



NIGERIAN INSTITUTE OF SCIENCE LABORATORY TECHNOLOGY (NISLT)

**(FEDERAL MINISTRY OF INNOVATION,
SCIENCE AND TECHNOLOGY)**

2024 SHORT TERM TRAINING WORKSHOP PROGRAMMES

(A statutory Professional Body Chartered by Act No. 12 of 2003 of the National Assembly)

Ibadan Office: Educational Zone, Samonda-Sango/U.I. Road, P. O. Box 9764, U. I. Post Office Ibadan, Oyo State, Nigeria
Abuja Office: Jabi Airport Road, beside NOUN, opposite EFCC, adjacent Federal Medical Centre, Abuja Nigeria.

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BRIEF ON THE INSTITUTE

The Nigerian Institute of Science Laboratory Technology (NISLT) was established by Act 12 of 2003 of the National Assembly and made a parastatal of the Federal Ministry of Science, Technology and Innovation. The Institute was hitherto known as the Nigerian Institute of Science Technology (NIST) founded in 1971 saddled with responsibility of “advancing science laboratory technology profession and ensure through its registered members effective and efficient management and administration of science laboratories in Nigeria”.

Over the years, the Institute has put in place human resources and infrastructure to enable it fulfil its mandate through the establishment of Multipurpose Science Laboratory at its national Secretariat, Ibadan, Oyo State, equipped with modern and computerized equipment for the conduct of training, routine laboratory services and research using new technologies. Participants for the training workshops will have the opportunity to use the equipment and thus acquire relevant knowledge and skills in their applications to enhance their performances at work.

Resource persons for the workshops are experienced Lecturers and Scientists drawn from Tertiary Institutions, Industries, Research Institutes and the Private Sector.

TRAINING METHODOLOGY

The workshops will be conducted through combination of lectures, discussions, case studies, simulation exercises, multimedia presentations and practical exercises.

In view of the above we are pleased to announce the under listed workshops and training programmes scheduled for the year 2024.



NIGERIAN INSTITUTE OF
SCIENCE
2024

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1. WORKSHOP ON BASIC LABORATORY SKILLS, PRACTICE AND PROCEDURE

FOR: Laboratory Attendants, Assistants, Technicians, Supervisors, Superintendents and other Laboratory personnel

OBJECTIVE: The main objective of this workshop is to expose the participants to the requirements for Laboratory personnel, Laboratory Management Systems, Risk and Hazard Management for effective and result oriented Laboratory system.

COURSE CONTENT:

- The Role of Laboratory Assistants, Technicians in Laboratory Organization and Maintenance
- Basic Laboratory Safety Procedures including handling chemicals, equipment, and biological materials safely.
- Proper usage and maintenance of common laboratory equipment such as microscopes, centrifuges, pipettes, and autoclaves.
- Techniques for collecting, labeling, and preserving different types of samples, including blood, urine, and tissue samples.
- Methods for preparing samples for analysis, including centrifugation, filtration, and dilution.
- Understanding how to use a microscope, prepare slides, and examine specimens under the microscope.
- Proper storage, labeling, and use of chemical reagents, as well as understanding Material Safety Data Sheets (MSDS).
- Keeping accurate records of experiments, observations, and test results, including maintaining laboratory notebooks.
- Implementing quality control measures to ensure the accuracy and reliability of test results.
- Understanding and practicing infection control measures to prevent the spread of pathogens in the laboratory.
- Introduction to Management and Cleaning of Laboratory, Proper disposal of laboratory waste
- Prerequisite skills or qualifications of Laboratory Personnel

DURATION: 7 days

Date: 22nd – 26th April 2024

Arrival: 21st April 2024

Departure: 27th April 2024

FEE: ₦70,000.00

VENUE: Ibadan Office, Nigerian Institute of Science Laboratory Technology, Educational Zone, Samonda, Ibadan, Oyo State.



2. ACCREDITATION PROCEDURE, LABORATORY QUALITY CONTROL & QUALITY MANAGEMENT SYSTEM

FOR: Laboratory Managers, Quality Assurance Officers, Laboratory Scientists and Technologists, Laboratory Assessors in food, Environmental, Electronic, Chemical, Pharmaceutical, Institutional and Industrial Laboratories.

OBJECTIVE: To Acquaint the Participants on Laboratory Quality Management System, NISLT and Accreditation Procedures for Institutions Offering Science Laboratory Technology (SLT)

COURSE CONTENT:

- The Role of NISLT in Quality Assurance and Accreditation
- Strengthening Laboratory Management Towards Accreditation
- Concept of a Quality Management System and its importance in laboratory operations.
- ISO 17025 Laboratory Management Requirements and its requirements for quality management.
- Establishing and maintaining procedures for document control, including document approval and version control.
- Laboratory Internal Audits/Quality control, including the use of control samples and monitoring of test accuracy.
- External quality assessment schemes to compare laboratory performance with other accredited laboratories.
- Procedures for calibrating and maintaining laboratory equipment to ensure accurate results.
- Identifying, assessing, and mitigating risks in laboratory processes that could impact the quality of results.
- Factors Responsible for Successful Accreditation: Establishing a system for addressing non-conformities and implementing corrective and preventive actions.
- Accreditation bodies responsible for certifying laboratories/Academics programmes and their specific requirements.
 - SLT NBTE/NUC Accreditation Procedures
 - Benchmark Minimum Academic Standard, Self-Study forms and Equipment Requirements
 - NISLT Accreditation Procedures
- Promoting a culture of continuous improvement by regularly reviewing and improving laboratory processes and procedures.

DURATION: 7 days
Date: 13th – 17th May 2024
Arrival: 12th May 2024
Departure: 18th May 2024
FEE: ₦70,000.00

VENUE: Ibadan Office, Nigerian Institute of Science Laboratory Technology, Educational Zone, Samonda, Ibadan, Oyo State.

REQUIREMENT: Participants are advised to come with their Laboratory Coats.



3. WORKSHOP ON QUALITATIVE RESEARCH METHODS STATISTICAL ANALYSIS OF LABORATORY QUALITY DATA, THESIS & SCIENTIFIC RESEARCH PAPER WRITING

FOR: Laboratory Managers, Quality Assurance Officers, Laboratory Scientists and Technologists, Laboratory Assessors in food, Environmental, Electronic, Chemical, Pharmaceutical, Institutional and Industrial Laboratories.

OBJECTIVE: The main objective of this workshop is to expose the participants to the Research techniques, Data Collection/Analysis, results interpretations and Thesis Writing.

COURSE CONTENT:

- The Role of NISLT in Research and Development (R&D)
- Qualitative Research Design: Understanding different qualitative research methodologies, such as case studies, interviews, and content analysis.
- Data Collection in Qualitative Research: Techniques for collecting qualitative data, including interviews, observations, and document analysis.
- Statistical Software:
 - Introduction to statistical tools and techniques used to analyze quality data in a laboratory, including descriptive statistics and inferential statistics.
 - Proficiency in using statistical software such as SPSS, R, or SAS for data analysis
 - Creating effective data visualizations to present quality data in a clear and understandable manner.
 - Understanding and applying hypothesis testing in the context of laboratory quality data analysis.
 - Performing and interpret regression analysis to identify relationships and trends in quality data.
- Data Coding and Analysis: Methods for coding and analyzing qualitative data, such as thematic analysis and grounded theory.
- Thesis Proposal Writing: Developing a thesis proposal that outlines the research question, objectives, methodology, and significance of the study.
- Scientific Research Paper Structure: Understanding the structure and components of a scientific research paper, including the abstract, introduction, methods, results, discussion, and conclusion.
- Citation and Referencing Styles: Mastery of citation and referencing styles such as APA, MLA, or Chicago for proper academic and scientific writing.

DURATION: 7 days
DATE: 3rd – 7th June 2024
ARRIVAL: 2nd June 2024
DEPARTURE: 8th June 2024
FEE: ₦80,000.00

VENUE: *Ibadan Office, Nigerian Institute of Science Laboratory
Technology, Educational Zone, Samonda, Ibadan, Oyo State.*



4. ADVANCED TRAINING WORKSHOP ON EQUIPMENT MAINTENANCE, REPAIRS CALIBRATION, TESTING AND APPLICATION

FOR: Laboratory Managers, Quality Assurance Officers, Laboratory Scientists and Technologists, Laboratory Assessors in food, Environmental, Electronic, Chemical, Pharmaceutical, Institutional and Industrial Laboratories.

OBJECTIVES: The objective of the workshop to Acquaint the Participants to approach of Equipment Ordering, installation, Commission and Management.

COURSE CONTENT:

- The Role of NISLT in Equipment Ordering, Fabrication and Maintenance
- Understanding Basic Applied Electricity and Electronics
- Understanding the principles of equipment maintenance and the importance of regular maintenance routines.
- Developing skills in diagnosing and troubleshooting equipment issues to identify problems and their root causes.
- Creating and implementing a preventive maintenance schedule to reduce downtime and extend the lifespan of equipment.
- Learning the procedures for equipment calibration to ensure accuracy and reliability in measurements.
- Techniques for repairing and servicing equipment, including routine servicing and major repairs.
- Strategies for managing spare parts, inventory, and procurement to ensure quick repairs and reduce downtime.
- Understanding the protocols and standards for testing equipment to ensure it meets required specifications.
- Tailoring the workshop to focus on specific equipment types or applications relevant to the participants' needs.
- Ensuring that equipment maintenance and calibration adhere to relevant industry and regulatory standards.
- Managing equipment-related data, including maintenance records, calibration certificates, and testing results.
- Practical, hands-on training sessions to apply maintenance, calibration, and testing techniques to real equipment

DURATION: 7 days
Date: 22nd – 26th July 2024
Arrival: 21st July 2024
Departure: 27th July 2024
FEE: ₦80,000.00

VENUE: Ibadan Office, Nigerian Institute of Science Laboratory
Technology, Educational Zone, Samonda, Ibadan, Oyo State.



5. LABORATORY METHOD OF ENVIRONMENTAL SAMPLING, ANALYSIS AND POLLUTION CONTROL

FOR: Laboratory personnel (Scientists, Technologists, Technicians), Laboratory Managers, Researchers, personnel working in both public and private laboratories.

OBJECTIVES: The objective of the workshop is to expose Scientists/Technologists to hands-on techniques and skills in determining the values of macronutrients in food samples and Agro-allied Product.

COURSE CONTENT

- The Role of NISLT in Sample Testing, Analysis and Quality Control.
- Exploring different methods for collecting environmental samples, including air, water, soil, and biological samples.
- Understanding the proper techniques and conditions for preserving samples to maintain their integrity until analysis.
- Procedures for handling and transporting samples to the laboratory while preventing contamination or degradation.
- Implementing QA/QC measures to ensure the accuracy and reliability of environmental data.
- Learning about various analytical instruments used in environmental analysis, such as chromatographs, spectrometers, and mass spectrometers.
- Methods for chemical analysis of samples, including tests for various pollutants, contaminants, and chemical constituents.
- Techniques for assessing microbial pollution and the presence of pathogens in environmental samples.
- Analyzing and interpreting the data obtained from environmental samples to assess pollution levels and potential hazards.
- Identifying and tracing pollution sources through environmental analysis and data comparison.
- Exploring pollution control methods and strategies, including waste management and remediation techniques.
- Understanding and adhering to environmental regulations and standards related to sampling, analysis, and pollution control

DURATION: 7 days

Date: 12th – 16th August 2024

Arrival: 11th August 2024

Departure: 17th August 2024

FEE: ₦80,000.00

VENUE: Ibadan Office, Nigerian Institute of Science Laboratory Technology, Educational Zone, Samonda, Ibadan, Oyo State.



6. ADVANCED TRAINING COURSE ON MOLECULAR BIOLOGICAL TECHNIQUES/BIOTECHNOLOGY

FOR: Laboratory Managers, Quality Assurance Officers, Laboratory Scientists and Technologists, Laboratory Assessors in food, Environmental, Electronic, Chemical, Pharmaceutical, Institutional and Industrial Laboratories.

OBJECTIVES: The training workshop is designed to train Laboratory Personnel Molecular and Biotechnology Techniques.

COURSE CONTENT

- The Role of NISLT in Sample Testing, Analysis and Quality Control.
- In-depth understanding of various DNA extraction techniques from different sample types, including cells, tissues, and environmental samples.
- Comprehensive training in PCR techniques, including standard PCR, quantitative PCR (qPCR), and reverse transcription PCR (RT-PCR).
- Techniques for cloning genes, creating recombinant DNA, and expressing proteins in various host systems.
- Training in DNA sequencing technologies, including Sanger sequencing and next-generation sequencing (NGS) platforms.
- Introduction to genome editing techniques like CRISPR-Cas9 and their applications in genetic engineering.
- Methods for expressing and purifying recombinant proteins for various applications, including research and biopharmaceuticals.
- Learning to analyze and interpret molecular data using bioinformatics tools and software.
- Techniques for maintaining and manipulating eukaryotic cell lines for biotechnological and research purposes.
- Exploring techniques for studying proteins and metabolites on a large scale to understand cellular processes.
- Understanding the principles of bioprocess design and optimization for the production of biopharmaceuticals and biofuels.
- Addressing the ethical and regulatory aspects of biotechnology, including biosafety and intellectual property issues.

DURATION: 7 days

Date: 9th – 13th September 2024

Arrival: 8th September 2024

Departure: 14th September 2024

FEE: ₦80,000.00

VENUE: Ibadan Office, Nigerian Institute of Science Laboratory Technology, Educational Zone, Samonda, Ibadan, Oyo State.

REQUIREMENT: Participants are advised to come with their Laboratory Coats.



7. LABORATORY PROCEDURES AND ANALYSIS OF SOIL, CROPS, WATER AND AGRICULTURAL PRODUCTS.

FOR: Instrumentation Technologists, scientists, supervisors, laboratory managers and those involved in the use and maintenance of laboratory equipment.

OBJECTIVES: The objective of the workshop is to expose Scientists/Technologists to hands-on techniques and skills in determining the values of macronutrients in food samples and Agro-allied Product.

COURSE CONTENT

- The Role of NISLT in Sample Testing, Analysis and Quality Control.
- Techniques for collecting soil samples and conducting various soil tests, including pH, nutrient analysis, and texture determination.
- Methods for sampling and analyzing plant tissues to assess nutrient status and diagnose nutrient deficiencies.
- Procedures for assessing the quality of water sources, including tests for pH, turbidity, chemical contaminants, and microbiological parameters.
- Techniques for detecting and quantifying pesticide residues in agricultural products to ensure food safety.
- Methods for identifying and diagnosing plant diseases through laboratory analysis, including pathogen detection.
- Testing the quality of agricultural seeds, including germination tests, purity analysis, and seed health assessment.
- Analyzing agricultural products for contaminants, toxins, and pathogens to ensure food safety and quality.
- Assessing nutrient content in fertilizers and providing recommendations for proper nutrient management.
- Techniques for detecting genetically modified organisms (GMOs) in crops and food products.
- Analyzing residues of chemicals, heavy metals, and contaminants in agricultural produce.
- Procedures for certifying agricultural products based on quality and safety standards, including organic certification.

DURATION: 7 days

Date: 7th – 11th October 2024

Arrival: 6th October 2024

Departure: 12th October 2024

FEE: ₦80,000.00

VENUE: Ibadan Office, Nigerian Institute of Science Laboratory Technology, Educational Zone, Samonda, Ibadan, Oyo State.

REQUIREMENT: Participants are advised to come with their Laboratory Coats.



8. ARTIFICIAL INTELLIGENCE (AI) APPLICATION IN LABORATORY ADMINISTRATION AND MANAGEMENT

FOR: Laboratory personnel (Scientists, Technologists, Technicians), Laboratory Managers, Researchers, personnel working in both public and private laboratories.

OBJECTIVES: The objective of the workshop is to expose Laboratory personnel to approach of Equipment Ordering, installation, Commission and Management.

COURSE CONTENT

- The Role of NISLT in Laboratory Automation and application of Artificial Intelligence.
- Implementing AI in LIMS for improved data organization, tracking, and reporting
- Using AI for inventory control, including real-time tracking of reagents, supplies, and equipment.
- Employing AI to enhance quality control processes by identifying anomalies and deviations in real-time.
- Utilizing AI to predict equipment failures and schedule preventive maintenance, reducing downtime.
- Optimizing resource allocation through AI algorithms, including personnel and equipment scheduling.
- Implementing AI to streamline sample tracking and automate repetitive laboratory workflows.
- Using AI for data analysis and interpretation, including pattern recognition and anomaly detection.
- Ensuring compliance with regulatory requirements by using AI to track and maintain records.
- Leveraging AI to analyze costs and identify areas for cost reduction and efficiency improvements.
- Enhancing security through AI-based access control systems and surveillance.
- Developing AI-driven tools for generating reports and providing decision support for laboratory managers and administrators

DURATION: 7 days
Date: 18th – 22nd November 2024
Arrival: 17th – 23rd November 2024
Departure: 23rd November 2024
FEE: ₦80,000.00

VENUE: Ibadan Office, Nigerian Institute of Science Laboratory
Technology, Educational Zone, Samonda, Ibadan, Oyo State.



GENERAL INFORMATION

1. ONLINE LECTURE:

Any participant that intends to attend online lectures for non-practical oriented workshop training should write personally to the institute email address (inform@nisl.gov.ng) at least one month before the date.

2. VENUE

Most of the lectures will be held at the NISLT Office, Samonda, Ibadan, except otherwise indicated specifically at NISLT proposed Headquarter in Abuja. In-house training of staff can be arranged for Institutions/Organizations on request. Interested Institutions/Organizations should contact the Director-General/Registrar/CEO for further information.

3. ACCOMODATION

Participants will be responsible for their accommodation during the workshops. However, there are suitable hotels and guest houses with facilities which are affordable around the Institute. Arrangements for accommodation can be made on request to the Institute.

4. APPLICATIONS

Interested candidates, Institutions and Organizations should apply formally indicating their title(s) of interest to reach the Institute at least two weeks before the commencement date. Late applications or arrival for the respective workshops may not be entertained. Participants who wish to make payments in advance can pay online through the remita (remita.net) into the **Treasury Single Account (TSA) named Nigeria Institute for Science Laboratory Technology** in any of the commercial banks and present the teller during registration.

5. REQUIREMENTS

Since some of the training workshops involve laboratory sessions, participants are mandated to come with **LABORATORY COATS, NOSE MASKS** in compliance with Laboratory Safety Regulations. ALL SAFTEY protocols will the observed.

FOR APPLICATIONS, COMPLETE THE ATTACHED FORM AND FORWARD IT

TO:

The Director-General/Registrar/CEO

NIGERIAN INSTITUTE OF SCIENCE LABORATORY TECHNOLOGY

P.O.BOX 9764, U. I. POST OFFICE

SAMONDA, IBADAN, OYO STATE

TEL: 08062117814, 08030787747



THE NIGERIAN INSTITUTE OF SCIENCE LABORATORY TECHNOLOGY (NISLT)

CORPORATE NOMINATION FORM FOR 2024 SHORT-TERM TRAINING PROGRAMME

Name of Organization:

Address

Email Address:

Telephone No.....

Course/Workshop applied for

.....

Names of Nominees	Position in Establishment
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	

Amount Enclosed

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Name and Signature of Nominating Officer

.....

Phone Number /Email Address of Nominating Officer:

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THE NIGERIAN INSTITUTE OF SCIENCE LABORATORY TECHNOLOGY (NISLT)

INDIVIDUAL APPLICATION FORM FOR 2024 SHORT-TERM TRAINING PROGRAMME

I hereby apply to participate in the following course(s) of the Institute as advertised:

- (a) Date
- (b) Date
- (c) Date

PARTICULARS OF APPLICANT:

NAME:

SEX: MARITAL STATUS:

Email Address:

ADDRESS & TELEPHONE NUMBER

(a) Residential:
..... Tel:

(b) Postal:
.....

(c) Office Tel:

(d) Home Town: Tel:

ACADEMIC & PROFESSIONAL QUALIFICATIONS WITH DATES:

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.....

Do you want the Institute to book accommodation for you?

If yes? Indicate below:

Ranges of hotel you want

The amount in bank draft that you are sending down as deposit

The course fees paid with receipt/bank teller: N.....

I hereby pledge to abide by all the rules and regulations governing the courses, which I have applied for.

Signature of Applicant

SUMMARY OF THE 2024 SHORT TERM TRAINING

SN	Courses	Dates											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.	Basic Laboratory Skills, Practice and Procedure				22nd – 26th April								
2.	Laboratory Quality Management system, Quality Control & Accreditation Procedure					13th – 17th May							
3.	Qualitative Research Methods Statistical Analysis of Laboratory Quality Data, Thesis & Scientific Research Paper Writing						3rd – 7th June						
4.	Advanced Training Workshop on Equipment Maintenance, Repairs Calibration, Testing and Application.							22nd – 26th July					
5.	Laboratory method of environmental sampling, analysis and pollution control								12th – 16th Aug				
6.	Advanced Training Course on Molecular Biological Techniques/Biotechnology									9th – 13th Sept			
7.	Laboratory Procedures and analysis of soil, crops, water and agricultural Products										7th – 11th Oct		
8.	Artificial Intelligence (AI) application in Laboratory Administration and Management.											18th – 22nd Nov	