

# SCHOOL OF STUDIES IN BIOTECHNOLOGY

**(A DST-FIST Supported School)**



**Pt. Ravishankar Shukla University**

**Raipur 492 010, Chhattisgarh**

Accredited Grade "A" by NAAC (CGPA 3.02)

NIRF Ranking: Band 151-200

## About the School

The school was established in 2004 with high level intellectual inputs from **Prof. K. L. Tiwari** (as pioneering Head of the Department), who laid the foundation stone. The School comes under the faculty of Life Sciences offering postgraduate as well as a research degree (Ph.D.) programs in Biotechnology. The School has come up with strong academics and cutting-edge research outputs in recent years with a major goal to enhance our understanding of the scientific world through excellence in observational, theoretical and experimental science for the betterment of mankind.

## Vision & Mission of the School

- To establish this School as a “Centre of Excellence” in terms of both teaching and research, in the realm of Biotechnology.
- To establish academic collaborations with the peers of the subject as well as nationally and internationally located reputed organizations.
- To make teaching-learning process more effective, transparent and interesting by incorporating latest Information and Communication Technology (ICT) aids.

## Programs offered

Ph.D.

M.Sc.

CBCS (Biotechnology)

(Admission as per the University Norms through Entrance Examination)

## Training/ Dissertation

The School provides various opportunities for school as well as college students to familiarize and/or pursue research in core areas of Biotechnology. The School offers Internship/Summer training and Dissertation programs for UG, PG and other students.

## Faculties of the School

Name	Position	Specialization
Dr. S.K. Jadhav	Prof.	Fungal biotechnology, Biofuel and Environment Biotechnology
Dr. Keshav Kant Sahu	Prof. & Head	Stress biology, Ex-situ conservation and Bioremediation
Dr. Afaque Quraishi	Asst. Prof.	Plant Biotechnology, Plant Virology and Phytoremediation
Dr. Kamlesh Shukla	Asst. Prof.	Biofertilizer and Mushroom Technology
Dr. Nagendra Chandrawanshi	Asst. Prof.	Plant Biotechnology and Mushroom Technology
Dr. Jai Shankar Paul	Asst. Prof. (Guest)	Bioprocess engineering and Environment Biotechnology

## Research Grants Obtained

The school is the recipient of DST-FIST (level-I) grants (2014-19) from DST, New Delhi. It has also received grants from various reputed funding agencies like UGC, DRDO, DBT, CG Govt., CGCOST, etc., and industries like ITC, Bengaluru.

## Academic Achievement

Students of this school have qualified various prestigious national level examinations and are honored by various national fellowships like: DST-INSPIRE, CSIR-JRF, UGC-JRF, UGC-RGNF, DBT-JRF, University Research Fellowships and also placed in different National and State Govt. Agencies.

## Cutting Edge Laboratories/ Thrust Areas of Research

### Bioprocess Laboratory



The lab is pioneering the infinite prospect of the microbial fermentation process. Work on advances in bioenergy production like bioethanol, bioelectricity, biohydrogen, etc., exploiting different microbes and novel substrates. Apart, research on bioremediation of heavy metals following fungal strains is also being done.

### Fungal Biotechnology Laboratory



Involved in bioprospecting of endophytic fungi, establishment of the axenic culture of arbuscular mycorrhiza & mushroom biology. Study of Agaricales in Central India, their identification & germplasm conservation. Attempt to screen bioactivity of endophytic fungi and has expertise in *in vitro* mass production of arbuscular mycorrhiza.

### Plant Biotechnology Laboratory



Engaged in developing *in vitro* propagation protocols and enhanced production of secondary metabolites via elicitation in various specie; *C. borivilianum*, *C. caesia*, *B. lanzan*, *Z. armatum*, *G. superba*, *A. calamus*, etc., those are endangered or difficult to propagate. Working on the elimination of banana bunchy top virus from infected banana cultures.

### Mushroom Technology Laboratory



Work on propagation and conservation of mushroom & medicinal plants. Identification of alternative spawns and substrates for mushroom cultivation is underway. Investing efforts to enrich mushrooms with added metabolites and minerals. Moreover, trying to screen potent bioactive's which can be useful for pharmaceutical industries.

### Stress Biology & Germplasm Conservation Laboratory



Assess molecular alterations, through protein profiling, gene expression, etc., takes place in abiotic stressed seeds/ seedlings. Attempting to identify measures like nanomaterials, carbon dots, etc. to confer stress tolerance in tissues. Trying to derive conditions for germplasm conservation, and capture novel organisms, which will reduce xenobiotics toxicity along with along with plant growth promotion.

## Available Facilities

Specified research laboratories and sophisticated instruments available are- Gel Doc system, Inverted Microscope, Thermocycler, UV Transilluminator, CO<sub>2</sub> Incubator, UV-Vis Spectrophotometer, High-Speed Centrifuge, HPLC, MilliQ Water Purification System, Spectrofluorometer, Bio Safety Cabinet, Digital Microscope, Cryocans, ELISA reader, Electrophoresis System, Orbital Shaking Incubator, Air Sampler, Spectroquant Nova 60, Water Quality Analyzer PE 138, EC-TDS Analyzer CM 183, Deep Fridges (-20 & -80°C), Automated Plant Tissue Culture Lab, Medicinal Plant Incubation Centre, etc.

## Library

The School is having its own library which includes hardbound and electronic copies of featured books of biotechnology. Moreover, thousands of e-journals are available through the UGC-INFLIBNET network via University Central Library.

## Entrepreneurship and Innovation Skill Development

The School aims to cherish an 'entrepreneurial mindset' as well as innovative skill, ideas and abilities to make start-up under **National Innovation and Startup Policy-2019 (NISIP)** for faculties and students of Higher Education Institutions (HEI) initiated by MHRD's (Now, Ministry of Education) Innovation Cell (MIC) and the All India Council for Technical Education (AICTE). The School encourages students as well as research-oriented faculties towards Innovation and Entrepreneurship related activities to gain fundamental business skill by their innovative mindset.

## Consultancy Services

The faculties of the School provides consultancy services/ career counselling or guidance to nurture the uniqueness of every student for their higher education or placement in various esteemed organization.

## Glimpses of Instrumentation Facilities



### Extracurricular Activities

Guest lectures, field & Lab visits, Seminars and Workshops are also organized by the department for the development of scientific temperament in the students. Exposure and interaction of students with renowned national and international personalities of Biotechnology intend them for enthusiastic R&D in the subject.

### Alumni Association of Biotechnology

The Alumni Association of this School exists since 2010. It has registered under the Firm and Societies, Govt. of Chhattisgarh, Raipur dated 05/05/2014 vide Registration no. 29709. More than 100 members have joined the association as life members. Most of the Alumni are working in various Government and private organization. The Association is now involved in publishing a half-yearly Journal “NewBioWorld”: Journal of Biological Sciences at <https://newbioworld.org/>.

## Glimpses of Extracurricular Activities



### Academic Growth

Publication	Project/Grants	H-Index	CIF	Placements	CSIR/DBT/UGC-NET	PhD	M. Phil
267	19/₹161.1 Lakh	47	257.046	110	74	41	71

### Contact us-

#### Head of the Department

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