

National Conference on Biotechnology for Sustainable Agriculture and Human Health (BSAH-2023)

Organized by

Department of Biotechnology, Pachhunga University College

Dated: 12th – 13th June, 2023

No of participants: Day -1 (100) & Day-2 (85)

Summary

The Department of Biotechnology at Pachhunga University College, Aizawl, Mizoram, organized the National Conference on Biotechnology for Sustainable Agriculture and Human Health (BSAH - 2023) on June 12th and 13th, 2023. The conference aimed to bring together experts and researchers in the field of biotechnology to discuss its importance in promoting sustainable agriculture and human health, to define areas that require attention and to ensure better survival of humankind in future for sustainable development.

The conference began with a welcome speech from Dr. Liansangmawii Chhakchhuak, Head of the Department of Biotechnology, Pachhunga University College, which was followed by an inaugural address by Prof. H. Lalthanzara, the Principal of Pachhunga University College. Prof. John Zothanzama, the Head of the Department of Biotechnology at Mizoram University, delivered a keynote speech highlighting the significance of biotechnology in achieving sustainable agriculture and improving human health.



Several invited speakers shared their expertise during the conference. On the first day, Dr Bhim Pratap Singh from NIFTEM discussed the role of endophytic actinobacteria in the health and agriculture industries and Dr Samuel L. Pachuau from the Mizoram State Agriculture Department presented on pesticides and biopesticides.

The conference included technical sessions with presentations on various topics related to biotechnology. Some of the topics covered were the effect of urban particles on human middle ear epithelial cells, isolation of indigenous PGPR for plant growth promotion, inhibition of chymase with small molecule compounds, cyanobacterial antimetabolites for inhibiting respiratory tract pathogens, biomarkers and nanoparticles, isolation and identification of endophytic actinobacteria for antibiotic production, microalgae for removal of toxic metals,

prevalence and attitudes on tobacco use among nurses in Mizoram, synthesis and characterization of biopolymer film for post-harvest management of crops, and antimicrobial investigation of isolates from wetlands and lakes in Mizoram.



The second day of the conference began with a session chaired by Dr Bendangchuchang Longchar and Dr B. Lalruatfela. The session featured a diverse range of topics, starting with a presentation by Dr Amit Kumar Mishra on the modulation of abiotic stress responses in *Arabidopsis* by E3-ubiquitin ligases. He discussed the role of these ligases in regulating the plant's response to various environmental stresses, such as drought, salinity, and temperature fluctuations. His research shed light on the mechanisms behind plant stress tolerance and highlighted the potential for developing stress-tolerant crop varieties.

In the second technical session, Ms. Pampi Sarmah presented her research on the growth and photosynthetic performance of *Nostoc corneum* cells grown in different media. Ms. Shweta Rai then took the stage to discuss the molecular characterization of a hypothetical protein from *Anabaena* sp. Her research provided valuable insights into *Anabaena* sp.'s functional genomics and opened avenues for further investigation. Dr Lalramnghaki Sailo presented her work on the potential of entomopathogenic nematodes from Mizoram, NE India, in managing *Odoiporus longicollis* (olivier, 1807) (Coleoptera: Curculionidae).

The third technical session, chaired by Dr. Vanlalhrui Ralte and Dr. Laldinsangi, continued with a presentation by Y. Rangeela Devi on how Ba_{0.92}SO₄:Dy_{0.04}, Mn_{0.04} phosphor can be a potential compound as the dosimeter for food irradiation. This was followed by Ms. Kevilenuo Catherine Dzuvi chu on the antimicrobial activity of Fenugreek seed extracts. She explored the potential of Fenugreek seeds as a natural antimicrobial agent against various pathogenic bacteria.

Flash talks were held on diverse topics with informative findings. Mr. Jeremy N. Syiem shared his research on the screening and identification of water-borne human bacterial pathogens in

Chironomus larvae. Devade Pandurang Ramrao discussed the functional characterization of ABA-responsive Arabidopsis Thaliana universal stress proteins. Other exciting topics presented were morphological characterization of hornet wasps and highlighting their importance to the environment, Species diversity comparisons between larval and adult gut microbiota of the ginger shoot borer (gsb) pest *Conogethes punctiferalis* using the culture-dependent approach, SARS-COV-2 sequencing variants and their association in antenatal mothers in Mizoram, India, isolation of rhizobacteria from four selected plants species and screening for their plant's growth promotion potential.

First, second and third-best oral presenters were felicitated with certificates and prize money. The conference ended with a vote of thanks.



(Dr. ZOTHANPUIA)
Organizing Secretary