

## List of Aston Equipment's for the Food and Agri Products

### **1. Advance Fluorescence spectroscopy (NanoLog Horiba-Jobin Yvon)**

Measurement capability: Light Excitation wavelength range: 270nm -800nm and Fluorescence Emission range: 280nm-1600nm.

Purpose: Rapid assessment of AGRI and food product quality by characterising fluorescence features of food molecular fingerprints, such as phenolic compounds, chlorophylls, amino acids, vitamins, etc.

### **2. UV-VIS-NIR optical absorption spectrometer (Perkin-Elmer Lambda 1050)**

Measurement range : 190nm- 3600nm

Purpose: Food/AGRI products characterization: Light absorption, transmittance, and reflection features of AGRI/food chemical constituents, including moisture level, sugar, polysaccharides, chlorophyll, and other organic components.

### **3. Scanning Electron Microscope (SEM) -Combined EDS (Nikon-JCM-6000+)**

Purpose: Microstructural and textured features and elemental analysis (micronutrients-Zinc, Calcium, Magnesium, etc) of food and Agri product materials.

### **4. FT-IR spectroscopy**

Organic Functional Groups- Aldehydes, ketones, carboxylic acid, etc analysis of food and Agri product materials.

### **5. Hyperfine spectral imaging**

Purpose: Quality and damage features of food and Agri products-simultaneous imaging and spectral measurement in the near/mid infrared spectral range.

### **6. Naolive Holotomography microscope (3D cell explorer):**

Purpose: Advance 3D Cell imaging and in-situ cell functionalities monitoring.