

# Ascend

*Executive Graduate program  
designed to prepare life  
science professionals for  
high-impact careers*



**VCR PARK**<sup>®</sup>  
Harmonizing Innovation

**FABA**  
ACADEMY  
Skill. Upskill. Reskill





**VCR PARK**  
Harmonizing Innovation



Skill. Upskill. Reskill

# ***Ascend***

***Executive Graduate program  
designed to prepare lifescience  
professionals for high-impact  
careers***

***Program Adviser:***

***Dr. Ravi C Nayar,  
MS (Chandigarh), FRCS (Glasgow),  
DCCO (Paris), DLO (London)***

***Program Manager:***

***Mr. Sravan Kumar P, MSc  
Senior R&D and Training  
Manager***



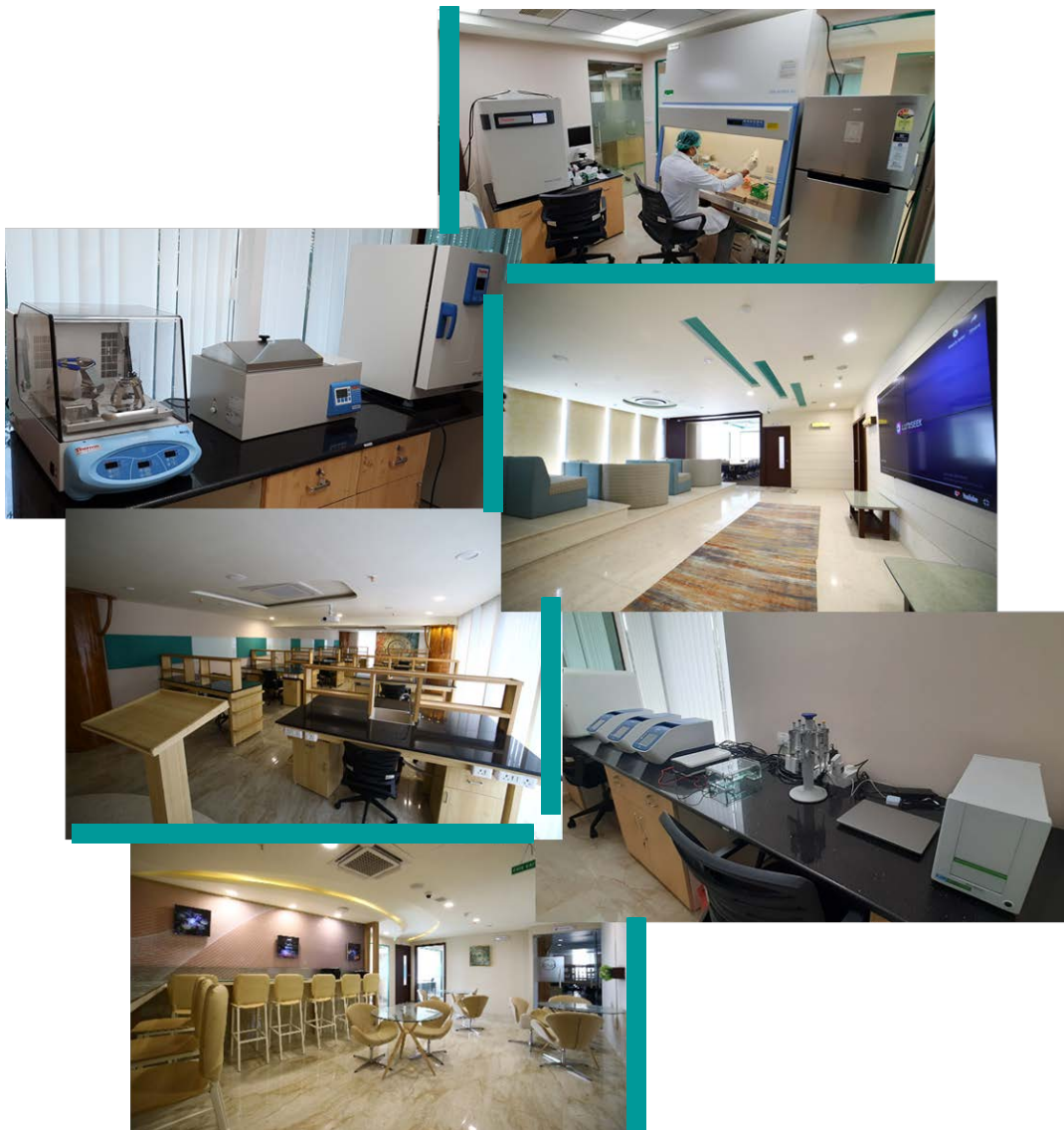
## Table of contents

Overview	5
Training Locations	6
Course Details	7
Tracks	7
About the program	7
Eligibility	8
Curriculum Modules	8
Learning methods & activities	9
How to register	10
Schedule	11
Electives Schedule	12
Project Management	14
Drug Discovery and Development	14
How to conduct clinical research and trials	15
Novel Diagnostics Development	16
Grants and Scientific Writing	16
Startup bootcamp in Lifesciences	17
IP generation, protection and management	17
Drug Regulatory	17
Artificial Intelligence and Machine Learning	18
Whole exome and RNA sequencing	19
Single Cell Whole RNA Seq and Analysis	19
Bioinformatics analysis for exome, RNA-Seq and Microbiome	20
NMR Crystallography SPR	21
PCR, RT-PCR and Sanger Sequencing	22
Tissue Culture & Flow Cytometry	22
IHC & Fish	23
Primary Cell Culture and PDX model Development	23

## Why Ascend ?

- Placement assistance for best performers with 2.4 LPA to 6 LPA salary package
- Become Project Coordinator, Bioinformatician, NGS Associate, Pathology Associate, Proteomics Associate, Associate Scientist and many more
- The FIRST most advanced training lab in India
- Certified by FABA, IIT Roorkee
- Taught by the Founder's, CEO's, Dean's in Biotech

*Cross the barrier and be a **champion** today!!*



## Overview

***A unique program to prepare you for leadership roles in global organizations***

### ▶ **LEARN FROM**

Life science leaders

**12**

**5**

**15**

**9**

Entrepreneurs

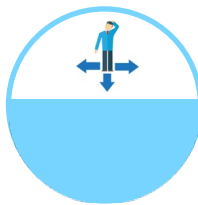
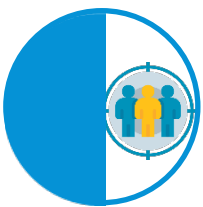
Distinguished  
academicians

Universities &  
Organizations

Become a high-caliber professional in the area of life sciences

Create your own growth path by gaining industry skills in Life sciences taught by industry leaders

Join a program that uniquely prepares you for leadership roles in global organizations



Learn from professionals and leaders across all industries sectors of life sciences

Learn cutting-edge technology and practical applications of knowledge, insights and methodology

## Training Locations

### IIT Roorkee, Roorkee, Uttarakhand



- ❑ Indian Institute of Technology Roorkee is a premier public technical and research university with 22 academic departments covering Engineering, Applied Sciences, Humanities & Social Sciences and Management programs with a strong emphasis on scientific and technological education and research.
- ❑ IIT Roorkee has a strong entrepreneurial culture, with many alumni who have moved on to found technological and social ventures in India and abroad and have played an important role in the development of India.
- ❑ IIT Roorkee offers academic programmes in Engineering, Technology, Applied Sciences, and Management. It runs eleven undergraduate (UG), one integrated dual degree, sixty-one postgraduate (PG) and several doctoral programmes

### Vyas Cancer Research Pvt. Ltd., Visakhapatnam, Andhra Pradesh



- ❑ Integrated 3000 sq.ft lab for translational oncology research
- ❑ State-of-the-art molecular pathology laboratory equipment with hands on training facilities
- ❑ Ingenious faculty from leading cancer care centers across the globe.



## Course Details

- **Duration:** 32 weeks (6months online + 6months Hands-on)
- Track 1 – Interdisciplinary management
- Track 2 - Innovation and technology
- Track 3 – Genomics and bioinformatics
- Track 4 – Advanced Molecular Biology

## Tracks

*Mandatory course: Project Management*

*(Batch 1: Every alternate Sunday from May 16<sup>th</sup>, Batch 2: Every alternate Sunday from May 23<sup>rd</sup>)  
(13:30 pm to 16:00 pm)*

Tracks	Suggested Electives
<b>Track-1</b> IM – Interdisciplinary management (Online)	<ul style="list-style-type: none"> <li>• Drug discovery and development</li> <li>• Novel diagnostics and development</li> <li>• How to conduct clinical research and clinical trials</li> <li>• Grants and Scientific Writing</li> </ul>
<b>Track-2</b> I&T – Innovation and Technology (Online)	<ul style="list-style-type: none"> <li>• Start up bootcamp</li> <li>• IP generation, protection and management</li> <li>• Regulatory</li> <li>• Artificial Intelligence and Machine Learning</li> </ul>
<b>Track-3</b> G&B – Genomics and Bioinformatics Hands-on (Vizag)	<ul style="list-style-type: none"> <li>• Whole exome and RNA sequencing (Hands-on)</li> <li>• Single cell whole RNA-seq (Demo)</li> <li>• Bioinformatics-Exome, RNAseq, and microbiome</li> <li>• NMR Crystallography SPR</li> </ul>
<b>Track-4</b> AMB – Advanced Molecular Biology Hands-on (IIT-Rourkee)	<ul style="list-style-type: none"> <li>• PCR, RT-PCR, Sanger sequencing</li> <li>• Tissue culture and Flow cytometry (FACS)</li> <li>• Immunohistochemistry (IHC) and Fluorescence in situ hybridization (FISH)</li> <li>• Primary Cell Culture and PDX model Development</li> </ul>

## About the program

Each course is delivered by highly accomplished faculty members as a combination of



Hands-on lab work



Group Discussions



Case studies and Exercises

## ▶ You will



▶ **Interact** with Scientists, Project managers & Entrepreneurs working on various solutions to improve cancer care



▶ **Discuss** basic and advanced molecular biology techniques and maintain critical skills

## ▶ Become a certified professional



Clinical researcher



Entrepreneur



Quality professional



Regulatory Consultant



IP Manager

## Eligibility

- B. Tech, B.Pharmacy, MSc
- BSc Honours in life science
- Junior research fellow or Senior research fellow
- B.Sc plus 3-4 years of industry experience
- Integrated MSc
- Phd in Lifesciences

## Curriculum Modules

All the participants will be able to:

- Apply their knowledge to collaborative projects in life science
- Manage multiple projects in parallel
- Effectively communicate with all stakeholders
- Help stakeholders make informed choices on a continuous basis to maximize positive outcomes
- Communicate effectively with a variety of stakeholders

## Learning methods & activities

Course material, divided into distinct components, will be delivered by experts in each knowledge area.



Knowledge of basic principles of each discipline/ topic in classroom setting



Complete individual and group exercises



Review and discuss case studies in certain areas of life sciences



Present your review of the material at the end of the course

## Fee Structure

Any 4 electives = ~~Rs 1,50,000~~ = Rs 75,000\*

Any 2 electives = ~~Rs 75,000~~ = Rs 50,000\*

\*inclusive of all taxes

Each additional elective will cost Rs 25,000

## How to register/apply

1

**Review the course content/prospectus**

2

**Start the registration process by using the link provided in the email**

3

**Select 5 courses out of 17 (Project management is mandatory)**

4

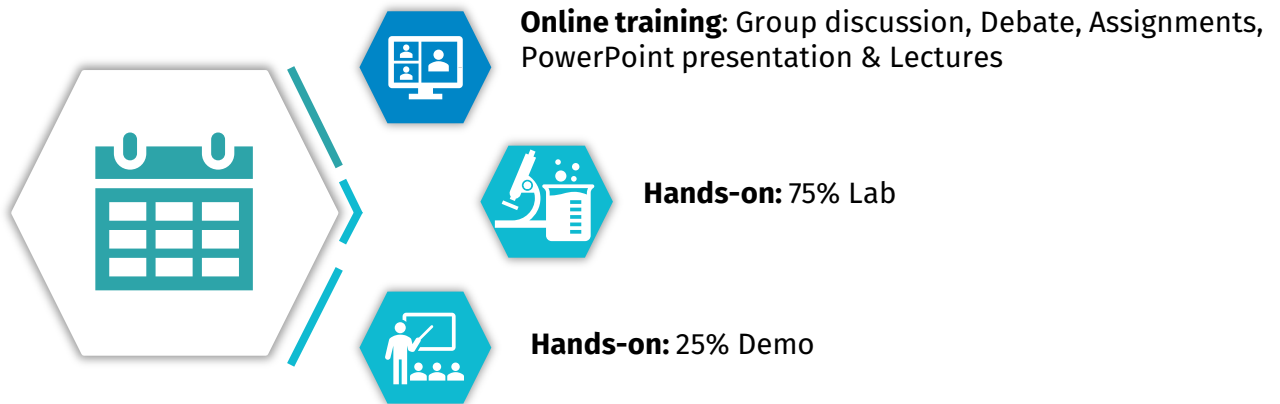
**Pay the fees via i) Bank a/c direct transfer (Online, DD, Cheque) ii) Credit card/debit card**

5

**Successfully registered**

## Schedule

Ascend training schedule is divided into online and Hands-on training which include the following:



## Electives Schedule

Choose 4 or more courses belonging to the same or different tracks.

Abbreviations: IM – Interdisciplinary Management, G&B – Genomics and Bioinformatics, AMB – Advanced Molecular Biology, I&T – Innovation and Technology

*Mandatory course: Project Management*

*(Batch 1: Every alternate Sunday from May 16<sup>th</sup>,*

*Batch 2: Every alternate Sunday from May 23<sup>rd</sup>) (13:30 pm to 16:00 pm)*

Track	Courses	Date (Time)	Instructor
<b>Track- 1 (IM) (Online)</b>	Drug discovery and development	Batch 1: Every alternate Saturday from May 15th Batch 2: Every alternate Saturday from May 22nd	Mr. Sreevatsa Natarajan Dr. Santhosh Dixit
	Novel diagnostics and development	Batch 1: Every alternate Sunday from May 16th Batch 2: Every alternate Sunday from May 23rd	Dr. Payal Keswarpu
	How to conduct clinical research and clinical trials	Batch 1: Every alternate Saturday from May 15th Batch 2: Every alternate Saturday from May 22nd	Dr. D. Raghunadha Rao Dr. Ravi Nayar
	Grants and Scientific Writing	Batch 1: Every alternate Saturday from May 15th Batch 2: Every alternate Saturday from May 22nd	Dr. Raamesh
<b>Track-2 (I&amp;T) (Online)</b>	Start up bootcamp	Batch 1: Every alternate Friday from May 14th Batch 2: Every alternate Friday from May 21st	Mr. Vishal Gandhi
	IP generation, protection and management	Batch 1: Every alternate Saturday from May 14th Batch 2: Every alternate Saturday from May 21st	Mrs. Himabindu Atti
	Drug Regulatory	Batch 1: Every alternate Friday from May 14th Batch 2: Every alternate Friday from May 21st (10:00 am to 12:30 pm)	Dr. Himabindu Gaddipati Mr. M. H. Keerthi Chandra
	Artificial Intelligence and Machine Learning	Batch 1: Every alternate Sunday from May 16th Batch 2: Every alternate Sunday from May 23rd (10:00 am to 12:30 pm)	Dr. Sukant Khurana Dr. Arvind Rao

Track	Courses	Date (Time)	Instructor
<b>Track-3 (G&amp;B) (Hands-on Vizag)</b>	Whole exome and RNA sequencing	Batch 1: Every alternate Friday from October 29th Batch 2: Every alternate Friday from November 5th (10.00am to 5pm)	Dr. Pardhasaradhi Godithala
	Single cell whole RNA-seq (Demo)	Batch 1: Every alternate Friday from November 12th Batch 2: Every alternate Friday from November 19th (10.00am to 5pm)	Dr. Pardhasaradhi Godithala Dr. Vamsi Veeramachineni
	Bioinformatics-Exome, RNAseq, and microbiome	Batch 1: Every alternate Friday from November 26th Batch 2: Every alternate Friday from December 3rd (10.00am to 5pm)	Dr. Vamsi Veeramachineni Dr. Aditya Phatak
	PCR, RT-PCR, Sanger sequencing	Batch 1: Every alternate Friday from December 10th Batch 2: Every alternate Friday from December 17th (10.00am to 5pm)	Mr. P. Sravan Kumar
<b>Track-4 (AMB) (Hands-on IIT-Rourkee)</b>	NMR/ X-ray Crystallography/ Molecular Dynamics	Batch 1: Every alternate Friday from December 24th Batch 2: Every alternate Friday from December 31st (10.00am to 5pm)	Dr. Pravindra Kumar, Dr. Krishna Poluri, Dr. Saugata Hazra
	Primary cell culture and PDX models	Batch 1: Every alternate Friday from January 7th Batch 2: Every alternate Friday from January 14th (10.00am to 5pm)	Dr. Jugnu Jain Dr. Suresh Poosala
	Immunohistochemistry (IHC) and Fluorescence in situ hybridization (FISH)	Batch 1: Every alternate Friday from January 21st Batch 2: Every alternate Friday from January 28th (10.00am to 5pm)	Dr. Payal Keswarpu
	Tissue culture and flow cytometry	Batch 1: Every alternate Friday from February 4th Batch 2: Every alternate Friday from February 11th (10.00am to 5pm)	Mr. P. Sravan Kumar Dr. Balaji Bhyravbhatla

## Project Management

### Topics

- Communication and team building for Projects
- General principles of project management
- 5 phases of project lifecycle, Chartering, resource estimation
- Global Aspects of collaborative research
- General principles of project management in drug development & translational research
- Research Project Management, Organizational Change & Process Improvement

### Faculty



Mr. Sreevatsa Natarajan, MS  
Chief Business Advisor, VCR Park  
Visakhapatnam, AP

- >15 years of global R&D and business experience in the life sciences industry and has held leadership positions across various domains in companies such as Purdue Pharma, Vertex Pharma, Glenmark Pharma and Aurigene

## Drug Discovery & Development

### Topics

- In silico rational drug design and short gun approaches
- Target based drug design
- Development of cell-based drug design

### Faculty



Mr. Sreevatsa Natarajan, MS  
Chief Business Advisor, VCR Park  
Visakhapatnam, AP

- >15 years of global R&D and business experience in the life sciences industry and has held leadership positions across various domains in companies such as Purdue Pharma, Vertex Pharma, Glenmark Pharma and Aurigene





Dr. Santosh G. Dixit, PhD  
Senior Scientist, Prashanti  
Cancer Care Mission, Pune,  
MH

- Leads the design and conduct of multiple interdisciplinary projects in breast cancer with a translational focus at CTCR.

## How to conduct clinical research and clinical trials

### Topics

- Cancer clinical research process and approvals
- Clinical trials regulatory requirements and approvals
- Clinical trials auditing and current issues

### Faculty



Dr. D. Raghunadha Rao, MD  
Director,  
Homi Bhabha Cancer Hospital  
& Research Center,  
Visakhapatnam, AP

- > 20 years of experience in the field of medical oncology
- Conducted over 100 clinical trials in India



Dr. Ravi Nayar, MS, DNB, DLO, DCCF  
Dean, Academics,  
Healthcare global Enterprises  
(HCG),  
Bengaluru, KA

- President of the Bangalore Branch of the ENT association of India.
- Professor and HOD for Head and Neck Surgery at St. Johns Medical College, Bangalore & an Honorary Visiting Professor at PES engineering college

## Novel diagnostics and development

### Topics

- Diagnostic assay development and validation
- Molecular Diagnostics in Oncology
- Clinical Reasoning and diagnosis

### Faculty



Dr. Payal Keswarpu, MD  
Director Westchester  
KnowledgeWorks,  
Bangalore, KA

- 20 years of professional health science experience as a Physician, Scientist & also held numerous leadership positions
- Driven product innovations in healthcare while utilizing her clinical knowledge of pathology and oncology.

## Grants and Scientific Writing

### Topics

- Fundamentals of Writing Effective Grant and Fellowship Applications
- Components of an application: Crafting a title and writing an abstract
- Types of grants and selection criteria, Strategies for developing a proposal
- Advanced Topics in Grant Writing

### Faculty



Dr. Raamesh Gowri Raghavan,  
COO, Indian Operations and  
Global Marketing, Director of  
Indian Unit  
Ioncure Tech  
Mumbai, MH

- Scientist and advertising leader with 13yrs of experience in the field of branding and strategic management

## Start up bootcamp

### Topics

- Business Description & Motivations
- Competitive Landscape Analysis
- Operations & Management Plan
- Marketing & Advertising Strategies

### Faculty



Mr. Vishal Gandhi  
Managing Director,  
BIORx Venture Advisors,  
New Delhi, DL

- > 20 years of strong experience of deal making in terms of investments, M&A and Due Diligence process exclusively for Healthcare & Agri Sector
- Amongst the top 20 dedicated healthcare investment bankers in the country

## IP generation, protection and management

### Topics

- Role of Intellectual Property in Innovation and New Product Development
- Intellectual Property – Research Methodology
- Importance of IP in Biomedical Research

### Faculty



Mrs. Himabindu Atti, MS  
Co-founder,  
Novel Patent services,  
Visakhapatnam, AP

- >10 years of management experience in patent search services & In-depth expertise in IP laws across multiple geographies (US, Europe, India etc.)

## Drug Regulatory affairs

### Topics

- Regulatory affairs in drug Discovery and development
- Regulation of drug approval process in India, USA, and Europe
- Regulatory strategies in different phases of clinical trials

## Faculty



Dr. Himabindu Gaddipati, MD, EMTM  
Chairman & MD, VCR Park  
Visakhapatnam, AP

- 20yrs of experience in the field of oncology, Product development, regulatory, commercialisation and intellectual property management
- Co-chair for the Biocom oncology group, a network of more than 120 organizations



M. H. Keerthi Chandra, BE  
Principal Consultant,  
Startups @ SME

- 20yrs of experience in the field of oncology, Product development, regulatory, commercialisation and intellectual property management
- Co-chair for the Biocom oncology group, a network of more than 120 organizations

## Artificial Intelligence and Machine Learning

### Topics

- Data Science and AI/ML
- Data Acquisition, Pre-processing, Transformation and Visualization
- Statistical analysis, inferential statistics, and probability
- Regression analysis, Clustering, Neural networks, and Deep learning

### Faculty



Dr. Sukant Khurana, PhD  
President & Founder,  
Ioncurex  
New Delhi, DL

- 20 years of experience and a leader in areas of emerging technologies like neuroscience, drug-discovery, big data, visual art, and sustainable development



Dr. Arvind Rao, PhD  
Associate Professor, Department  
of Computational Medicine &  
Bioinformatics  
University of Michigan, MI, US

- Dr. Rao works at the intersection of genomics and image informatics, across biological scale (cells, tissue and organ).
- He is interested in developing multi-modal decision algorithms, methodological aspects of genomic analysis and image assessment.

## Whole exome and RNA sequencing

### Topics

- NGS Overview, Protocol, Methodology & Applications
- Sequencing (NGS) Methods & Sequencing Steps
- Data Analysis & Storage
- Hands on – Workshop, Lab orientation session & NGS Instrument demo
- Exome Sequencing, Cancer Exome Analysis
- RNA – Sequencing & Data Analysis Workflow
- Solid Tumor panels, Transcriptome panels

### Faculty



Mr. Pardhasaradhi Godithala, PhD  
Laboratory Director,  
Clevergene  
Bengaluru, KA

- Senior Executive in handling service projects
- 15 years of experience in the field of Sanger, Microarray and NGS involving all Illumina platforms and Ion PGM.

## Single cell whole RNA-seq (Demo)

### Topics

- Single Cell isolation and scRNA library preparation
  - Single cell isolation techniques & their advantages and limitations
  - Computational cell type identification techniques
  - Facets of scRNA-Seq applications
  - Single cell isolation techniques, (Practical demo)
  - Approaches to computational data analysis and challenges ScRNA-Seq analysis goals
  - Sc-RNA sequencing: Practical approach

### Faculty



Dr. Vamsi Veramachaneni, PhD  
Chief Scientific Officer,  
Strand Life Sciences  
Bengaluru, KA

- Guided the development of the NGS analysis & clinical genomics interpretation & reporting software platforms used in research & clinical labs
- Specialties include computational biology, bioinformatics, data mining, text-mining, pathway analysis, and genomics



Mr. Pardhasaradhi Godithala, PhD  
Laboratory Director,  
Clevergene,  
Bengaluru, KA

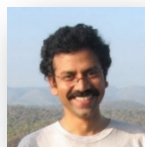
- Senior Executive in handling service projects
- 15 years of experience in the field of Sanger, Microarray and NGS involving all Illumina platforms and Ion PGM.

## Bioinformatics analysis for exome, RNA-Seq and Microbiome

### Topics

- Bioinformatics analysis of whole exome sequencing (Cancer informatics)
- Bioinformatics tools for whole exome sequencing
- Bioinformatics analysis of Microbiome and applications in Cancer

### Faculty



Dr. Vamsi Veramachaneni, PhD  
Chief Scientific Officer,  
Strand Life Sciences  
Bengaluru, KA

- Guided the development of the NGS analysis & clinical genomics interpretation & reporting software platforms used in research & clinical labs
- Specialties include computational biology, bioinformatics, data mining, text-mining, pathway analysis, and genomics



Dr. Aditya Phatak Mtech, ECBL  
India Center Head, PierianDx,  
Pune, MH

- 15 years of business, management and technology experience in life sciences, health care IT and software product development.
- Specialties include Bioinformatics, Life Sciences, Health IT, Sales and Business development, Product management

## NMR Crystallography SPR

### Topics

- Principle and Applications
- Setup, workflow, and sample processing
- Data analysis, interpretation, trouble shooting, and report format

### Faculty



Dr. Pravindra Kumar, PhD  
Professor  
Department of Biotechnology  
IIT Roorkee,  
Roorkee, UK

- >20 yrs of experience in Infectious disease and therapeutics, Plasticizers biodegradation, Crystallography and Bioinformatics, Use of structural biology to develop novel biocatalysts and therapeutics



Dr. Krishna Mohan Poluri, PhD  
Assistant Professor  
Department of Biotechnology  
IIT Roorkee,  
Roorkee, UK

- >12 yrs of experience in Structural Biology, Protein Engineering, Bio-molecular Interactions, Glycoimmunology and Structure based design of Therapeutics and Scaffolds, Bionanotechnology and Algal Biotechnology
- Won Young scientist awards from ISCA-2009, Innovative Young Biotechnologist Award by DBT-2013 and National Academy of Sciences India (NASI)-2014



Dr. Saugata Hazra, PhD  
Assistant Professor,  
Department of Biotechnology  
IIT-Roorkee,  
Roorkee, UK

- >10 yrs of experience in the areas of Structural Biology, Biochemistry, Biophysics & Computational Biology, Protein Engineering and computational dynamics of biological macromolecules mostly enzymes.

## PCR, RT-PCR and Sanger Seq

### Topics

- Introduction to PCR, Principle of PCR, PCR types and Applications
- PCR its emphasis on cancer and its diagnosis
- Setting up a PCR experiment
- Introduction to RT-PCR, Setting up a RT-PCR experiment
- Introduction to Sanger Sequencing

### Faculty



Mr. P. Sravan Kumar, MSc  
Senior Lab & Training Manager  
VCR Park,  
Visakhapatnam, AP

- >19 years of rich experience in the field of Drug Discovery having worked with Indian Pharma giants like Ranbaxy, Lupin, GVK Biosciences & DiponED Biointelligence

## Tissue Culture and Flow Cytometry

### Topics

- Cell culture Fundamental Techniques
- Mammalian Cell culture (Lab Demo and Practicals)
- Flow Cytometry – Principles, Use of fluorochromes in flow cytometry
- Immunophenotyping, Compensation, Data analysis and gating
- Flow Cytometry Hands on Instrumentation

### Faculty



Dr. Balaji Bhyravbhatla, PhD  
Founder and MD  
Hylasco, Hyderabad, TS

- >25 years of serial entrepreneurship in Boston
- Managed complete discovery to commercialization of oncology drug products Exclusive licensee of Charles River Labs' animals in India



Mr. P. Sravan Kumar, MSc  
Senior Lab & Training Manager  
VCR Park,  
Visakhapatnam, AP

- >19 years of rich experience in the field of Drug Discovery having worked with Indian Pharma giants like Ranbaxy, Lupin, GVK Biosciences & DiponED Biointelligence



## IHC & Fish

### Topics

- Immunohistochemistry
- Basic Immunochemistry, Immunogenicity, Enzymology, Automation
- Immunohistochemistry technical insights
- Fluorescence In situ Hybridization (FISH) - FISH Probes and their uses, Sensitivity and Specificity, Recent Developments

### Faculty



Dr. Payal Keswarpu, MD  
Director Westchester  
KnowledgeWorks,  
Bangalore, KA

- 20 years of professional health science experience as a Physician, Scientist & also held numerous leadership positions
- Driven product innovations in healthcare while utilizing her clinical knowledge of pathology and oncology.

## Primary Cell Culture and PDX model Development

### Topics

Primary Cancer cell line preparation, methodologies and techniques  
Primary cell culture - technical insights  
PDX model in Cancer Research  
PDX models – Lab Demo and case studies

### Faculty



Dr. Jugnu Jain, PhD  
Co-founder and CEO,  
Sapien Biosciences

- >20 years at Vertex, Boston
- Managed complete discovery to commercialization of oncology drug product
- Strategic partnership with Apollo Hospitals



Dr. Suresh Poosala, PhD  
Founder, Oncoseek,  
Hyderabad, TS

- >25 years of experience in biopharmaceutical industry and academic research
- Extensive background of managing strategy, portfolio and building world-class vivarium facilities for drug discovery and development



## Contact

**Vyas Cancer Research Pvt. Ltd.**  
**Krishna Nagar, Maharanipeta,**  
**Beach Road, Visakhapatnam, AP**

**+91 0891 2588502**

**[ascend@vcrpark.com](mailto:ascend@vcrpark.com)**

**[www.vcrpark.com](http://www.vcrpark.com)**