Amity Institute of Microbial Technology

Organises

DBT Sponsored Three Days Symposia on

MICROBIOME IN CLIMATE CHANGE & FOOD SECURITY

MARCH 1-3, 2023

BACKGROUND

The present world population of 7 billion is expected to reach 10 billion by the middle of the 21st century due to the high growth rate, in developing countries. By 2050, there is a need to produce about 70% more food to feed world's population. The major limiting factors of the agricultural sector that adversely affects the crop productivity worldwide are climate changes wherein abiotic and bioticstresses are serious conditions and also land-degradation, causing major problem for soil and crop productivity. About 20% of cultivable lands and more than 50% crop loss, worldwide are severely affected by both types of stresses. Among abiotic stresses drought and salinity stress is recognized as the main threats to environmental resources, affecting almost 1 billion ha worldwide or globally representing about 7% of earth's continental extent.

Drought stress is common in many parts of the world, and more than 50 % of the globe is arid, semiarid. Soil water deficiency affects the water relations at whole plant level and finally makes plants more susceptible to other environmental stresses by decreasing the adequacy of defense mechanisms and can also adversely affects plant growth and yield, causing the most fatal economic losses in agriculture and forestry. Soil is a largest favorable ecological niche for the microbes and their metabolic activities. In the symposia emphasis will be given on unfold the functional attributes of soil microbiome In mitigation of climate change and amelioration of food security.

CONCEPT

Improvement of our understanding of soil-microbe and soil-plant-microbe interaction under a variety of climate change is essential because several studies have been carried out on inoculation of benign microbes under normal conditions, but the overall impact of these interactions, specifically under varying adverse environmental conditions are often lacking. Microbial processes associated with biogeochemical cycles play an important role in global fluxes of key greenhouse gases like CO_2, CH_4 and N_2O.

These microbial processes are influenced greatly by climate change. These changes can be either positive (increased cell biomass and/or enhanced physiological functioning) or negative (decreased cell biomass/or reduced physiological functioning). Depending upon the response of the microorganisms, they either can help in maintaining the ecological balance and mitigating the effect of climate change or can aggravate the problem. Thus, it is necessary to study the changes caused due to climate change on microbial processes associated with biogeochemical cycles.

PURPOSE

This panel discussion will invite researchers to dissect the microbe based amelioration and their application to unravel the perplexity of climate change on sustenance of the ecosphere. In addition, understanding of the microbial physiology and optimal conditions for agricultural productivity will also be considered in this panel discussion. This panel discussion will cover the detailed discussion in context of different types of functional microbes, their properties and recent emerging ideas for their application in agricultural fields as well as the effect on the already established microbiome. We highlybelieve that this panel discussion will be of high importance to unfold SDGs (e.g., 1, 2, 11, 13, & 15) with principles and practices of climate change on soil microbiome or vice versa and will foster the knowledge transfer among scientific communities, industries, and young researchers along with students and will enable a better understanding of the nature of microbial application procedure for sustainable ecosystem

ABOUT AIMT

The Amity Institute of Microbial Technology (AIMT) was established in September 2004. AIMT aims at excellence in performance, committed to providing quality educational opportunities and services that meet or exceed the needs of learners, industry/business, and our community. AIMT is now supported by the Department of Science & Technology (DST) under the Fund for Improvement of S&T Infrastructure (DST-FIST) to rebuild the Science & Technology infrastructure in the country.

- State of art facilities: AIMT has the most modern infrastructural facilities including four practical labs fully devoted to teaching B.Sc. and M.Sc. students, two research labs for carrying out the research projects, and specialized labs for plant tissue culture, greenhouse, controlled environment plant/ microbes growth chambers, biochemical analysis and facilities to carry out molecular studies, etc. Apart from routine basic equipment needed for teaching and research, the labs are equipped with state- of the art instruments like Confocal Microscope, RT-PCR, GC, Zeta Potential Analyzer, Bioreactors etc.
- Modern research: Apart from B.Sc./M.Sc. degree programmes, AIMT enrolls PhD & D.Sc. students and is undertaking research in a wide range of specializations including plant-microbe interaction for improving the value of medicinal plants, medicinal mushrooms as nutraceutical, micronutrient management, and crop quality improvement especially oil seed brassica, Nanoagriculture, CRISPAR-CAS9 gene editing etc. Total of 15 projects were completed during 2015 – 2020 worth Rs. 594.7084 Lakhs Funded by: ICAR, NASF - ICAR, SERB DST (5), DST - Nanomission, DST (IndoAustralia), DST-FIST, DST - SEED, DST SARTHI, SBIRI, DBT - BBSRC (Indo-UK), DBT – BIRAC. The institute is presently running 5 research projects, sponsored by Indian government funding agencies like DST, DSIR, ICAR, and CSIR for sum of Rs. 125.83

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Founder President RBEF

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Dr. D.K. CHOUDHARY
Associate professor, AIMT

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- Himanshi Aggarwal
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- Richa Vaishnav
- Nikita Pradhan
- Ayushi Chauhan
- Jasleen Kaur

POSTER PRESENTATION

Guidelines for Abstract Submission:

Participation in the poster presentation is open to all scientists, faculty members, research scholars, and students who are working in the field of microbiology and life sciences. Abstract for Poster presentation should be maximum of 250 words excluding the title, authors, and address. Abstracts should be prepared in MS-word, Time New Roman, 12 Font, and Single spacing leaving a 1″ margin on the left and right side of the page. Abstract should be submitted on or before 1 November 2022 in electronic form that will be printed only after receiving the registration fee. The acceptance will be communicated to the corresponding author via email.

Guidelines for poster presentation:- Poster should be prepared in advance and should be brought in person by the participant. The size of the poster should be

0.75 m (Width) × 1.0 m (Length). The poster should be legible from a distance of 1-2m.

Registration Details

Registration Link:-

REGISTRATION FEES		**INR**
Scientists, Research Scholars, and Academicians	:	2,000
Delegates from the Industry	:	10,000
UG/PG Students	:	500

For any queries please contact
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