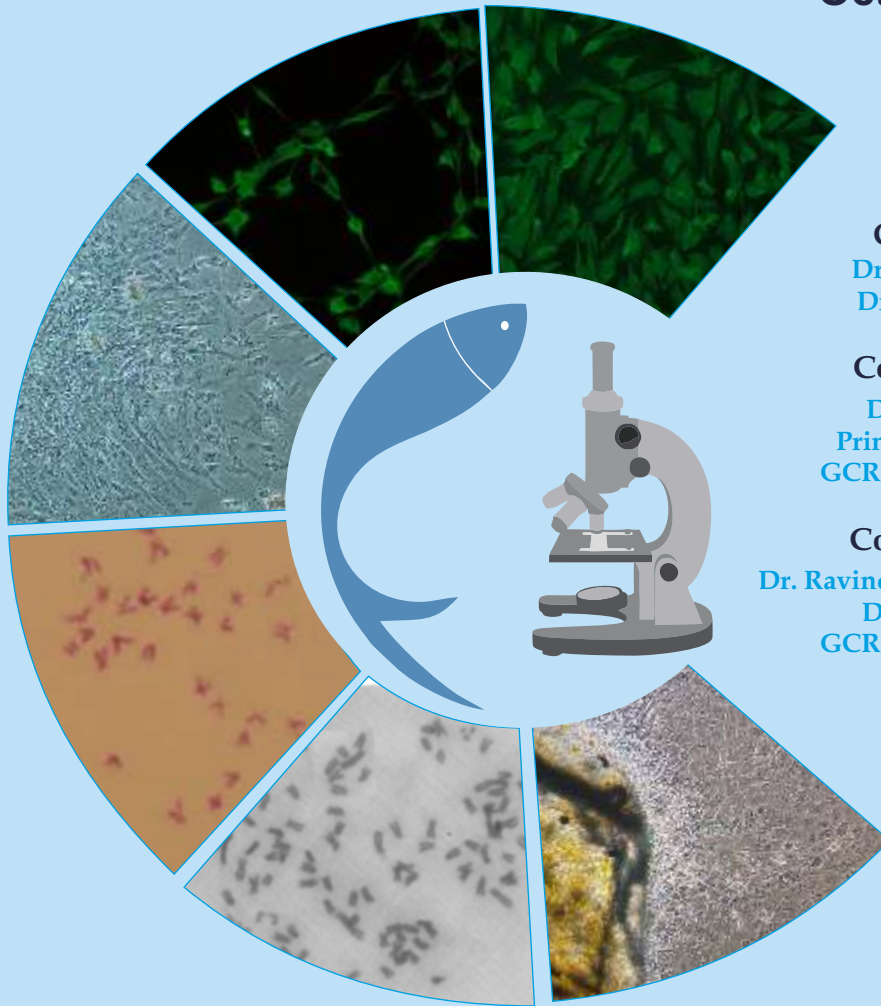


# Hands-on Training Course on "Cell Culture: Techniques and Applications"

Oct 30-Nov 08, 2023



**Course Convener**  
Dr. Uttam Kumar Sarkar  
Director, ICAR-NBFG

**Course Co-convener**  
Dr. Basdeo Kushwaha  
Principal Scientist & Head  
GCR Division, ICAR-NBFG

**Course Coordinators**  
Dr. Ravindra Kumar, Principal Scientist  
Dr. Murali S., Scientist  
GCR Division, ICAR-NBFG

## Dates to remember

Last date for submission of Application 20 October, 2023  
Last date for submitting Course fee 21 October, 2023



**ICAR - National Bureau of Fish Genetic Resources**  
Canal Ring Road, Dilkusha P.O, Lucknow -226 002

## Dear Colleagues,

Cell lines are important biological resources and have potential applications in several fields of biological sciences. Cell lines from different tissues of animals have been developed and are being used for cell-based meat, disease diagnosis & virus isolation, toxicology, gene expression studies, cytogenetic and genotoxicity screening studies, biobanking and cryopreservation for conservation efforts. These are also the ethical alternatives for biological research on whole specimens. The development, characterisation and maintenance of a cell line requires specialized skill, which comes with proper training and practical experience.

## Course Objectives:

The proposed training is planned to give theoretical as well as practical insights into the development and maintenance of cell lines and evaluate cell lines for different in vitro applications. The programme aims to develop trained manpower in the field of cell culture.

## Course Contents:

- Introduction to cell culture techniques
- Primary culture and cell line development
- Harvesting and sub-culturing of cells
- Characterization and authentication of cell line
- Cell counting and viability testing
- Cryopreservation of cells
- Cytotoxicity testing using MTT/Alamar Blue assays

## External Faculty members:

Resource persons from other reputed laboratories will be guest faculty

## About ICAR-NBFGR:

ICAR-National Bureau of Fish Genetic Resources (NBFGR) was set up in 1983 under the aegis of the Indian Council of Agricultural Research for providing research inputs for sustainable management and conservation of fish germplasm resources. It has emerged as a Center of Excellence in cataloging and conserving aquatic bio-resources of the country. It has developed modern facilities, multidimensional strategies, and technological capabilities to achieve its mandate related to genomics, conservation, health, genotyping, database development, registration of aquatic germplasm, gene banking, and evaluation of endangered as well as exotic fish species.

## Hands-on Training Course on "Cell Culture: Techniques and Applications"

ICAR-NBFGR is a designated repository under Sub section (1) of Section 39 of Biological Diversity Act, 2002 for Fish Genetic Resources category. The Bureau has been actively involved in the research on sustainable management and conservation, database development, genotyping, registration of aquatic germplasm, gene banking and evaluation of threatened and exotic fish species. With 81 fish cell line accessions, the National Repository of Fish Cell lines (NRFC) at ICAR-NBFGR, Lucknow, possesses the largest collections of fish cell lines in the world. These collections belong to 29 freshwater species, 7 marine species and 3 brackish-water species. There is a paucity of trained manpower in the field of cell culture in the country. One of the objectives of NRFC is to organize training programmes on cell culture to develop trained manpower in the area, particularly fish cell lines. Therefore, a Short-Term Hands-on Training Course on "Cell Culture: Techniques and Applications" has been scheduled to be conducted at ICAR-NBFGR, Lucknow.





**Eligibility:**

Faculty members, research scholars/ fellows, student (in permanent or temporary positions) associated with such works or students in fisheries/ genetics/ biotechnology/ environmental sciences/ zoology / life sciences.

**Intake capacity:** 10 participants

**Fee:**

Rs. 5,000/- for students and research scholars

Rs. 10,000- for others

The course fee includes a course kit and working lunch and tea during the training period. The candidate will be provided accommodation in the Institute's guest house on payment of nominal charges; however, hotel accommodation can be arranged on request by the participants on payment basis. The sponsoring organization or participants will meet expenses for their travel and local transportation.

**Application:**

Interested persons can apply on the attached Registration Form and send to :

Dr. Basdeo Kushwaha, Course Co-covener and Head, Genomics and Computational Resources Division, ICAR-NBFGR, Post Dilkusha, Lucknow-226002 (UP), India.

Selected candidates will be informed through E-mail. For enquiry, write to: Dr. Basdeo Kushwaha , [basdeo.kushwaha@icar.gov.in](mailto:basdeo.kushwaha@icar.gov.in) (Mob. 9450912730)

**About Lucknow**

Lucknow, the capital city of Uttar Pradesh historically known as the Awadh region, is believed to begin after Ramchandra of Ayodhya, the hero of the Ramayana, ordered his devoted brother Lakshman to establish a town at the present site of 'Lakshman tila'. Therefore, people say that the original name of Lucknow was 'Lakshmanpuri', and slowly the name 'Lakshmanpuri' became 'Lakhnau' and then named 'Lucknow' by the British. It is situated on the bank of river Gomti.

Lucknow's rise to growth and fame begins with its elevation to a capital city under the Nawabs of Awadh. The architectural contributions of the Awadh rulers, many paintings of whom are maintained at the Art Gallery today, include numerous mosques and palaces. Of the monuments standing today, the Bada Imambara, the Chhota Imambara, and the Roomi Darwaza are notable examples.

Today, Lucknow is a vibrant city with a perfect blend of the ancient with the modern, as many glitzy shopping arcades coexist with the old monuments. Lucknow has emerged as a "Science City", as numerous national laboratories, premier medical colleges, universities along with engineering and Management institute exists here. The greatest attraction of Lucknow, where the past jostles with the present, is its unique ability to achieve harmony amidst disorder and to assimilate the new into the old.

Lucknow, the golden city of the east retains an old world charm that fascinates one and all. Regarded as one of the finest cities of India, Lucknow emanates a culture that combines emotional warmth, a high degree of sophistication, courtesy and a love for gracious living. This sublime cultural richness famous as 'Lucknowi Tehzeeb' blends the cultures of several communities living side by side for centuries, sharing similar interests, speaking a common language.

The climate during October-November will be around 20-25°C. The campus of ICAR-NBFGR is located around 8 km away from Lucknow (Known as Charbagh) main railway station and 10 km from Ch. Charan Singh International Airport, Amausi, and both of which are well connected with pre-paid Auto/Taxi services.

**REGISTRATION FORM**  
**Hands-on Training Course on “Cell Culture: Techniques and Applications”**

**October 30-November 08, 2023**

ICAR-National Bureau of Fish Genetic Resources  
Lucknow-226002, U.P., India

Name (Dr./ Mr./ Miss/ Mrs.) :.....  
Designation :.....  
Date of Birth :.....  
Educational Qualification :.....  
Professional Experience :.....  
Present area of work :.....  
Mailing Address :.....  
.....

E-Mail ..... Fax:.....

Phone: (O) ..... (R) ..... (M) .. ..

Course fee need to be paid either

- Online through ICAR-NBFGR website (<https://www.nbfgr.res.in:801/>) **OR**
- Through NEFT/IMPS to ICAR-NBFGR account having following details:

Name of beneficiary: ICAR Unit NBFGR, Lucknow  
Name of Bank and Branch address: Axis Bank Ltd., Aashiyana, Lucknow  
Account No.: 918020045053793  
IFS Code: UTIB0001878  
Branch code: 001878  
MICR code: 226211010

Amount..... (In Words).....

Transaction No..... Date.....

Issuing Bank.....

Any other information:.....

Place:

Date:

(Signature of candidate)

Forwarding from Head of Institution/ Competent Authority:

1. Candidature of Dr./ Mr./ Miss/ Mrs..... working as ....., is forwarded for inclusion in the training course. The course fee will be sent by due date, if selected.

2. Candidature (Mark “” as applicable in the parenthesis):

a. Students & research scholars(    )    b. Others/ permanent employee (    )

(Signature and seal of Competent Authority)

Name:

Designation: