INTERNATIONAL TRAINING PROGRAM

APPLICATION OF NANOTECHNOLOGY IN PLANT GROWTH AND CROP PROTECTION FOR SUSTAINABLE AGRICULTURE

10 - 19 NOVEMBER, 2023
INDIAN INSTITUTE OF TECHNOLOGY KANPUR
UTTAR PRADESH, INDIA

African-Asian Rural Development Organization (AARDO)
Delhi

INTRODUCTION

Theme of the programme	-	**Application of Nanotechnology in Plant Growth and Crop Protection for Sustainable Agriculture**
Sponsoring Organization	-	**African Asian Rural Development Organization (AARDO)** **www.aardo.org**
Training Institute (Host)	-	**Indian Institute of Technology Kanpur (IIT Kanpur)** **www.iitk.ac.in**
Duration	-	**10-19 November, 2023**
Deadline for Application	-	**18th October, 2023**

BACKGROUND

The course title "Application of Nanotechnology in Plant Growth and Crop Protection for Sustainable Agriculture" is a response to the pressing global challenge of ensuring food security and sustainability in agriculture. In recent years, the world has witnessed a growing need for innovative solutions in agriculture due to factors like climate change, population growth, and the need to minimize the environmental impact of farming practices. Agriculture is the cornerstone of human survival, providing us with food, fiber, and resources. However, traditional agricultural practices often involve excessive use of chemical fertilizers and pesticides, which can harm the environment and deplete natural resources. Climate change further exacerbates the challenges by altering weather patterns and increasing the prevalence of pests and diseases. Nanotechnology, with its precision and versatility, offers a promising avenue to revolutionize agriculture. This course is designed to raise awareness and empower individuals with the knowledge of how nanotechnology can be harnessed to address these critical agricultural issues.

The course will delve into the fundamentals of nanotechnology, explaining how manipulating matter at the nanoscale can have profound effects on plant growth and crop protection. Participants will learn about nanomaterials, nanosensors, and nanodelivery systems and how they can be applied in agriculture. Moreover, the course will explore the environmental benefits of nanotechnology, such as reducing the need for harmful chemicals, conserving water resources, and promoting soil health. It will also address concerns about the safety and ethical considerations related to nanotechnology in agriculture. In summary, this course aims to educate and equip participants with the necessary tools and knowledge to leverage nanotechnology for sustainable agriculture. Doing so contributes to the broader goal of ensuring food security, reducing the environmental impact of farming, and promoting a more sustainable future for our planet. This knowledge is being disseminated through the program to agricultural communities in various regions, with a focus on empowering them to adopt innovative and sustainable farming practices.

ABOUT THE
COURSE

OBJECTIVES OF THE PROGRAMME

- **Comprehensively Address Agricultural Challenges** - Foster a deep understanding of modern agriculture challenges, encompassing food security, environmental sustainability, and resource depletion.

- **Empowerment Through Nanotechnology** - Equip participants with advanced knowledge and practical skills in nanotechnology for plant growth and crop protection. Address safety and ethical concerns, ensuring responsible practices.

- **Sustainable Agriculture Advancement -** Demonstrate environmental benefits like reduced chemical reliance, enhanced water management, and improved soil health through nanotechnology. Empower participants to implement innovative nanotechnology solutions, facilitating global dissemination for sustainable farming.

COURSE CONTENTS

- Introduction to Nanotechnology in Agriculture
- Concept of Sustainability
- Sustainable Practices in Agriculture
- Nanomaterials for Agriculture
- Nanosensors and Monitoring Systems
- Statistics in Agricultural Sector
- Smart Nanotechnology Processes
- Practical Applications and Case Studies

MEDIUM OF COMMUNICATION

The medium of communication is primarily English. Participants are encouraged to have a proficient working knowledge of English to facilitate effective communication and engagement.

TARGET AUDIENCE

The training programme will be attended by mid and senior-level officials working in the relevant field in their respective countries. Resource persons from the host Institute and other institutions, having rich experiences on the subject will be invited to share their experiences and expertise with the participants.

DETAILS OF THE COURSE

ESSENTIAL QUALIFICATIONS

- A bachelor's degree and a minimum of five years of relevant field experience are required.
- Proficiency in spoken and written English is mandatory, as the medium of instruction is exclusively in English, and translation services into other languages are not provided.
- Applicants should have good physical and mental health to complete the training course successfully.
- Ideally, applicants should be below 45 years of age.

SELECTION OF PARTICIPANTS

Selection of participants for the training program will be conducted jointly by AARDO & IIT Kanpur.

HOW TO APPLY

Step 1
Visit the following link - aardo.org/aardot.php
Step 2
Complete the necessary details and submit the form. Ensure you generate a printed copy of the filled application form.
Step 3
Applicants should sign their applications and forward them, along with the recommendation letter from the Nodal Ministry of AARDO/Centre of Excellence, to our email address: iec@aardo.org.

CERTIFICATE

Upon successful completion of the training program, participants will receive a certificate bearing the signatures of both AARDO and IIT Kanpur, providing authentication.

COMMUNICATION

WhatsApp communication will be established among the participants, the host institute, and AARDO to enhance communication speed and information sharing.

VISA & AIR TICKETS

AARDO will facilitate the visa application process through the Indian Missions in the participants' respective countries. Air tickets will be provided by AARDO once the visa is confirmed, allowing the candidate(s) to attend the program. Upon the nominee(s) confirmation, round-trip economy class air tickets will be arranged for their travel to Lucknow/New Delhi and back.

ABOUT THE PROGRAM

ABOUT THE HOST TRAINING INSTITUTE (IIT-Kanpur)

Indian Institute of Technology Kanpur, located in Kanpur, Uttar Pradesh, India, is a public research university. It holds the Institute of National Importance status as declared by the Government of India under the Institutes of Technology Act. Established in 1959, it stands as one of the pioneering Indian Institutes of Technology, founded with the support of a consortium of nine U.S. research universities as part of the Kanpur Indo-American Programme (KIAP). The institute offers training and courses in various fields, including climate change, Sustainable Energy Engineering, and Environmental Engineering.

INDIAN INSTITUTE OF TECHNOLOGY KANPUR

It's the goldmine of engineering & and research in India. These programs have been provided to officials from numerous countries, sponsored by organizations such as AARDO, FAO WAAPP, KEPHIS (Kenya), and the Government of India. For more detailed information, please visit its website at iitk.ac.in

IMPORTANT NOTE

- Applications not accompanied by a recommendation from the participant's country's AARDO Nodal Ministry or Center of Excellence will not be considered.
- Completed applications must be submitted to the AARDO Secretariat on or before the closing date of October 18, 2023.
- Due to limitations in the number of participants, only selected candidates will be notified through their Nodal Ministry and AARDO's Centers of Excellence.

PROGRAM COORDINATORS - IIT KANPUR

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PROGRAMME COORDINATORS - AARDO

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