

## Application form

(Fields marked \*\* are mandatory)

Name of the Applicant \* :

Name of Institute/ Organisation :

Designation : \_\_\_\_\_

Address : \_\_\_\_\_

Telephone No. : \_\_\_\_\_

Mobile No.\* : \_\_\_\_\_

E-mail Address\* :

Accommodation required \* : Yes/No \_\_\_\_\_

Signature of Applicant:

### INSTRUCTIONS TO CANDIDATES

The complete application form should be e-mailed on or before 30.06.2019 to Dr. K. P. Suresh, Principal Scientist, ICAR- NIVEDI at [dilnivedi@gmail.com](mailto:dilnivedi@gmail.com)

1. Seats are limited and allocated on first come first serve basis.
2. Training details are also available online at : [https://www.nivedi.res.in/Nadres\\_v2/](https://www.nivedi.res.in/Nadres_v2/)
3. Selected participants are not eligible for TA/DA. Selected candidates will be informed via email.
4. Accommodation will be arranged on payment basis (by the participants) at ICAR NIVEDI Guest House, Bangalore.
5. Only study materials and lunch will be provided by the organizers during the training period.



Duration of training program will be for 2 days with practical demo and the cost of training program is Rs.3000/- for faculty and Rs.2500/- for students.

Limited seats available

Eligibility: Post graduate students, Ph.D Scholars, Medical professionals, Teachers, Research Scientists.

### **Bank details:**

Name of account: **ICAR Unit: NIVEDI**

Bank and Branch Name: **State Bank of India, Attur Layout Branch, Bangalore**

Account No.: **10476393073**

IFSC Code: **SBIN0013282**

### **Course Director:**

**Dr. Parimal Roy,**

Director, ICAR-NIVEDI

For more details on training please contact

### **Dr. K. P. Suresh**

Principal Scientist (Biostatistics)

Phone: 080-23093188

Mobile: +91 9341321900

E-mail: [suresh.kp@icar.gov.in](mailto:suresh.kp@icar.gov.in)

### **Ms. Shinduja R**

Research Fellow

Mobile: +91 7760690738

E-mail: [dilnivedi@gmail.com](mailto:dilnivedi@gmail.com)



## Training program on "Research Methodology and Biostatistics" 13<sup>th</sup> - 14<sup>th</sup> July 2019



**ICAR-National Institute of  
Veterinary Epidemiology and  
Disease Informatics (NIVEDI)  
Post Box No.6450,  
Ramagondanahalli, Yelahanka,  
Bengaluru-560064,**



## Objectives of the training

1. To sensitize the statistical concepts involved in conducting the Research Experiments

2. To provide the knowledge on estimating the sample size, construction of hypothesis and study design

3. To provide online demonstration of use of statistical methods for data analysis (Clinical/Experimental)

4. To make one inquisitive on writing protocol/scientific paper



## Program Schedule (Day 1)

- ⇒ Research: a way of thinking
  - Research plan- integral part of practice
  - Way to gather evidence for practice
  - Applications of research
  - Characteristics and requirement of research process
  - Types of research, application perspective, objective perspective and enquiry perspective
  - Paradigms of research
- ⇒ Research process- an overview
  - Deciding what research to do
  - Formulating a research problem- steps in formulating research problems, formulation of research objectives, study population, review of literature, formulating research problems for qualitative and quantitative research.
  - Conceptualizing a research design: establishing a operational definitions
  - Constructing an instrument for data collection
  - Estimating the sample size requirement
  - Selecting a sample for the study
  - Writing a research proposal
  - Collecting data
  - Processing and displaying data
  - Writing research report
- ⇒ Identifying variables
  - Types of variables from viewpoint of causal relationship, study design and unit of measurement
  - Type of measurement scale: Nominal, ordinal, Interval and ratio scale  
Difference between a concept and a variable
- ⇒ Constructing hypothesis
 

The definitions of hypothesis

  - The functions of hypothesis
  - The characteristics of hypothesis
  - Types of hypothesis
  - Errors in testing hypothesis
  - Hypothesis in qualitative, quantitative and epidemiological research
- ⇒ Conceptualising research design
  - Functions of research design, theory of causality and research design
  - Study designs for qualitative, quantitative and epidemiological research

## Program Schedule (Day 2)

- ⇒ Constructing an instrument for data collection
  - Difference in the methods of data collection in quantitative and qualitative research
  - Collecting data using primary sources
  - Collecting data using secondary sources
  - Collecting data using attitudinal scales, Likert scale, Thurstone scale and Guttman scale
  - Establishing the validity and reliability of a research instrument: Face validity & Content validity, External & Internal Consistency
- ⇒ Sample size estimation
  - Factors that affect the sample size
  - Alpha level and Power of the study
  - Minimum detectable difference
  - Sample size estimation for proportion in survey type of studies
  - Sample size estimation with single group mean, two group means
  - Sample size estimation with two proportions
  - Sample size estimation with odds ratio, risk ratio, correlation co-efficient
- ⇒ Selecting sample
  - Concept of sampling and principles of sampling
  - Probability and non-probability sampling methods
- ⇒ Collecting data
  - Considering ethical issues in data collection, concepts, stakeholders in research
  - Ethical issues to consider concerning research participants: collecting information, seeking consent, providing incentives, seeking sensitive information, the possibility of causing harm to participants, maintaining confidentiality.
  - Ethical issues to consider relating to the researcher: Avoiding bias, provision or deprivation of a treatment, using inappropriate research methodology, incorrect reporting, inappropriate use of information etc.
  - Ethical issues regarding the sponsoring organisation: Restrictions imposed, misuse of information.
- ⇒ Processing and displaying of data
  - Data processing in quantitative studies
  - Data processing in qualitative studies
  - Statistical methods used to test the hypothesis
  - Display data using tables, charts graphs
- ⇒ Writing a research report/article