

# Information Brochure

ICAR-SUMMER SCHOOL

on

## Advanced Strategic Processing Techniques for Oilseeds to Combat Protein-Energy Malnutrition and Augment Farmers' Income (01- 21 August 2017)



Course Director

**Dr D N Yadav**

Course Co-Directors

**Dr S K Nanda**

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ICAR-Central Institute of Post Harvest Engineering &  
Technology, (ICAR-CIPHET) Ludhiana – 141 004

(An ISO 9001:2015 Certified Institution)

[www.ciphnet.in](http://www.ciphnet.in)

### Background

In spite of significant production of oilseeds, India still imports nearly 50% of its annual oil consumption, while exporting de-oiled cakes owing to non-adoption and non-awareness of technological advances in this sector. Oilseeds are major source of energy, and can also serve as an excellent source of protein, if properly processed. Protein-energy malnutrition prevailing in India among children (>50%) and adults (>36%) has become an increasing concern. There is need to use advanced processing techniques for efficient oil recovery coupled with extraction of protein to combat the protein-energy malnutrition besides augmenting farmers' income. The proposed theme of summer school will be of immense help to research workers and policy makers in this regard.

### Eligibility

Master's Degree in Agricultural Sciences/ Engineering with specialization in Process and Food Engineering/Agricultural Structures/Environmental Management/ Food Technology/ Food and Nutrition/ Food Science and Technology/ Dairy Technology/Biochemistry/Livestock Products Technology/ Process & Food Engineering/ other Engineering disciplines in the field of agriculture, and other relevant subjects. Participants should be from ICAR Institutes/ State AUs/ KVVs/ State Universities/ CAUs/ AMU, BHU, SHIATS, Vishwa Bharti and Nagaland University/Engineering/Post-Harvest Technology Institutes, in the cadre of Assistant Professors or equivalent or above.

### Travel/Accommodation

The expenditure on travel by all participants will be paid as per their entitlement for the class of travel, restricted to the maximum of AC II/III Tier railway fare by the shortest route. Participants are required to produce the original and photocopies of tickets in support of their claim. Lodging and boarding arrangements for selected participants shall be made free of cost in the Guest House of ICAR-CIPHET located in the same Institute campus.

### Course Contents

(Selected Lectures)

- Global scenario of oilseeds production and processing
- Edible oilseeds processing in India
- Advancement in engineering interventions for mechanical expression of oilseeds
- Protein energy malnutrition: present Indian status
- Role of oils and fats in health and nutrition
- Composition and characteristics of oilseeds
- Advanced methods for evaluation of rancidity in oils and fats
- Perspectives in design and development of mechanical expellers
- Harvesting, handling and storage of oilseeds
- Mechanical expression of oil from oilseeds: Advancement in technology and machinery
- Mechanical oil extraction
- Solvent extraction of oil: Principles and systems with respect to rice bran
- Utilization of de-oiled cake for animal feed formulations
- Non-destructive quality evaluation of oils and fats
- Novel technologies for refining of oils and fats with regard to degumming, deodorization and bleaching
- Processing of de-oiled cake/meal for utilization in designer foods
- Advance techniques for fortification of oils and fats for better health benefits
- Processing of commercial groundnut cake for utilization in extrudate food
- Encapsulation techniques for medicinal oils
- Oilseeds protein: nutritional and health benefits

### Field Trips and Exposure Visits

There shall be two or three field trips/ exposure visits to important processing industries/ laboratories, processing facilities related to oilseeds processing located in Punjab.

## Host Institute

ICAR-Central Institute of Post-Harvest Engineering and Technology (CIPHET) is an ISO certified premier institute under ICAR with mandates to do research, extension and teaching in post-production sector of agricultural, horticultural, livestock and aquaculture produce including food quality and food safety. Three of the Divisions (viz. Agricultural Structures & Environmental Control, Food Grains & Oilseeds Processing, Transfer of Technology Division) along with coordination units of two AICRPs (viz. Post-Harvest Engg & Tech, Plasticulture Engg & Tech) are located in main campus while another Division (Horticultural Crop Processing) is located at Abohar, Punjab. This institute gives special emphasis on developing new processes and products, prototypes of processing machineries for products from different agricultural crops/ livestock/ fisheries and their by-products. The Institute has about 50 scientists.

## How To Apply

Interested candidates may apply online at CBP portal <http://cbp.icar.gov.in> strictly following the guidelines under How To Apply Tab. Candidates may also apply through IASRI website using CBP Portal Tab **latest by 8th July 2017**. Hardcopy of successfully submitted online application and application in prescribed format along with a Postal Order/ DD of Rs. 50/- (non-refundable) must be sent to the Course Director after signed approval from competent authority. The amount may be drawn in favour of [ICAR Unit-CIPHET, Ludhiana](#) payable at [Ludhiana](#). The list of selected participants will be displayed on CIPHET website [www.ciphet.in](http://www.ciphet.in) and will also be conveyed to the applicants through email. In case of any query please contact Course Director or Course Co-Directors. Only 25 participants shall be selected for the course.

## Important Dates

Last date for receipt of application: 08.07.2017  
Intimation of selection: 10.07.2017  
Confirmation of participation by candidates: 12.07.2017

NOTE: Once selected, candidates will be intimated through e-mail, fax or by post to which they should promptly reply with firm acceptance and travel plan.

## Application Form

### ICAR-SUMMER SCHOOL

“Advanced Strategic Processing Techniques for Oilseeds to Combat Protein-Energy Malnutrition and Augment Farmers’ Income”  
(01 August - 21 August 2017)

1. Full Name (in BLOCK Letters):.....
2. Designation:.....
3. Present employer and address:.....
4. Address to which reply should be sent (in BLOCK Letters):.....
5. Permanent Address:.....  
.....
6. Date of Birth: .....
7. Sex (M/F):.....
8. Teaching/research/professional experience(mention post held during last 5 years and number of publications with details).
9. No. Post held Period with Dates
9. Marital status (Married/Unmarried):.....
10. Mention if you have participated in any seminar, summer/winter school/short course etc. during the previous years under ICAR/other organizations:.....
11. Postal Order/DD No. ....Dated.....of Rs.50/- (NON-REFUNDABLE) for registration of application (in favour of ICAR Unit-CIPHET, Ludhiana)
12. Academic record: (Degree onwards)  
Examination Subject Year Division University  
Passed  
Bachelor  
Master  
Doctorate  
Post-doc
13. Recommendation & Certificate of sponsoring Institute  
Signature with date, designation & address  
(Office Seal)

## Ludhiana City

Ludhiana [30.9°N 75.85°E] is one of the largest city in the North of Delhi. Popularly known as Manchester of India, it is located adjacent to the bank of river Sutlej with two major irrigation canals passing through the city. It is well connected to New Delhi and rest of the country by road, train and by air. City is a manufacturing hub for diverse machinery equipment, and famous for its bicycle industry, textiles and winter garments. Weather Ludhiana features a humid subtropical climate, with three defined seasons; summer, monsoon and winter. In August the weather generally remains humid, with an ambient temperature maximum reaching up to 38°C.

## Address for Correspondence

[ssoilprocessing2017@gmail.com](mailto:ssoilprocessing2017@gmail.com)

### Course Director:

Dr. D. N. Yadav, Principal Scientist,  
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### Course Co-Director:

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### Course Co-Director:

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