



Bringing Scientific and Technical Resources to the African Continents (NITA/TRN/875)

## **HANDS-ON FORENSIC DNA LABORATORY TRAINING**

**9<sup>th</sup> October – 13<sup>th</sup> October 2023.**

The course will cover current laboratory practices in forensic serology and DNA analysis.

The training is highly hands on, and each trainee will learn to; independently conduct presumptive and confirmatory tests for body fluids, Extract, purify and quantify DNA from a variety of biological materials, Perform PCR, handle and maintain various DNA analysis instruments and interpret DNA data. In addition, the trainees will appreciate the value of maintaining chain of custody and presentation of DNA evidence as expert witnesses

### **Suitability**

This course is suitable for researchers, scientists, laboratory analysts, graduate students and postgraduate students who have a background in molecular biology or biochemistry, who are interested in learning more about the practical aspects and use of DNA in family relationship testing and solving crime.

● Registration and orientation	<b>DAY 1 (09.00-10.00)</b>
<b>Tea Break</b>	<b>10.00am-10.30am</b>
● Operation of general equipment in a molecular laboratory, laboratory bookkeeping, chain of custody, client consenting procedures, sample reception procedures and reference sample collection. Presumptive and confirmatory Tests	<b>11.00am-12.30pm</b>
<b>Lunch Break</b>	<b>12.30pm-02.00pm</b>
● Introduction to DNA and DNA processing Techniques	<b>2.00pm-4.30pm</b>
● DNA extraction-;Manual and Automated DNA extraction technologies	<b>DAY 2 (9.00-10.30)</b>
<b>Tea Break</b>	<b>10.30am-11.00am</b>
● Forensic DNA Quantification(qPCR),normalization and PCR amplification	<b>11.00am-12.30pm</b>
<b>Lunch Break</b>	<b>12.30pm-02.00pm</b>
● Introduction to Restriction Fragment Length Polymorphism(RFLP) and PCR	<b>2.00pm-04.30pm</b>
● PCR and Short Tandem Repeats(STRs)	<b>DAY 3 (9.00-10.30)</b>

● STRS separations and detection	
<b>Tea Break</b>	<b>10.30am-11.00am</b>
● STR genotyping, data analysis and interpretation	<b>11.00am-12.30pm</b>
<b>Lunch Break</b>	<b>12.30pm-02.00pm</b>
● STR interpretation and emerging forensic issues	<b>2.00pm-04.30pm</b>
● Preparation of reference samples and casework samples (FTA) for Direct PCR. ● PCR set up reaction and runs .	<b>DAY 4 (9.00-10.30)</b>
<b>Tea Break</b>	<b>10.30am-11.00am</b>
● Preparation of samples for capillary Electrophoresis/ Fragment analysis.	<b>11.00am-12.30pm</b>
<b>Lunch Break</b>	<b>12.30pm-02.00pm</b>
● DNA databases and future of DNA next generation sequencing	<b>2.00pm-4.30pm</b>
● Scoring of profiles, discussions and interpretation of results ● Discussing and group practice :Writing of forensic reports	<b>DAY 5 (9.00-10.30)</b>
<b>Tea Break</b>	<b>10.30am-11.00am</b>
● Discussions and group work: Law of Evidence for forensic experts.	<b>11.00am-12.30pm</b>
<b>Lunch Break</b>	<b>12.30pm-02.00pm</b>
● Recap on the course and Award of certificates	<b>02.00pm-4.30pm</b>
<b>Dates: 9<sup>th</sup> October – 13<sup>th</sup> October 2023 Deadline :28<sup>th</sup> September,2023</b>	<b>Cost Kes. 81,200 or USD 812.00</b>
	<b>Venue: Kisumu</b>

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