



3.5: Collaboration

EMMANUEL COLLEGE VAZHICHAL



3.5.1: Number of functional MoUs/linkages with institutions/ industries in India and abroad for internship, on-the-job training, project work, student / faculty exchange and collaborativeresearch during the last five years.

Linkage with NIMS Centre for Genomic Medicine at NIMS Medicity Hospital, Aralummood, Neyyattinkara, Thiruvananthapuram, Kerala.

Activity-1

Name of Activity	seminar on " Current Trends in Biotechnology"
Organizing Department	Department of Biotechnology
Resource Person	. Dr. Aneesh Nair, (Principal Scientist and Head, NIMS Centre for Genomic Medicine, Thiruvananthapuram)
Date & Year	09-11-2022
Venue	Audiovisual Room at Emmanuel College, Vazhichal
Duration	10.00 AM to 3.30 PM
Number of Participants	93
Objective	A concise overview of Current Trends in Biotechnology.

Report

Department of Botany and Biotechnology conducted a seminar on "Current Trends in Biotechnology" on 09-11-2022 at 10 A.M in the Audiovisual room. Dr. Aneesh Nair, (Principal Scientist and Head, NIMS Centre for Genomic Medicine, Thiruvananthapuram), He explained a concise overview of new trends in Biotechnology such as Gene Editing, Gene Sequencing, Synthetic Biology, Biomanufacturing etc.



One Day seminar On "Current Trends in
Biotechnology" &
Memorandum of Understanding signing Ceremony
In collaboration with NIMS Genomic Research Lab

9th November 2022



Organized by
Emmanuel College Vazhichal
Department
of Botany & Biotechnology
(In association with IQAC)

Venue : Audio visual room

Time : 10.00 am – 3.30pm

Programme

Prayer Song	: EMC Choir
Welcome Address	: Anisha V R HOD, Department of Botany & Biotechnology
Presidential Address	: Dr. Vijayakumar Principal, Emmanuel College Vazhichal
Inaugural Address	: Msgr. G Christudas Manager
Guest Introduction	: Dr. Jino John Asst. Professor, Department of Botany & Biotechnology
Invited Talk	: Dr. Aneesh Nair <i>Chief Guest</i> Principal Scientist & Head, NIMS Centre for Genome Medicine, Thiruvananthapuram
Vote of Thanks	: Jancy S Asst. Professor, Department of Botany & Biotechnology

Programme Brochure



Dr. Aneesh Nair is delivering the session.



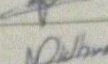
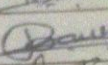
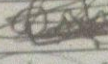
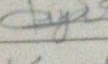
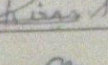


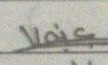
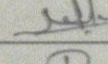
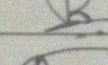
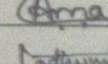

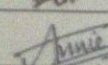
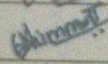

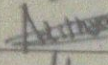
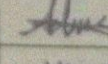

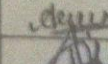





List of Participants

One day seminar on "Introduction to start up"

Attendance of Participants

Date: 14-12-2022

SL No	Name	Class	Signature
1	Ashwini S. George	S, BBT	
2	Gowri Suresh	S, BBT	
3	Krishnendhu	S, BBT	
4	Midhun Raj J	S, BBT	
5	Pranav S	S, BBT	
6	Rahul Krishnas B	S, BBT	
7	K Diya	S, BBT	
8	Kiran S.R.	S, BBT	
9	Aswin S. Nair	S, BBT	
10	Gowri B.S	S, BBT	
11	Sofian M	S, BBT	
12	Vaishnav S.S	S, BBT	
13	Nandana M.S	S, BBT	
14	Ramjith H.T	S, BBT	
15	AMAL B	S, BBT	
16	Madhumitha. S	S, BBT	
17	Sandra S.S	S, BBT	
18	Annie V.S	S, BBT	
19	Abhinayadhana R.A	S, BBT	
20	Anusha V.S	S, BBT	
21	Adithyan G.M	S, BBT	
22	Pranith S	S, BBT	
23	Al Thani S	S, BBT	
24	Anun S.R	S, BBT	
25	Anwar T. S	S, BBT	
26	Edin Millet Sengier	S, BBT	



27	Annie rose G.S	S ₁ BBT	Ab
28	Shinoj C S	S ₁ BBT	Shinoj
29	Adarsh	S ₁ BBT	Adarsh
30	Adhul Raj	S ₁ BBT	Adhul
31	Sudeep Krishna A D	S ₁ BBT	Sudeep
32	Abhisha SR	S ₆ BBT	Abhis
33	Gayathri R S	S ₆ BBT	Ga
34	Aarini Deepa R J	S ₆ BBT	Aarini
35	Jessy J S	S ₆ BBT	Jessy
36	H. Aravind	S ₆ BBT	Aravind
37	Gopika V B	S ₆ BBT	Gopika
38	Aarcha S P	S ₆ BBT	Aarcha
39	Ahna R J	S ₆ BBT	Ahna
40	Achanya Suresh	S ₆ BBT	Achanya
41	Doni Krishna	S ₆ BBT	Doni
42	Samuel Suresh	S ₆ BBT	Samuel
43	Aravind Jayan	S ₆ BBT	Aravind
44	Aravind Jayan	S ₆ BBT	Aravind
45	Abhijith JS	S ₆ BBT	Abhijith
46	Abhijith J I	S ₆ BBT	Abhijith
47	John Manuel	S ₆ BBT	John
48	Mary Teeja	S ₆ BBT	Mary
49	Ananthu S V	S ₆ BBT	Ananthu
50	Malavika V S	S ₆ BBT	Malavika
51	Anagha	S ₆ BBT	Anagha
52	Ancy A	S ₆ BBT	Ancy
53	Ana Badhadesha	S ₆ BBT	Ana
54	Rasha Parthima	S ₆ BBT	Rasha
55	Vishnaya S S	S ₆ BBT	Vishnaya
56	Sandya R J	S ₆ BBT	Sandya



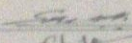




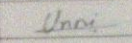
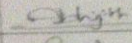
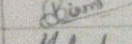
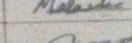

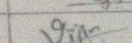

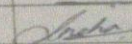
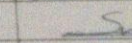

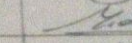
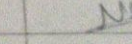

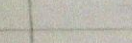
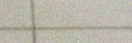
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58	Anamika Anil	S6 BBT	Anamika
59	Judit M Raju	S6 BBT	Judit
60	Ruksana	S6 BBT	Ruksana
61	Snehaja	S6 BBT	Snehaja
62	Seena	S6 BBT	Seena
63	Nandana Jayan	S6 BBT	Nandana
64	Anamika Sathesh	S6 BBT	Anamika
65	Abhaya B S	S6 BBT	Abhaya
66	Muhsina	S6 BBT	Muhsina
67	Aravind B B R	S6 BBT	Aravind
68	Samuel Suresh	S6 BBT	Samuel Suresh
69	Anandhu S.V	S6 BBT	Anandhu
70	John Manuel Rh	S6 BBT	John Manuel
71	Aswin D George	S4 BBT	Aswin
72	Rahul Krishna	S4 BBT	Rahul
73	Al Thasni	"	Al
74	Midhun Raj T	"	Midhun
75	Vrdhya	S6 BBT	Vrdhya
76	Aswin	S4 BBT	Aswin
77	Arun	"	Arun



Attendance of Participants

Topic:

Date:

SL No	Name	Class	Signature
78	Santhu	3 rd BBI	
79	Julpa	"	
80	Adithya	"	
81	Treela	"	
82	Renu Raj	"	
83	Adin	"	
84	Unikrishnan	"	
85	Abhijith	"	
82	Bisnu	"	
83	Malavika	"	
84	Djeesh.C	"	
85	Rify	"	
86	Vijin	"	
87	Vivek	"	
88	Sreha	"	
89	Sneha Luresh	"	
90	Athira Sathreesh	"	
91	Midhuna	"	
92	Nihala	"	
93	Athul	"	

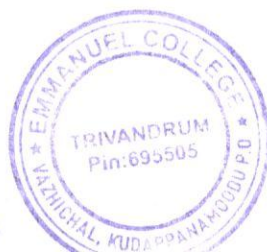


Dr. ANEESH NAIR
Principal Scientist & Head
Centre for Genomic Medicine
NIMS Medicity Hospital
Thiruvananthapuram, Kerala



(Anushe.V.R.)

DEPARTMENT OF BOTANY AND
BIOTECHNOLOGY
EMMANUEL COLLEGE
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Activity 2

Name of Activity	Students Internship at NIMS
Organizing Department	Department of Biotechnology
Faculty Coordinator	Mrs. Anusha. V. R
Year	2023
Venue	NIMS Medicity Hospital, Neyyattinkara, Thiruvananthapuram
Duration	November 14 – 16 / 2022
Number of Participants	25
Objective	Practical Skills in Biotechnology Research and Development

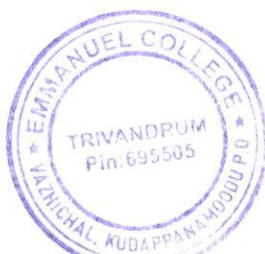
Report

This internship has been an invaluable experience, providing practical skills in biotechnology research and development. Students get guidance and support from the team and got opportunity to contribute to innovative projects. This internship provided students with hands-on experience in biotechnology research and development.

Objectives:

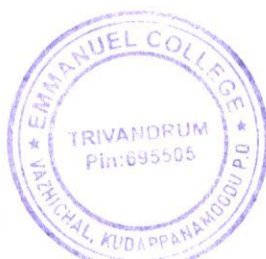
primary objectives were to:

- Assist in the development of a novel gene therapy vector
- Gain experience in molecular biology techniques (PCR, cloning, sequencing)
- Contribute to the optimization of a protein expression system





Internship Certificates Issuing to the Students at NIMS Medicity.





Internship Certificates Issuing to the Students at NIMS Medicity

(Signature)
Dr. ANEESH NAIR
 Principal Scientist & Head



(Signature)
(Anushe.V.R)
 DEPARTMENT OF BOTANY AND
 BIOTECHNOLOGY

Activity 3

Name of Activity	Project Work at NIMS
Organizing Department	Department of Biotechnology
Faculty Coordinator	Mrs. Anusha. V. R
Year	2023
Venue	NIMS Medicity Hospital, Neyyattinkara, Thiruvananthapuram
Duration	One Month
Number of Participants	40
Objective	The primary objective of the internship was to gain hands-on experience

Report

1. Internship Details

- **Name of the Organization:** NIMS Centre for Genomic Medicine, Thiruvananthapuram.
- **Duration of the Internship:** One Month
- **Position:** Research Intern

2. Introduction

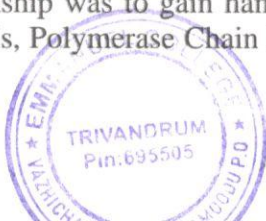
Background of the Organization

- The: NIMS Centre for Genomic Medicine, Thiruvananthapuram.

Biotechnology Research Institute is renowned for its cutting-edge research in molecular biology and genetics. The institute is equipped with state-of-the-art laboratories and experienced researchers working on various aspects of biotechnology, including genomics, proteomics, and bioinformatics.

Objectives of the Internship

The primary objective of the internship was to gain hands-on experience in molecular biology techniques, including electrophoresis, Polymerase Chain Reaction (PCR), and DNA sequencing.



The goal was to develop practical skills, understand experimental protocols, and contribute to ongoing research projects.

3. Main Body

Description of the Projects

During the internship, our students were involved in a project focused on identifying genetic markers associated with resistance to a particular disease in crop plants. The project aimed to amplify and sequence specific regions of the plant genome to identify Single Nucleotide Polymorphisms (SNPs) linked to disease resistance.

Key Responsibilities and Tasks

- **Electrophoresis:** performed agarose gel electrophoresis to analyze the quality and integrity of DNA samples. This involved preparing agarose gels, loading DNA samples, running the electrophoresis, and visualizing the DNA bands under UV light.
- **PCR:** carried out PCR to amplify target DNA sequences. This included designing primers, setting up PCR reactions, optimizing annealing temperatures, and troubleshooting any issues that arose during the process.
- **Sequencing:** prepared PCR products for sequencing by purifying the amplified DNA and setting up sequencing reactions & also analyzed the sequencing data to identify SNPs and other genetic variations.

Techniques and Methods Used

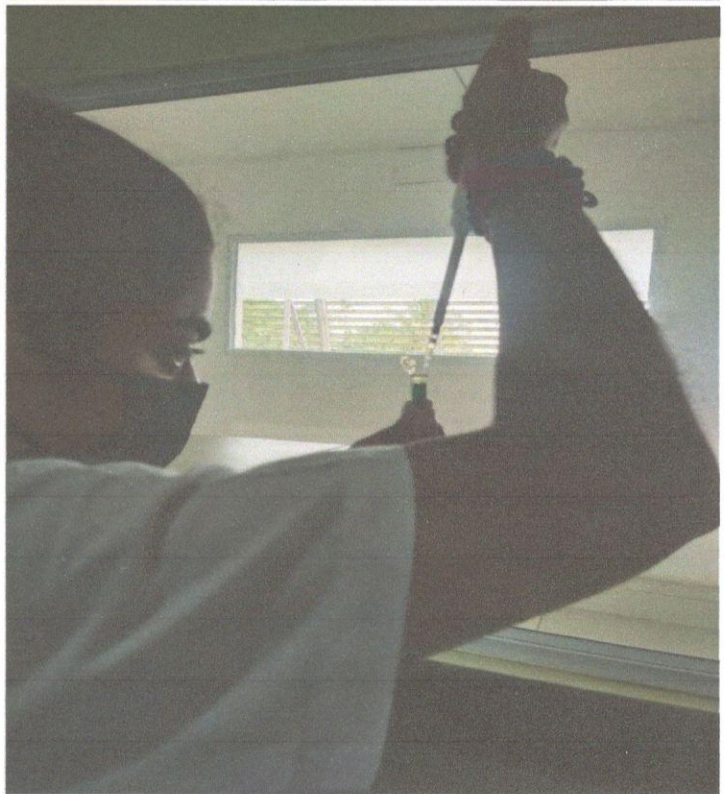
- **Agarose Gel Electrophoresis:** Used to separate DNA fragments based on size.
- **PCR (Polymerase Chain Reaction):** Used to amplify specific DNA sequences.
- **DNA Sequencing:** Used to determine the nucleotide sequence of amplified DNA fragments.

Key Findings and Outcomes

- Successfully amplified and sequenced several target regions of the plant genome.
- Identified multiple SNPs that may be linked to disease resistance.

Contributed to the development of molecular markers for use in plant breeding programs.





Students doing Project Work at NIMS Laboratory.

[Signature]

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Principal Scientist & Head
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NIMS Medicity Hospital
Thiruvananthapuram, Kerala



[Signature]
(Anusha V.R)

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