



How to Apply

- Take a printout of the application (PDF), fill it and take the recommendation of the competent authority. The recommended application may then be scanned and sent to amita.vairat@gmail.com or sharma.monikaft@gmail.com on or before 30.11.2025. Selected participants will be informed via email.
- The participants are also required to fill out the Google form as an advance copy (Google form: <https://forms.gle/pysaoCEm1mq4mzMA8>)
- Take a printout and send duly signed copy through proper channel to the Course Director of short course (Dr. Arindam Dhali) by post.
- Participants are required to make payment of registration fee of INR 50/- via Demand Draft in favour of ICAR-UNIT, NDRI payable at Bengaluru.

Address for Correspondence

Dr. Arindam Dhali

Head, ICAR-NDRI SRS

Adugodi, Hosur Road, Bengaluru – 560 030

E mail: dhali72@gmail.com; arindam.dhali@icar.org.in

Contact for More Information

Dr. Vairat Amita Dinkar

Scientist, ICAR-NDRI SRS

Bengaluru – 560 030

Phone: 9810272885

E mail: amita.vairat@gmail.com

Dr. Monika Sharma

Senior Scientist, ICAR-NDRI SRS

Bengaluru – 560 030

Phone: 9915018948

E mail: sharma.monikaft@gmail.com

Chief Patron
Dr. Dheer Singh
Director & Vice Chancellor, ICAR-NDRI

Patron
Dr. Ashish Kumar Singh
Joint Director Academic, ICAR-NDRI

Dr. Rajan Sharma
Joint Director Research, ICAR-NDRI

Course Director
Dr. Arindam Dhali
Head, ICAR-NDRI SRS

Course Co-Directors
Dr. Vairat Amita Dinkar
Scientist, ICAR-NDRI SRS

Dr. Monika Sharma
Senior Scientist, ICAR-NDRI SRS



ICAR Sponsored Short Course on Emerging Trends in Nanotechnology for Dairy and Food Applications

7th January to 16th January, 2026

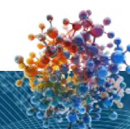


Sponsored by

Agricultural Education Division, ICAR

Organized by

**ICAR - National Dairy Research Institute
Southern Regional Station
Bengaluru – 560 030**



About the Course

The significant achievements of the station in the area of nanotechnology are spread across the food and dairy processing and production aspects. These have been possible through several external and internal grants. Salient achievements in the processing include encapsulation of probiotics in prebiotic nanofibres, electrohydrodynamic encapsulation of probiotics through electrospinning, nanoencapsulation of polyphenols and bioactive peptides, nanofluids for enhanced heat transfer, nanoparticles for waste water treatment, nano technological approaches in enzyme immobilization for food applications. Further, some of the achievements in the dairy production are generation of Carbon Quantum dots using nanotechnology, mastitis control through application of nanoparticles in dairy cattle, nanominerals for animal health, nanofiber-based progesterone releasing intravaginal drug delivery system for controlled breeding in dairy cattle.

Eligibility

The training is open for faculty of SAU's, ICAR Institutes and Central Universities with Master's degree (Dairy Processing/Food Processing/ Dairy Engineering/ Livestock Products Technology/ Allied Disciplines), working in the cadre not below the rank of Scientist, Assistant Professor or equivalent from the Faculties of Dairy Science, Agriculture, Food Science and Technology, Veterinary Sciences and Home Science. Maximum number of participants is restricted to 25.

TA and Accommodation

Lodging and boarding will be provided to the participants by the organizers. TA to the participants from SAU's and other ICAR institutions will be paid as per their entitlement restricted to the maximum of AC II Tier train fare by the shortest possible route. Participants are required to produce the original and photocopies of tickets in support of their claim. Air travel is not advisable.

Course Content

Course curriculum has been designed to comprehensively cover various technologies nano-encapsulation, electro-spinning, enzyme immobilization for food application, FTIR. Emphasis will be given to various application of nanotechnology in various areas such as dairying, food packaging, nano-fluids, nanomaterials with safety and regulatory aspects through theory lectures as well as practical demonstration by resource persons.

Topics Covered

- Nano-biotechnology in Dairying
- Isolation and characterization of nanomaterials
- Nano-encapsulation using Electrospinning technique
- Nanotechnological approaches in enzyme immobilization for food applications
- Nanofiber based progesterone releasing intravaginal drug delivery system for estrus synchronization in dairy cattle
- Nanotechnological applications in controlling mastitis in cattle
- Nanofluids for enhanced heat transfer
- Detection of food toxins using animal cell-based biosensors
- Characterization of nanomaterials through Fourier Transform-Infrared Spectroscopy (FTIR)
- Characterisation of nanomaterials through differential scanning calorimetry
- Nanomaterial characterization using Dynamic Light Scattering (DLS) and Zeta Potential
- Computational biophysics and molecular modeling approaches in nano-encapsulation
- Design of experiments and application of 'R' software for analysis of experimental data
- Safety and Regulatory Aspects of Nanomaterials in Food and Dairy Applications
- Future trends, opportunities and challenges in nanotechnological research

Important Dates

Last date of application	30th November, 2025
Communication to participants	5th December, 2025
Commencement of Short Course	7th January, 2026

Application format for participation in training

1. Name (in block letters)
2. Designation
3. Present employer address
4. Address to which reply should be sent (in block letters)
5. Permanent address
6. Date of birth
7. Sex
8. Marital Status
9. Teaching/ research/ professional experience (mention post held) during last five years and numbers of publications.
10. Mention if you have participated in any research seminar, Summer/Winter/Short Course etc. during last five years under I.C.A.R./ Other organizations.
11. Transaction Details (attach a copy of DD in favour of ICAR-UNIT, NDRI payable at Bengaluru)
12. Academic Record

Degree	Discipline	Year	Class	University
PhD				
Master				
Bachelor				
Others				

Signature of the Applicant:

Date:

Place:

13. Recommendations of the Head of the Institute

Date:

Signature & Official Seal

Certificate

It is certified that the information was furnished by the office record and was found correct.