

## ORGANIZING COMMITTEE

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### Course Coordinators

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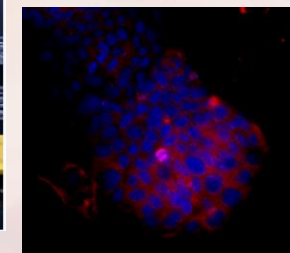
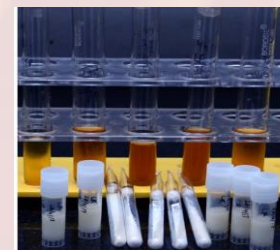
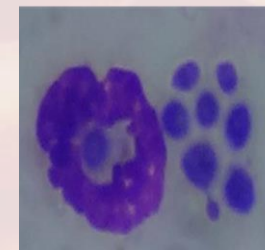
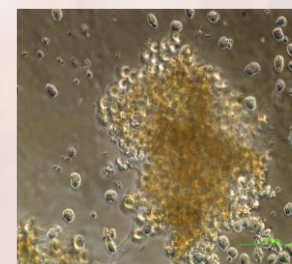
CAFT 2016-17

Training Programme

On

**“Advances in Validation of Functional Foods”**

December 1-21, 2017



**Sponsored by**

Agricultural Education Division  
Indian Council of Agricultural Research

**Organized by**

Animal Biochemistry Division  
ICAR-National Dairy Research Institute  
(Deemed University)  
Karnal-132001, Haryana

## ABOUT THE COURSE

Consumer interest is shifting towards the potential health benefits of specific food and food ingredients. Particularly, the consumers expect growth, development, health maintenance and reduced risk of diet related diseases from specific food. Such expectations can be met by functional foods, the foods containing health promoting ingredients or additives. Although several foods are claimed to be functional, proper validation of their functional attributes is utmost essential. For example, validation of the functional milk ingredients through modern technologies will help in the value addition of milk. Enriching scholars in the validation of functional foods would promote further research and a pavement for our country to stand out in the international functional foods market. Therefore, Animal Biochemistry Division of ICAR-National Dairy Research Institute (Deemed University) proposed this course to cover modern technologies for the validation of functional foods.

The objectives of this course are

- (i) To acquaint the participants about the identification, characterization and validation of functional food ingredients.
- (ii) To provide the hands-on training on latest techniques used in the area of biochemistry, molecular biology, biotechnology, genetics, bioinformatics, dairy microbiology and dairy engineering to validate functional foods.

## COURSE SUMMARY

The proposed intensive course content has been designed to cover the methodologies for the identification, characterization, digestion, transportation, bioavailability and the bioactivity of functional ingredient and hands-on training on advanced techniques for this purpose.

## COURSE CONTENTS

- ❖ Identification and characterization of functional ingredients (peptides, proteins, carbohydrates, lipids, nucleic acids, micronutrients, etc) in food by UV-Visible spectroscopy, HPLC, GC, LC-MS, ELISA, SDS-PAGE, Western blot, DLS, Scanning electron microscopy, Real time-PCR, FTIR, 2-D, MALDI and Next generation sequencing.
- ❖ Assessment of *in vitro* digestibility of functional food.
- ❖ Transport and bioavailability of functional ingredients *in vitro* (trans well experiments) and *in vivo* (animal models)
- ❖ *In vitro* and *in vivo* tracking of functional ingredients (labelling, imaging, fluorescence microscopy).
- ❖ Evaluation of bioactivity or functional properties (antioxidative, antiallergic, antidiabetic, antihypercholesterolemic, antiapoptotic properties) of food ingredient(s) by *in vitro* biochemical assays and cell culture methods.
- ❖ Designing of experiments or animal models for validation of functional ingredients through *in vivo* experiments.
- ❖ Animal ethics CPCSEA guidelines and handling of experimental/laboratory animals.

## ELIGIBILITY

The training is open for faculty of AU's and ICAR institutes with Master's Degree in Agriculture and Allied Disciplines with working knowledge of computers, working in the cadre not below the rank of Scientist, Assistant Professor or equivalent in the concerned subject.

## IMPORTANT DATES

Last date of application	: 26 <sup>th</sup> September, 2017
Communication to participants	: 16 <sup>th</sup> October, 2017
Commencement of training programme	: 1 <sup>st</sup> December, 2017

## HOW TO APPLY

As per the ICAR instructions, the interested candidates should register and apply online through Capacity Building Programme (CBP) portal as follows:

1. Visit the Website  
<http://cbp.icar.gov.in/HomePage.aspx>
2. Login with your USERID and PASSWORD  
(To create USERID, use Create New Account link  
<http://cbp.icar.gov.in/signUp.aspx>)
3. After login, click on "Participate in Training" and apply against the CAFT training programme (S.No. 20 "Advances in Validation of Functional Foods")
4. Fill the performa and submit online
5. Take a printout of submitted copy, send through proper channel to the Course Coordinator of CAFT (Dr. Sunita Meena) by post and also upload the signed application form on portal

**FEE:** There is no fee for the training programme

**TRAVEL:** The participants will be paid to and fro railway/bus fare as per their entitlement for the class of travel on production of tickets by the shortest route restricted to maximum of AC II class as per the ICAR norms.

**ACCOMODATION:** Free boarding and lodging will be provided by the institute (persons other than the selected candidates are not allowed). For more details please visit <http://cbp.icar.gov.in>

**Note:** An institute selection committee will be constituted to select most suitable candidates. Successful candidates will be informed by latest by 16<sup>th</sup> October, 2017. No communication in this regard will be entertained.

Application if not filled in the prescribed format will not be considered

## Invitation

The ICAR-National Dairy Research Institute, Karnal, invites applications from faculty members and researchers of Indian universities/research institutions for a 21 days training program sponsored by Agricultural Education Division of Indian Council of Agricultural Research, New Delhi, scheduled from December 1-21, 2017