

## Course Co-ordinating Team

Course Director : Prof. Deoki Nandan  
Course Co-ordinator : Prof. M. M. Misro  
Course Co-co-ordinator : Prof. T. G. Shrivastav  
Course Associate : Dr. Kiran Rangari



## About the Institute

The National Institute of Health and Family Welfare is a premier autonomous Institute, funded by the Ministry of Health and Family Welfare, Government of India. It has kept pace with the new thinking and contributing substantially to the health manpower development in the country.

NIHFW serves as an apex 'technical institute' as well as a 'think tank' for the promotion of national health and family welfare programmes in the country through education and training, research and evaluation, consultancy, advisory, and specialized services and specialized projects.

## Location of the Institute

It is situated in South Delhi, near Jawaharlal Nehru University and Munirka DDA Flats. It is easily accessible from both the Indira Gandhi International Airport and the New Delhi Railway Station, approximately 7 kms. and 15 kms. respectively. Pre-paid taxis/auto-rikshaws are available.

## Course Fee

There is a course fee of Rs.3000/- per participant. Each application must be accompanied with the course fee in the form of a draft payable to Director, NIHFW, New Delhi. TA/DA of the participants is usually borne by sponsoring States/organizations. The Institute will bear only expenditure on course materials and the expenses of inviting guest speakers wherever required.

## Accommodation

Moderate hostel accommodation at nominal rates would be provided to the participants only within the Institute's Campus.

## Weather

Weather in October, in Delhi is generally 25-35 Degree Celsius.

## Last Date for Receiving Nominations

26<sup>th</sup> September, 2011

(Participants are requested to make travel plans on receipt of confirmation for participation from NIHFW.)

*Further Correspondence may be Addressed to:*

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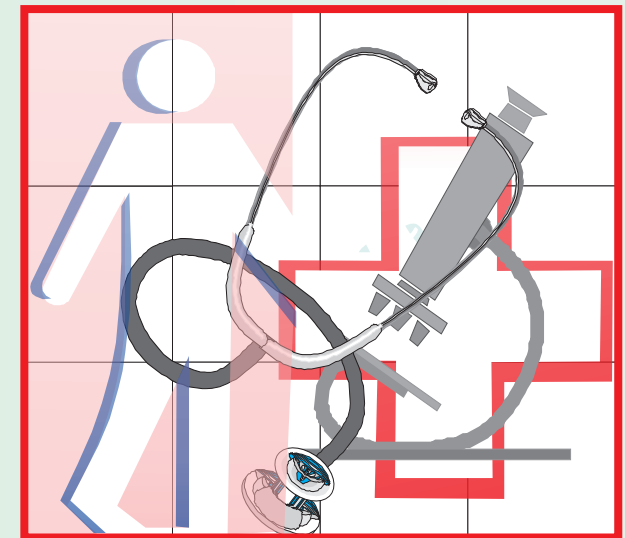
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# Application Of Research Techniques In Reproductive Biomedicine

10-21 Octoberber, 2011



आरोग्यम् सुखसम्पदा

Department of Reproductive Biomedicine  
National Institute of Health and Family Welfare  
Munirka, New Delhi-110067

## General Objective

To enhance the knowledge and skill of the participants on some of the research techniques in Reproductive Biomedicine and to strengthen their research skills and capabilities in this field.

## Specific Objectives

The participants after the training course should be able to:

1. Describe the national population scenario in the context of National Population Policy 2000 and National Rural Health Mission (NRHM).
2. Describe the scope of Biomedical Research in Reproductive and Child Health flagship Programme under NRHM.
3. Describe the male, female reproductive and immunological processes, potential areas, and recent developments in these fields with specific reference to fertility regulation.
4. Describe and demonstrate skills and techniques in semenology, spermatogenesis, germ cell apoptosis, semen biochemistry, sperm preparation, tests for sperm antibodies, hormone estimation (RIA, ELISA and Lateral flow) for basic and applied research in these fields.
5. Describe and demonstrate skills to prepare an independent research proposal and participate actively in the research presentations.

## Course Contents

### Knowledge based:

- i) Importance of Research in Reproductive Biomedicine in relation to National Population Policy.
- ii) Reproductive and Child Health Programme and scope of Biomedical research.
- iii) Male and female reproductive processes.
- iv) Recent developments in Contraceptive Research.
- v) Immunological aspects of reproduction
- vi) Preparation of project proposal.

### Skill based:

- i) General Semen Analysis,
- ii) Sperm preparation for IUI
- iii) Sperm live/dead staining, sperm/germ Cell Morphology
- iv) Biochemical analysis of Semen.
- v) Sperm function tests
- vi) Computer Assisted Sperm Analysis (CASA)
- vii) Evaluation of Oxidative Stress parameters
- viii) Assay for Nitric Oxide
- ix) *In situ* detection of Apoptosis
- x) MTT assay
- xi) Transfection using Silencing RNA
- xii) Preparation and use of gold nano-particles
- xiii) Radioimmunoassay of steroids
- xiv) Enzyme immunoassay
- xv) Rapid immuno-chromatography test (lateral flow)
- xvi) Sperm Agglutination test
- xvii) Active ingredient from plant products as spermicide
- xviii) Flow Cytometric analysis using Beckman Coulter

## Methodology

The following training methods would be used during the course.

1. Lecture/Discussion: These sessions would be utilized to brief the participants on population policy and other important areas in the field of Reproductive Biomedicine.
2. Demonstration: The participants would be taken to various laboratories in the department for the practical demonstration of techniques and methodologies used for carrying out Research in the field of reproduction and contraceptive technology development..
3. Group discussion: The group discussions shall be organized to enable the participants to share their experiences and expertise and to discuss about the research work carried out at their respective Institutions in the same and related fields. In addition, the participants will deliberate on the mode

of preparation of a new project proposal.

## Duration

Two weeks (10-21, October, 2011)

## Number and Nature of Participants

(12-15) Teaching and research personnel of the departments of Biochemistry, Endocrinology, Pharmacology, Physiology, Pathology, Laboratory Medicine and Anatomy of Medical Colleges and from Departments of Biochemistry, Zoology, Physiology, Endocrinology, Environmental sciences, Biotechnology and Life Sciences of Universities and other Research Institutions.

## Training Outcome

The trainees will be able to carry out independent research in the field of reproductive bio-medicine pertaining areas in fertility regulation.

## Remarks

The training is unique as no other institute in the country is providing such a comprehensive training in the area mentioned above. This is one such training course in the Institute in which the developments in Research carried out in the laboratories are disseminated from time to time directly to the participants in the form of the proposed training. There is a course fee for the course. TA/DA of the participants is usually borne by sponsoring States/organizations. The Institute will bear only expenditure on course materials and the expenses of inviting guest speakers wherever required.

## Venue

Department of Reproductive Biomedicine,  
Academic Block,  
National Institute of Health and Family Welfare,  
Munirka, New Delhi-110067.