Roles and Mechanisms of Plasma Ions in Breaking down Pesticides on Chili

Plasma technology can improve food security in the country by increasing food output while dissipating residual pesticides to ensure safety. This multi-disciplinary UKM-funded project is about developing an atmospheric plasma setup to break down the pesticide and maintain the food sensory and nutritional value of chilli. The project will use various physical-chemical analytical techniques to understand the different plasma ions present and their interaction with the pesticide, and their effects on the chilli to be fit for consumption. MARDI scientists also lend their expertise to chilli pesticides used for this project.

In addition to breaking down the pesticide, the plasma modifies the food physically, chemically, and morphologically with possible nutrient and sensory value changes. In terms of outcome, the project identifies and elucidates various mechanisms in the plasma-food-pesticide interaction, plasma electrical and optical characteristics to be repeatable and apply to other food matrices.

A stipend will be provided to qualified post-graduate students selected for the duration of this project. Ideally, the candidate's undergraduate degree is in Materials Science, Physics or Chemistry. If you are interested, please send your CV to kimsiow@ukm.edu.my or ghad@ukm.edu.my or joe@ukm.edu.my