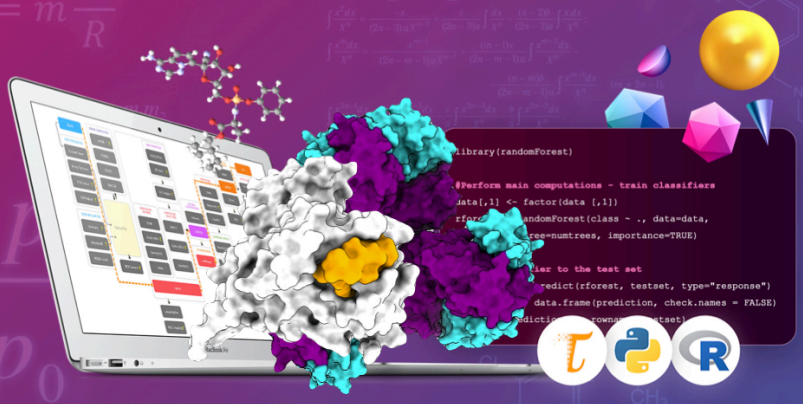
Summer Biomedical Data Science & Discovery Program

APRIL 26 - AUGUST 18, 2021

The upcoming omics logic summer programs represents cutting edge research training which is now available for registrations for students, researchers, faculty and scientists who are interested to learn and practice data driven biomedical research to apply to the latest healthcare problems. This unique opportunity has been provided by a multi-organisational collaboration between **Pine Biotech, Faba Academy, PharmaToppers & Probiotechnika.**

DATA **SCIENCE &** DRUG **DISCOVERY**

INTRODUCING PROJECT-BASED BIOMEDICAL DATA SCIENCE AND COMPUTATIONAL BIOLOGY TRAINING WITH MENTOR SUPPORT AND EXPERT GUIDANCE



- Genomics, Transcriptomics and Protein Structures
- DNA, Protein, Cell, Tissue and Systems Analysis
- Morphology, Topology, Sequence Similarity and Molecular Profiling
- Protein-ligand interaction, Gene Signature Discovery
- Complex regulation of sub-cellular biological mechanisms
- Identifying Key Mutations & Variants and 3D Mapping
- Understanding Molecular Mechanics for Drug Designing
- Applying Machine learning and Deep Learning for Discovery

Biomedical Research has been transformed by high throughput data and computational analysis techniques. In this program, participants will learn about the application of data science to important challenges in clinical and pharmaceutical applications using practical examples that cover genomic, transcriptomic and structural data.

Bi/o BIOINFORMATICS · Ge GENOMICS · Tr TRANSCRIPTOMICS · Ep EPIGENETICS · Me METAGENOMICS · BioML MACHINE LEARNING · Modeling Cancer Precision Medicine

Pharma Toppers · PINE.BIO OMICS DATA SENSE AND MORE · TAUBER BIOINFORMATICS RESEARCH CENTER · ProBiotechnica · OMICSLOGIC BIOINFORMATICS TRAINING · FABA ACADEMY

Summer **Biomedical Data Science** Training

EXPERT PANEL OF PROGRAM SPEAKERS & MENTORS

To help with the awareness and to contribute, this summer we are for the first time bringing an unique opportunity for students and researchers to join an elite team of industry and academic experts and mentors to learn and apply data driven research for drug discovery. In this 4 month period, you will have the opportunity to interact and collaborate with an international team of experts specialized in the areas of Bioinformatics & Data driven research for Drug Discovery. Dr. Harpreet Kaur, Omicslogic Trainer and Expert Bioinformatician who will mentor sessions and guide you through the Omics data types and ML application. Her area of specialization is Cancer Genomics. Dr. Mohit Mazumder has a Ph.D. in Computational Biology and over 12 years of experience working with industry and academia. Elia Brodsky is our CEO & Co-founder. His experience in research and academia has led to many research labs and University collaborations and has been been recognised for the simplified approach to 'omics analysis for education.

Dr. Harpreet Kaur,
Bioinformatics Trainer
Ph.D. in Bioinformatics
Multi-Omics Expert

Dr. Mohit Mazumder,
Partnerships & Research
Ph.D. in Computational Biology
Machine Learning Expert

Elia Brodsky,
Co-founder and CEO
Pine Biotech
Multi-omics Research and Bioinformatics Industry Expertise

Dr. Sujit Tangadpalliwar,
Founder PharmaToppers & Co-founder Octame Pvt Ltd
Ph.D. in Cheminformatics & Drug designing
AI in Drug Discovery

Neetu Singh,
CEO, Probiotechnica Research,
Life Science education & Academic Partnerships

Along with the expert and resources that Pine Biotech will offer, the other collaborating partners will help participant expose to the three dimensional world of molecules and their translational application. With the help of Dr. Sujit Founder Pharmatoppers and FABA Academy (Co-Host) and probiotechnika who are the co-host of this program will bring years of experience from renowned industry and academia experts. Ind the details in the next pages.

Pharma Healthcare and Industry Leaders

Dr. Ajith V. Kamath,
Advisor, Pandora technologies,
Expert: Pre-Clinical Drug Discovery

Dr. Chakk Ramesha,
COO Medhus Bio & Adj. Faculty,
University of California Santa Cruz
Expert: Drug Discovery & Pharmacology

Dr. Uday Saxena,
Co-founder & ReaGene BioSciences & Professor
Ph.D. in Biochemistry

Dr. M. Rami Reddy,
Senior Research Scientist,
Agouron Pharmaceuticals (Pfizer)
Ph.D. in Computational Chemistry

Dr. Puneet Kacker,
Drug Discovery Scientist,
Industry Analytics Manager, Accenture
Ph.D. in Drug Discovery

CURRICULAM AND TOPICS

TRAINING IN DATA SCIENCE AND COMPUTATIONAL BIOLOGY WITH MENTOR SUPPORT AND EXPERT GUIDANCE

This comprehensive and intense research training is divided into six phases. Students and researchers who are interested in working on their own project and learn about different OMICS and structural data. The first phase “Orientation ”and the last phase “Bioinformatics projects ” will be available for FREE where we will also discuss and help students towards the upcoming bioinformatics research job and entrepreneur opportunities.

Courses:	**1. Genomics**	**2. Transcriptomics**	**3. Data Science**	**4. Cheminformatics**
Main Topic	Analysis of DNA sequences	Variation in gene expression	Application of Machine Learning & AI in healthcare	Application of cheminformatics in drug discovery
Dates	**April 26 - May 18**	**May 19 - June 11**	**June 14 - July 12**	**June 12 - July 19**
Courses	1: Introduction to Genomics, Genomics 1	1: Transcriptomics 1 (specialization: oncology, neuroscience, infectious diseases)	1: Introduction to Machine Learning, BioML, Biomedical Data Science	1. Introduction to cheminformatics & drug discovery
Topics	▸ DNA code, structure and elements ▸ Dna variation types ▸ Next Generation Sequencing: WGS, WES ▸ Analytical approaches to mapping and variant detection ▸ Examples in cancer and genetic diseases	▸ RNA Transcription: Gene > Transcript > Protein ▸ Variation of quantity and alt. splicing ▸ Pre-processing and mapping strategies ▸ Quantification and normalization ▸ Analysis of sample variance using gene expression	▸ NGS for R & Python ▸ Loading input data, Calling Libraries and creating Data Objects ▸ Statistical tests and exploratory analysis of Large Datasets ▸ Unsupervised and Supervised Machine Learning ▸ Visualisation of Big Data using R & Python	▸ Structure and sequence relationship in biological systems ▸ Chemical Properties of Interaction & Binding ▸ Docking & MD for interaction Studies ▸ Big Data Repurposing and optimisation using Machine learning algorithms
Student Guides	✓ session slides and quiz answer explanation	✓ detailed concept maps with customization	✓ practical examples with curated datasets	✓ Hands-on sessions with instructions and tutorials
Meeting Sessions	9 Sessions	12 Sessions	12 Sessions	13 Sessions
Hands-On workflows	**Genomic Data analysis and algorithms and application**	**Gene Expression data analysis, algorithms and Application**	**Supervised and Unsupervised ML and R & python for NGS**	**Structural analysis, Screening, Docking & Simulations**
Practical Assignments	Literature review (terminology, key words) Mapping and Variant Calling for Somatic Mutations (Oncology Example)	Patient - derived xenograft (PDX) model Tumor-microenvironment study of gene expression profiles and a comparison between common breast cancer types using PCA	Human Microbiome Project and the variation of “healthy” and non-pathological microbiota, Mapping 16s rRNA on SILVA database for phyla quantification	Case studies from Publications and Industry leader prospective and projects in Pharma and Healthcare
Projects	**Drug metabolism and pharmacogenomics & Sequence alignment and drug efficacy for Malaria.**	**Modeling Precision Treatment of Breast Cancer & Drug repurposing for drug-resistant HCC (Liver Cancer)**	**Drug Discovery for Alzheimer’s Disease COVID-19 drug repurposing.**	**Multi-omics Research project proposal. Independent and group research project for publications.**

OMICSLOGIC PLATFORM

Modular online resources for bioinformatics course development, project-based learning, and biomedical data science training.

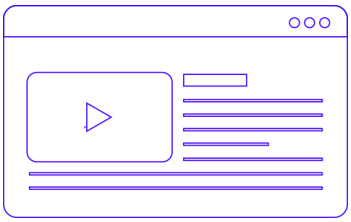
Omics Logic is an **integrated educational and research platform**, where students and faculty can learn, conduct research and collaborate. The platform combines introductory coursework on biological data analysis with data management and analytical tools.

Learning materials cover a variety of topics, such as viral genomics and molecular medicine. Practical exercises introduce basic statistical concepts and advanced analytical methods such as multi-omics integration, network analysis, and machine learning.

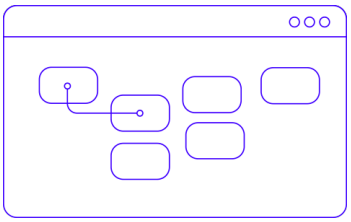
Hands-on assignments are based on a visual interface that links together individual algorithms into bioinformatics pipelines. The pipelines are color-coded and annotated with explanations on analysis methods and logical steps.

Unlike other e-learning platforms, Omics Logic is built around practical, project-based and student-centered learning.

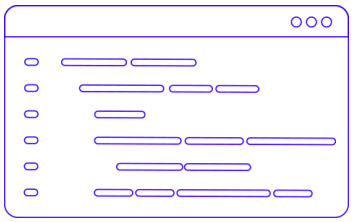
LEARNING **DATA-DRIVEN RESEARCH**: ANALYZE AND INTERPRET **BIG DATA**



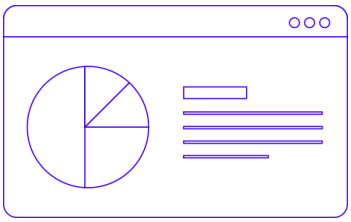
Project-based content built for online learning, enriched with interactive multimedia, explained terms and diagrams. The content is divided up into 5-10 minute modules with videos, quizzes and practical tasks that can be completed independently. Most commonly used omics data types are explained from a biological and data analysis perspectives.



Assignments for each module include a visual interface that helps link together individual algorithms into bioinformatics pipelines while learning about the data analysis methods. These pipelines include color-coded and logical steps for analysis. Complex data processing pipelines that analyze terabytes of raw data become a learning experience.



Once the data is prepared, it can be studied using analytical tools, visualization and biological annotation. Omics Logic Code playground helps develop coding skills while learning popular packages in R and Python to visualize, annotate and analyze complex patterns in gene expression, genomic variant and metagenomic datasets.



All student learning activity is analyzed, tracking user background, skill improvement and topic understanding. This information is converted into user points and badges that keep users motivated. Analyzing activity data from thousands of students, the platform provides insights into successful learning patterns translated into course recommendations.

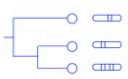
USER-FRIENDLY **MULTI-OMICS ANALYSIS** PLATFORM **AND CODING** PLAYGROUND

T-BioPLATFORM
BIOINFORMATICS DISCOVERY

USER-FRIENDLY PROCESSING, ANALYSIS, ANNOTATION & VISUALIZATION


SEQUENCE ALIGNMENT

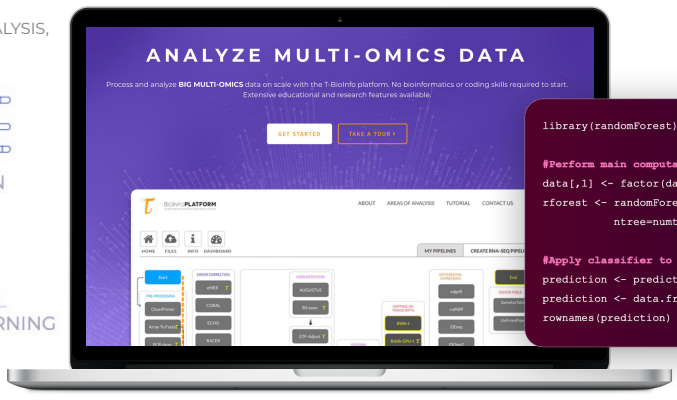

RNA-SEQ


EVOLUTION


VARIANT CALLING


STRUCTURE ANALYSIS


MACHINE LEARNING



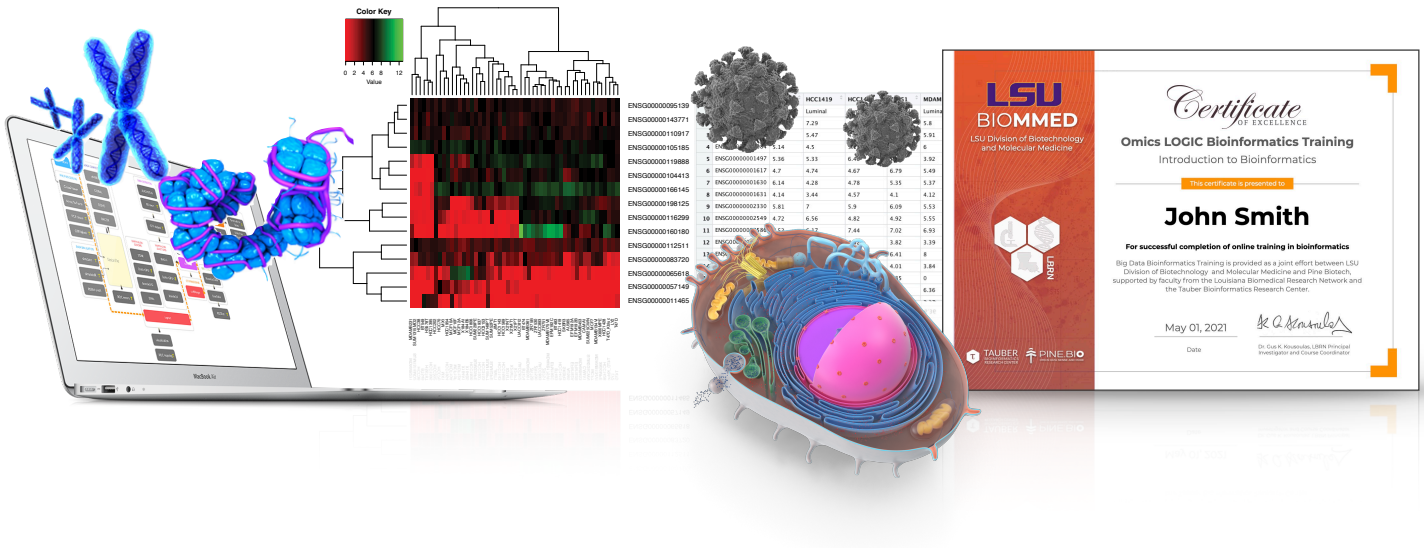
```
library(randomForest)

#Perform main computations - train classifiers
data[,1] <- factor(data [,1])
rforest <- randomForest(class ~ ., data=data,
          ntree=numtrees, importance=TRUE)

#Apply classifier to the test set
prediction <- predict(rforest, testset, type="response")
prediction <- data.frame(prediction, check.names = FALSE)
rownames(prediction) <- rownames(testset)
```

LEARN MORE ON SERVER.T-BIO.INFO

CODE.OMICSLOGIC.COM

PACKAGE PRICING INFORMATION

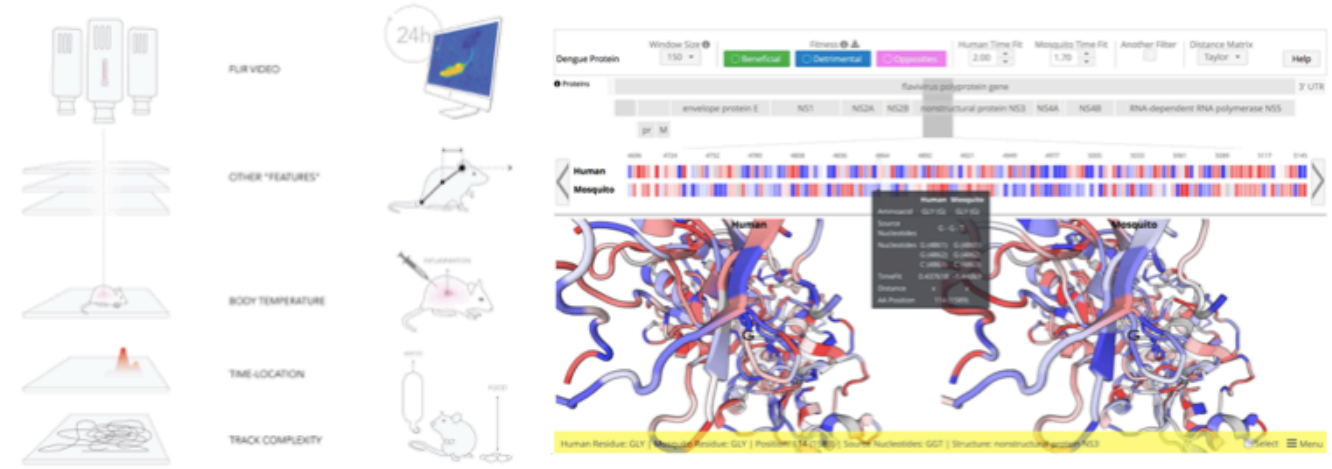
The impact of data-driven research across the organization can help establish successful research programs based on long-term alignment of data infrastructure with trained users from faculty, research and student groups working together to tackle challenges in a meaningful way. Our team has been working with top academic institutions to make that vision a reality.. Along with a team of experts our aim is to help transition students into various jobs and opportunities that are available in this growing Bioinformatics & Data Science Market.



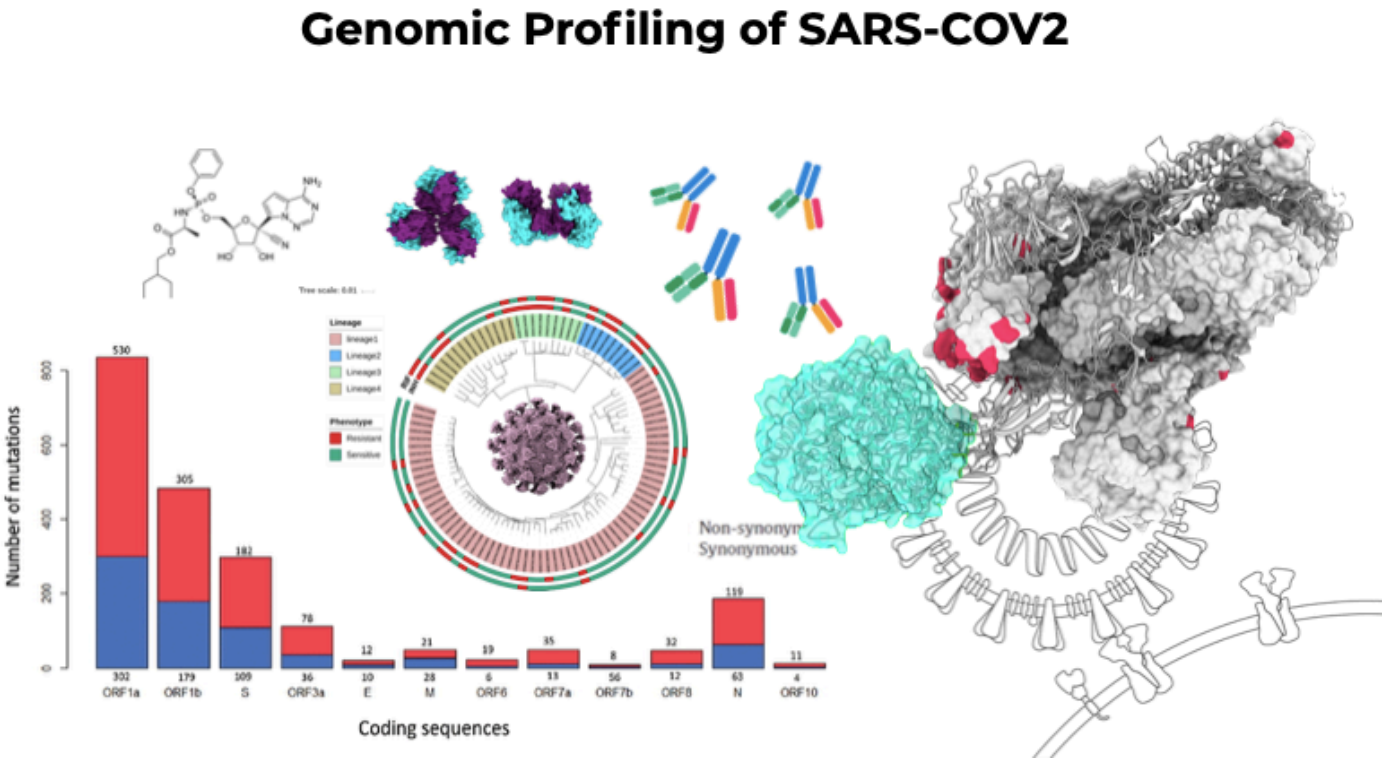
The objective of the program is to help prepare participants for practical application of learned skills to datasets that they would be dealing with in the context of pharma and biotech companies. We designed these examples with various clinical pathologies and challenges that are typically solved by collaborative research teams at pre-clinical and clinical R&D stages. In each project, you will find the important considerations and practical applications of data analysis and computational biology skills described in the training sessions.

Phases	Start Date	End Date	Registration Fees*
Introduction to the Program and Orientation	April 8, 2021	April 25, 2021	FREE
Genomics for Biomedical Drug Discovery	April 26, 2021	May 18, 2021	$75 (Only for genomics)
Transcriptomics for Biomedical Drug Discovery	May 19, 2021	June 11, 2021	$150 (Only for Transcriptomics)
Data Science for Biomedical Drug Discovery	June 14, 2021	July 12, 2021	$150 (Only for Data Science)
Cheminformatics for Biomedical Drug Discovery	June 12, 2021	July 19, 2021	$150 (Only for Drug Discovery)
Bioinformatics Project Proposals	21 July, 2021	2 August, 2021	Free For Full Program participants
Workshop: Bioinformatics Entrepreneurs - Start UP, VC Funding & Job Opportunities	TBA	TBA	FREE
Certification - Review and Feedback	18 August, 2021	18 August, 2021	FREE

Full Program Registration: https://drug-discovery.omicslogic.com/



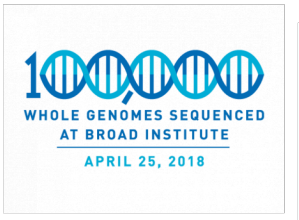
Biomedical data includes vital information to understand and improve current practices to solve some of the challenging Data Science plays a pivotal role in monitoring a patient's health and notifying necessary steps to be taken in order to prevent potential diseases from taking place to diagnosis, treatment and prevention. Biomedical Data Scientists are required to use powerful predictive analytical tools to detect chronic diseases at an early level and find strategies and to devise solutions by finding clues that could help in a cure.

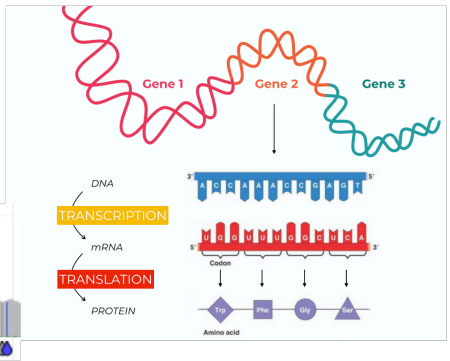


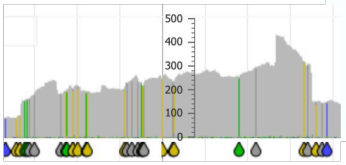
Genomics for Biomedical Drug Discovery

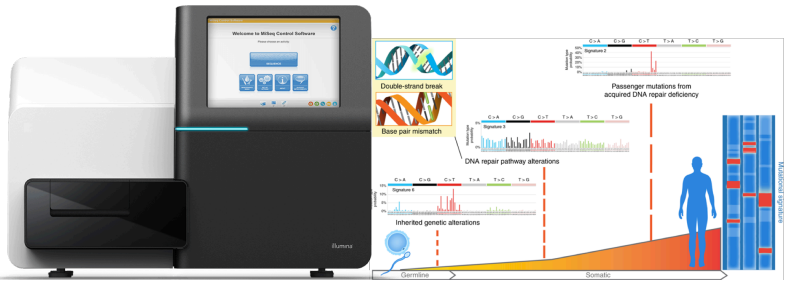
FULL SYLLABUS & SCHEDULE

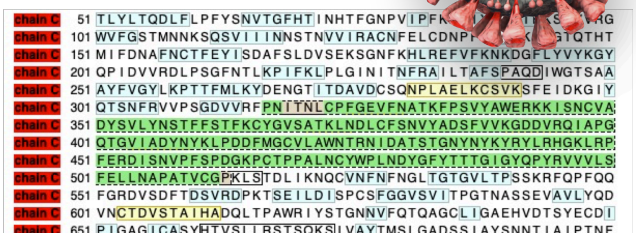
GENOMICS IN RESEARCH











OMICSLOGIC BIOINFORMATICS TRAINING | Genomics

- Session 1 - Course Overview (April 26, 2021) 7 p.m. IST - 8:30 p.m. IST
- Session 2 - Bioinformatics in R and Python (April 28, 2021) 7 p.m. IST - 8:30 p.m. IST
- Session 3 - NGS history & applications (April 30, 2021) 7 p.m. IST - 8:30 p.m. IST
- Session 4 - Introduction to Genomics (May 03, 2021) 7 p.m. IST - 8:30 p.m. IST
- Session 5 - Genomics 1: Cancer (May 07, 2021) 7 p.m. IST - 8:30 p.m. IST
- Session 6 - Introduction to Genomics Projects (May 10, 2021) 7 p.m. IST - 8:30 p.m. IST
- Session 7 - Genomic Sequence Analysis (May 12, 2021) 7 p.m. IST - 8:30 p.m. IST
- Session 8 - Mutations and Variant analysis (May 14, 2021) 7 p.m. IST - 8:30 p.m. IST
- Session 9 - Sequence, structure and function (May 17, 2021) 7 p.m. IST - 8:30 p.m. IST

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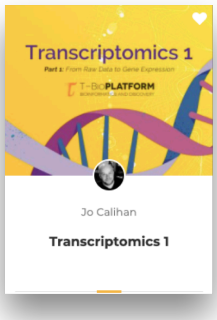
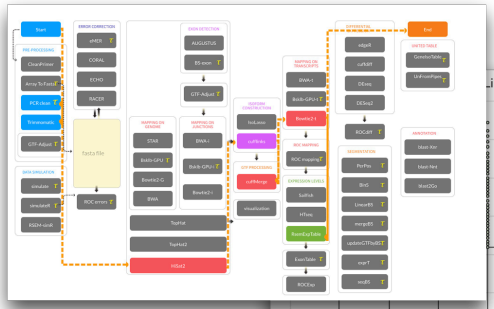
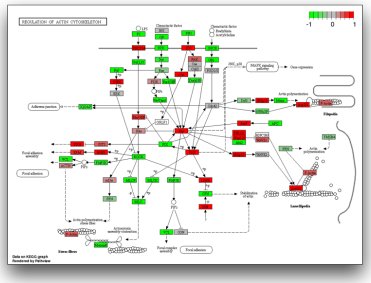
Transcriptomics for **Biomedical Drug Discovery**

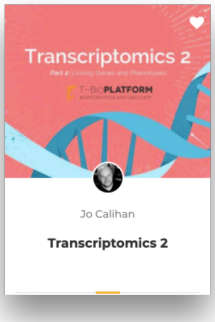
RNA-SEQ NGS DATA ANALYSIS

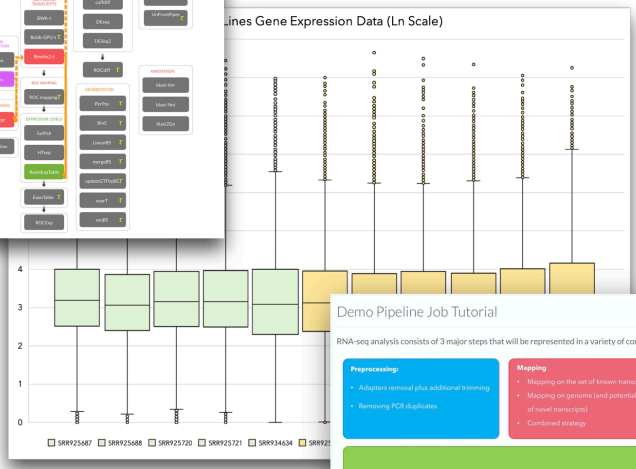


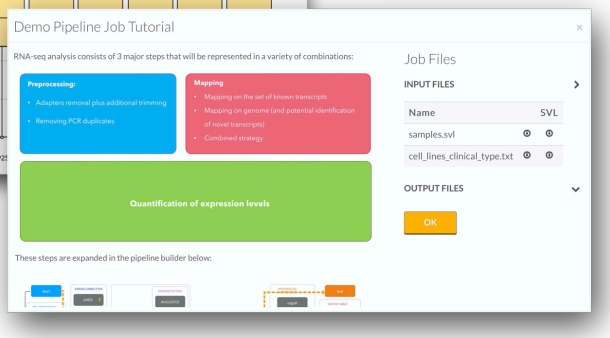




EXPLORATORY DATA ANALYSIS







AI GUIDED USER FRIENDLY
INTUITIVE INTERFACE

OMICSLOGIC
BIOINFORMATICS TRAINING

Transcriptomics

- Session 1 - Intro to Transcriptomics (May 19, 2021) 7 p.m. IST - 8:30 p.m. IST
- Session 2 - Processing Transcriptomics Data (May 21, 2021) 7 p.m. IST - 8:30 p.m. IST
- Session 3 - Precision Med. Projects (May 24, 2021) 7 p.m. IST - 8:30 p.m. IST
- Session 4 - Loading a dataset (May 26, 2021) 7 p.m. IST - 8:30 p.m. IST
- Session 5 - Normalization and Preparation for Analysis (May 28, 2021) 7 p.m. IST - 8:30 p.m. IST
- Session 6 - Data Visualization in R and Python (May 31, 2021) 7 p.m. IST - 8:30 p.m. IST
- Session 7 - Exploratory Analysis in R and Python (June 02, 2021) 7 p.m. IST - 8:30 p.m. IST
- Session 8 - Differential gene expression(June 04, 2021) 7 p.m. IST - 8:30 p.m. IST
- Session 9 - Regression Analysis (June 07, 2021) 7 p.m. IST - 8:30 p.m. IST
- Session 10 - Biological Interpretation (June 09, 2021) 7 p.m. IST - 8:30 p.m. IST

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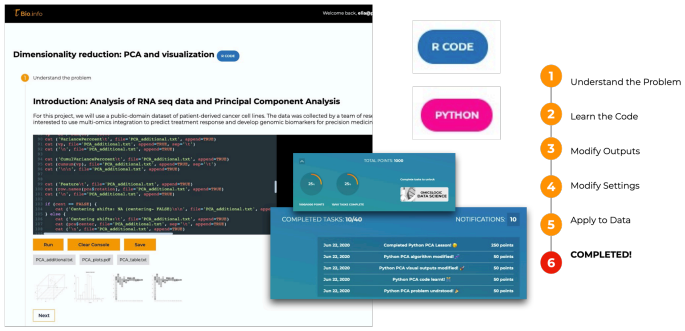
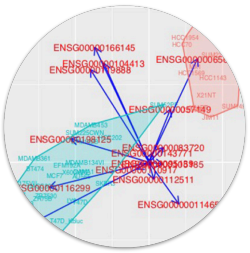
Data Science for Biomedical Drug Discovery

FULL SYLLABUS & SCHEDULE

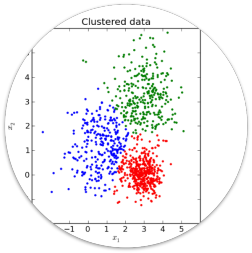
DATA SCIENCE: Scripting in R and Python for Statistics and ML

- Loading Input Data, Calling Libraries and Creating Data Objects
- Preparing Vectors, Lists, Matrices and Data Frames for Analysis
- Statistical Tests and Exploratory Analysis of Large Datasets
- Supervised and Unsupervised Machine Learning Methods
- Popular Data Visualization Methods in R and Python





Try BIG DATA analysis tools for large-scale project data and try machine learning



Learn about the important link between data and biology: master biological interpretation

OMICSLOGIC BIOINFORMATICS TRAINING | Machine Learning

- Session 1 - Intro to Data Science (June 14, 2021) 7 p.m. IST - 8:30 p.m. IST
- Session 2 - Machine Learning Algorithms (June 16, 2021) 7 p.m. IST - 8:30 p.m. IST
- Session 3 - Application of Data Science (June 18, 2021) 7 p.m. IST - 8:30 p.m. IST
- Session 4 - Intro to ML for NGS data (June 21, 2021) 7 p.m. IST - 8:30 p.m. IST
- Session 5 - ML: Data Mining of OMICS (June 23, 2021) 7 p.m. IST - 8:30 p.m. IST
- Session 6 - Supervised ML: Classification using gene expression signatures (June 25, 2021) 7 p.m. IST - 8:30 p.m. IST
- Session 7 - Independent Project Design (June 28, 2021) 7 p.m. IST - 8:30 p.m. IST
- Session 8 - Dimensionality Reduction: PCA in R and Python (June 30, 2021) 7 p.m. IST - 8:30 p.m. IST
- Session 9 - Clustering in R and Python (July 02, 2021) 7 p.m. IST - 8:30 p.m. IST
- Session 10 - Classification In R and Python (July 05, 2021) 7 p.m. IST - 8:30 p.m. IST
- Session 11 - Model accuracy and validation (July 07, 2021) 7 p.m. IST - 8:30 p.m. IST
- Session 12 - ML in production (July 09 2021) 7 p.m. IST - 8:30 p.m. IST
- Session 13 - Biomedical data Science Project (July 12 2021) 7 p.m. IST - 8:30 p.m. IST

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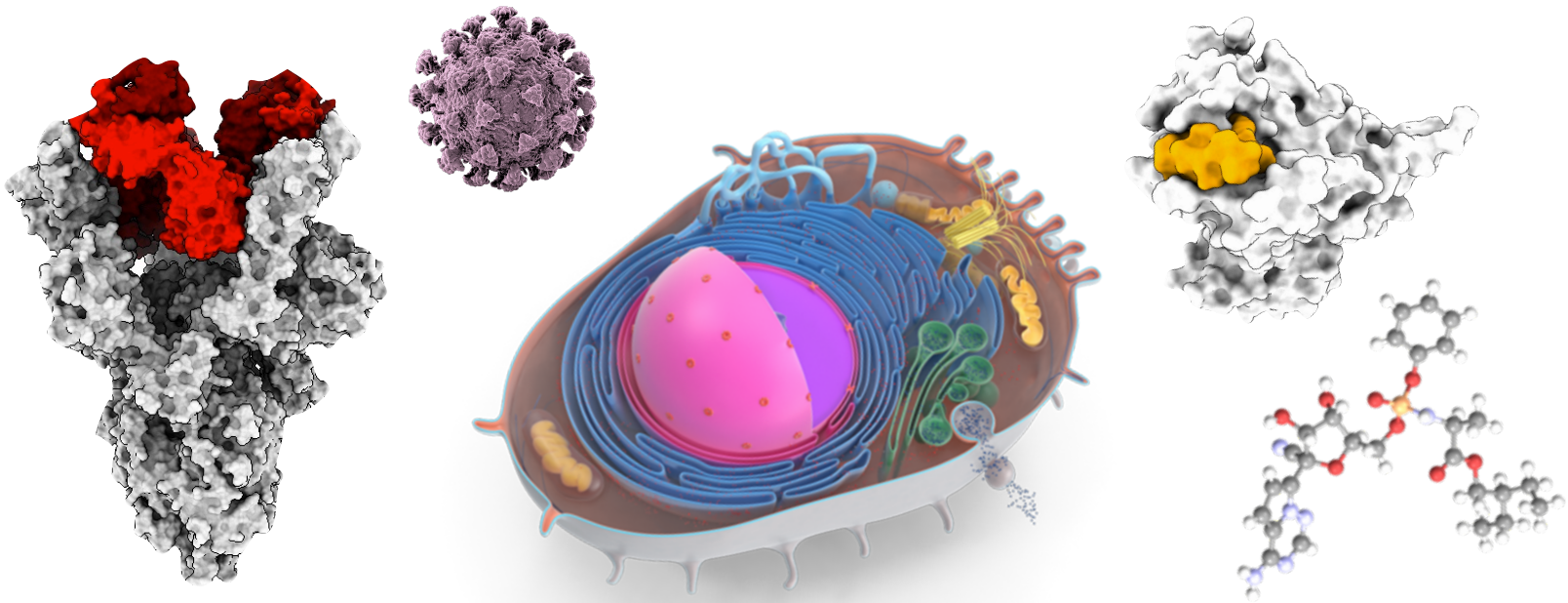
Cheminformatics for Biomedical Drug Discovery

Molecular BIOMEDICAL Data

Industry driven research oriented data science, Bioinformatics and Structural Biology



3D Structures | QSAR | Docking | MD | ML

OMICSLOGIC BIOINFORMATICS TRAINING | Chemoinformatics

- Session 1 - Introduction to Chemoinformatics (June 15, 2021) 7 p.m. IST - 8:30 p.m. IST
- Session 2 - AI in Molecular Drug Discovery (June 17, 2021) 7 p.m. IST - 8:30 p.m. IST
- Session 3 - Target Identification (June 22, 2021) 7 p.m. IST - 8:30 p.m. IST
- Session 4 - Chemical & Protein Databases (June 24, 2021) 7 p.m. IST - 8:30 p.m. IST
- Session 5 - Practical experience in Docking (June 29, 2021) 7 p.m. IST - 8:30 p.m. IST
- Session 6 - Virtual screening (July 01, 2021) 7 p.m. IST - 8:30 p.m. IST
- Session 7 - Advanced Chemoinformatics (July 06, 2021) 7 p.m. IST - 8:30 p.m. IST
- Session 8 - QSAR modelling and chemical databases (July 08, 2021) 7 p.m. IST - 8:30 p.m. IST
- Session 9 - Practical sessions on ChemSuite/autodock (July 13, 2021) 7 p.m. IST - 8:30 p.m. IST
- Session 10 - Data Science & AI in Clinical trials (July 14, 2021) 7 p.m. IST - 8:30 p.m. IST
- Session 11 - Examples of successful and failed drug development (July 16, 2021) 7 p.m. IST - 8:30 p.m. IST
- Session 12 - Molecular Modeling and Drug Design (July 19 2021) 7 p.m. IST - 8:30 p.m. IST

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Summer Biomedical Data Science & Discovery Program

Elia Brodsky,
Co-founder and CEO
Pine Biotech
Multi-omics Research and Bioinformatics Industry Expertise

Elia Brodsky has a background in bioinformatics, data science, project management, and commercial product development. Currently serves as the CEO of Pine Biotech, a company that develops and commercializes data analysis software solutions for life sciences. Since 2014, providing commercial and research support using the big data T-BioInfo multi-omics integration platform. Mr. Brodsky has facilitated and managed collaborations with researchers at Stanford, **UCSF, Louisiana State University, Tulane, and other academic and pharma R&D teams**. Elia Brodsky will be overseeing the project and managing the development of the prototype, preparation of the relevant data projects, and implementation of the system for the needs of students and teachers that the project is designed for.

Dr. Mohit Mazumder,
Partnerships & Research
Ph.D. in Computational Biology
Machine Learning Expert

Dr. Mohit Mazumder has over 12 years of research & industry experience. He completed a **Masters in Bioinformatics** from Jamia Millia Islamia and a **Ph.D. in computational biology & chemistry** from Jawaharlal Nehru University (JNU). He is an expert in machine learning in application to biomedical & chemical data. His core expertise is in Structural biology, Computational modeling of biological systems, and protein dynamics using long-range molecular dynamics simulation. Dr. Mazumder is a co-author in 30 international peer-reviewed research articles, 3 Book chapters, and numerous international conferences. He has been instrumental in developing Bioinformatics facilities at the School of Life Science, JNU, and is a recipient of multiple awards, including the Indo-Shastri award (Govt of India), Nvidia GPU award, Fujitsu, and others. He has 5 years of teaching experience working as a TA in JNU teaching Bioinformatics to M.Sc. & Ph.D. students. He is currently heading the Global Business Development for Pine Biotech, USA, and the Omicslogic programs and contributing to companies marketing & sales by devising sales and planning strategies and developing Scientific and media content.

Dr. Harpreet Kaur,
Bioinformatics Trainer
Ph.D. in Bioinformatics
Multi-Omics Expert

Harpreet Kaur has done her Ph.D. (Thesis Submitted) in Bioinformatics from the BioinformaticsCentre, CSIR-Institute of Microbial Technology, Chandigarh, India, and JNU, New Delhi, India. Her Doctoral Research is focused on the Domain of Cancer Genomics; specifically, “Computer-aided the identification of genetic biomarkers for predicting liver cancer and its prognosis”. She has nearly 7 years of Research Experience and 1 year of teaching experience. She has received her Master’s Degree in Molecular Biology & Biochemistry from the G.N.D.U. Amritsar, Punjab, India. Her core field of research is Cancer Genomics and Machine learning. She has expertise in the application of statistical, Machine learning techniques on Biomedical data, and the development of Prediction tools and Databases. Her current research interests are in the areas of Artificial Intelligence, Machine Learning, Cancer Genomics, Biomarker Discovery, Database development on different aspects of human health.
Harpreet has published 13 Research Articles in peer-reviewed International Journals, 2 Research. Abstracts in International Journals and presented some of her Research papers at International Conferences. She has 200+ citations on Google Scholar. She has received the EASL-Young Investigator full Bursary Award from the European Association for the Study of the Liver (EASL) to present her Research in The Digital-International Liver Congress 2020. She has received the “INSc-Young Researcher/Achiever Award-2020” from the Institute of Scholars (InSc), Bengaluru, India. She is currently a member of various scientific societies like EASL, BioClues, APBioNet, InSc. She has received CSIR-Fellowship from the Council of Scientific and Industrial Research, India for her Doctoral Research.

Dr. Uday Saxena,
Co-founder & ReaGene
BioSciences & Professor
Ph.D. in Biochemistry

Dr. Uday Saxena is currently a Co-Founder of start-up Biotech Company, ReaGene Innovations. He has held Executive and Leadership positions at Parke-Davis in Ann Arbor, AtheroGenics in Atlanta (VP Drug Discovery), Dr. Reddy’s Laboratories (Chief Scientific Officer, US and India) and Kareus Therapeutics (CEO). He has a PhD in Biochemistry from Memorial University and Post-doctoral training at Columbia University. He was associated with the Team at Parke-Davis/Pfizer that discovered Lipitor/atorvastatin, the largest selling (peak sales of $17 billion dollars) drug in the pharma business. He led teams that brought several drug candidates from an idea into the clinic. Dr. Saxena’s current research interests are translational product discovery. His passion is to continue being an entrepreneur having initiated biotech companies in the US and India. He is one of the few executives who combine excellence in science as well as the business side of pharma including being part of a start-up which was successfully listed on wall street (NASDAQ). He serves as a review member/Mentor to several DBT panels as well as IKP and CSIR programs. He is a well-known speaker in International and National platforms and recipient of academic and Industry honors. He has published more than 60 papers and been granted/filed 28 patents.

Summer Biomedical Data Science & Discovery Program

Dr. M. Rami Reddy,
Senior Research Scientist,
Agouron Pharmaceuticals (Pfizer)
Ph.D. in Computational Chemistry

Dr. Reddy received his Ph.D. in Computational Chemistry from the Central University of Hyderabad and held postdoctoral fellowships (4 years) at University of Texas at Austin and UNC at Chapel Hill; where he studied properties of atoms and free energies of small- drug molecules as well as proteins which are related to discovering drugs for AIDS, Cancer and Diabetes using Bioinformatics, Cheminformatics and Computer aided drug design approaches such as Monte Carlo, molecular dynamics simulations and free energy perturbation methods. From 1990 – 1993, he was a Scientist/Senior Research Scientist at Agouron Pharmaceuticals (now Pfizer), San Diego. Dr. Reddy's Computer-Aided Drug Design (CADD) efforts using Bioinformatics, Cheminformatics and Computational Chemistry methods at Pfizer led to several clinical candidates for cancer and one FDA approved drug for AIDS (Viracept). From 1993-2009, he served at Gensia Pharmaceuticals, Inc. (now Metabasis Therapeutics, Inc.) in various capacities and finally as an Executive Director for novel drug discovery, working in the research areas of cardiovascular, pain, cancer, hyperlipidemia, and diabetes using rational drug discovery approaches, and his efforts led to several clinical and pre-clinical candidates which are being developed for Cancer, Pain, Type-2 Diabetes, AIDS & Hyperlipidemia. Dr. Reddy's current research interests are in developing highly accurate novel CADD methods as well as use of Bioinformatics, Cheminformatics, Structural Biology and novel CADD methods for the discovery of novel drugs by saving significant amount of time and money during drug discovery process for critical human diseases such as diabetes, AIDS and cancer. Dr. M. Rami Reddy is an author of over 100 scientific publications; many of them are in the prestigious Journal of American Chemical Society and Proceeding of National Academy of Sciences, USA. He holds ten patents and is an author of two text books on rational drug design. He is also an author of several novel CADD programs. Dr Reddy has extensively lectured all over the world in the field. He is an Executive Editor of Current Pharmaceutical Design, and also the Section Editor for Computer Aided Drug Design. He has organized seven symposiums on computational aspects of Rational Drug Design and Structure Based Drug Design at various American Chemical society National meetings. Dr. Reddy has a wide spectrum of knowledge in the field of drug discovery, and has made significant contributions in his 25-year research career. He is one of the few experts in the world in developing novel computational methods and their applications for drug discovery. He was responsible for successfully developing a highly accurate Computer-Aided Drug Design (CADD) Technology intended to speed-up drug discovery process. He is currently co-founder and chairman of RR Labs Inc/Rational Labs Inc., San Diego, CA, USA and Rational Labs (P) Ltd. Hyderabad. Dry Reddy is the recipient of TANA (USA) award in 2009 and ATA (USA) award in 2016 for excellence in Science and also received a major funding from the Department of Science and Technology to further develop his Novel CADD Technology for discovering novel drugs for critical human diseases by reducing time and costs during drug discovery process.

Dr. Chakk Ramesha,
COO Medhus Bio & Adj. Faculty,
University of California Santa Cruz
Expert: Drug Discovery & Pharmacology

Dr. Chakk Ramesha has a background in drug discovery, high throughput screening, biochemistry and pharmacology. For 25 years at Syntex and Roche, Dr. Ramesha led a laboratory that conducted research focused on the identification and characterization of drug candidates for multiple disease targets. Following the closure of the Roche campus in Palo Alto, California in 2010, Dr. Ramesha started Medhus Bio, LLC., a life sciences research company in Mountain View, California. The focus of Medhus Bio is to develop value-adding technologies and reagents for drug discovery and diagnostic research, in addition to drug discovery for rare diseases. Dr. Ramesha also holds an adjunct faculty position with the University of California, Santa Cruz, where he teaches Drug Discovery Principles. He obtained his Ph.D. in biochemistry from the Indian Institute of Science, Bangalore, India, and his M.S. from the University of Mysore, India.

Dr. Puneet Kacker,
Drug Discovery Scientist,
Industry Analytics Manager, Accenture
Ph.D. in Drug Discovery

Puneet Kacker is a Drug Discovery Scientist currently working as Functional and Industry Analytics Manager at Accenture, India. He comes with the experience of more than a decade in the field of Cheminformatics and Computer-aided Drug Design. Before joining Accenture, he was associated with Innoplexus Consulting, Pune and GVK Bio/Excelra Knowledge Solutions in Hyderabad. He has been involved in various scientific and techno commercial projects across various business units in the Pharmaceutical industry. He has been invited to several scientific workshops and has authored multiple peer-reviewed publications. Puneet has received his PhD in Drug Discovery from Istituto Italiano di Tecnologia (Italian Institute of Technology), Genova Italy.

Summer Biomedical Data Science & Discovery Program

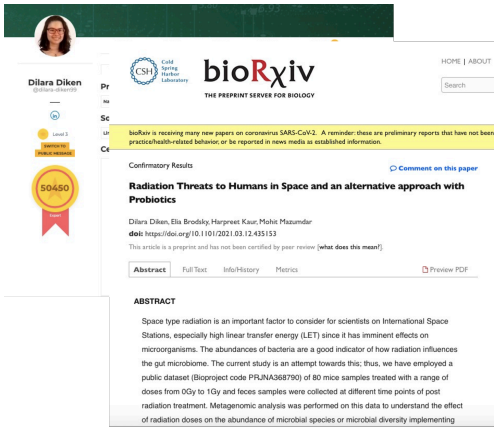
Dr. Ajith V. Kamath,
Advisor, Pandora technologies,
Expert: Pre-Clinical Drug Discovery

Ajith Kamath has 25+ years of preclinical drug discovery experience, primarily at Pfizer Worldwide R&D, USA. Ajith obtained his Ph.D. in Biochemistry from the Indian Institute of Science and carried out postdoctoral studies at the Univ. of Texas - Austin and Stanford University. Ajith joined Pfizer's R&D center in Groton, CT and Cambridge, MA and worked there for 13+ years as an Associate Director. After 20 years in the US, he returned to India and served as Sr. V.P. at Jubilant Biosys for four years. Ajith rejoined Pfizer as the Head of External R&D Innovation, Worldwide R&D, Pfizer, India and successfully initiated collaborations with Indian pharma companies and academia. His team contributed to two drugs – one in the market and one is in the clinical trial. Ajith also worked at Mitra Biotech as Executive Director to lead their External Research efforts. Currently, Ajith is an Advisor to two start-up companies (i) Pandorum Technologies, focused on corneal blindness, lung and liver diseases and (ii) Mestastop Solutions working on cancer metastasis. He is a member of some of the DBT-BIRAC committees, including BIG, BioNEST and National Biopharma Mission. Dr. Chakk Ramesha has a background in drug discovery, high throughput screening, biochemistry and pharmacology. For 25 years at Syntex and Roche, Dr. Ramesha led a laboratory that conducted research focused on the identification and characterization of drug candidates for multiple disease targets. Following the closure of the Roche campus in Palo Alto, California in 2010, Dr. Ramesha started Medhus Bio, LLC., a life sciences research company in Mountain View, California. The focus of Medhus Bio is to develop value-adding technologies and reagents for drug discovery and diagnostic research, in addition to drug discovery for rare diseases. Dr. Ramesha also holds an adjunct faculty position with the University of California, Santa Cruz, where he teaches Drug Discovery Principles. He obtained his Ph.D. in biochemistry from the Indian Institute of Science, Bangalore, India, and his M.S. from the University of Mysore, India.

Dr. Sujit Tangadpalliwar,
Founder PharmaToppers & Co-founder Octame Pvt Ltd
Ph.D. in Cheminformatics & Drug designing
AI in Drug Discovery

Dr. Sujit Tangadpalliwar is a founder of PharmaToppers and Co-Founder of IT Company, Octame Pvt. Ltd. Currently, he is working as Lead Data Scientist on computer vision projects at Aira Matrix (Subsidiary of Sun Pharma). He served in multiple positions in many companies before like Persistent systems, Excelra, Hexaware. and played a crucial role in applying artificial intelligence in the drug discovery field. He obtained his PhD in Pharmacoinformatics from National Institute of Pharmaceutical Education and Research (NIPER), Mohali. He published several research papers in peer review journals and developed industry usable softwares in the field of Chemoinformatics and Bioinformatics in his industry and academic tenure. He has been using his programming skills in solving biological and chemical problems for a long time.

PREVIOUS OMICSLOGIC PROGRAM PARTICIPANTS



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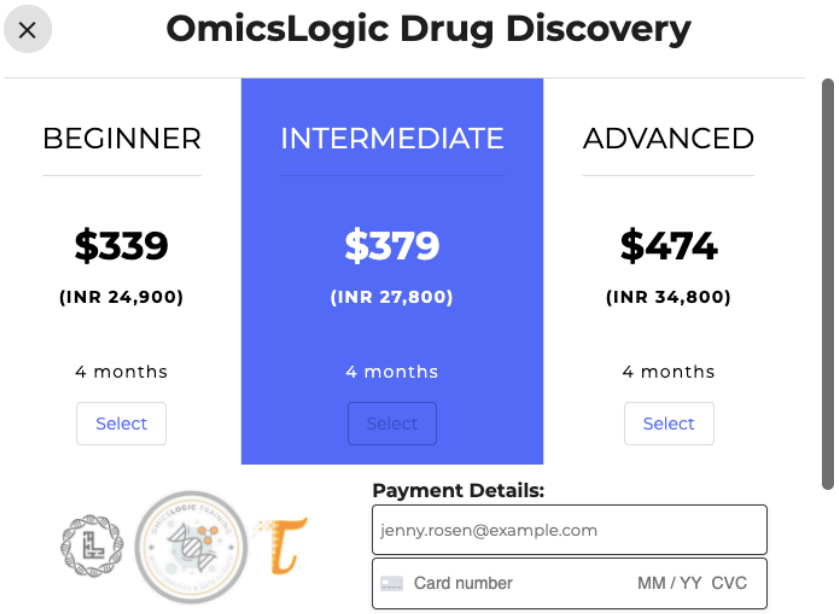

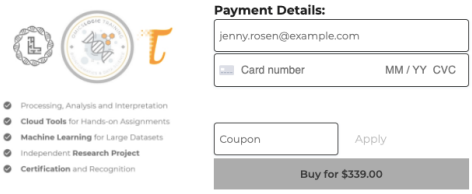

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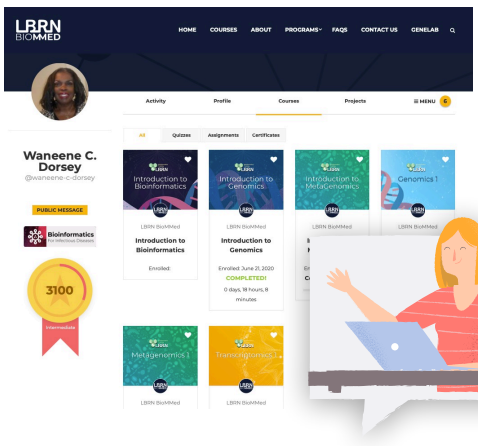

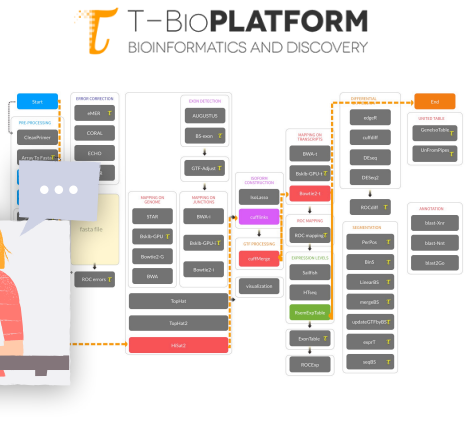

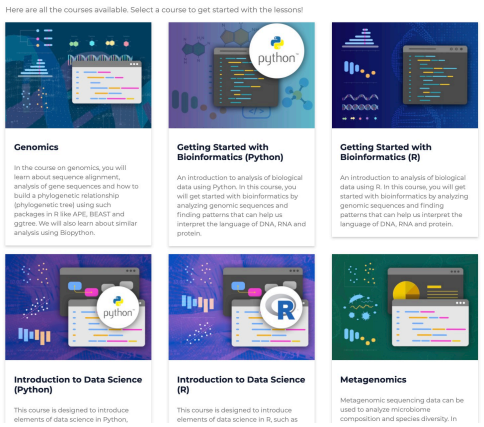

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