

MICROBIOLOGY INSIGHTS

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About the Department

The Department of Microbiology was established in 1999, offers a wide range of undergraduate and postgraduate courses, ensuring comprehensive education and research opportunities in this field. The department boasts a faculty of highly qualified experts who bring with them vast experience and expertise in various domains of Microbiology. Their commitment to teaching and research is reflected in their active involvement in cutting-edge research projects and their contributions to scientific publications and conferences. The department is equipped with state-of-the-art infrastructural facilities, including modern laboratories and research equipment, creating an ideal environment for teaching, experimentation, and innovation. Additionally, the department maintains strong collaborations with industry partners, providing students with valuable industry exposure and internship opportunities. The emphasis on research, professional development workshops, and a collaborative atmosphere nurtures the overall growth of students, preparing them for successful careers in academia, research, or the industry.



Objectives of Department:

- To provide skill based scientific and technical knowledge to students
- To train students in the field of microbiology, provide value-based education with innovative research
- To undertake research activities relevant to present day needs

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Guest lecture – “Avenues in Biology”

The Department of Microbiology organized a guest lecture titled “Avenues in Biology” on 18th July 2025 as part of the induction program for first-year B.Sc. students. The session was delivered by Dr. Sushama Yermal, Teacher’s Training Coordinator, Science Education & Outreach Office, NCBS-TIFR, Bengaluru. The lecture introduced students to the interdisciplinary nature of modern biology and highlighted emerging areas such as biotechnology, genetics, microbiology, bioinformatics, ecology, and systems biology. A total of 86 students attended the event, coordinated by Dr. Arvindganth and Dr. Tejaswini H. K, along with faculty members from various departments.



The session resulted in increased clarity among students regarding different domains of biology and their real-world relevance. It enhanced their awareness of higher education opportunities, research fellowships, and career prospects in academia, industry, environmental sectors, and science communication. Students were motivated to pursue interdisciplinary learning, develop scientific thinking, and explore diverse career pathways beyond traditional roles. Overall, the lecture offered valuable guidance and strengthened students’ understanding of how biology shapes solutions to global challenges.

Awareness Program for HEALTH AND HYGIENE (COVID)

The Department of Microbiology organized an Awareness Program on Health and Hygiene (COVID) on 11th August 2025 at MSRCASC, Gate 8, with the participation of 19 II Year B.Sc. students. Coordinated by Dr. Tejaswini H. K. and Dr. Swetha P., the initiative focused on educating the local community about COVID-19 symptoms, prevention, testing, and vaccination. Students interacted with shopkeepers, delivery personnel, traffic police, and the general public, sharing simple and practical information on mask usage, hand hygiene, and physical distancing. Demonstrations and posters were used to ensure clear understanding and promote safe practices.



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The awareness program made a meaningful impact by reaching a wide section of the local community and improving their understanding of essential COVID-19 precautions. Community members became more aware of proper mask usage, hand hygiene, and the importance of maintaining physical distance in public spaces. For the students, the initiative fostered a strong sense of social responsibility, confidence in public communication, and the ability to translate scientific knowledge into community action. The drive also strengthened their



Guest Lecture on “Nucleic acids and its components”

The Department of Microbiology organized a guest lecture on “Nucleic Acids and Its Components” for the II Year B.Sc. students on 21st August 2025 at the Kuvempu Seminar Hall, MSRCASC. The session, attended by 54 students, was delivered by Ms. Padma S, Teaching Assistant, UG Biology, Indian Institute of Science, Bengaluru, and coordinated by Dr. Swetha P., Assistant Professor, Department of Microbiology. The lecture provided students with an overview of the structure, types, and significance of nucleic acids, supported by innovative teaching approaches such as interactive discussions and visual illustrations to enhance clarity and engagement.



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The session helped students develop a strong conceptual understanding of DNA, RNA, and their fundamental components, including nucleotides, nitrogenous bases, sugars, and phosphate groups. It enriched their knowledge of heredity, gene expression, and molecular regulation while promoting critical thinking through real-world applications. Students benefited from the interactive pedagogy methods and gained confidence in connecting molecular biology concepts to biotechnology and health sciences.



SciMagica 2025-Open Day for PU Students

SciMagica 2025, an Open Day and Extension Activity, was organized on 18th September 2025 by M.S. Ramaiah College of Arts, Science and Commerce–Autonomous, coordinated by Mrs. Soumya S. Shanbhag, Dr. Vishal M., and Dr. Aravindganth. The event aimed to foster scientific curiosity, confidence, and leadership among PU students. A total of 231 students from I & II PU across multiple Bangalore institutions participated. The inaugural session featured a motivational talk by Dr. C. V. Yelamaggad, Scientist, Centre for Nano and Soft Matter Sciences, Bengaluru, in the presence of the Principal, Vice Principal, COE, and dignitaries. His talk, *“Why God is Not Visible,”* encouraged students to explore higher studies in science, understand research opportunities, and embrace curiosity-driven learning.



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The second session consisted of interactive workshops conducted by various departments, including a highly engaging session by the Department of Microbiology. Students participated in hands-on demonstrations related to wine making and mushroom cultivation, observing microbial cultures, fermentation steps, substrate preparation, incubation, and harvesting processes. These activities deepened their conceptual understanding of microbiology while connecting theory to real-world applications in biotechnology, food science, and sustainable agriculture. Faculty members and student volunteers guided the workshops, ensuring an inspiring and activity-based learning environment.



The concluding session, “Navigator’s Gambit – A Treasure Hunt,” featured 48 enthusiastic teams, each solving science-themed clues, lab-based puzzles, concept-oriented riddles, and hands-on tasks to advance through the challenge. This competition promoted teamwork, scientific thinking, and active learning in a lively and engaging format. Overall, SciMagica 2025 successfully met its objectives by igniting scientific interest among PU students and strengthening the collaboration between schools and higher education institutions. With strong coordination by the event team, the Open Day became a memorable learning platform that encouraged students to pursue science with passion and curiosity.



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QuantaVerse 2025-Intercollegiate Fest for UG & PG Students

QuantaVerse 2025, an intercollegiate science fest organized by M.S. Ramaiah College of Arts, Science and Commerce–Autonomous, was held on 19th September 2025 in celebration of International Microorganisms Day. Coordinated by Mrs. Soumya S. Shanbhag, Dr. Vishal M., and Dr. Aravindganth, the event brought together UG and PG students from various colleges across Bengaluru. Designed to showcase academic strength, creativity, and scientific curiosity, the fest encouraged leadership, confidence-building, and collaborative learning among participants. With 11 teams taking part, the event created an engaging platform for students to explore science beyond the classroom while representing their institutions.



A key highlight of the fest was Scribe Sprint – A Synthetic Biology Competition, uniquely conceptualized by the Department of Microbiology. The competition emphasized the role of synthetic biology in addressing global challenges such as climate change, food insecurity, antimicrobial resistance, and environmental pollution. Under the evaluation of Prof. Sanjaya Prasad, Principal Research Scientist, IISc Bengaluru, students participated in a two-phase contest involving structured presentations and an interactive Q&A session. Projects showcased innovative biological concepts, including eco-friendly Ganesha idols, biodegradable sanitary pads, banana-fiber-based currency paper, bio-inks, smart bacteria for cancer therapy, and solutions for hospital-acquired infections. The competition promoted scientific reasoning, teamwork, and ethical thinking while stimulating real-world problem-solving skills.



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The event concluded with the announcement of awards for categories such as Best Innovation, Most Feasible Project, and Best Social Impact Idea. Participants received appreciation for their originality, scientific depth, and societal relevance. QuantaVerse 2025 succeeded in fostering critical thinking, research interest, and potential collaborations among young scholars, making it a memorable and impactful celebration of science. The fest reinforced that innovative ideas in synthetic biology can shape meaningful solutions for global well-being and laid a strong foundation for future scientific pursuits.



Honouring Heritage: Dasara Celebrations in the Microbiology Department



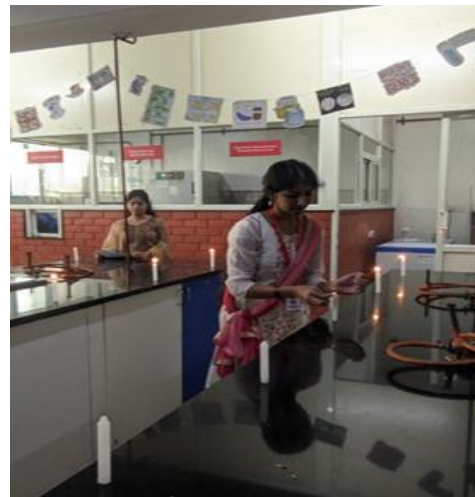
The Dasara Festival was celebrated with great enthusiasm on September 29th and 30th, 2025, in the Department of Microbiology. The festivities featured a magnificent Gombe Habba (doll arrangement) reflecting traditional artistry and devotion, accompanied by a special pooja and offerings to invoke divine blessings for the institution. Students added to the spiritual ambiance by singing devotional songs, while a beautifully crafted rangoli adorned the space in front of the deity. The celebration fostered a strong sense of tradition, unity, and community spirit among students and staff.



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MicroFest-2025

Microfest-2K25, organized by the Department of Microbiology at M.S. Ramaiah College of Arts, Science, and Commerce, was conducted on 14th and 15th July 2025 with enthusiastic participation from 115 postgraduate students. The two-day event was designed to promote experiential learning, scientific creativity, and collaborative skills among students through a variety of academic and co-curricular competitions. Day 1 began with the *Earthen Plate Painting Competition* on the theme “Bacterial Comics,” where students used artistic expression to depict microbial characters and concepts. This was followed by a *Collage Making Competition* on “Industrial Microbes,” allowing students to creatively showcase the applications of microorganisms in industry. Both events were assessed by faculty members who evaluated creativity, scientific accuracy, and presentation.



Day 2 featured a series of engaging and interactive activities, beginning with the “Guess Me” game, where students identified microbial concepts through creative clues. This was followed by a competitive Science Quiz that tested their understanding of core microbiology and recent scientific developments. The excitement continued with the fun-filled “Minute to Win It” challenges, which required quick thinking, coordination, and teamwork. The fest concluded with a valedictory ceremony, where winners were recognized and felicitated. Overall, Microfest-2K25 enriched students’ learning by promoting creativity, scientific curiosity, and collaboration, while offering a vibrant platform to explore microbiology beyond the classroom.

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PG- Orientation Programme

The Department of Microbiology organized a week-long Postgraduate Orientation Programme from 1st to 6th September 2025 to welcome newly admitted M.Sc. Microbiology students and introduce them to the academic environment. The ceremony began with an invocation, followed by an inspiring address by Principal Dr. Pushpa H., encouraging students to approach their studies with dedication. Dr. Prasanna Srinivas R., Head of the Department, oriented students on programme outcomes, course structure, and the scope of Microbiology, after which the faculty members introduced their specializations and research areas. Students and parents were also familiarized with the college and university culture, campus facilities, and support systems through guided tours and interactive sessions.



Across the five days, students attended insightful talks by Dr. Sivaram, Dr. Sundaram, and Dr. Vasant Kumar Thimakapura, sessions on Food QC and FSSAI standards, placement guidance, scholarship information, research methodology, and laboratory safety. Library orientation, campus tours, group discussions, and sports activities ensured a holistic introduction to academic and campus life. The programme helped students gain confidence, understand expectations, and develop clarity about their subject and career prospects, enabling a smooth and motivated start to their postgraduate journey.

Faculty achievements

Pride of RCASC: Best Presentation Award at International Conference

The Department of Microbiology proudly congratulates Dr. Vemula Vani for winning the First Prize (Post Graduate Category) at the Two Days International Conference on AI and in silico Insights in Biology held virtually on 12th – 13th September 2025. The conference was jointly organized by R. K. Talreja College of Arts, Science and Commerce, Ulhasnagar and the Microbiologists Society, India. Dr. Vani received the Best Presentation Award for her research on “Fragment based design and in silico analysis of potential HIV-1 protease inhibitors.” This achievement highlights the excellence and innovation nurtured at M. S. Ramaiah College of Arts, Science and Commerce, Bengaluru.



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Navigating the Bio-entrepreneurship Frontier – A new book release

We were delighted to share that Dr. Deepa V. H., from the Department of Microbiology, authored and published a book titled “Navigating the Bio-Entrepreneurship Frontier: A Holistic Overview.” The book provided insightful perspectives on the evolving landscape of bio-entrepreneurship, blending scientific knowledge with entrepreneurial vision. It served as a valuable guide for students, researchers, and aspiring bio-entrepreneurs in understanding the challenges and opportunities in this dynamic field.



Research Publication



Dr. Deepa V. H., Assistant Professor, Department of Microbiology, along with Dr. Jayashree D. R. (HOD, Biotechnology & Genetics), Pramod P. Desai (Assistant Professor, Biotechnology & Genetics), and Suraj J. (MSc student), has published a paper titled “*Microalgae Based Air Purifiers: A Sustainable Approach to Urban Air Pollution Mitigation*” in the *International Journal of Environmental Sciences* (ISSN: 2229-7359). The publication highlights the use of microalgae as an eco-friendly solution for reducing urban air pollution and reflects the team’s commitment to innovative sustainability research.

Student achievements

The Dasara CM Cup 2025 at Chamundi Vihar Stadium, Mysore, highlighted impressive performances from Microbiology students. They excelled in various events, adding pride to the department. In archery, Shree Varsha won the Silver Medal and Rithika V secured the Bronze Medal. Their achievements showcase dedication, talent, and true sportsmanship.

