



National Institute of Technology Rourkela

KARYASHALA High-End International Workshop on Recent Innovations in Sustainable Postharvest Handling and Value Addition of Agricultural Produces

12th - 17th June 2023



Organized by

Department of Food Process Engineering
National Institute of Technology Rourkela,
Sundargarh, Odisha, India – 769008.

Sponsored by

Science & Engineering Research Board (SERB),
Government of India
under the Accelerate Vigyan Scheme

About the Institute

The erstwhile Regional Engineering College (REC) Rourkela was converted to a deemed university and renamed as National Institute of Technology, Rourkela on 26th June, 2002. It was declared as An Institution of National Importance through the parliament act on 15th August 2007. The institute has made a rapid stride in earning a reputation as a place of higher learning in the field of engineering as well as technology during the last decade. The institute strives hard to become an internationally acclaimed institution of higher learning that will serve as a source of knowledge and expertise for the society and be a preferred destination for undergraduate as well as post graduate students along with advanced research.

NITR Rankings - 2022

39 NIRF Overall	15 NIRF Engg.	24 NIRF Research	281-290 QS Asia
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Department of Food Process Engineering

The Food process engineering department at National Institute of Technology Rourkela blends engineering disciplines with a strong understanding of food and food science. The vision of the department is to become an internationally acclaimed department of higher learning in the field of Food Process Engineering that will serve as a source of knowledge and expertise for the food processing industries and be a preferred destination for undergraduate and graduate studies. The department of food process engineering offers academic programmes such as B.Tech, M.Tech, PhD in Food Process Engineering

The academic and research activities in the department focus on the frontier areas of food process engineering such as food properties and prediction, post-harvest operations, food quality and safety, transport process and kinetics, product development and ingredients innovation, food packaging and storage engineering, computer aided food engineering, energy efficiency, process control and efficiency, automation and manufacturing systems. Food process engineers can specialise in design, development, research, maintenance and operations such as processing, packaging, storage and transportation.

About the Course

The sustainable production of food has been a significant concern in recent years. The main quality characteristics essential to buyers are visual appearances, such as colour, shine or glossy, surface texture, size, and absence of blemishes. Reduced postharvest losses will assist in establishing more sustainable and resilient food systems, as well as reduce greenhouse gas emissions due their substantial scale. While various postharvest treatments are used to reduce food losses, some of these technologies are not sustainable due to their high energy inefficiency and carbon footprint. Currently, submissions of sustainable postharvest technologies such as edible coatings, irradiation, ozone, and cold plasma have been used for quality and safety. Non-destructive methods and biosensors have shown great ability and utility in improving valuations of food quality characteristics compared with traditional detection methods. Using sustainable energy as the main or auxiliary energy for postharvest activities could reduce fossil energy intake and improve product quality, which could decrease the impact of the postharvest activity on the environment.

Speakers

Academicians from premier institutions like IITs, NITs, State/Centrally Funded Universities, foreign universities, experts from Industries as well as R&D Organizations having expertise and experience in relevant domain knowledge are to be invited as Resource Person for this workshop.

Target Participants

This high-end international workshop will be beneficial for PG/Ph.D. students/ faculty members/ researchers and food industrial people.

Course Content

The workshop will cover but is not limited to the following topics:

- ✓ Electromagnetic energy applications in postharvest management
- ✓ Cold plasma for fresh produce quality and safety
- ✓ Pre-cooling and cold chain management of fresh commodities
- ✓ Application of ozone in postharvest handling
- ✓ Edible coating for fresh produce shelf-life extension
- ✓ Role of Active Packaging in Increasing the Shelf-life of Perishables
- ✓ CA and MA Storage and Packaging of Fruits and Vegetables
- ✓ Non-destructive techniques for quality estimation
- ✓ IoT-based traceability in supply chain management
- ✓ Use of biosensors in postharvest management
- ✓ Energy and water-saving approaches in postharvest operations
- ✓ Sustainable energy for postharvest operations
- ✓ Sustainability through postharvest value addition
- ✓ Non-thermal techniques for fresh produce quality and safety



Registration link:

<https://forms.gle/JEpPisoV8CVZfuj9>

The last date to fill registration form is: 25th May 2023. The selected participants will be informed through mail by 30th May 2023. The Workshop duration is from 12th to 17th June 2023.

ORGANIZING COMMITTEE



Patron

Prof. K. Umamaheshwar Rao
Director, National Institute of Technology Rourkela.

Course coordinator

Dr. V. Arun Prasath

Assistant Professor,
Department of Food Process Engineering.



Co-coordinator

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