

Workshop Outline

- Introduction to analytical methods used to determine and quantify compounds
- Calculation and preparation of solutions and reagents
- Techniques used for mineral estimation: their principle and application
- Crude and essential oil extraction - methods and its application in food industry
- Health benefits of functional foods, nutraceuticals and dietary supplements
- Application of enzymes in food industry
- Microbial natural product of therapeutic potential
- Current Advances in Nano-Bioformulations in food system
- Delivery systems of foods through encapsulation
- Brewing and Fermentation Technology for enhancement of bioactive properties
- Risk of microbiological contamination and safe limits in food.
- Good management practices for quality check in food
- Recent innovations in Preservation and Packaging of food
- Multivariate data analysis approaches for Food Science
- Patenting in the food industry – challenges from an analyst perspective

Workshop Overview

This programme will familiarize the PG students with basic and recent advance analytical techniques used in food biochemistry. The students would get an opportunity to work on some cutting-edge research aspects viz., preparation of solutions to to quantification of primary and secondary metabolites, biotransformation and encapsulation, Profiling of various biomolecules from food and fermented products etc. After completing the workshop, the students shall have sufficient practical and theoretical knowledge about the importance of analytical techniques in food

Modern analytical techniques in Food Biochemistry

Food is a complex heterogeneous material composed of diverse nutritive and non-nutritive compounds embedded in plant matrices. Each branch of science takes into account the analytical methods for isolation, identification and quantification of desirable compounds like primary and secondary metabolites as well as undesirable ones such as microbial contaminants and antinutrients posing danger to human health. Methods and tests used for isolation, identification and quantification must be precise, accurate and highly sensitive to satisfy the precision of investigative and applicable science with minimal interfering factors, usage of minimal hazardous chemicals and production of minimal or no hazardous wastes. Although, the testing can be done by a wide variety of tests but the test choice is primarily dependent on the goal of the analysis and the interpretation of final data. Technology is moving from simple chemical analysis to the use of hi tech analytical instruments with more specificity and sensitivity. In this context, a 10 days workshop entitled High End Skilling Workshop on Modern analytical techniques in Food Biochemistry is scheduled with the aim to strengthen the knowledge of PG students regarding the modern biochemical and analytical techniques.

Goals:

- To acquaint and sensitize students about the scope of biochemistry in the field of food science
- To quantify different types of primary and secondary metabolites (nutraceuticals, antinutrients etc.) using UV Vis Spectrophotometer, Atomic Absorption Spectrometer, Protein Analyzer, Fiber Analyzer etc.
- Fermentation based biotransformation of bio chemicals and their encapsulation for stability
- Profiling various bio molecules by HPLC, GLC, SDS-PAGE, LC-MS, HPTLC etc., data analysis and interpretation of the results.



Workshop On High End Skilling Workshop on Modern Analytical techniques in FOOD BIOCHEMISTRY



Course Director
Dr. Moni Gupta
Professor (Biochemistry)

Sponsored by
Science and Engineering Research Board, New Delhi
under Accelerate Vigyan Scheme



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Accommodation

Boarding and lodging shall be arranged for the participants in the University Guest House on twin sharing basis.

Location

Sher-e-Kashmir University of Agricultural Sciences and Technology of Jammu is a multi campus University with its headquarters located at Chatha, Jammu at a distance of 6 km from Jammu Airport, 8 km from Jammu-Pathankot NH-1A, 12 km from the Jammu Railway Station and 14 km from the General Bus Stand). For any guidance contact Course Director or Course Coordinators.

Duration

The duration of workshop shall be 10 days from 4th - 13th July, 2023. All the participants are expected to arrive latest by the evening of 3rd July, 2023 and can leave after 5.00 pm on 13th July, 2023.

Registration

The interested candidates should apply online through Google form on given link. Selections are limited to only 20 participants.



Registration Link:

<https://forms.gle/fxAtoTPzX24pqoBQ9>

Note: Candidates will be informed about their selection through email before 30th June, 2023.

The participants are not required to pay any fee towards registration. Selected candidates should personally register at the venue of the workshop on 4th of July, 2023 at 10 am.

Eligibility

Participants from Research institutes/SAUs viz Ph. D and M. Sc. students from Microbiology/Food Science and Technology /Plant Pathology /Post Harvest Technology/ Biochemistry, Basic Science and allied sciences are eligible. **The number of participants for the programme shall be limited to 20.**

Venue

Division of Biochemistry, Faculty of Basic Sciences, Sher-e-Kashmir University of Agriculture Sciences and Technology of Jammu, Chatha, Jammu-180009 (J&K).

About Venue

Faculty of Basic Sciences is situated at SKUAST-J, Chatha about 6 km away from Jammu Airport, 8 km from Jammu- Pathankot NH-1A, 12 km from the Jammu Railway Station. The climate of venue during scheduled workshop shall be hot and humid with frequent rains and average temperature ranging between 35-42oC. So, participants are advised to keep light cloths and carry umbrella with them.

Travel

The participants shall be paid to and from journey, restricted to Sleeper class train fare or bus as per university norms. Actual TA will be paid on production of tickets by the participants. TA will be paid from the place of faculty to the workshop venue and back by the shortest route. Participants are requested not to bring any family members along with them. Participants are advised to make their return journey reservations, if necessary, at their end before leaving the venue campus. Participants should ask for ticket to drivers of vehicle which are necessary for reimbursement of TA.