Monthly colloquium at the Life Sciences Department

By Dr. Abhishek Mukherjee

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Dr. Abhishek Mukherjee, Associate Professor Agricultural and Ecological Research Unit (AERU), Biological Sciences Division, Indian Statistical Institute, Giridih delivered a lecture on Plant-Nematode Interaction: In Search of a Novel Paradigm for Nematode Management', 3rd April 2024, during our departmental colloquium.

Abstract of his talk:
The interaction between plants and nematodes poses a significant challenge in agricultural systems, particularly with pests like Meloidogyne graminicola affecting rice crops. In this presentation, we explore various aspects of plant-nematode interaction using rice-M. graminicola as a model system. We delve into the mechanisms of host plant resistance and the ecological dynamics of nematode populations. Additionally, we investigate the chemical ecology of the rice-M. graminicola interaction, exploring how unique chemicals present in rice root exudates influence nematode behaviour.

Furthermore, we examine the potential of endophytic microorganisms for biological control of nematodes, offering sustainable solutions for nematode management. Finally, we explore cutting-edge approaches such as artificial intelligence and machine learning for the automated identification of nematodes, streamlining detection and management processes. Through our research findings, we aim to contribute to the development of novel paradigms for nematode management in agricultural systems.