

**Application form for  
Participation in ICAR Sponsored Short Course  
on**

**Recent Advances in Nutritional-Physiological Approaches  
for Improving Reproduction and Production in  
Livestock Under Climate Change Scenario**

*20-29 August, 2018*

1. Name (in block letters) .....
2. Designation .....
3. Employer address .....
4. Correspondence Address .....
5. Email address & Mobile .....
6. Date of birth .....
7. Gender (M / F) .....
8. Teaching/Research/Extension  
experience (years) .....
9. Number of Summer/Winter/Short  
Courses Attended in last 5 years .....
10. Academic Qualification .....

Degree	Discipline	Year	Class	University

11. Demand Draft for Rs. 50/- in favor of ICAR Unit, NIANP Bangalore or Postal order for Rs. 50/ payable at Bangalore towards registration

Date: \_\_\_\_\_ Signature of Applicant \_\_\_\_\_

12. Recommendations of Forwarding Authority with seal

**Certificate**

This is to certify that the information furnished by the applicant was checked with office record and was found correct

Signature  
Designation of the Sponsoring Authority

**Address for Correspondence**

**Dr. R Umayya Suganthi**

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**Dr. N M Soren**

Senior Scientist  
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**Dr. G Krishnan**

Scientist  
ICAR-NIANP, Adugodi  
Bangalore - 560 030  
Mobile: +91-9483314396

**Important Dates**

Last date for Receipt of applications : 05-07-2018  
Intimation to selected candidates : 06-07-2018  
Confirmation from selected candidates : 25-07-2018



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**ICAR Sponsored Short Course  
On**

**Recent Advances in Nutritional-Physiological  
Approaches for Improving Reproduction  
and Production in Livestock Under  
Climate Change Scenario**

*20-29 August, 2018*



**Patron**

**Dr. Raghavendra Bhatta**  
Director, ICAR - NIANP, Bangalore

**Course Director**

**Dr. R Umayya Suganthi**

**Course Coordinators**

**Dr. N M Soren**  
**Dr. G Krishnan**  
**Dr. A Mishra**



ICAR - National Institute of Animal Nutrition and Physiology  
Adugodi, Bangalore - 560 030

## Course Concept

Livestock sector has emerged as one of the key components of agricultural growth in India which provides livelihood security to farmers. Demand for livestock products is projected to increase substantially at both the national and global level, mainly due to population increase, urbanization and improvement in living standards. However, climate change is a major threat to sustainable livestock production in many parts of the world including India. Alternatively, livestock sector itself is a major source of enteric methane emission, contributing to global warming. High ambient temperature associated with climate change directly impacts animals' growth, quality and quantity of livestock products-meat and milk and reproductive efficiency. Changes in pasture productivity, forage quality and water availability and accessibility to animals as an effect of changing climate aggravates production and reproduction losses. In addition, immunosuppression accompanied by emergence of newer diseases and changes in temporal or spatial distribution of various diseases poses serious threat to health and productivity of livestock and poultry. Various physiological response mechanisms support animals to adapt and survive in the hot climate, but with compromised performance.

This course focuses on the transformative change in terms of application of advanced nutritional and physiological approaches to build a robust and integrated animal production under climate change scenario. It is timed to launch in parallel with the global efforts to combat climate change impacts on livestock and poultry production.

## Plan of Course

- ★ Livestock and climate change
- ★ Impact of biotic and abiotic stressors in livestock production
- ★ Enteric methane emission in ruminants and ameliorative measures
- ★ Biomolecular markers of heat stress and ameliorative strategies
- ★ Importance of micronutrients to augment

production and reproduction

- ★ Nutrient gene interactions and nutritional approaches
- ★ RNA interference based gene silencing for climate smart livestock production
- ★ Advanced biotechnological tools in lignocellulosic biomass degradation
- ★ Convergence of genomics and proteomics to improve livestock fertility

## Practicals

- ★ Biomolecular membrane transport
- ★ Green house gas modeling
- ★ Estimation of enteric methane by Sulfur hexafluoride tracer technique
- ★ Proteomic techniques to assess buffalo fertility and pregnancy
- ★ NGS analysis of rumen microbes
- ★ Immunoassay of stress hormones

## Eligibility and Duration of Course

Master's Degree and equivalent and working not below the rank of Assistant Professor/Equivalent in the concerned subject under SAU /ICAR/ICAR recognized institute/ Central Agriculture Universities. The course duration is 10 days (20-29 August, 2018). Outstation participants are requested to arrive latest by night of 19<sup>th</sup> August and plan to leave after 18 hours on 29<sup>th</sup> August, 2018.

## Accommodation

The participants will be provided free boarding and lodging in the Institute guest house on sharing basis. Participants are advised not to bring their families, as accommodation for them will not be entertained.

## How to Apply

The participants will have to apply online at the CBP portal at <https://cbp.icar.gov.in>. After filling the online application, take a printout of the application and get it approved by the competent authority and upload the scanned copy on or before 05.07.2018. An advance copy

(via email) may be sent directly to the Course Director by post along with DD/Postal order for Rs. 50/- only drawn in favor of "ICAR Unit -NIANP" (non-refundable).

## Travel Allowance

The participants will be paid TA for to and fro journey by rail/bus/public transport by the shortest route, but restricted to AC-II normal train fare only (on producing documentary evidence).

## Intake Capacity

Twenty five participants

## How to Reach

The NIANP campus is about 8 km from city railway / bus Station, 15 km from Yeswantpur railway station. Prepaid taxi/auto can be availed at railway/bus station to reach NIANP, Adugodi, Bangalore (opposite to BOSCH Company, Hosur Main Road).

## Weather

Bangalore will be cool and comfortable in the month of August (22 to 28°C).

## The Institute

The ICAR-National Institute of Animal Nutrition and Physiology (ICAR-NIANP), was established on 24<sup>th</sup> November, 1995 with a mandate to conduct fundamental research on basic nutritional and physiological aspects for efficient livestock production. NIANP, a premier epicentre of scientific activities under the ICAR, works with a vision of productivity enhancement for profitable and sustainable livestock production and with a mission to improve production and reproductive efficiency in livestock through basic and strategic physiological and nutritional approaches. In addition to conventional methods, genomic, proteomic and nano-biotechnological methods have been evolved to improve reproductive efficiency and productivity in livestock under climate change scenario. The institute has also developed several technologies to enhance the reproduction and production at the farm level for the benefit of farmers.