

# NEXT-GEN SEQUENCING ESSENTIALS

FROM THEORY TO PRACTICE IN JUST **1 MONTH**

**MetaMicroarray Mastery: Targeted Metagenomics & Illumina GSA  
Analysis**



*YOUR GO TO*

# WITH DR.OMICS LABS

## COMPREHENSIVE AND SPECIALIZED TRAINING

- MODULES COVERING KEY AREAS OF COMPUTATIONAL RESEARCH.
- HIGHLY PROFESSIONAL COURSES FOR NEXT GENERATION SEQUENCING DATA ANALYSIS TECHNIQUES & PROGRAMMING FROM BASICS



## EXPOSURE

- INDUSTRY PRACTICES AND INSIGHTS INTO THE COMMERCIAL ASPECTS OF BIOTECH RESEARCH
- AN INDUSTRIAL LEVEL COURSE DESIGN.
- COVERING EVERY TOPIC REQUIRED FOR BEING A BIOINFORMATICIAN & PROVIDING HANDS-ON PRACTICE DURING SESSION



## MENTORSHIP

- BENEFIT FROM THE GUIDANCE OF EXPERIENCED GENETICISTS AND BIOINFORMATICIANS.
- LIVE LEARNING WITH HANDS-ON PRACTICAL EXPERIENCE, UNDERSTANDING USAGE OF BIOINFORMATICS DATABASES IN REAL-TIME.
- CREATION OF PIPELINES, DATA SORTING, TRIMMING AND CLEANING STUDIES.



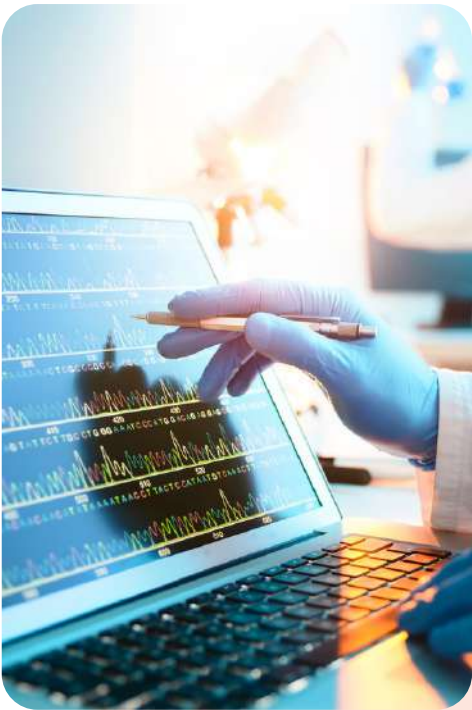
## NETWORKING

- CONNECT WITH PEERS, INDUSTRY PROFESSIONALS, AND POTENTIAL COLLABORATORS.
- A COLLABORATIVE AND INTERACTIVE LEARNING ENVIRONMENT THAT FOSTERS CREATIVITY AND INNOVATION.



# Next-Gen Sequencing Research Oriented Course

"Explore the forefront of genomics and bioinformatics with our NGS Research Oriented Course at Dr.Omics labs. Gain hands-on expertise in next-generation sequencing techniques and data analysis, propelling your career or research to new heights in the field of genomics."



## *Important tip*

Study at your own pace with 24/7 access to course materials, allowing you to balance your studies with your other commitments.

- Global Accessibility: Learn from anywhere in the world.
  - Research-Oriented Curriculum: Taught by leading experts.
  - Unravel the Genome: Master DNA sequencing techniques and data analysis.
  - Certification: Receive a prestigious certificate upon completion.
  - Career Advancement: Open new job opportunities in genetics, biotechnology, and healthcare.
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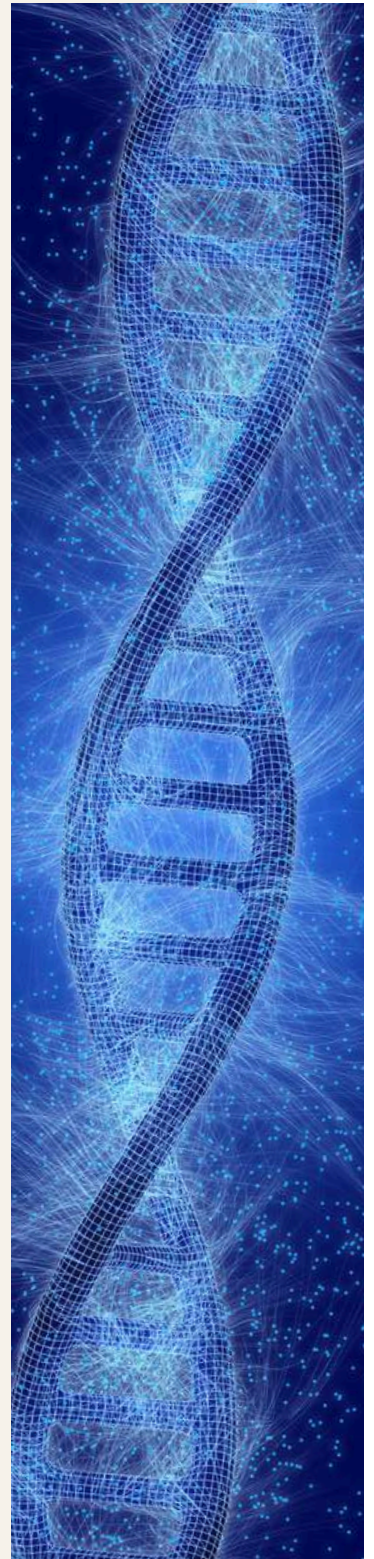
# Coursework Overview (Modules)

1. Targeted Metagenomics Data analysis
2. Microarray Illumina GSA



# Module 1: Targeted Metagenome analysis

- Data Downloading (NCBI SRA/EBI SRA)
- Quality control using Fastqc
- Trimming (cutadapt/Fastp/Trimmomatic)
- Demultiplexing
- Data Importing
- Quality Check by DADA2
- Phylogenetic Diversity Analysis (Alpha and Beta Diversity)
- Taxonomy Analysis
- Krona Plot
- Phylogenetic Tree Construction using MEGA



## Module 2: Microarray Illumina GSA

- Understanding Microarray & its techniques
- Chip designing in Microarray
- Using R for Microarray Data Analysis
- Quality control & Normalization
- Differential Expressional Studies (Up-Regulated & Down-Regulated)
- Gene Ontology Pathway & Enrichment Analysis
- Pathway Network analysis (stringDB(PPI) & Cytoscape)
- Pathway Network Analysis (KEGG Mapper tool for DEG genes)
- Learn Different plots (Heatmap, volcano plot etc) using R





## *Program Structure*

- Duration: 1 Month

## NGS Essentials: From Theory to Practice in Just 1 Month

- **NGS Essentials:** Understand the fundamentals of NGS technologies and their applications.
  - **Bioinformatics Mastery:** Develop essential bioinformatics skills for genomic data analysis.
  - **In-Depth Data Insight:** Explore advanced tools for deciphering complex genetic data.
  - **Certification:** Upon successful completion, receive a prestigious NGS Research Course certificate.
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## Frequently Asked Questions

**Q: Are these courses suitable for those new to the field without prior experience?**

A: Yes, our courses are designed to cater to beginners with no prior experience in the field. We provide foundational content suitable for all skill levels.

**Q: Will I receive a certification upon completing the course?**

A: Absolutely, a digital certificate will be awarded upon course completion. You'll receive this certificate via email.

**Q: Do the courses include practical projects and research opportunities?**

A: Certainly, our courses incorporate practical projects and research opportunities to ensure hands-on learning and the practical application of acquired knowledge.

**Q: Can I access class recordings if I miss a class?**

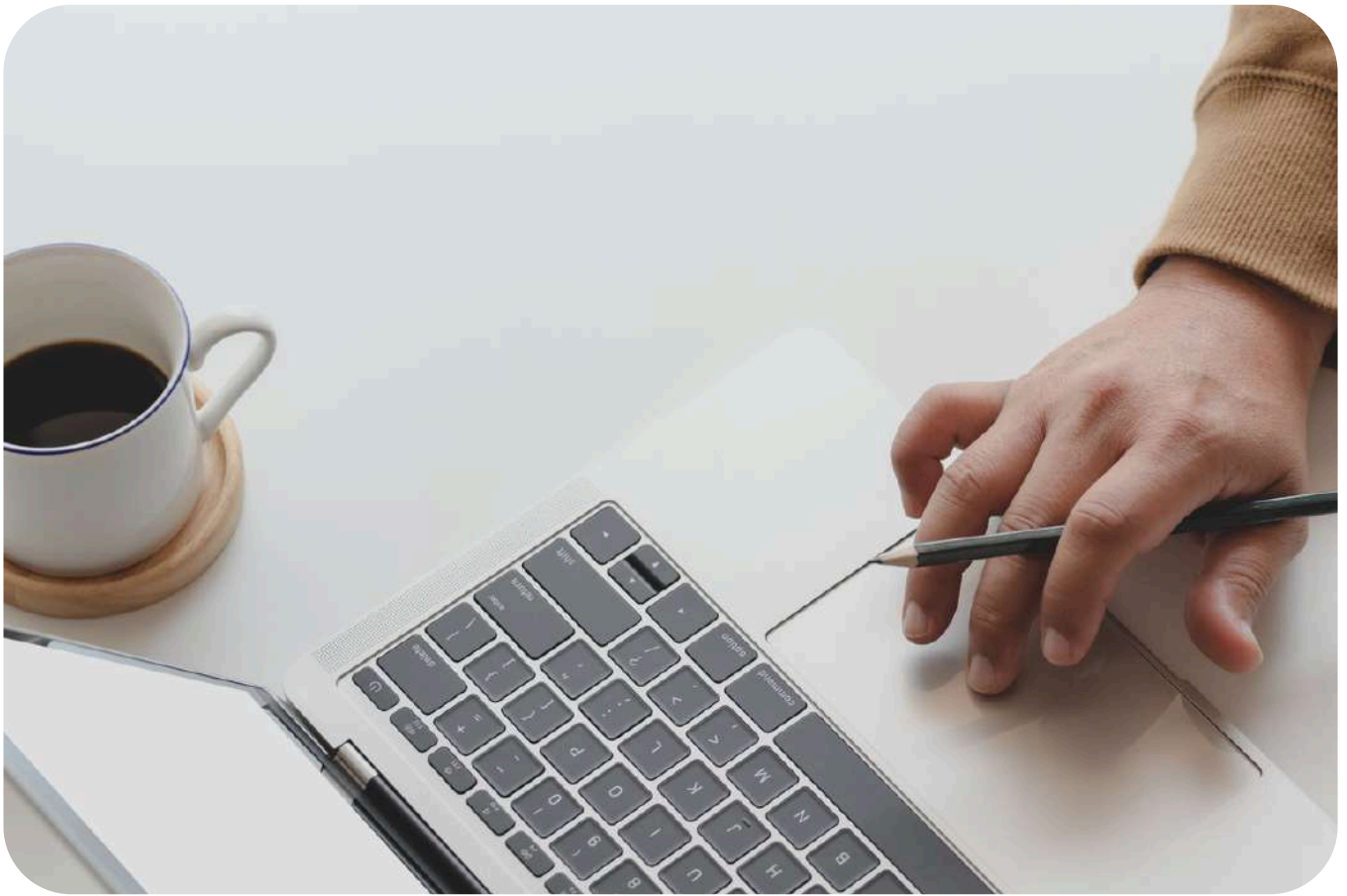
A: Yes, class recordings are available. We'll send you the recording link via email if you miss a class, typically on the day following the live session.

**Q: Can I continue to access course materials and resources after finishing the course?**

A: Absolutely, you'll retain access to course materials and resources even after completing the course. These materials will be shared with you via email or WhatsApp.

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## Terms and Conditions

- **Maintaining Discipline during the Tenure.**
  - **It is mandatory to maintain 85% attendance for all students.**
  - **Students must maintain an average 'A2' grade throughout their training period.**
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NEED MORE INSIGHT & SUPPORT?

**CONTACT US!**

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*Thank you!*



**Dr.Omics Labs**  
The Doctor of your DNA

OUR CERTIFICATIONS & GRANTS

