



NEXT-GEN SEQUENCING

FAST-TRACK TO GENOMIC DISCOVERY
FOR **2 MONTHS**



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.



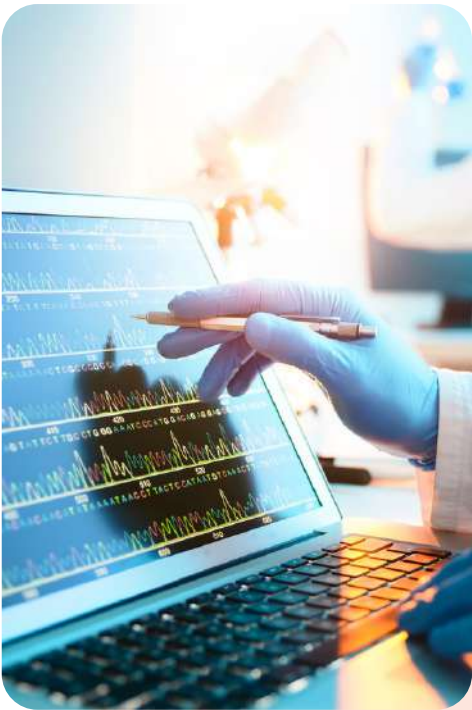
NETWORKING

- 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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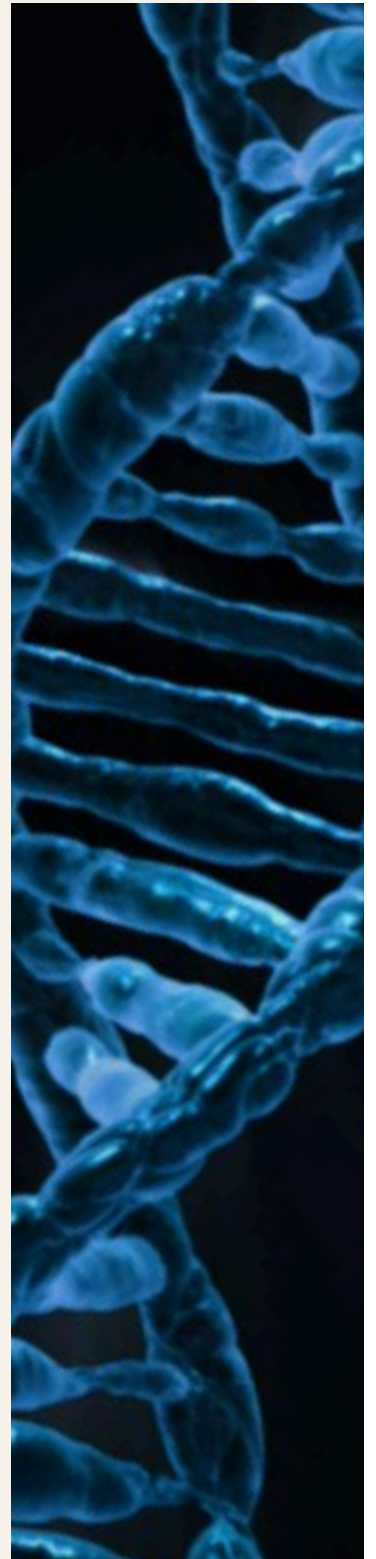
Coursework Overview (Modules)

1. R Programming and introduction to Bioconductor
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2. HR Session
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3. DNA Sequencing (Variant Calling), Annotation
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4. Small Research Project on NGS (15 Days)
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Module 1: R Programming and introduction to Bioconductor

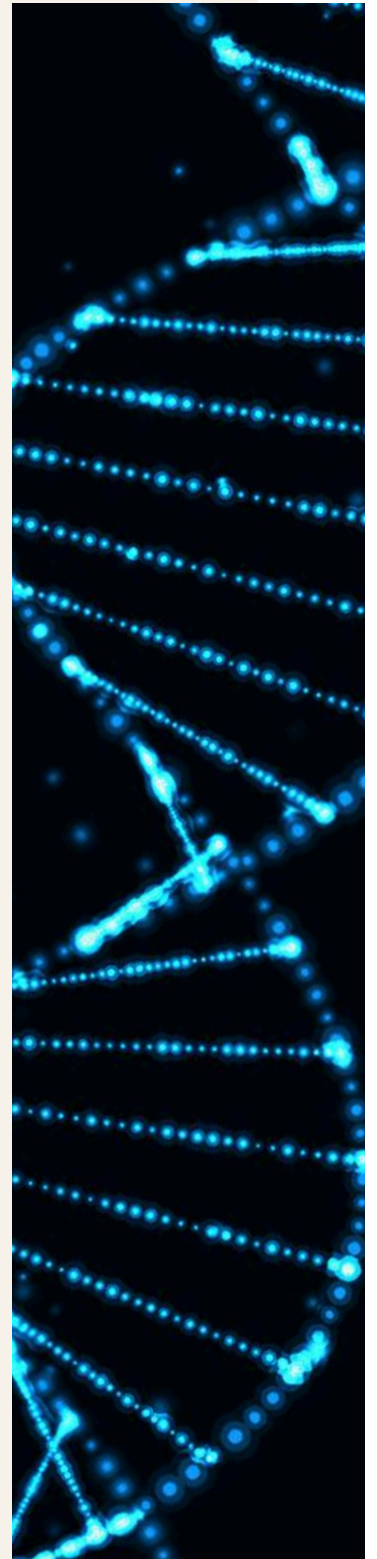
2.1) R Programming

- Introduction to the R language
- Importance of R in Bioinformatics
- Installation of R
- Installation of IDE (R studio)
- Print, cut, and paste functions
- Comments
- Variables
- Data types
- Functions of math
- Operators
- Installation of packages
- String formatting
- Learning Control Statements (if -else, while loop, break, etc.)
- R Data Structures (Lists, Vectors, Arrays, etc)
- File Handling & User-Defined Functions



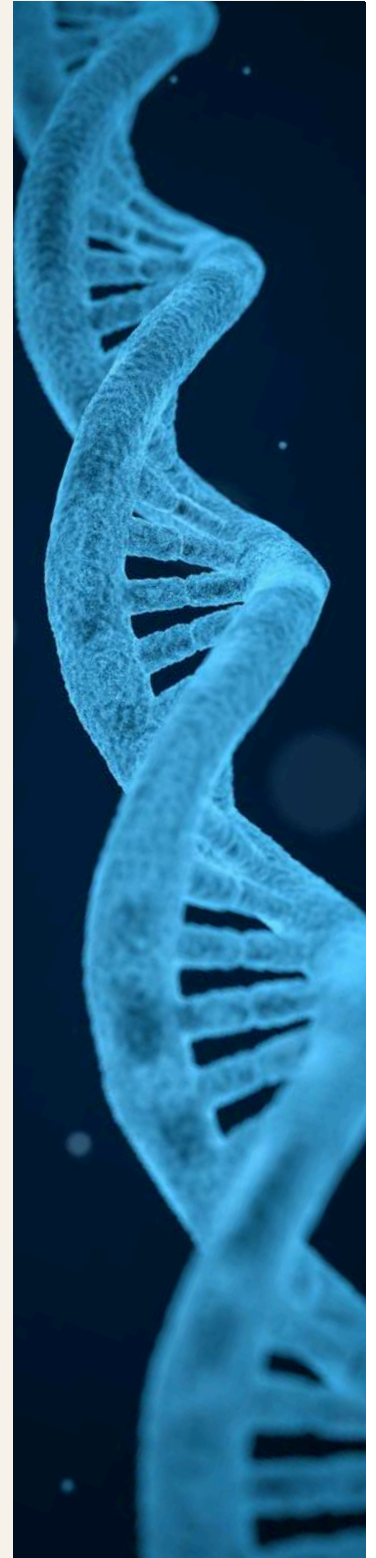
2.2) Introduction to Bioconductor

- Bioconductor package installation
- Sequence analysis
- Basics of seqinr package
- Import and export FASTA sequences
- Reverse complement
- GC content
- Retrieving GenBank and fasta files from NCBI
- Statistical study for Analysis (z-test, t-test, etc)
- Plot generation for data visualization (box plot, PCA plot, Heatmap, Volcano Plot)



Module 2: DNA Seq (Variant calling), Annotation

- Introduction and installation of tools
- Data retrieval & quality check of reads
- Mapping of reads using reference Genome
- Understanding Mapping Output
- Variant detection
- Visualization of variation
- Annotation and variant effect prediction
- Determining effect of coding non-synonymous mutation on protein function ability





Program Structure

- Duration: 2 months
- Coursework: 1.5 month
- Project: 15 Days

From Theory to Practice: Bridging the Gap in Genomic Research

- **Comprehensive NGS Training:** Understand NGS fundamentals, data generation, and quality control.
 - **Bioinformatics Tools and Resources:** Master NGS analysis tools and explore essential genomic databases.
 - **Real-world Projects:** Engage in genome assembly, variant calling, and functional annotation projects.
 - **Professional Development:** Enhance your resume and gain mentorship from experienced professionals.
 - **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?

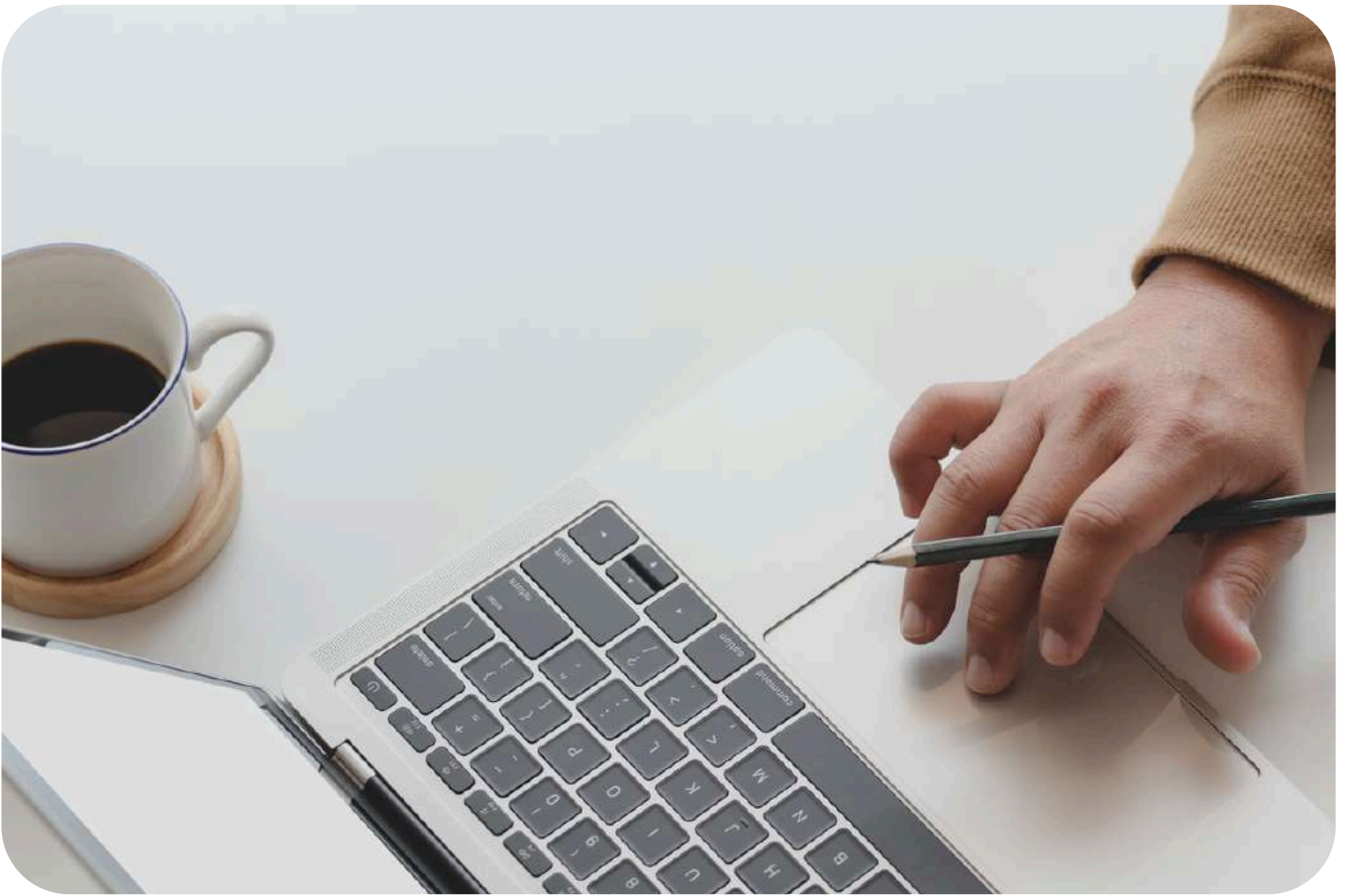
A: Certainly, our courses incorporate practical projects and research opportunities to ensure hands-on learning and the practical application of acquired knowledge.

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.



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.**
 - **Project completion is a must for research.**
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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

