



Under the KARYASHALA Scheme - A SERB Initiative presents a five day High-End International Workshop on

Key enabling technologies in millet: Agri (Farm) to Food processing (Folk) (KETM-23)



05-09 June 2023

About the workshop

Over a few decades, world has been facing agrarian and nutritional challenges. Recent challenges in the agri-food sector from farm to Folk exploiting to rural poverty, environmental issues (climate change, water scarcity, and environmental degradation), post-harvest problems (to remove the husk layer), supplementary deficiency (malnutrition to obesity), and adulteration must be addressed to sustain productivity. Millets—Sorghum, pearl millet, finger millet, foxtail, and kodo—contribute to sustainable development, responsible consumption and processing, and climate change crop adaptation. Health awareness, environmental concern, and the need to update our food systems to survive climate change and post-harvest issues led humans to domesticate "millets" as smart foods. Millets improve soil fertility and texture, increasing yield and farmer returns. Modern civilization has advanced due to scientific and technological advances. This ensures that rural and urban communities benefit from millet food demand, nutritional, processing, and commercial benefits. The module "Key enabling technologies in millet: Agri (Farm) to Food processing (Folk)" will explore sustainable agri-food technologies. These technologies can meet the demand for nutritious, convenient, and smart millet foods, which has increased the demand for novel post-harvest processing technologies. Sustainable technologies break the food system divide and make millet a staple. Millets enable eco-friendly, cost-effective food and agriculture processing. In agriculture and food, strategic technological innovations like irrigation, farm mechanisation, post-harvest techniques (grading, sorting, dehulling, and milling) and storage facilities will add value to millets foods while maintaining high productivity, product safety, quality, and sustainability. Many emerging technologies from agri (farm) to food processing (Folk) involving primary, secondary, and tertiary millet processing will be covered. These technologies add value to the agri-food value chain. The course's main goal is to give participants an in-depth understanding of key enabling technologies in millets from agri (farm) to food processing (Folk) to help them apply processing techniques/design processes to meet consumer demands by organizing expert lectures and laboratory sessions by renowned international and national experts.

Objectives of the workshop:

- Impart knowledge to the members on emerging processing, and preservation technologies of millets that possess potential to sustain the food nutrients required for health (termed nutritional quality of a food)
- Filling the knowledge gaps: identify and address the gaps and scientific research needs to how these millets affect nutrition, planet, the farmer and whole value chain (processing, storage and marketing)
- To apply technologies in real life scenario
- To analyze the impact of enabling technologies on food sustainability
- To impact knowledge on processing and nutritionally rich millet-based foods

Confirmed Resource Persons:

- ❖ Prof. Brijesh K Tiwari, TEAGASC, Ireland
- ❖ Prof. H N Mishra, IIT Kharagpur
- ❖ Prof. Snehasis Chakraborty, ICT, Mumbai
- ❖ Dr. N N Misra, CEO, Ingenium Naturae, Mumbai
- ❖ Dr. O P Chauhan, DFRL, DRDO, Mysuru
- ❖ Dr. Bhupendra M Ghodki, Scientist, CIPHET-ICAR, Ludhiana
- ❖ Prof. P S Rao, IIT Kharagpur
- ❖ Prof. Pramod Prabhakar, NIFTEM, Sonapat Haryana
- ❖ Prof. Parag Prakash Sutar, NIT Rourkela
- ❖ Prof. Preetam Sarkar, NIT Rourkela
- ❖ Prof. Md. Khalid Gul, NIT Rourkela
- ❖ Prof. Preetam Sarkar, NIT Rourkela
- ❖ Prof. Priyabrat Dash, NIT Rourkela
- ❖ Prof. R. Mahendran, NIFTEM-Thanjavur
- ❖ Prof. Winny Routray, NIT Rourkela
- ❖ Prof. kanishka bhunia, IIT Kharagpur
- ❖ Prof. Dibyakant Seth, NIT Rourkela
- ❖ Dr. Shiva Shirkole, ICT –Bhubneshwar

Topics to be covered:

- Overview of millet: Agricultural Practices and Processing
- Advances in Food Processing for millet equipment
- The recent trend in new product development using millets
- Zero-waste approach

About NIT Rourkela:

NIT Rourkela is one of the premier national level institutions for technical education in the country and is funded by the Government of India. Government of India has elevated the Regional Engineering College, Rourkela to a deemed university under the name of National Institute of Technology, Rourkela. The main objective of the Institute is to produce quality Engineers and Scientists in Graduate and Post-Graduate levels in various branches of Engineering and Science. The Institute is managed by the Board of Governors of National Institute of Technology (Rourkela) Society and vested with significant degree of administrative and financial autonomy. Government of India have recognized the Institute as a premier institution of repute and have developed it as a center of excellence under plan funding. The campus of the Institute consisting of the Institute buildings, halls of residence and staff colony is situated at the eastern end of Rourkela steel city, beyond Sector-1 over an area of 262 hectares of land provided by the Government of Orissa. It is a residential campus offering accommodation to faculty, staff and students. The campus has all the amenities for developing personal, social and academic skills of the student community

Eligibility:

The course is open to motivated PG and Ph.D. level students with food processing, food technology, dairy technology and postharvest engineering, background, who are having a strong willingness to get excellence in their scientific and engineering research pursuits. Only 25 participations will be selected as per the scheme norms.

How to apply:

Interested participants can apply through the Google Form: Registration link <https://forms.gle/q6y4KQEmMziwGEXu8>

Deadline: **26th May 2022.**

Applications will be shortlisted based on “first come first serve” basis as well as academic and research credentials. The shortlisted candidates will be intimated through email. No registration fee, free accommodation and food during the workshop. TA may be admissible as per the sponsoring agency norms and rules.

Venue:

Department of Food Process Engineering, NIT Rourkela.

Organizing Committee:

Patron

Prof. K. Umamaheshwar Rao
(Director, NIT Rourkela)

Course coordinator:

Prof. Madhuresh Dwivedi
Assistant Professor, Department of Food Process Engineering, NIT Rourkela.

Course Co-coordinator:

Prof. Rama Chandra Pradhan
Associate Professor, Department of Food Process Engineering, NIT Rourkela.

Student coordinators:

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