



Dr. Swati Sharma

Dr. Swati Sharma is an Assistant Professor in the Department of Biosciences at Integral University, Lucknow, with over a decade of research experience in biological sciences. Her expertise focuses on plant-microbe interactions and postharvest management. She completed her doctoral research at CSIR-National Botanical Research Institute and the Department of Botany, University of Lucknow. Dr. Sharma has a strong publication record, including 24 research papers in international journals, one edited book, 12 book chapters, and two patents. She has successfully supervised nine Ph.D. scholars in microbiology and biotechnology, making significant contributions to research and academic mentorship.

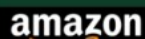
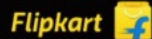


Dr. Amita Dubey

Dr. Amita Dubey is an Assistant Professor in the Department of Biosciences at Integral University, Lucknow. She earned her Ph.D. from CSIR-Central Institute of Medicinal and Aromatic Plants and served as a Women Scientist at CSIR-National Botanical Research Institute. With over a decade of experience in research and teaching, her work focuses on cytochrome P450 monooxygenases and their role in the biosynthesis of therapeutically important secondary metabolites. Her research has advanced the understanding of metabolite pathways in medicinal plants and their application in pathway engineering. She has also contributed to studies on histone acetylation in improving cotton fiber yield and quality. Dr. Dubey has led two projects funded by the


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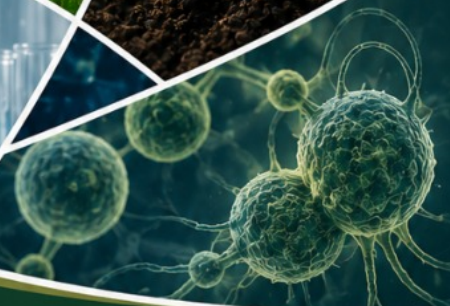


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Frontiers in Biological Sciences: Recent Advances and Innovations

— Vol I —



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Dr. Amita Dubey

Frontiers in Biological Sciences: Recent Advances and Innovations-Vol I

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Chapter – 1

An Update on Cancer Biology

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Abstract

Cancer is a putative disease and leading cause of mortality across the globe. Population-based cancer registries and hospital-based cancer registries collected the data from various parts of India which indicate heterogeneity in cancer prevalence across the various region. The prevalence of cancer incidence was observed highest in the North East than the other region. The prevalence of cancer in Aizawl district was 7 times of Osmanabad and 4 times that Beed district. Preventive measure can avoid not all but some types of cancers. By avoiding exposure to carcinogens such as chemicals and radiations, the risk for most of skin and lung cancers can be minimized. Approximately one-third of mortality caused by cancer is due to tobacco consumption, raised BMI, alcohol intake, and physical inactivity. Vaccination can help in avoiding induction of some cancer types. Cancer-caused by infections, such as human papillomavirus and hepatitis, are responsible for approximately 30% of cancer cases and can be avoided by vaccination. Avoiding consumption of tobacco reduces the risk for nearly 65 types of cancers. Creating awareness and providing appropriate support to strengthen efforts to improve cancer prevention can reduce the cancer prevalence in India specially in NE. Policymakers should plan the focused approaches towards monitoring efforts on cancer prevention and control. Screening in both healthy and high-risk