

lunch, tea, coffee etc as per the ICAR norms. Due to restricted availability of accommodation, participants are requested not to bring their family members.

Course Fee

There is no training fee for the program

Programme Director

Dr. Gopal Krishna
Director / Vice-Chancellor

Course Director

Dr. Aparna Chaudhari
Head, FGB Division

Course Coordinator

Dr. Rupam Sharma

Course Co-Coordinators

Dr. Gireesh Babu P.
Mr Mujahidkhan Pathan

Dates to Remember

Last date for submission of application

10 November, 2017

Communication of acceptance

15 November, 2017

All future correspondence may kindly be directed to

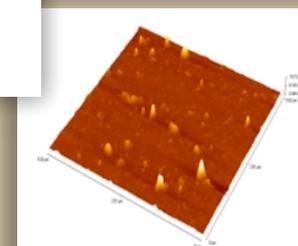
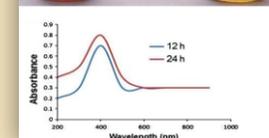
Dr. Rupam Sharma
Course Coordinator

Advances in Nano-biotechnological Tools in Fisheries
Central Institute of Fisheries Education
Panch Marg, Off Yari Road, Mumbai - 400 061, India
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Centre of Advanced Faculty Training in
Fisheries Science on

Advances in Nano-biotechnological Tools in Fisheries

04-13 December, 2017



ICAR-Central Institute of Fisheries Education
(Deemed University)
Mumbai
www.cife.edu.in

Nanotechnology has revolutionized various sectors such as medical, engineering, biology, chemistry, computing, materials science, and communications. Nanomaterials provide high surface to volume ratio and exhibit some extraordinary physicochemical properties as compared to micro or macro-particles. Because of their small sizes, nanoparticles penetrate through biological membranes very easily and enhance the efficacy of the biomolecules to be delivered. Bio-medical sciences have witnessed tremendous advancement through incorporation of nanoparticle based diagnostic tools and treatments, for which, a variety of nanomaterials including gold, silver, iron, quantum dots, carbon nanotube, polymers, etc. are being used. The conjugation of a drug or a biomolecule with nanoparticles enhances stability and efficacy of these molecules. There are different nanotechnology based lab-on-a-chip devices already available in the market for analytical purposes. "Gluco-watch" is a fluidic nanochip biosensor that senses the blood glucose level. Nanovectors have also been developed for influenza. Silver nanoparticles are being used for monitoring and controlling microbial contamination. However, there is also a growing concern about the toxicity of nanoparticles, which can be avoided by using biodegradable and biogenic nanoparticles. In the recent years, research efforts have also been directed towards using nanoparticles in the fisheries and aquaculture sector for delivery of small molecular weight biomolecules such as nucleic acids, proteins and peptides. Nanotechnology based technologies for rapid disease detection, enhancing the ability of fish to absorb drugs like hormones, vaccines and nutrients, etc. have been developed. However, the potential of this technology is yet to be realized. This training program aims at equipping fisheries professionals with the understanding and

know-how of nanotechnology to enable development of new products and applications in the fisheries sector.

About the Institute

ICAR-Central Institute of Fisheries Education (ICAR-CIFE), a premier Deemed University for fisheries science in India, was established in 1961 to promote fisheries education in the country. CIFE has made its mark in delivering quality fisheries education and offers M.F.Sc. and Ph.D. programmes in 11 disciplines. The Fish Genetics and Biotechnology division has been conducting research on key problems of the sector since the past two decades by applying biotechnology and nano-biotechnology tools and have made notable achievements. Various nanoparticle-based delivery systems for biomolecules such as hormones and DNA vaccines have been developed, along with studies on nano-toxicity and synthesis of non-toxic biodegradable nanoparticles. With the primary mandate of education, CIFE is particularly equipped to impart trainings and mentoring trainees in their future research.

Course contents

- Introduction to nanotechnology
- Introduction to nanobiotechnology
- Synthesis of nanoparticles
- Characterization of nanoparticles
- Conjugation of biomolecules with nanoparticles and their characterization
- Application of nanotechnology in fisheries and aquaculture
- Ethical issues related to biotechnology and nanotechnology
- Assessment of nanotoxicity
- Intellectual Property Rights
- Statistical analysis of data

How and who can apply

Faculty, Researchers, Teachers, Scientists of Fisheries and allied sciences and those having

interest in Nano-biotechnology and working in SAUs/CAU/ICAR Institutes/Agriculture faculty of BHU/AMU/Viswa Bharti not below the rank of Scientist/Assistant Professor can apply in the prescribed format for the program. The applications must be forwarded by the respective Head of the Institution. All the applications duly forwarded should be sent on or before 10th November, 2017 to the Coordinator, CAFT program on Advances in nanobiotechnological tools in fisheries, Central Institute of Fisheries Education, Panch Marg, Off Yari Road, Versova, Mumbai - 400 061.

How to reach

The Institute is located about 8 km away from the domestic and international airports and 20 kms from Dadar Railway Terminus. Mumbai, the financial capital of India, is well connected by air, rail and road with all major cities of India. The climate is extremely pleasant during December and trainees are advised to carry light warm clothing.

Intake Capacity

A total of 25 participants only will be selected after screening.

Travel Allowance

To and fro II tier AC train fare, by the shortest route, will be reimbursed by the organizers. For participants who choose to travel by air, the reimbursement will be limited to AC 2Tier train fare only if they travel by Air India. Travel by private carriers will not be reimbursed at all. In case of road travel, only State Transport Bus fare will be reimbursed.

Boarding and Lodging

Accommodation will be arranged for the participants free of cost in the institute guest house for the period of their stay during the course. Wholesome food will be provided to all the outside participants. Local participants will be provided with minimum hospitality with