

Departmental Profile: Microbiology

About the Department:

Department of Microbiology started in 1980 and now recognized as centre of excellence in teaching and learning microbiology with respect to undergraduate and post graduate studies in the central part of India. The department aims to stimulate an interest in the social and economic implications of Microbiology in society. The faculty in the department is well qualified with a pronounced academic and research experience. The research papers of faculty and students of the department published in peer reviewed national and international journals. The intake capacity of undergraduates is 100 and 22 for post graduation. We have successfully completed five years UGC sponsored and R.T.M. Nagpur University, Nagpur recognized certificate course, career oriented programme in Clinical Laboratory Technology. The same course is restarted from 2016 on Self Finance basis with intake capacity of 40. Department has well- equipped spacious laboratories for UG and PG with sophisticated instruments set ups, computers and internet facility as well as departmental library.

Sophisticated Major Instruments:

- Gel Documentation, Model Gusto
- Trinocular Microscope with Microscope image projection system, Make Olympus
- Polymerase Chain Reaction (P.C.R.) Eppendorf with 98 wells, master cycle gradient
- Double Beam UV Visible Spectrophotometer, Shimadzu Model UV-1800 quartz cuvettes USB Cable Software CD.
- Fermentor, Shree Biocare India, Cap 3 lit
- UV Transilluminator, with filter (25 cm x13cm) Bio – Safety Cabinet Class II, type A2 , 4’x2’x2’G/powder coated micro-fit make.
- Deep Freezer, Remi Quick freezer, BDF 2822
- Cooling Centrifuge
- Biosafety Cabinet
- Orbital Shaker Incubator
- Sonicator
- Molecular Biology experimental setup.

Recent Achievement of Students:

1. Mayank Shukla and Diksha Taksande from B. Sc. final year cleared IIT JAM entrance exam (Biology) for the year 2017-18. Ms Nitya Varsha, Mr Samyak Bhagat, Ms Nivedita Dambhare, Ms





- Khushabu Meshram cleared IIT JAM entrance exam in 2018-19.
2. Aditya Bhaskarwar and Ayushi Choudhary from M. Sc. 1st year completed summer internship from NIT Rourkela in the year 2019-20.
 3. Diksha Kalode and Shivani Mude from M.Sc 1st year and Divya Tawar and Pranali Bansod from M.Sc. 2nd year participated and presented the paper in International Conference on “Ayurveda for Global Well Being” organized by Ayurvedic College, Salod at Datta Meghe Institute of Medical Sciences and Research in January 2018.
 4. Ruchika Bhisekar, Jayanti Mishra, Darshana Mankar & Harshada Sontakke from M.Sc.1st year participated and presented the poster in National conference on “Recent trend in polymer technology” organized by NMU Jalgaon in January 2020 and among them Ruchika Bhisekar and Jayanti Mishra got best poster award.
 5. Sakshi Chawade from UG secured 2nd prize and Bhumika Dhoke from PG secured 1st prize in National Essay Competition on Microbiology, organized by Microbiologists Society, India for the year 2019-20. Bhumika Dhoke also received a Travel Assistance of Rs. 2000 for attending any National conference in Microbiology/Biotechnology in any part of India.
 6. Pranali Jaunjal and Adity Motilinge M.Sc.I presented the poster on topic ‘Phage therapy’ at One day International Conference on ‘Future Tech of Life sciences’ organized by S. K. Porwal College, Kamptee in February 2020 and were awarded by 3rd prize. Ruchika Bhisekar from M.Sc. 1st year presented the poster on the topic ‘CRISPR-Cas-9’ in the same conference.
 7. Ms. Harshada Kitey submitted Ph. D. in RTM Nagpur University in 2019, Mr. Nikhil Samarth get selected for Ph.D. at NCCS, Pune in 2019, Miss Pragati Kamble , joined Ph. D. program at RGCB Trivendrum in 2019 and Miss Anuja Maitrey selected at NEERI in Jan 2020.



Salient Features of the Department

- Well qualified, skilled and dedicated faculty
- Advanced teaching and learning resources and methods
- Students qualifying CSIR-NET-JRF, SET, GATE, IIT-JAM exams and selected for Ph.D. programmes at National Institutes like NCCS, Pune, NEERI Nagpur and RTMNU Nagpur.
- Linking of the department with Microbiologists Society ,India(MSI)
- Execution of ‘Star College Scheme’ of DBT, Ministry of Science and Technology, Govt. of India
- Students participating in intercollegiate and National level essay, seminar, elocution competitions conferences.
- UG students executing experimental projects under CPE since 2010- 11
- Faculty participation in Refresher Courses and SWAYAM.
- Students’ participation in online SWAYAM courses organised by NPTEL.

- Organization of state level MicrobiOlympiad competition.
- Organization of state level seminar competition for students 'Scintillation' every alternate year.
- Collaborations with Institute like NCCS, Pune
- Department completed Two MRP funded by UGC.
- Internet Access to the students
- Separate departmental library
- Career guidance for students.
- Skill development course 'Certificate Course in Clinical Laboratory Technology'.
- Well equipped laboratories for academic and research activities
- Workshops, guest lectures, seminars, exhibition and quiz competition for overall development of the student

FACULTY PROFILE

Name	Designation	Qualification	Area of research	Contact No.	Email Id.
 Dr. S.S. Khandare	Associate Professor & Head	M.Sc. Ph.D.	Environmental, Industrial & Food Microbiology.	9822727622	ksuhas21@gmail.com
 Dr. U.A. Malode	Asst. Professor, Co-Ordinator (Biotechnology), Add on Course Co-ordinator	M.Sc. Ph.D.	Agricultural & Environmental Microbiology.	9764996587	ulka9malode@gmail.com
 Mr. M.G. Ingale	Assistant Professor	M.Sc. NET	Medical Microbiology, Bioremediation & PGPR	7721915161	mayuringale7@gmail.com
 Dr. B.V. Mohite	Assistant Professor	M.Sc. Ph.D.	Applied Microbiology, Microbial Biotechnology	9373444644	bhavnamohite1@gmail.com

 Miss. N.T. Satone	Assistant Professor (Contract Basis)	M.Sc.	Environmental Microbiology	7709485526	satonenisha167@gmail.com
 Miss. P.D. Bhoge	Assistant Professor (Contract Basis)	M.Sc.	Environmental Microbiology	8007233996	poojabhoge12@gmail.com

Non-teaching Staff:

Name	Designation	Experience
Mr. Rajendra Brahmkankar	Laboratory Assistant	10 years
Mrs. Sandhya Karnake	Laboratory Attendant	12 years
Miss. Rajani Zodape	Laboratory Attendant	13 years
Shri. A. D. Girde	Laboratory Attendant	08 years

Highlights of the syllabus (B. Sc. and M. Sc.) under Autonomy:

The course is designed to ensure that the graduating and post graduating students with Microbiology subject will have the academic standard require to stand in many allied fields in India and abroad and to face any national competitive exams. The skill and practical's incorporated in autonomy syllabus will help them to get job opportunities in nearby industrial area.

UG Syllabus covers Microbial Physiology, Industrial Microbiology, Medical Microbiology, Immunology, Industrial microbiology, Agricultural and Environmental Microbiology, Food Microbiology, Genetic Engineering, Molecular Biology, Advance techniques in Microbiology. Syllabus includes innovative projects for B. Sc. I year students helps to inculcate research attitude among the students.

After completion of M. Sc. Students will get the knowledge of DNA cloning, Transformation, Restriction Digestion, PCR, Animal and Plant Tissue Culture, Fermentation Kinetics, Industrial Production of Antibiotics, Single cell Proteins. Students will have sound skills in identification of bacteria and various techniques like Gel Electrophoresis, Ion Exchange Chromatography, Immunoelectrophoresis, SDS-PAGE.

National Level Best Department Award 2018-19

The most significant achievement of the Department of Microbiology is to get '**National Level Best Department Award**' by Microbiologist Society, India for, the academic session 2018-2019. The award was given by the hands of Dr. S. P. Kane, Vice-Chancellor, RTM Nagpur University, Nagpur, Dr. Arvind Deshmukh (Chairman of Microbiologist Society, India) to Dr. Mrs. Suhas Khandare, Head of Dept. of Microbiology.

Co-curricular programs of the department:

Microbiology-Biotechnology society:

The purpose of the formation of society by students is to provide platform for them to explore their ideas related with subject. The society organizes various activities like guest lectures, poster competition, wall magazine, educational tours etc. Students arrange guest lecturers of eminent personalities. This society helps to develop the leadership qualities among the student. Prof. Incharge of this society is Dr. Ulka Malode.

Virtual lecture Series:

The department conducts virtual lectures, National and International Webinars by eminent scientist and academicians from India and abroad for the PG students. Students get benefited from this programme since there are interactive sessions with the scientists. Dr. Trupti Gogte, BITS, Dubai, Prof. Dr. Tanzima Yeasmin Department of Microbiology, Rajshahi University, Bangladesh, Prof. Dr. A.M. Deshmukh, Former Prof. and Head, Department of Microbiology, Babasaheb Ambedkar Marathwada University (BAMU), Sub Centre- Osmanabad, Dr. Rajpal Singh, Kashyap, CIIMS, Nagpur has delivered the lectures in this series.

Prof. Incharge - Dr. Ms Suhas Khandare.

Add-on-Course: Clinical Laboratory Technology (Self Finance)

To impart crucial job skills to the students an add-on-Course 'Clinical Laboratory Technology' a career-oriented course' is run by Department. The complete syllabus is of 20 credits including eight days training programme at well recognized pathology laboratory. The course updates the knowledge and skills of students in clinical and pathological study. Total No.of Seats are 20 and Course duration is One Academic Session. Minimum 40% passing criteria through external and internal assessment.

Prof. Incharge is Dr. Ulka Malode.

Workshops:

Department regularly organized workshops under Edu-bridge between JBCS-NCCS, Pune as well as in collaboration with Hi Media Laboratories. Scientists from National Center for Cell Science, Pune conducted the workshops on the topics Proteomics, Bioinformatics, Separation of Protein by SDS-PAGE, Nanotechnology, Research Career and ethics, Restriction fragment length Polymorphism, for M. Sc. Microbiology students as well as for M. Sc. Botany and M. Sc. Zoology students. Prof. Incharge -Dr. Ms Suhas Khandare

State Level MicrobiOlympiad:

State Level MicrobiOlympiad Microbiological Contest organized in collaboration with R.C Patel College, Shirpur, Dist. Dhule and Microbiologists Society India. This contest is very good platform for the students of B.Sc. part I, II and III categories to access themselves on state level.

Prof. Incharge – Mr. Mayur Ingale

Industry-Academia Interaction Programme:

Department of Microbiology regularly arrange educational tours under industry-academia programme. Some of the institutes where student visits are Rajiv Gandhi Biotechnology Centre, Central Citrus Research Institute, Government Institute of Forensic Science, Nagpur, National Environmental Engineering Research Institute (NEERI), Bio-Era, Pune, CCMB Hyderabad, IICT Hyderabad, Osmania University of Hyderabad. Royal Life Sciences Laboratories Hyderabad. Students get benefited by this study tour since they get familiar with the working of these laboratories and different sectors in research institutes.

Prof. Incharge -Dr. Ms Suhas Khandare

Linking of department with Microbiologist Society, India (MSI)

Department of Microbiology in collaboration with Microbiologist Society, India, organized different activities for the students of UG and PG like National Level Poster competition, Scientific Rangoli competition, Essay Competition and “Fermented Food Exhibition/Competition. Students participated in all these activities and come up with flying colours.

Prof. Incharge -Dr. Ms Bhavna Mohite

Social Outreach Programme of the Department:

Microbiology students should dispense their knowledge to the society. With this idea Dr. Ms. Suhas Khandare started the social outreach programme. The main objective of this program is linking of UG ,PG students to the school going childrens specially of Zilla Parishad and Nagarpalika Schools, where children’s from economically poor background get the education. These students are guided on different topics like their Personal Hygiene and Role of Microbes, Microbes in day today life, water borne diseases during rainy seasons, importance of washing of hands, Environment Protection and Preservation, Soil Pollution etc. The students can be motivated to think over how Microbiology can help the society for their upliftment.

Prof. Incharge -Dr. Ms Suhas Khandare