

Department of Microbiology

School of Life Science

Programme: M. Sc. Microbiology – 23 seats, Duration: 2 years (4 semesters) 2019-20

Integrated M. Sc. Microbiology – 30 seats Duration: 5 years (10 semesters) 2019-20

Ph. D. Microbiology-14 seats 2019-20

Preamble/Objective

The scientific discipline of “Microbiology” is one of the most critical components of basic and applied life science studies. It also constitutes an important section of study at various levels of graduate and post-graduate education. A high quality education in microbiology offers tremendous employability in academia as well as industries. Department of Microbiology, Central University of Rajasthan came into existence in July 2012 under the School of Life Sciences. The department is operating in close association of other departments within School of Life Sciences viz., Department of Biotechnology and Department of Biochemistry. The objectives of the department is to undertake top-class teaching and research at post-graduate and doctoral level with detailed training of various basic and applied aspects of microbiology. The department also envisions preparing our students for competitive job markets by organizing interactive sessions with faculty members and visiting experts from both academia and industry.

Nature & Scope

- Department is currently offering one Integrated Master’s program (Int. M. Sc. Microbiology) and Master’s Program (M. Sc. Microbiology) together with a Doctorate Program (Ph. D. Microbiology).
- Integrated Master’s Program and Master Program both focus on providing comprehensive training to the students in various disciplines of basic and applied microbiology. The department of Microbiology is following a multidisciplinary approach towards teaching and makes use of traditional as well as audio-visual assisted class- room teaching and practical training. The course curriculum is designed to train our students in basic Microbiology as well as in allied biological subjects including Biochemistry, Genetics, Cell Biology, Molecular Biology, Immunology, Recombinant DNA technology, Virology, Enzymology, and Bioinformatics etc. The curriculum also provides essential training on supportive courses of Bio-safety, Intellectual Property Rights, Biostatistics, Physics, and Mathematics etc.

- The Ph. D. program envisions providing detailed research specialization in basic and applied areas of Microbiology e.g. microbial diversity, Microbial Metabolism & Physiology, Agricultural Microbiology, Environmental Microbiology, Industrial Microbiology, Medical Microbiology and Microbial Genomics etc. The course curriculum for doctoral studies is designed to meet the guidelines of the University Grant Commission e.g. candidates are selected through selection procedure which consists of entrance exam and personal interview. The selected candidates are required to successfully complete a Pre-Ph. D. course-work.
- The courses offered by department of Microbiology, C.U. Rajasthan are designed to be in accordance with the requirement of the academic and industrial job market.

Departmental Facilities:-

Name of the Equipments in the departmental Research Laboratories
• Biological Safety cabinet ,Class-II Type
• Microscopy Systems with Imaging systems • (Compound Microscope)
• CO2 Incubator
• -800C & 200C Deep freezer
• Real Time PCR
• Double Beam Spectrophotometer
• Ultra-Centrifuge
• FPLC System
• Distillation Unit
• Rota evaporator with chillier equipment
• Bench Top Centrifuge
• Electrophoresis Unit
• BOD Incubator
• Orbital Shaker
• Water Bath
<i>*In addition to the above instruments, the laboratories are also equipped with appropriate Lab- Safety Supplies and Equipments., e.g. First Aid Kit, ABC-type fire extinguisher, Emergency Shower and Emergency Eye Wash Station.</i>

DST-FIST Sponsored Equipments Facility:-

Name of the Equipments in the departmental Research Laboratories
• Gel Doc TM XR System
• Thermo cycler PCR C1000
• Millipore Distillation Unit
• High Speed Centrifuge
• Incubator shaker
• Networking & Computational Facility

Guest/Invited Lectures

- Dr. Vivekanand, Post-doctoral fellow, Department of Chemistry, Biotechnology and Food Science, Norwegian University of Life Sciences, Norway delivered a lecture entitled "Biomass to Bio-energy" on 12th November, 2013
- Dr. Lothar Krienitz, Scientist from Leibniz-Institute of Freshwater Ecology and Inland Fisheries, Stechlin, Germany delivered two lectures on cyanobacteria and its applications on 20-21 November, 2013.
- Prof. (Dr.) T. Satyanarayana, Professor from Department of Microbiology, University of Delhi South Campus (UDSC) delivered series of two lectures on Microbiology and its applications on 25th March 2014.

Student Achievement

- Dilip Ahari and Shweta Sharma qualified GATE-2014
- Shreyansh Nalwaya qualified CSIR-UGC-NET-LS-2013
- Priyanka Gehlot (Int M.Sc. Microbiology 2013-18 Batch) Qualified CSIR JRF- Rank 100 (Also selected for DST-INSPIRE Fellowship). Selected Ph.D. in IIT Delhi 2019-20.
- Saket Kashyap (Int. M.Sc. Microbiology 2013-18 Batch) Qualified CSIR-UGC JRF- Rank 240
- Khushboo Mehta (Int. M.Sc. Microbiology 2013-18 Batch) Qualified CSIR-NET LS-Rank 23
- Priyanka Yadav (M.Sc. Microbiology 2016-18 Batch) Qualified CSIR-NET LS (Also selected for DST-INSPIRE Fellowship) -Rank 55
- Keshav Meghwanshi (M.Sc. Microbiology 2016-18 Batch) Qualified ICAR NET 2018-19
- Ankita Bhatt, Shivanand Behera and Anupam Chatterjee qualified GATE-2019
- R. Sandeep (PhD Microbiology) Selected for CSIR-SRF 2019
- Bikash Kumar (PhD Microbiology) Selected for CSIR-SRF 2019

Faculty

- Dr. Pawan K. Dadheech
Designation: Professor and Head
Area of Interest: Microbial diversity, phylogenetics and bioprospecting, Extremophilic cyanobacteria, Cyanotoxins, Microbial Metagenomics and Genomics
Email: pdadheech@curaj.ac.in
- Dr. Pradeep Verma
Designation: Professor & Dean
Area of Interest: Bioprocess development, Fermentation technology and development, Biomimetic system
Email: pradeepverma@curaj.ac.in
- Dr. Arvind P. Singh
Designation: Assistant Professor
Area of Research Interest: Genetics and Functional Genomics, Microbial Genomics, Host Pathogen interactions
Email: arvindpsingh@curaj.ac.in
- Dr. Akhil Agrawal
Designation: Assistant Professor
Area of Research Interest: Microbial souring control, and improved production (MEOR) in oil fields, Microbial diversity in hydrocarbon resource environments
Email: akhilagrawal@curaj.ac.in
- Dr. Nidhi Pareek
Designation: Assistant Professor
Area of Research Interest: Microbial Biotechnology, Bioprocess development, Microbial, Proteomics, Bioenergy
Email: nidhipareek@curaj.ac.in
- Dr. Chandra Sekhar Gahan
Designation: Assistant Professor
Area of Research Interest: Bio-hydrometallurgy, Bio-Mineral Processing, Bioprocess Engineering of chemolithotrophic acidophiles and Waste recycling
Email: csgahan_mbio@curaj.ac.in
- Dr. Vijay Kumar Verma
Designation: Assistant Professor
Area of Research Interest: Molecular cell biology and biochemistry of Infectious diseases, Host-pathogen interaction
Email: vijayverma@curaj.ac.in
- Dr. Deeksha Tripathi
Designation: Assistant Professor
Area of Research Interest: Molecular biology of infectious diseases, Host-pathogen interactions, Human microbiome, Drug designing and vaccine development
Email: deeksha.tripathi@curaj.ac.in