this project, we investigated the potential nanotechnology applications in highway pavements mainly in two different categories: smart materials for pavement construction and sensors for transportation and pavement infrastructure condition monitoring. The smart materials are applicable to the pavement construction materials including concrete, asphalt, aggregates, and pavement marking materials, and the sensors, including temperature sensor, strain sensor, pressure sensor, accelerometer, and moisture sensor, now form a reliable, accurate, low-cost network and are suitable for transportation and pavement infrastructure condition monitoring. Radio frequency (RF) MEMS technology is an advanced and innovative MEMS sensor technology which transmits MEMS sensor data wirelessly at a high speed securely, instead of using a traditional wired communication system. Ultra-low-cost RF MEMS sensors can be placed in the pavements, bridges, and even inside concrete and asphalt in large quantities to form a local RF MEMS sensor network for different pavement infrastructure monitoring purposes. Smart materials and applications of RF MEMS sensor networks are also investigated in this report. Nano materials are very attractive to the Texas Department of Transportation (TxDOT). Though nano materials are still in the research and development (R&D) stages and are not cost effective for implementation at this time, nano-based sensors are maturing and can be used in TxDOT for monitoring and other applications.

### Session 3

Owing to their unique physicochemical properties and comparable size to biomacromolecules, functional nanostructures have served as powerful supports to construct enzyme-nanostructure biocatalysts (nanobiocatalysts). Of particular importance, recent years have witnessed the development of novel nanobiocatalysts with remarkably increased enzyme activities. This review provides a comprehensive description of recent advances in the field of nanobiocatalysts, with systematic elaboration of the underlying mechanisms of activity enhancement, including metal ion activation, electron transfer, morphology effects, mass transfer limitations, and conformation changes. The nanobiocatalysts highlighted here are expected to provide an insight into enzyme-nanostructure interaction, and provide a guideline for future design of high-efficiency nanobiocatalysts in both fundamental research and practical applications.

### Day 2

#### Session 1

**Dr. Ramphal Sharma**

Nanotechnology is hailed as having the potential to increase the efficiency of energy consumption, help clean the environment, and solve major health problems. It is said to be able to massively increase manufacturing production at significantly reduced costs. Products of nanotechnology will be smaller, cheaper, lighter yet more functional and require less energy and fewer raw materials to manufacture, claim nanotech advocates. Zinc oxide (ZnO) thin-films were grown on glass substrates by using simple wet chemical approach and then the films were annealed at 450 °C in air atmosphere for 2 h. The scanning electron microscopy images could confirm the uniform deposition and formation of cabbage leaf-like ZnO nanostructures. The optical band gap was found to be 3.14 eV for annealed films. The sensor showed higher sensitivity towards liquid petroleum gas (LPG) at optimized temperature of 200 °C. The response and recovery times with 200 ppm of LPG were found to be ~6 and ~8 s, respectively.

### Session 2

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**Dr. Prakash Chaudhary**

Chirality is one of the most important structural features of organic compounds. Naturally occurring molecules exhibit different bioactivities depending on their enantiomeric forms. This behaviour is crucial for the production of high-value pharmaceuticals and agrochemicals. Moreover, chiral phenomena play a vital role in nanotechnology applications, and many nanotech innovations benefit greatly from molecular chirality, e.g., molecular switches, nanotubes, and others.

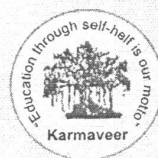
Many asymmetric approaches have been developed. The use of abundant chiral sources, e.g., sugars, induction of chirality via an auxiliary or a catalyst, or the use of enzymes, are some of them. However, over the past few decades, the need for enantiomerically pure or enriched compounds continues to increase. Thus, the field of asymmetric synthesis is one of the most dynamic areas in chemical research, at the academic and industrial level.

Session 3

**Dr. Nanasheeb Thorat**

The ability to investigate substances at the molecular level has boosted the search for materials with outstanding properties for use in medicine. The application of these novel materials has generated the new research field of nanobiotechnology, which plays a central role in disease diagnosis, drug design and delivery, and implants. In this review, we provide an overview of the use of metallic and metal oxide nanoparticles, carbon-nanotubes, liposomes, and nanopatterned flat surfaces for specific biomedical applications. The chemical and physical properties of the surface of these materials allow their use in diagnosis, biosensing and bioimaging devices, drug delivery systems, and bone substitute implants. The toxicology of these particles is also discussed in the light of a new field referred to as nanotoxicology that studies the surface effects emerging from nanostructured materials





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Pratik Dnyandeve Shinde	KBP college	Mumbai University
Riya lahudas bhanage	Karmaveer bhaurao patil college vashi	Mumbai university
Devrahal Sharad Sapkal	Karmaveer bhaurao Patil College vashi	Mumbai University
SNEHA DILIP JUNGHARE	Karmaveer Bhaurao Patil College Vashi, Navi Mumbai	Mumbai University
KUMBHAR PRAFUL PRAKASH	KARLVEER BHOURAO PATIL COLLEGE VASHI	Mumbai university
Satre Sonal Vitthal	Karmaveer Bhaurao Patil, College	Mumbai University
Mr. BHUSHAN GURUNATH SHETKE	Karmaveer Bhaurao Patil college Vashi	Mumbai University
Nikita Sham Gurav	Kbp college vashi	Mumbai university
Mishra vivek Virendra	KBPCollege	Mumbai
Shrutika Satish Khamkar	Karmaveer Bhaurao Patil Collage, vshi	Mumbai
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Tanmay Prashant Gadankush	Karmaveer Bhaurao Patil Collage, Vashi	Mumbai University
Bhagyashree Krushna Manmode	Karmaveer Bhaurao Patil Collage Vashi	Mumbai University
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Deep Sanjivkumar Mirkute	Kbp collage	Mumbai

## Objectives of the Conference

To enhance the research culture among the academicians, industrial persons and research students. To exchange ideas, new synthetic methods and research findings with experts to develop new eco-friendly methods for industries. To create awareness about new aspects in nanotechnology among the students.

## Conference Themes

- Synthesis of novel organic and inorganic materials
- Advanced applications in nanotechnology
- Nanomanufacturing & Nanocharacterization
- Nanotech for Energy & Environment
- Green Chemistry
- Nanocatalysis
- Nanotechnology & Nanochemistry
- Metal complexes and their applications
- Environmental Chemistry
- Drug Development

## Call for Research Paper Presentation

Researchers are invited to present work according to the theme of the conference

- Research scholars are requested to submit the abstract of research papers, it should not exceed 250 words. The font should be Times New Roman with a font size of 12 and 1.5 line spacing only.
- After acceptance detailed guidelines will be sent to the Authors.
- All abstract and paper to be sent to email address: gurumeeteducation@gmail.com
- For Oral/poster Presentation, Kindly make audio-video recordings of your respective oral /poster presentation a maximum of 5 min. length and upload the same to your YouTube account and submit the URL of your YouTube on **google form used for registration only**.
- Last date for submission of oral / poster YouTube video link -March 14, 2021

*Registration fee for Conference : NIL*

### *Editorial Board*


Dr. Ramesh Mohite, Mr. Yashwant Gaikwad, Dr. Vikas Thakur, Dr. Laxman Gavali,  
Dr. Bhushan Langi, Dr. Gurumeet Wadhawa, Mr. Prasad Mane


### *Important Dates & Links*


Registration Starts: February 25, 2021 up to March 15, 2021

Conference Dates: March 15 and 16, 2021


For abstract submission last date: March 14, 2021

Mode of Conduct: Google Meet Platform: 

YouTube live: 

Register with us: <https://forms.gle/XbxZE9PWX7537LXEA> 

Connect with us for further Instructions:

Telegram link: 

WhatsApp link: 

Contact Details: +91-8421125683, +91-9969105261, +91-9975441049

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