

ICAR SPONSORED SUMMER/WINTER SCHOOL

b. Spray Drying Technologies: Principle, Types of Spray dryers, principle and working, Design and simulation, Accessories, Selection of Dryers for Drying different food materials , Working, Energy conservation, Care and maintenance, Trouble shooting, Value addition to Milk, Food and Fruit products, Three stage Dryer, Recent Advances in Spray Drying Technologies, Process control Automation of Spray Dryer. Quality control in food powder production and applications of spray drying technologies.

How to apply and selection:

Interested teachers may register online for the course at www.cbp.icar.gov.in website. Registration fee in the form of Demand draft or postal order for Rs. 50/- drawn in favour of **Comptroller KVAFSU** payable at **Bidar**. Demand Draft along with approval letter from respective controlling officer (Dean/Registrar/Director/VC) of sponsoring University /Institute/college shall be sent to **Dr. Mahesh Kumar G**, Course Director. The list of selected participants shall be displayed on CBP website and will be communicated to the applicants through email. Selection will be based on eligibility, qualifications on first come first basis. A total of 25 candidates shall be selected for the training program from different Universities /Institutes.

On-line Registration procedure

- Visit www.cbp.icar.gov.in
- Generate your log in ID and password
- Click on "participate in training" and fill proforma and upload

Assessment and Certificate: After completion of the course, the participants will be evaluated for their performance as per ICAR guidelines. A certificate will be awarded to the participants on successful completion of course.

Address for correspondence:

Dr. Mahesh Kumar. G.
Course Director

Head, Department of Dairy Engineering
Dairy Science College, KVAFSU
Hebbal, **BENGALURU** – 560 024 (Karnataka)
Mobile: 93 41 72 77 72 Email: dairyengineer@gmail.com

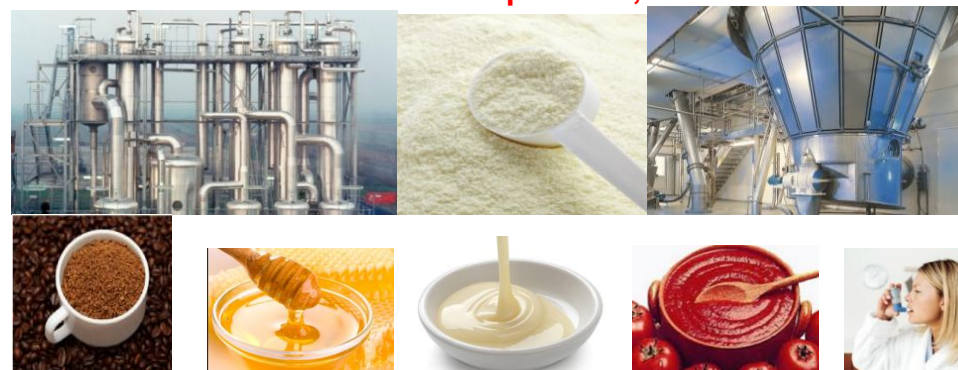
Venue: Department of Dairy Engineering

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RECENT ADVANCES IN SUB-BARIC EVAPORATION & SPRAY DRYING TECHNOLOGIES FOR PROCESSING & VALUE ADDITION TO MILK, FOOD & FRUIT PRODUCTS

Date: 6 to 26 September, 2017



Organised by

Department of Dairy Engineering
Dairy Science College, Karnataka Veterinary, Animal &
Fishery Sciences University, **BENGALURU** – 560 024 (Karnataka)

Patron: Dr. H.M. Jayaprakasha, Dean, Dairy Science College, Bengaluru.
Phone: 080-23514575, Fax: 080-23414848 Email: deandch@gmail.com

Course Director: Dr. Mahesh Kumar. G.

Course Co-ordinators: Er. Rajunaik B. & Dr. Ramachandra B.

Venue: Department of Dairy Engineering

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About organising institute

The **Dairy Science College, Hebbal** is one of the oldest and reputed colleges in the country established in the year 1980. Over the past 37 years the Institution has grown from strength to strength and has contributed immensely both in research and human resources. The College offers B. Tech (Dairy Tech), M. Tech and Ph D programs in Dairy Science as accredited by ICAR , New Delhi.

The **Department of Dairy Engineering** is well equipped with the most modern food processing facilities like PLC touch screen operated **Spray Dryer, Fluid Bed Dryer, Falling Film Evaporator, Vacuum Pan Evaporator, Vacuum Dryer, TVR, MVR** and many more. The department has well established **Instrumentation and Plant Automation** Laboratory which could be used for effective training.

Visits to commercial plant like **Mother Dairy (KMF), Nandini** High Tech Product plant, **Mother Dairy Fruit and Vegetable** (unit of NDDDB) , **Food Park for fruit processing** will be organised during the programme.

The proposed training program will be very much useful and beneficial to teachers from different disciplines to update their knowledge and to impart required skill to minimize post harvest losses by adopting latest sub-baric evaporation and spray drying technologies to preserve milk, fruits and food products in their natural form without loss of nutrients and therapeutic value, besides imparting quality education to participants.

Facility and expertise available at organising Institute

The Dairy Science college is situated in heart of Garden city, Bengaluru, Karnataka, popularly known as Silicon Valley of India, provided with well-equipped incubation centre and laboratories for teaching and research.

Weather in Bengaluru: It will be pleasant weather with 25° C temperature. Dairy Science College is just 8 km away from main Railway Station & central bus station well connected with transport facilities.

College is equipped with Modernized UPS connected e-Classrooms, laboratories; air conditioned training hall and conference hall. **Department of Dairy Engineering** has established excellent **Academia- Industry relationship** by extending process engineering technical know-how to many Dairy, Food and Pharmaceutical Industries.

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Dr. Mahesh Kumar G. Course Director has 10 years of Industrial experience in design, fabrication and installation of many Vacuum evaporators and Spray dryers. He is an expert on Vacuum evaporation and Spray drying Technologies and rendered engineering technical consultancy services to **M/s Dempo Dairy Industries Ltd, & M/s Dharwad Milk Union Ltd**, units of Karnataka Milk Federation, for establishing mega 30 ton/day milk powder plant costing **Rs. 26.5 Crores**.

Eligibility:

Training will be open for Permanent Assistant Professor/Associate professor/Scientist/Senior Scientists from SAU/SVU/ICAR and Central universities with Master degree in Dairy Engg/ Dairy Tech/Food Process Engg/Food Sc &Tech/ Post Harvest Engg/Agricultural Process & Food Engg/ Agricultural Engg/ Allied fields (in the preferential qualification order).

Travelling, Lodging and Boarding

Participants shall be paid 2nd AC train or Volvo bus fare from their institute to Bengaluru (shortest route) on submission of original tickets. No DA is admissible during travelling period. Participants shall be provided free lodging and boarding during training period in the university hostel. Travel by Flight/Private taxi is not admissible for reimbursement.

Course contents

a. Sub-Baric Evaporation Technologies : Basics of sub-baric evaporation, Types of Evaporators, Design and simulation, Selection of Evaporator for concentration of milk, food and fruits juices. Construction, Operation, accessories, Multiple Effect TVR and MVR evaporator, Forced Circulation Evaporator, Scraped surface Evaporator. Energy conservation, Care and maintenance, Trouble shooting, Value addition to Milk, Food and Fruit products, Advances in Sub-baric Evaporation Technologies, Process control and Automation of Evaporator, Quality control and applications. Applications of Sub-baric Evaporation in Dairy, food and fruit Industry.

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