



Weekly Seminar Program – (2023-24)
Department of Physics – Bharathiar University
Coimbatore- 641046

Seminar - 9



Mr. MUTHUSELVAN. M

Research Scholar (I Year)
Surface and Environmental Control Plasma Lab
Department of Physics, Bharathiar University

Speaks on

“Application of Non-Thermal Plasma in Food Processing”

Abstract

Food preservation is essential to ensure safe and nutritious food, and also to minimise food wastage. Food safety is the primary goal of the food processing industry. The current methods are time-consuming, using high temperatures and chemicals that alter the aroma, colour, and nutrient content of the food products. For these reasons, manufacturers are searching for rapid, non-thermal, and chemical-free methods. “Non-thermal plasma” (NTP) is the perfect find for those searches because it is a low-temperature, chemical-free, and rapid process. It is an efficient method for food processing, where this method ensures microbial inactivation, structural modification, and sterilisation of food contact surfaces and equipments. It also improves the adhesion, wettability, sealability, and surface energy of the packing materials. The sterilisation of raw cow milk using the microplasma discharge method, which is a low-temperature, rapid, chemical-free, and easily optimizable method, confirms the microbial inactivation property of plasma and extends the shelf life of cow milk up to 12 days without altering the smell, aroma and colour. The NTP is a promising technique for food processing and can be commercialised with suitable modifications.

About the Speaker

Mr. Muthuselvan M. is from Thiruchendur, and he has completed his bachelor’s degree in Department of Physics, Aditanar College of Arts and Science, Thiruchendur and has completed his master’s degree in Department of physics. Bharathiar University Coimbatore. His field of research on application of non-thermal plasma.

Venue: Sir C.V. Raman Hall

Date: 26.09.2023

Time: 10.00 am

Kindly be seated by 10:00 am and switch off your mobile phone during the lecture.

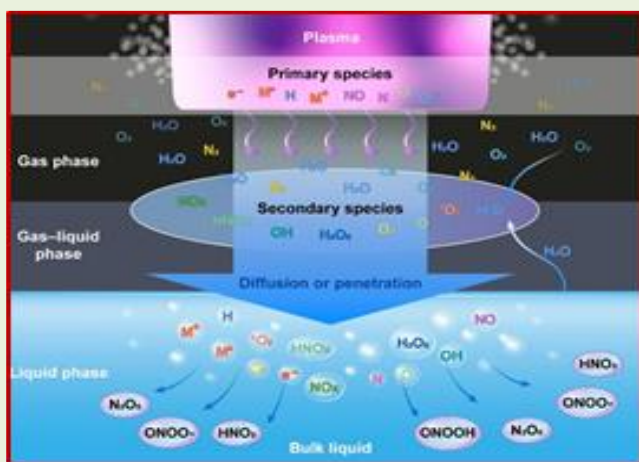
All are cordially invited.

Coordinator (General Seminar)

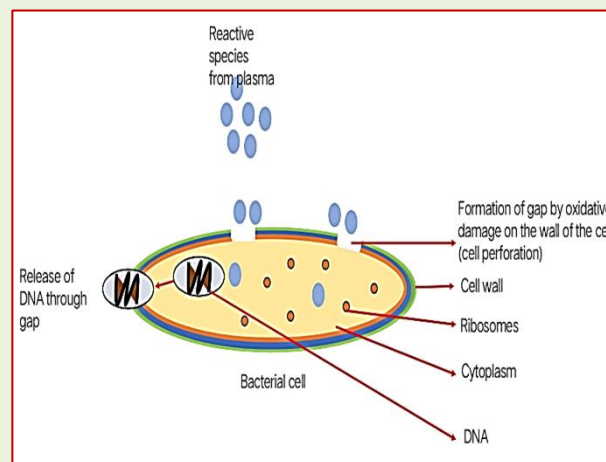
Head of the Department

Agenda

Time	Event	Name	Designation
10. 00 am	குறள் வணக்கம்	Ms. Keerthana. G	II M. Sc., (Physics)
10. 05 am	Biography of Scientists	Mr. Kamalesh. S. V	I M.Sc., (Physics)
10. 10 am	Recent Physics News	Ms. Suganya. R	II M. Sc., (Physics)
10. 15 am	Seminar	Mr. Muthuselvan. M	Research scholar (Surface and environmental control plasma lab)
10. 45 am	பாரதியின் குரல்	Ms. Subasri Malaa. R	I M.Sc., (Physics)



Formation of Reactive Species in Plasma



Microbial Inactivation by Plasma



**Department of Physics
Bharathiar University**

Tea & Snacks at 11.00 am