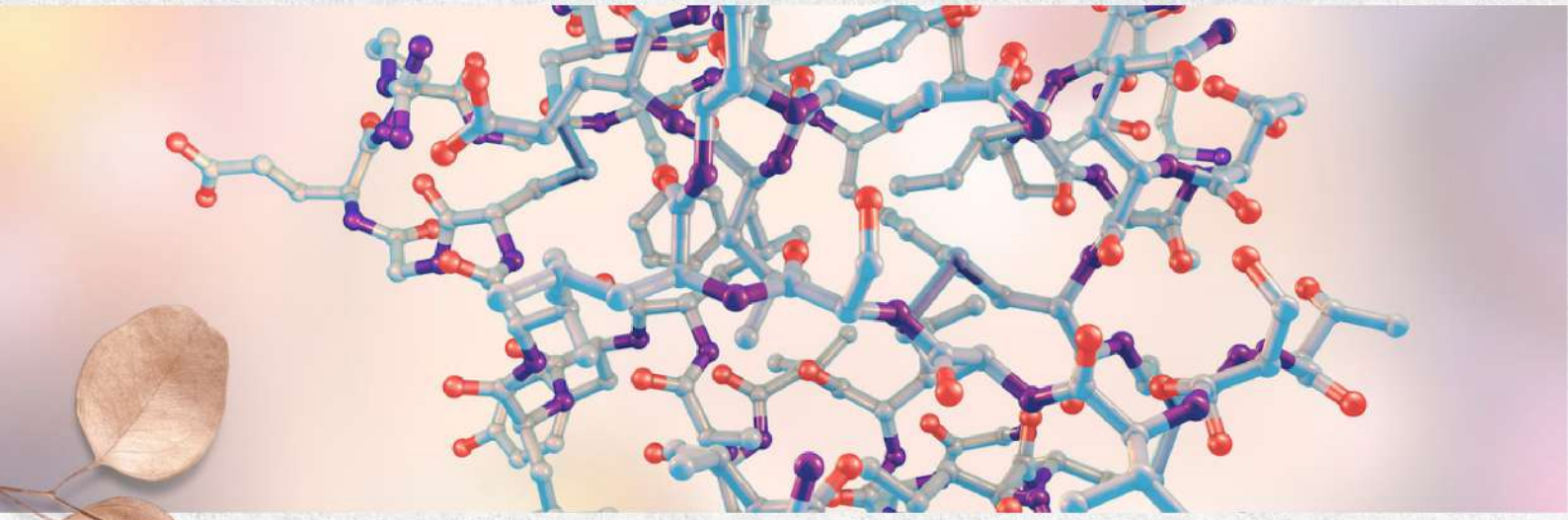
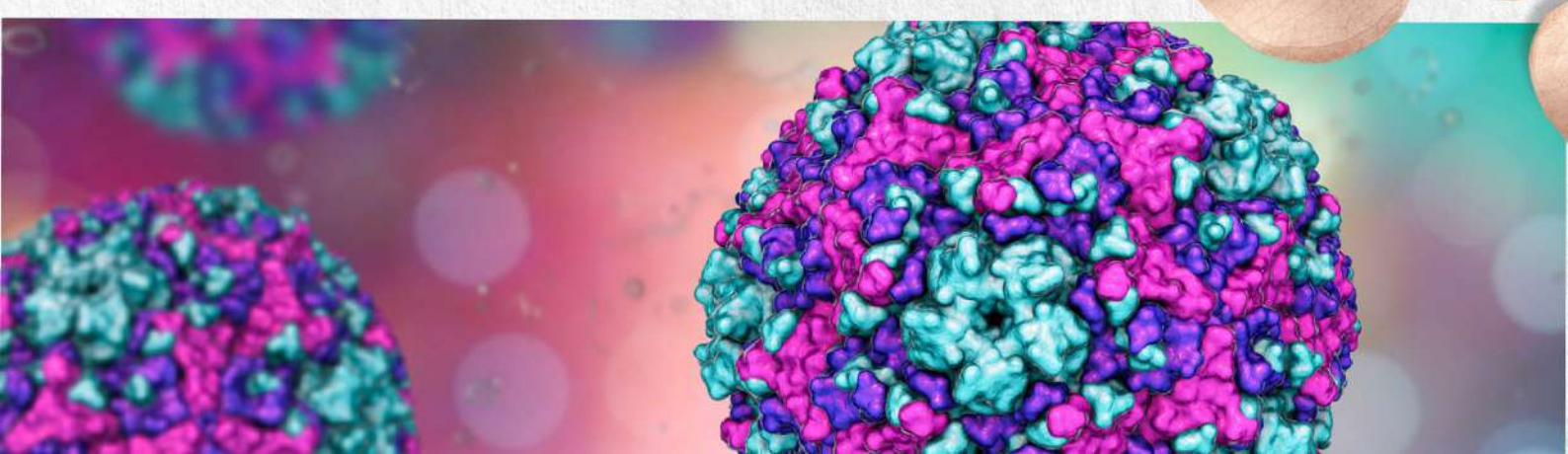
Dr.Omics Labs
The Doctor of your DNA



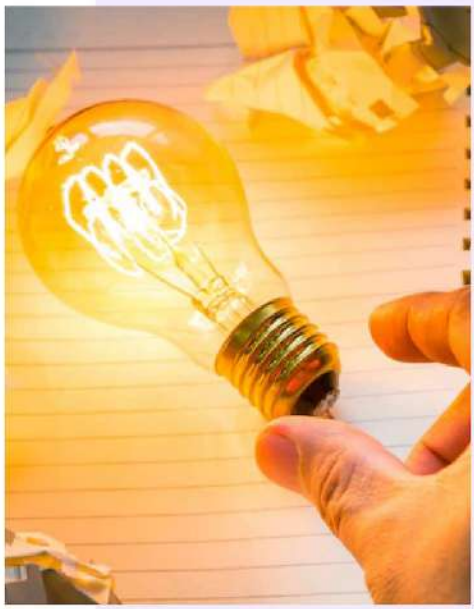
REVOLUTIONIZING DRUG DISCOVERY

BIOINFORMATICS & CADD SYNERGY IN A **2-MONTH** INTERNSHIP



Welcome to Our Program

At Dr.Omics Labs, we're delighted to offer you an extraordinary journey into the world of Industrial Bioinformatics and Computer-Aided Drug Designing. Join us and make a significant impact on the future of drug discovery and bioinformatics research.



About us

Dr.Omics Labs is a leading institution dedicated to advancing bioinformatics, genomics, and proteomics research. Their Industrial Bioinformatics Long-term Internship program provides a combination of coursework and hands-on project experience to equip individuals with the necessary skills and knowledge to excel in the field.

Key Program Features

- Comprehensive coursework in CADD techniques.
- Hands-on experience with cutting-edge software and tools.
- HR sessions to get you ready for interviews.

Coursework Overview

1. R and its application in CADD Techniques

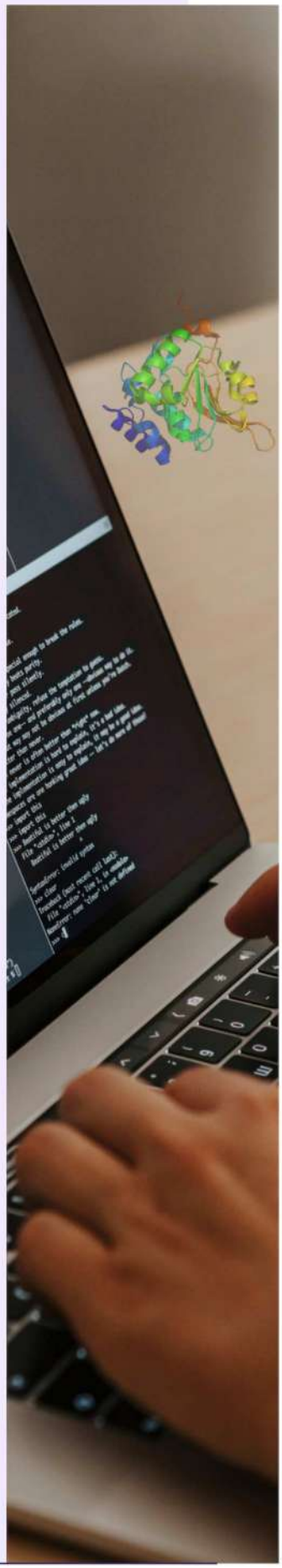
2. Computer Aided Drug Designing (CADD)

3. HR Session

MODULE 1:

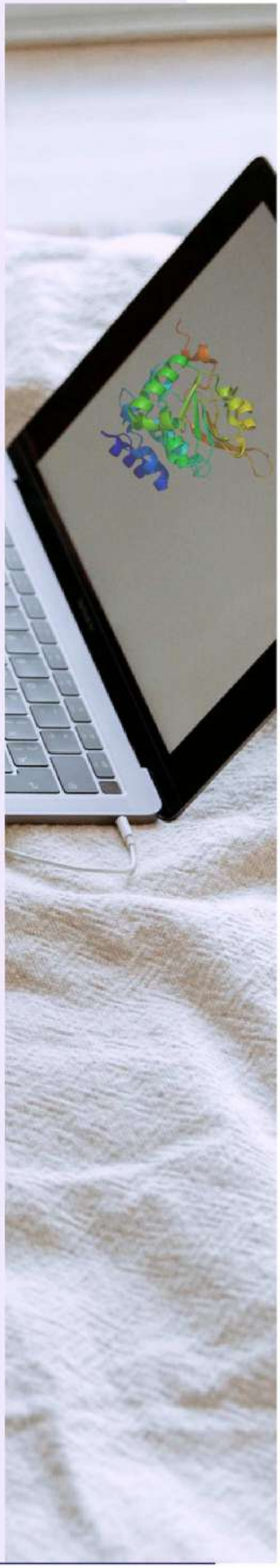
R AND INTRODUCTION TO BIOCONDUCTOR

- **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



- **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:
COMPUTER AIDED DRUG DESIGN (CADD)



- **Introduction to Drug Discovery and Computer Aided Drug Design**
  - Overview of drug discovery process
  - Role of computational methods
  - Hands-on: Introduction to ChemDraw or ChemSketch for chemical structure visualization
- **Molecular Biology Fundamentals for Drug Design**
  - Biomolecules and their properties
  - Structure of proteins and ligands
  - Hands-on: Utilize PyMOL or Swiss
  - PdbViewer for protein structure visualization
- **Molecular Modeling Techniques**
  - Molecular visualization tools
  - Molecular mechanics and dynamics simulations
  - Hands-on: Use PyMOL, UCSF Chimera, or VMD for molecular visualization.
- **Chemical Informatics and Virtual Screening**
  - Chemical databases and data mining
  - Ligand and structure-based virtual screening
  - Hands-on: Explore tools like PubChem for chemical data and Autodock Vina for virtual screening

Program Structure

- **Duration: 2 months**

Gain expertise in CADD techniques

2 Months of In-Depth Learning

- Molecular modeling
- Virtual screening
- Drug-target interaction analysis
- Pharmacokinetics and pharmacodynamics
- Apply acquired skills to solve industry challenges.
- Gain hands-on experience with CADD.
- Work closely with mentors and industry professionals.

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.

Need more insight & support?

CONTACT US!

602/e, W No 3, G/f, L/side, Seqno-m, H 3/727 Gadaipur New Delhi, South-West Delhi-110030.

+91 7289003396

www.dromicsedu.com

Thank you!

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OUR CERTIFICATIONS & GRANTS