



**International Relations and Research Collaborations**  
in association with  
**School of Applied Sciences**

Organized Guest talk on  
“Advances in Viral Vaccines”

**Program Report**

**International Relations and Research Collaborations** in association with **School of Applied Sciences REVA University**, organized a Guest Lecture on “Advances in Viral Vaccines” on 17-02-2025. The event featured Dr. Athmaram T H, Principal Research Scientist/Director, Technical Services & Manufacturing sciences at ELANCO Animal Health Indianapolis, USA , as the guest speaker. This expert talk was is benefitted to undergraduate, postgraduate and scholars.

1. About the speaker and their institute

Dr. Athmaram Thimmasandra Narayanappa is a renowned virologist with over two decades of expertise in vaccine development and bioprocess engineering. He earned his Ph.D. in Biotechnology from Bangalore University, India, focusing on a subunit vaccine for Bluetongue viral disease. To further his research, he pursued postdoctoral studies on Bluetongue Virus-Like Particles at the London School of Hygiene and Tropical Medicine, UK, under the guidance of Professor Polly Roy, enhancing his knowledge in viral pathogenesis and vaccine development.

Dr. Athmaram has held key scientific roles, including serving as a Senior Scientist at the Defense Research and Development Organization (DRDO) in India, where he led bioprocess scale-up projects for vaccines and diagnostics against viral and bacterial agents of biodefense importance. At Virginia Tech, USA, he worked as a Research Scientist and played a crucial role in discovering a highly pathogenic novel swine orthoreovirus, spearheading industry-sponsored projects related to diagnostics and vaccine development. Currently, Dr. Athmaram serves as Director at Elanco Animal Health, a global leader in animal health solutions, where he focuses on innovating products and services to prevent and treat diseases in farm animals and pets.

2. Flow of program

- a. Welcome to the guest
- b. Introduction of Guest speaker
- c. Speaker's Talk

d. Vote of thanks

3. About the talk and other discussions:

A key component of the program involves studying life through both top-down and Dr. Athmaram initiated the discussion by introducing the concept of using viruses as a foundation for future viral vaccines, referencing the role of vaccines during the COVID-19 and SARS-CoV-2 pandemics. He emphasized the importance of developing a broad spectrum of countermeasures to address potential outbreaks in the future, highlighting how research into viral vaccines can be a critical tool for pandemic preparedness.

Key Areas of Focus in Vaccine Development

Dr. Athmaram then explored several innovative vaccine technologies that have been developed or are in progress, which include:

**Inactivated Vaccines:** An approach focusing on using inactivated or killed viruses to stimulate immune responses without causing disease.

**Pandemic H1N1-HA Subunit Vaccines:** Vaccines based on the hemagglutinin (HA) protein from the H1N1 virus, a key element for inducing immunity against the virus.

**Chikungunya Virus-Like Particle (VLP) Vaccines:** These vaccines are developed using yeast cells to produce virus-like particles, mimicking the structure of the virus to elicit an immune response.

**Dengue Recombinant Protein Vaccines:** Produced through genetic engineering in *E. coli*, these vaccines use dengue virus proteins to stimulate immunity.

**Insect Cell-Derived AHSV Multivalent Subunit Vaccines:** AHSV (African Horse Sickness Virus) vaccines derived from insect cells, offering multivalent protection against multiple strains.

**Bluetongue Virus-Like Particles (VLP) from Insect Cells:** Dr. Athmaram discussed the purification of VLPs from insect cells infected with the Bluetongue virus, which is a promising method for vaccine development.

Plant-Based Vaccines

Dr. Athmaram also delved into the emerging field of plant-based vaccines, particularly those derived from peanut somatic embryos. This approach leverages plants as a host to produce vaccines in a cost-effective and scalable manner, presenting a promising avenue for future vaccine production.

Future Perspectives on Viral Vaccines

In the latter part of his talk, Dr. Athmaram addressed the future of viral vaccines, emphasizing the role of genetic modifications in the development of more efficient and rapid vaccines. He explored how advancements in genetic engineering techniques can facilitate the creation of novel vaccine platforms that are more adaptable to new viral strains and potential pandemics.

Total no. of attendees: 75

4. Outcome of program :

Presentation given a comprehensive overview of the current landscape of viral vaccine development, focusing on innovative approaches that will shape the future of global health. His emphasis on genetic modifications and the exploration of plant-based vaccines reflected the promising avenues for combating future viral outbreaks.

5. Photos from the program:

NAAC GRADE A+ REVA UNIVERSITY

School of Applied Sciences, Department of Biotechnology  
Sukshmajeevanu Club  
in association with  
International Relations & Research Collaborations  
Organises Guest Talk on

**Advances in Viral Vaccines**

Date: February 17, 2025 | Time: 11:00 AM  
Venue: APJ Seminar Hall

Resource Person  
Dr. Athmaram TN, PhD  
Principal Research Scientist/Director  
Technical Services & Manufacturing Sciences  
ELANCO Animal Health Indianapolis, USA

GPS Map Camera

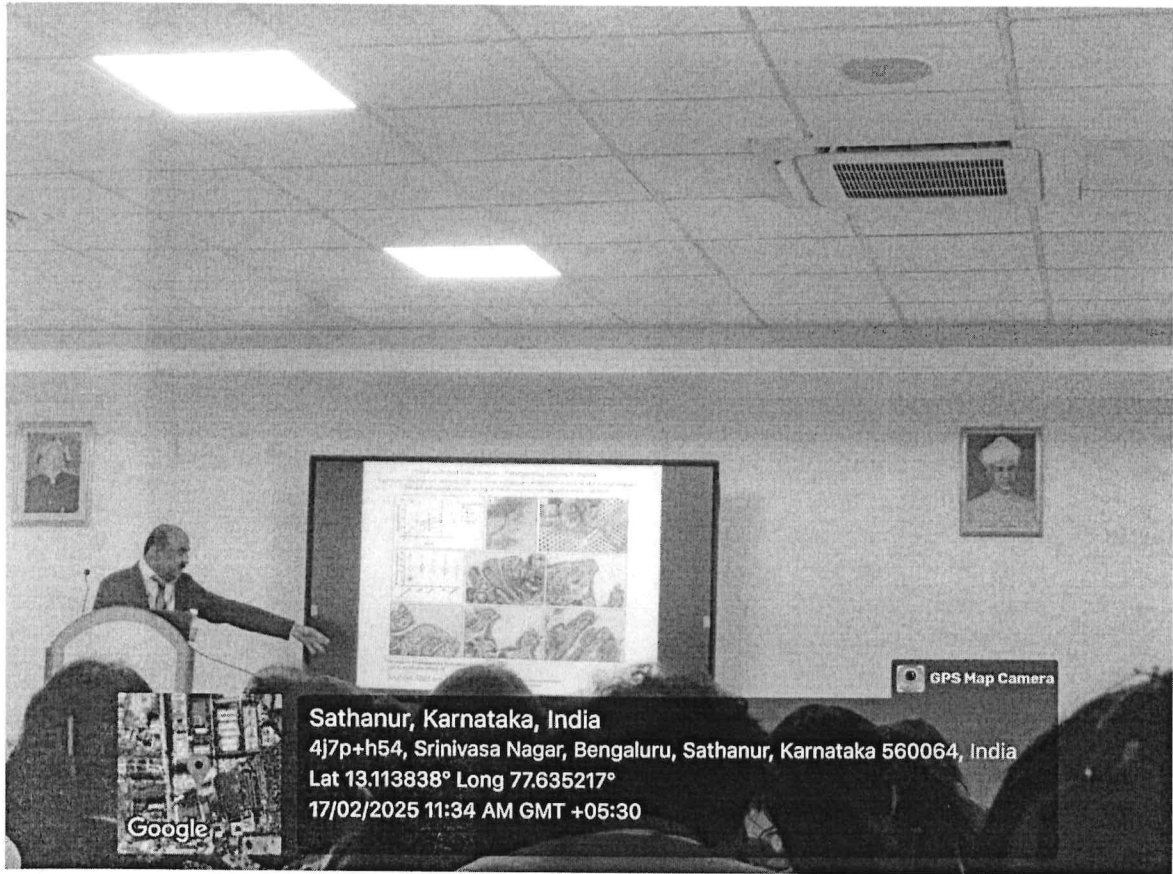
**Bengaluru, Karnataka, India**  
4j7p+h54, Srinivasa Nagar, Bengaluru, Karnataka  
560064, India  
Lat 13.113859° Long 77.635366°  
17/02/2025 10:35 AM GMT +05:30

Understanding genetic evolution of the virus:  
Phylogenetic analysis

Phylogenetic analysis of 5' capsid and L1 nucleotide sequences of a 3' genome of the virus

GPS Map Camera

**Bengaluru, Karnataka, India**  
4j7p+h54, Srinivasa Nagar, Bengaluru, Karnataka  
560064, India  
Lat 13.113877° Long 77.635356°  
17/02/2025 11:32 AM GMT +05:30





School of Applied Sciences  
Department of Biotechnology

Activity: International Quiz fest

Title: Advances in viral Vaccines by Dr Athimassam

Date: 17/02/2025

Sl. No.	SRN	Student Name	Signature
1	R22SE015	Lucy Parida	Lucy
2	R22SE030	Simant Pandey	Simant
3	R22SE036	Mimmi K. K.	Mimmi
4	R22SE002	Anjana	Anjana
5	R22SE010	Isha	Isha
6	R22SE013	Kanchan	Kanchan
7	R22SE024	Spandana	Spandana
8	R22SE007	Lakshmi Chaitanya	Lakshmi
9	R22SE009	Gowthami	Gowthami
10	R22SE009	Ismat Ahmed	Ismat
11	R22SE028	Yashashwini	Yashashwini
12	R22SE012	K. Yashwanthi	Yashwanthi
13	R22SE027	T. Azharuddin	Azharuddin
14	R22SE021	Shashank H. H.	Shashank
15	R22SB005	Amita G.	Amita
16	R22SB058	Anirangshu A.	Anirangshu
17	R22SB004	Anamika R.S.	Anamika
18	R22SB038	Deepthi S.	Deepthi
19	R22SB040	Sahana B.L.	Sahana
20	R22SB031	R. S. Sahana	R. S. Sahana
21	R22SB002	Aditi Sejal	Aditi Sejal
22	R22SB022	Nandini Kumari	Nandini
23	R22SB011	Gagananarasa	Gagananarasa
24	R22SB018	Lakshya	Lakshya
25	R22SB037	Roshni R.	Roshni
26	R22SE031	V. Ashwini	Ashwini
27	R22SB001	Nitu Kumari	Nitu
28	Sneha R22SB061	Sneha	Sneha
29	R22SB047	Sowjanya K	Sowjanya
30	R22SB014	Hasya S	Hasya
31	R22SB045	Sneha V.S	Sneha
32	R22SB056	Yuktha	Yuktha
33	R22SB016	Kannika	Kannika
33	R22SE022	Shwetha V	Shwetha




Sl. No.	SRN	Student Name	Signature
34	R22SE004	Birdee Suresh K M	Birdee Suresh
35	R22SE008	Gnyanav D	Gnyanav
36	R22SE023	Birdee K M	Birdee K M
37	R22SE020	Sahana S	Sahana S
38	R22SE037	Priya Dharshini T	Priya Dharshini
39	R23PBT10	NAJ TESAREDDY	NAJ TESAREDDY
40	R22SE07233	P Rutuparna	P Rutuparna
41	24PETBT09	DebiKa Bhaktawat	DebiKa Bhaktawat
42	R23PBT13	Wyanika Sankha	Wyanika Sankha
43	R23PBT01	KIRAN N S	KIRAN N S
45	24280100261	Dinesh k	Dinesh k
46	R21PBT04	Varsha K	Varsha K
47	R21PBT05	Nisha P	Nisha P
48	R22PBT04	Vishal Chanda	Vishal Chanda
49	R22SB020	M Danish	M Danish
50	R22SB023	Naveen	Naveen
51	R22SB053	Venkat	Venkat
52	R22SB035	Ravi Kumar	Ravi Kumar
53	R21SB010	Charlton	Charlton
54	R22SB041	Balaji Raj	Balaji Raj
55	R22SB019	Mahima Halder	Mahima Halder
56	R22SB034	Lakshmi Rachumalla	Lakshmi Rachumalla
57	R22SB029	Pragna Motati	Pragna Motati
58	R22SB042	Shubani Surendran	Shubani Surendran
59	R22SB062	Harshitha G. Gonda	Harshitha G. Gonda
60	R22SE016	Nandan Kumara	Nandan Kumara
61	R22SE029	Yogesh Gowdu	Yogesh Gowdu
62	R22SB056	Vikram	Vikram
63	R22SB059	Azhar Dharani	Azhar Dharani
64	R22SB051	Unitha P Valthaje	Unitha P Valthaje
65	R22SB048	Sumbul Faizab	Sumbul Faizab
66	R22SB008	Tejashwani	Tejashwani
67	R22SB049	S. Chandana Priya	S. Chandana Priya
68	R22SB017	K. Sindhu	K. Sindhu
69	R22SB046	Souadarya	Souadarya
70	R22SB054	Pavani Ramya	Pavani Ramya
71	R22SB052	Varsha S Nair	Varsha S Nair
72	R22SB063	Swastika Mukherjee	Swastika Mukherjee
73	R22SB039	Sajya Sai	Sajya Sai
74	R22SB057	Zoya Fathima	Zoya Fathima
75	R22SB015	Jahnu Lalija	Jahnu Lalija





**IRRC School  
Coordinator**



**Director  
School of Applied Sciences**



  
**Director IRRC**

