



# BIOFUTURITY

CURRENT SCENARIO AND FUTURE TRENDS  
IN BIOTECHNOLOGY

**March 27<sup>th</sup>-28<sup>th</sup> 2018**

**A National Conference Organized by  
Department of Biotechnology Engineering**

**Sponsored by**



**U.P. Higher Education Commission**



**Institute of Engineering and Technology  
Bundelkhand University, Kanpur Road,  
Jhansi (U.P.) 284128**

## INTRODUCTION

Over the past few decades rapid developments in molecular genomic and information technologies have combined to produce a tremendous amount of information related to biotechnology. In general biotechnology and bioengineering is an integrated approach of functional biological sciences and traditional engineering principles. The overall mission of biotechnology is to improve the health and quality of life by applying engineering principles of scientific discovery and technology innovation.

Modifications in various biological systems make use of various methods of biotechnology which help in realizing unimaginable things like cloning, tissue culture, transplantation, stem cell therapy, bioremediation, r-DNA technology as well as developing vaccines, drug discovery, etc. However keeping in mind the rapid pace of social, technological and industrial development and consequential environmental imbalances, biodegradation and human health issues, biotechnology needs more research and development to meet such challenges at global level.

This event will provide a unique forum where latest technological advances will be presented and future directions of biotechnology will be highlighted. The rapid industrialization and urbanization have resulted into increased population, pollution, environmental and ecological imbalance with steep decrease of natural resources and global warming. Apart from sustaining and developing crop, forest, animal, useful micro organisms and genetic resources, biotechnology also contributes considerably towards use of genes and DNA molecules to diagnose and cure the diseases. Biopharmaceutics, gene therapy, pharmacogenomics, genetic testing and drug delivery system are some of the applications of biotechnology which play an important role in the field of medicine. Options in energy sector would require consistent assessment and regulation. Cost effective, energy efficiency, energy conservation measures, development of clean energy technologies, generates large benefits in terms of reducing carbon emissions. Energy is prime mover of economic growth and necessary component of sustainable development, low carbon sustainable transport and energy efficient housing strategies are necessary. Recent advances have also led to the development of biofuels in the form of biohydrogen and electricity in the form of biogas that are tremendous sources of energy that can be tapped from various wastes.

Another futuristic approach in the field of biotechnology is systems biology which involves the study of complete gene, protein and metabolic networks. It aims at system level understanding of biology and quantitative analysis of dynamic interaction between several components of biological systems; it takes a completely different approach of integrating such data and understanding how individual molecules interact in networks. Last but not the least, a process common to all biological processes, whether based on fermentation and bioprocess technology, is the need to recover the product which is performed through downstream processing.

Biotechnology also has a pivotal role to play in agriculture based countries like India. All these are major challenges to be met by scientists, research scholars and technocrats at global level which can be met by consistent innovation and research in biotechnology.

### Conference Theme

Explore ways and means for application of biotechnology to increase the production and utilization of biomass, maintain equilibrium between bioenergy production, food requirement

and eradication of malnutrition and health hazards amongst people belonging to lower strata of society for the well being of humanity today and tomorrow.

## Scope

The manifestation of the conference is to indicate and outline future directions of research in biotechnology. Researchers are invited to submit abstracts for oral and poster presentations. Topics of interest for submission include but are not limited to:

- Systems biology
- Nano technology/Nanobiotechnology
- Stem Cell Technology
- Plant & Agribiotechnology
- Microbial, Environmental and Industrial Biotechnology
- Analytical, Pharmaceutical and Medical Biotechnology
- Nanobiotechnology & Nanobioengineering
- IPR, Biosafety & Bioethics
- Multi subunit DNA Vaccines
- Genomics and Proteomics
- Computational Biotechnology
- Metabolic Engineering
- Animal Biotechnology
- Genetic Engineering
- Bioprocess Technology
- Enzyme and Protein Engineering
- Industrial Biotechnology
- Food and Agricultural biotechnology

In addition to these key areas of science and technology, other aspects of biotechnological research will receive attention.

## About the Organizers

Situated in the lap of Kamason Hills of Jhansi, Bundelkhand University is an eminent institute of higher learning imparting education in conventional basic sciences as well as emerging interdisciplinary and applied subjects. Due to its academic and administrative infrastructure and standards it has been accredited with B++ grade by NAAC and ranked as number one university amongst the universities in Uttar Pradesh. Department of biotechnology engineering the organizer of the conference, is an integral part of the institute of engineering and technology. The department prepares the next generation biotechnology in the field of Genetic engineering, Bioprocess technology, nano-biotechnology, plant/animal Biotechnology, Bioinformatics and Industrial Biotechnology.

## About Jhansi

Bundelkhand region is stretched between  $23^{\circ} 35' 36''$  N and  $78^{\circ} 82'$  E bounded by Yamuna in the north the Chambal in the north west, the erupted ranges of the Vindhya plateau in the south and, the Panna and Ajaygarh Ranges in the south east. The walled city of Jhansi the Gateway to Bundelkhand recognized as one of the historical place of eminence being the pioneer land of revolutionary of 1857-Fiery queen Maharani Lakshmibai the Jhansi ki Rani who played a pivotal role in the mutiny of 1857. Jhansi is surrounded by beautiful historical sites, religious centers, monuments, water bodies and sanctuaries i.e Jhansi Fort, Rani Mahal, Raja Gangadhar Rao chattri, Samadhi, Laxmi tal, Laxmi mandir, State museum, St. Judes church, Datia, Sonagir, Orcha, Shivpuri and Khajuraho.

## Orchha

Orchha is 18 km. away from Jhansi; a small township founded in the 16<sup>th</sup> century. It is a city frozen in time, on banks of river Betwa. The city of Orchha consists of several buildings constructed at different times. In the time of Bir Singh JuDeo (1605-1627) who built the exquisite Jahangir Mahal, Hardaul Mandir and Chatturbhuj Temple.

### **Sonagiri**

Sonagiri is 25 km away from Jhansi. There are some 77 Jain temples, built along the hill and its slopes, dating back to the 17<sup>th</sup> century. Of these, the temple dedicated to *Chatranatha*, the 8<sup>th</sup> of the 24 Tirthankaras is the most beautiful.

### **Datia**

Datia is the ancient town which is situated at a distance of about 30 km. from Jhansi. It has been mentioned in Mahabharat as 'Daityavakra'. The most historic monument at Datia is the seven storied palace of Raja Bir Singh Judeo, built atop a hill with splendid view all around. Datia is also famous as a pilgrimage spot for devotees of Siddhapeeth Shri Peetambra Devi.

### **Shivpuri: The Tiger Land**

Shivpuri, 101km from Jhansi was once the summer capital of the Scindia rulers of Gwalior. Madhav National Park: The park covers an area of 156 sq. km. and has a varied terrain of wooded hills, which offers an abundant opportunity for sighting a variety of wildlife. The predominant species in the park is the deer, of which offers an abundant opportunity of sighting a variety of wildlife. The predominant species in the park is the deer, of which the most easily sighted are the graceful Chinkaras and the Chitals, other important species being, Nilgai, Sambar, Chausigha, Blackbuck, Sloth Bear, Leopard and Langur.

### **Chitrakoot**

The fact that Bundelkhand region, during the epic era was under a dense forest is evident from the incidence of Ramayana where Rishi Balmiki advised Lord Ram to stay in the lush green forest area of Chitrakoot area, in his exile days. Even till date the average annual rainfall in this area is about 100mm. Chitrakoot is the celebrated pilgrimage town which is located on the northern spur of the Vindhya. It has various mythological tales attached to it. It was the abode of Lord Rama and Sita for eleven years when in exile. This holy city, the abode of the gods, is set in sylvan surroundings on the beautiful River Mandakini. It is dotted with innumerable temples and shrines today. The places of Tourist interest are Gupt Godavari, Sati Anusuya, Sphatik Shila, Janki Kund, Hanuman Dhara, Kamadgiri, Ram Ghat.

### **Khajuraho**

Khajuraho or ancient 'Khajurvahaka' derives its name from the khajur tree (the date palm tree) which abounds in plenty in this region. The quiet sylvan retreat seems to have been an ideal religious sanctuary nestling in the lap of the Vindhya Mountains. The place, if pictures speak, is a thousand words, a magnum opus, an expression of Indian sculptures of yore. The founder of the Chandela dynasty Nannuka or Chandravarman ruled over central India in the 10<sup>th</sup> century. He constructed 85 temples dedicated to various gods on massive altars. The Chandelas were zealous patrons of art and architecture. The murals and motifs

depict scenes from hunting, feasting, dancing and stress on the sensual and the erotic. Apart from the above mentioned places, there are several sites and objects of tourist interest in the region in addition to its dramatically rich and unique cultural treasure aptly manifested in the spectacular folk dances, music, songs, paintings and outstanding craftsmanship.

### **Participants**

Faculty, Students, research scholars, professionals, academicians and scientists from various institutions, research organizations and persons from industries.

### **Submission of papers**

Extended abstracts approx of 1000 words (including figure) of all plenary lectures; oral and poster presentation will be published in the book of abstracts. The manuscripts should be submitted preferably via e-mail as an attachment preferably as word document (Times new roman ,12 pt. font size, single space) to the convener by 22<sup>nd</sup> march 2018 Authors should ensure that the abstract is technically and grammatically free of any errors. A selective number of papers shall be published in proceeding after a peer review. For any query regarding paper/oral/poster presentation, the participants are free to contact with members of peer review committee at [biofuturaity2018@gmail.com](mailto:biofuturaity2018@gmail.com).

### **Presentations**

Poster presentations can be in the form of individual or in group.

### **Exhibition**

An exhibition will be organized during the conference. It will be aimed to provide an opportunity to the manufactures/dealers of lab equipments and other accessories to display their products for the participants of the conference.

The exhibits may include technical literature, books and equipments. The tariff for a 3 m\* 3 m stall is Rs.20,000/- (This include registration for two people). Last date for finalizing the space for the exhibition is 25<sup>th</sup> march 2018

### **Registration Fee**

The delegates are requested to pay the registration fee by CASH/Postal Order (uncrossed) by 26<sup>th</sup> March 2018

	<b>By last date</b>	<b>on the spot</b>
Student participants:	Rs. 1000/-	Rs. 1200/-
Faculty & Others :	Rs.1500/-	Rs.2000/-
Industrial delegate :	Rs.3000/-	Rs.3500/-
Foreign Delegates	Rs.8000/-	Rs.10000/-

### **Accommodation**

Accommodation shall be provided for the interested delegates at hotels/ guest houses in Jhansi ranging from Rs.600/- to Rs.800/- for non A/C and Rs.1200/- to Rs.2500/- for A/c. The delegates are requested to send the advance payment for hotel booking. Student accommodation will be available in hostels at 200/- per day excluding meals.