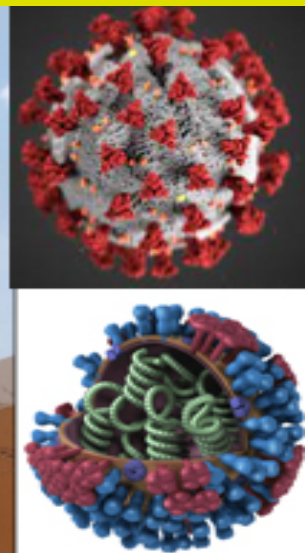
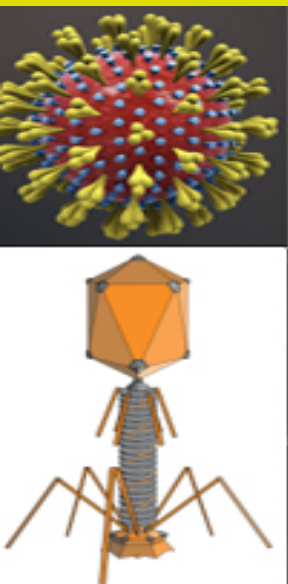




Sri Venkateswara University, Tirupati

DEPARTMENT OF VIROLOGY



"VIRUSES ARE SMALL BUT CAN DO BIG THINGS"

VISION:

- To impart quality education and training to produce future Virologists and to pursue research on basic and applied aspects of microbial, plant, animal and human viruses for the welfare of mankind and society.

MISSION

- To provide sound knowledge in theoretical concepts and practical skills to the post graduate students through effective teaching and hands-on training in the contemporary areas of Virology that can provide employability opportunities.
- To pursue research and extension activities on characterization, diagnosis and management of economically important plant, animal and human viruses through sponsored research projects.
- To achieve academic excellence by establishing national/international collaborations and industry partnerships for the professional development of students and faculty.

ABOUT THE DEPARTMENT

- Virology is the study of viruses that infect microbes, plants and animals. Virology is very important and most relevant subject to the current trends and it facilitates finding solutions to some of the dangerous virus problems that are emerging in the society (e.g., SARS-CoV-2, Zika, monkey pox, HIV, HPV, Rabies, Dengue, Chikunguniya, Japanese encephalitis, swine flu, Ebola)
- The M.Sc. Virology program offered by the Department of Virology at Sri Venkateswara University College of Sciences (SVUCS), SV University, Tirupati, was started in 1987 with the UGC approval by the great initiative and incredible efforts made by (Late) Prof. M.V. Nayudu, Founder of M. Sc Virology program and the Virology Department at SV University. (Late) Prof. P. Sreenivasulu and Prof. D.V.R. Sai Gopal has worked along with Prof. M. V. Nayudu in laying the strong foundation to the M. Sc Virology program in the Dept. of Virology through their extraordinary strategies and research contributions.
- The Dept. of Virology is “Unique” and first of its kind in the country to offer M.Sc., Virology program with interdisciplinary approach (microbial, plant, animal and human viruses).
- Out of 13 state Universities, only SV University is offering M. Sc Virology program that too in semester system (1989 onwards). From the inception, Dept. of Virology is committed to achieve excellence in education, research, and extension through systematic and focussed teaching and hands-on-practical training in frontier areas of Virology.
- The Department provides a stimulating research environment for a highly interactive group of faculty members, who made significant contributions in their specializations and are working together for a common goal of identification, characterization diagnosis, and management of plant, animal and human viruses.
- The Department has made commendable progress through inter departmental and institutional collaboration at local, National and International levels.

Dr. R. Ranjani Ramakrishnan - Head of the Department



Dr. R. Ranjani Ramakrishnan joined in July 2007 in Virology department as teaching faculty, S V University, Tirupati. Dr. R. Ranjani obtained her BSc. MSc., PhD., PGDPD from SV University, Tirupati. She worked as JRF in CSIR project. She qualified GATE in 1996. She published 32 research papers, 2 books, 2 patents, co-author in 2 books for co- edited 4 books and 10 articles in college magazines. She received UGC-MRP (2011) project grant, completed 4 MSc projects, and successfully supervised PhD students. She participated in conferences and workshops. She visited SRI LANKA. Worked as Joint Organizing Secretary in VIROCON 2010. She received 18, National and International awards. She is Coordinator for Alumni of Virology; LMS

Coordinator for Virology; Coordinator for Consolidated monthly report preparations of SVUC of Science. She is Deputy Warden for SVU Women hostel, Tirupati. Acted as Special observer, Observer, Inspection Committee member, Anti-ragging committee Member and Resource Person. Created awareness on prevention of Viral diseases and CoVID 19.

Prof. M. Hema - Chairperson, BOS



Prof. M. Hema is a Professor (2015-till date) in the Department of Virology, Sri Venkateswara University, Tirupati. She has 16 years of teaching and 25 years of research experience by working in reputed national and international laboratories. She is a recipient of Adjunct Professor, YVU (2021), Erasmus Mundus European BRAVE Short Term Visiting Scientist fellowship in the year 2018; APAS Fellow (2018), USIEF Fulbright Nehru Academic and Professional Excellence fellowship (FBN-APE) for the year 2016-2017 and DBT- Overseas Long-Term Associateship for the year 2009-2010. She has 60 publications (1247 citations, h-index 22 and i10-index 32) with good impact factor in reputed national and international journals and one Indian and four

international patents as an inventor in her credit. She has completed 5 major research projects funded by DBT, CSIR and UGC and has an ongoing CSIR project. She guided 5 Ph.D students. She has organized conferences, workshops and webinars and delivered several invited talks as a resource person.

Prof. D. V.R. Sai Gopal - Currently serving as Vice Chancellor, Cluster University, Kurnool, AP



Prof. D.V.R. Sai Gopal is currently working as Vice Chancellor of Cluster University, Kurnool. He was a senior professor in the Department of Virology, Sri Venkateswara University at Tirupati from 1989 to 2002. He did M.Sc., Botany with Virology specialization in 1983 and awarded with Ph.D., in 1987. Later he did the job as a Scientist in Indian Cardamom Research Institute, Spices Board (Ministry of Commerce, GoI) at Kerala from 1987 to 1988. In 1988 joined as a Lecturer (Assistant Professor), later promoted as an Associate Professor in the year 1998. He became a Professor through direct selection in the year 2006. He worked as a Co-ordinator and later became as a Head, Department of Virology and Microbiology department respectively. He acted

as a Chairman BOS in Microbiology (UG and PG) and Industrial Microbiology course. He acted as a one of the Indian Co-ordinators for Erasmus Mundus BRAVE programme. He acted as an Academic Senate member of S.V.University, Tirupati for five years. Presently he is working as Head, Department of Virology and Co-ordinator I to DST-PURSE programme, GoI, New Delhi at SVU Campus. He acted as Chariman BOS in Microbiology Vikrama Simhapuri University, Nellore and acted as a member in BOS at various universities in AP, Tamil Nadu and Karnataka. He visited USA, Philippines, Athens and Tokyo on academic activities. In 2017 'Best Teacher Award' given by Government of Andhra Pradesh. Power Prof. D.V.R. Sai Gopal has published 155 research publications in indexed journals both at national and international level with citation 1468, the h Index is 19 and i10 - index 42. He co-authored 6 textbooks, 2 lab manuals at National level and 2 books at International level. He guided 22 Ph.D students for the last 31 years. He is an editorial board member in 5 International journals and 6 in National journals. He registered 2 patents and applied 4 patents under Indian Patent act. He organized 3 International conferences, 10 national conferences/symposia and 13 national workshops/training programme at S.V.U, Tirupati.

Dr. M. Charitha Devi



Dr. M. Charitha Devi is working as Associate Professor in the Dept. of Virology, SV University, Tirupati. She obtained her MSc in Microbiology from Sri Krishna Devaraya University, Anantapur during 1992 and Ph.D., from Padmavati Mahila Viswavidyalayam, Tirupati during 1999. She worked as DST Fast Track Young Scientist in the Dept. of Applied Microbiology, SPMVV. She has 20 years of teaching and 26 years of research experience, published 46 research papers in various national and international journals. She authored 4 text books and 7 book chapters. One UGC- PDF, five Ph.Ds and two M.Phils awarded under her guidance. As a principal investigator, she has completed 5 Major Research projects sanctioned by UGC, DBT,

DST and ICAR. She is the recipient of Associate fellow -AP Academic of Sciences, DST-Young Scientist and ICAR-SRF. She acted as Head I/C, BOS Chairperson in Dept. of Virology and as RC Coordinator for several refresher courses.

Dr. G. Narasimha



Dr. G. Narasimha working as Associate Professor in Virology having 18 years of teaching, 25 years of Research experience, published more than 100 research papers in scopus and web of science indexed journals. Published 6 books, 12 book chapters. One DST-PDF(mentor), 4 Ph.D's and two M.Phils awarded. Completed 3 Major Research projects of UGC, DBT and BRNS. He is recipient of Associate fellow -AP Academic of Sciences, Young faculty and AD World Scientist ranking and Promotion of Good Research. He is serving as editor, editorial, advisory member for good number of National and international peer reviewed journals. Dr. Narasimha looks forward to develop his eminence in the fields of modern science and technology.

Programs offered						
M. Sc. Virology Program (Choice-Based Credit System, CBCS) Post graduate regular program ➤ 18 regular seats ,6 seats (self-supporting)			Ph.D., Program- M. Sc., students are eligible to write AP-RCET and can compete to join Full time/Part time Ph.D., in Virology.			
		Sl.No	TITLE OF THE PAPER		Sl.No	TITLE OF THE PAPER
Semester – I		1.	Biological Chemistry	Semester – III	1.	Plant Virology
		2.	Analytical Techniques		2.	Plant Virus Diseases
		3.	General Microbiology		3.	Molecular Virology
			Microbial Physiology and Metabolism			Tumor Virology
		4.	General Virology		4.	Plant Virology and Virus Diseases& Molecular Virology
			Enzyme Technology			Plant Virology and Virus Diseases& Tumor Virology
		5.	Biological Chemistry & General Microbiology		5.	Theory- Molecular Techniques
			Biological Chemistry & Microbial Physiology and Metabolism			Practical-MolecularTechniques
		6.	Analytical Techniques & General Virology		6.	Basic Virology
			Analytical Techniques & Enzyme Technology			Agricultural, Animal and Human Viruses
7.	Human and Professional Ethics-I	7.	Communicative English and Fundamentals of Computers			
Semester –II		1.	Cell BiologyandTissue Culture	Semester –IV	1.	Animal and Human Virology
		2.	Microbial Genetics andMolecular Biology		2.	Animal and Human Virus Diseases
		3.	Recombinant DNA Technology		3.	Applied Virology
			Biostatistics and Bioinformatics			Virus-based Biotechnology
		4.	Immunology		4.	Animal and Human Virology and Virus Diseases& Applied Virology
			Food and Environmental Biotechnology			Animal and Human Virology and Virus Diseases & Virus-based Biotechnology
		5.	Cell Biology and Tissue culture & Recombinant DNA Technology		5.	Theory-Industrial Biotechnology
			Cell Biology and Tissue culture & Biostatistics and Bioinformatics			Practical- Industrial Biotechnology
		6.	Microbial Genetics and Molecular Biology & Immunology			Project work related to Virology
			Microbial Genetics and Molecular Biology & Food and Environmental Biotechnology		6.	Clinical Virology
7.	Human and Professional Ethics-II	7.	Emerging and Reemerging Viruses			
						Research Aptitude and Entrepreneurship

Laboratories in the Department

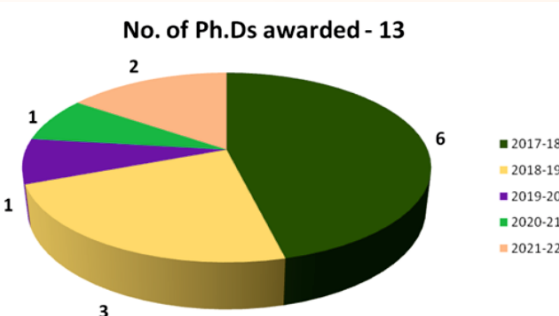
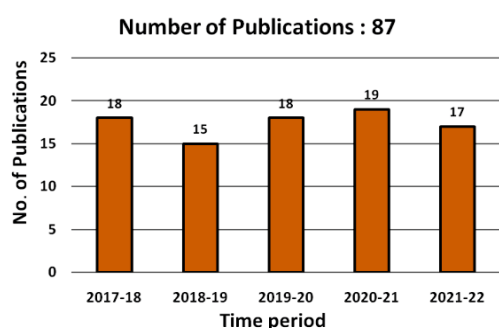
Teaching cum research labs	Faculty cum research labs	Common Instrumentation facility	Library and Computer facility	Green House	Culture room
02	07	01	01	01	01

Name of the equipment available in the Department of Virology and funding agency sponsored

✓ FPLC (DBT) ✓ Nanodrop (DBT) ✓ UV-Visible Spectrophotometers (DBT) ✓ Refrigerated centrifuge (DBT) ✓ Electroporator (DBT) ✓ Ultra deep freezer (DBT) ✓ Incubator shaker (DBT) ✓ HPLC (BRNS) ✓ laboratory Fermenter (DBT) ✓ Fluorescent Microscope (DST-FIST) Sonicator (CSIR) ✓ Transilluminator (DBT) ✓ Microcentrifuge (DBT)	✓ -80° C Ultra low freezer (2) (CSIR and DST-FIST) ✓ Electroporator (DBT) ✓ ELISA reader (DBT) ✓ lyophilizer (DBT) ✓ Millipore water purification system (DBT) ✓ Thermal Cyclers (DBT) ✓ Gel documentation system (DBT) ✓ Class IIA Biosafety cabinet (DBT) ✓ Rotary evaporator (DBT) ✓ Hybridization oven (DST-FIST) ✓ CO₂ Incubator (DST-FIST) and several other minor equipment
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Research Publications during 2017-2022: 87

Ph.D's awarded: 13



Patents

Prof. D.V.R. Sai Gopal-Indian Patent Application No 202041019498 with the filing date of 08/05/2020 Title of Invention: KEE COB-Mosquito Killer Authors: Thota Hari, Dr. Kasibatta Siva Kumar and Prof. Divi Venkata Ramana Sai Gopal	Prof. M. Hema-US Patent No.: US-2020283738-A1 Title of Invention: Tymovirus Virus and Virus- Like Particles as Nanocarriers for Imaging and Therapeutic Agents. Authors: Steinmetz Nicole F; Masarapu Hema; Hu He Publishing date: 10th September 2020	Dr. R. Ranjani - Indian Patent: Patent number: 202141018245. (Collaborative) Title of the Invention: Machine Learning Based Breast Cancer Detection By Neuro Fuzzy Logic. Authors: Dr.E. Bhuvaneshwari,....., Dr R Ranjani, Mahesh Kumar A S. Publishing date: 30th April 2021 Dr. R. Ranjani - Australian Patent: Patent number: 2021101904. (Collaborative) Title of the Invention: Artificial Neural Network Based Early Diagnosis Of Diabetes Mellitus Authors:Haque,..... Ranjani, R.Ohmshankar, S.) Publishing date: 19 May 2021
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Honors and Awards of the Faculty

Name of the faculty	Name of the award and awarding agency	Year of the award
Prof.D. V. R. Sai Gopal	Vice Chancellor, Cluster University, Kurnool	2021
	State Best Teacher, Govt. of AP	2017
Prof. M. Hema	Adjunct Professor, Yogi Vemana University, Kadapa	2021
	Fellow-AP Akademi of Sciences (APAS), Amaravati	2018
Dr. M. Charitha Devi	Awarded Outstanding Scientist Award in International Scientist Awards on Engineering, Science and Medicine (ISAP2021 Awards) Pondicherry, India, VDGODD Professional Association	2021
Dr.R. Ranjani	Life time achievement Award	2017
	Best Presentation award, NCNMDA	2018
	Best Women Scientist award, Genesis, Edu, Roorkhee, India.	2021
	Best Woman Academician Award' on the eve of International Women's day celebrations, USRD - NAARI SHAKTHI	2022
	Aadarsh Vidya Saraswathi Puraskar, The best teacher in the country (the national award of excellence) from GMC Council.	2022
	Teacher Excellency Award (Best Teacher Award) from SVUCS, S.V.U, Tirupati.	2022
	Siksha Ratna Samman Award , from UIJR Academic Research Foundation	2022
	Global Educator Excellence award, from UIJR Academic Research Foundation	2022
Dr. G. Narasimha	Highly cited Research, Elsevier, Netherlands	2017
	Promotion of Good Research Practice Mendaly, Elsevier	2020
	AD World Scientist and University ranking, USA	2022

Fellowships – Faculty

S.No	Name of the Faculty/Student	Name of the institute to avail the fellowship	Granting agency	Duration of the fellowship
1	Prof. D.V.R. Sai Gopal	NCRM NICHE, Tokyo, Japan	NCRM NICHE, Tokyo, Japan	Travel grant to attend the conference from 21 st to 25 th October, 2018.
2	Prof. D.V.R. Sai Gopal	Agricultural University of Athens, Greece	Erasmus Mundus BRAVE Visiting staff fellowship	06-10-2017 to 1-12-2017
3	Prof. M. Hema			15-02-2018 to 14-04-2018
4	Dr. G. Narasimha			01-05-2017 to 31-07-2017

Projects: 05

Name of the teacher	Funding agency	Title of the Project	Budget sanctioned	Duration of the Project
Prof. D.V.R. Sai Gopal (PI)	UGC	Genomics of Citrus yellow mosaic virus (CYMV) infecting citrus species and development of novel, rapid and sensitive diagnostics for its detection	9 Lakhs	3 Years 2015-2018
Prof. M. Hema (Co-PI)	DST-SERB	Establishing a Regional Biosafety laboratory (BSL -3) at Tirupati for research and diagnostics in infectious diseases: tuberculosis and virology	As a mandate 8 Crore budget was sanctioned for IISER - Tirupati to establish BSL3 facility at IISER-Tirupati.	3 Years 2022 - 2025
Prof. M. Hema (PI)	CSIR	Development of Sugarcane streak mosaic Poacevirus (SCSMV)-based particles for biotechnological applications.	27.5 Lakhs	3 Years 2021-2024
Prof. M. Hema	DBT	Development of plant virus-like particles (VLPs) as nanocarriers and study of their structural dynamics	87.36 lakhs –SVU Total: 2.32 crores Inter-institutional (IISc, Bangalore) collaborative project	5 Years (2013-2018)
Dr. M. Charitha Devi	ICAR	Exploitation of bacteriocinogenic <i>Lactobacillus</i> spp for the production of nutraceutical peptides and their potential use in food system	25 Lakhs	2 Years 2015-2017
Dr. M. Charitha Devi	UGC	Molecular Characterization and development of diagnostics for PRSV-W infecting Cucurbita maxima (Pumpkin)	14.65 Lakhs	3 Years (2015-2018)

Doctoral Student National and International Fellowships

S.No	Name of the Faculty/Student	Name of the institute in which research conducted	Granting agency	Duration of the fellowship
1	Dr. V. Taranath	Agricultural University of Athens, Greece	Erasmus Mundus European BRAVE- PhD programme	2016-2018
2	Dr. R.R.D. Nagacharan Konakalla			2015 to 2018
3	T. Krishna Reddy			2017-2018
4	Dr. Papapiah	Agricultural University, Madrid, Spain	Erasmus Mundus European BRAVE- PhD programme	2014 to 2018
5	K. Divya Sahithi	Dept. of Virology, SV University, Tirupati	DST-INSPIRE	2013-2018
6	T. Naveen	Dept. of Virology, SV University, Tirupati	UGC- Rajiv Gandhi National FELLOWSHIP	2015-2020

Student Progression

APSET Qualified	01
PDFs abroad	04
Doctoral students as scientists in industry, education institutes and hospitals	10
Post graduate students placed in diagnostic centres, education institutes and hospitals	More than 35 students got placements
Govt. Jobs	06

Conferences/Seminars/Workshops–organized				
S. No	Date of the conference/Seminar		Details of the conference	
1	Lecture Webinar on February 21 st 2022		Organized a Virology Alumni Lecture Webinar on “MY JOURNEY FROM VIROLOGY, SV UNIVERSITY TO VAIL, COLORADO” by Sudheer Kumar Ravuri, Deputy Director, Centre for Regenerative Sports Medicine (CRSM), Steadman Philippon Research Institute, Vail, Colorado, USA-MSc., Virology-1997-1999 Batch (Youtube link- https://youtu.be/YkJFHkSV3Js)	
2	Two Day National Webinar on January 28 th and 29 th 2022		Organized a Two Day National Lecture Webinar on “COVID-19: Advances and Remaining Challenges” by eminent doctors and scientists from 28-01-2022 to 29-01-2022 (https://youtu.be/rI7NiBSM6VY and https://youtu.be/YKJCAMoMjr4).	
3	Lecture Webinar on Dec 3 rd 2021		Organized a Lecture webinar on “INSTITUTIONAL BIOSAFETY COMMITTEE (IBSC)-PROS AND CONS” by Dr. Suresh Babu Pakala, Dept. of Biology, IISER-Tirupati, Tirupati	
4	Lecture Webinar on IP 18 th December 2020		Organized a Lecture webinar on “Creating Value with IP Assets” Open session by Dr. Hema Mohan, Dr. Viswanatham and Mr. Manish Kumar, IKP-PRIME, Hyderabad	
5	Workshop webinar on Instrumentation from 19 th to 20 th August 2020		Organized a workshop webinar along with Beckman Coulter Life Sciences on “Basic Experimental Design in a Flow Cytometer and Use of Preparative Ultra Centrifuge for Life Science Applications”	
6	13-06-2020		Organized a lecture to the High School Biology teachers on “COVID- 19 Management Practices” to enlighten them on the facts and technologies of COVID-19	
7	20-06-2020 to 21-06-2020		Convened and organized an International Webinar on SARS-CoV-2-Pathogenesis, Diagnosis, Control and Therapeutic Interventions in the Dept. of Virology, SV University, Tirupati for ~500 participants, faculty, research students and Post graduate students.	
8	10-02-2020 to 16-02-2020		Organized and convened the Seven Days National Training workshop on “Techniques in Molecular Biology with a special emphasis on Virology TMV-2020” at Dept. of Virology, SV University, Tirupati	
Teaching: Semester Pattern - Choice Based Credit System ✓ PowerPoint presentations ✓ Use of Learning management tools during lockdown period ✓ E class room facility ✓ Weekly seminars ✓ Internal assessment tests ✓ Assignments ✓ Group discussions ✓ Personality and skill development audit courses ✓ Syllabus revision once in two years as per the modern trends ✓ Cafeteria approach to the common core subjects by inviting visiting scientists and guest faculty.			Thrust areas of research: ✓ Viral vaccines and diagnostics ✓ Host-virus interactions ✓ Molecular Virology ✓ Virus-based nanotechnology ✓ Probiotics and therapeutics ✓ Microbial enzymes and Nanomaterials ✓ Antiviral and anticancer compounds from plants	
No of MoUs: 01 Between SV University, Tirupati and Agricultural University of Athens (AUA) of the Hellenic Republic, Athens				
Post-Doctoral Fellows: 01				
S. No	Name of the PDF	Year of joining	Duration of Fellowship	Granting agency
1.	Dr. N. S. Meera	2017	5 Years	UGC-PDF

- Conducting webinars and workshops
- High School teacher programs-Rallys
- Online Learning Management Tools (Microsoft teams, Zoom, G Meet)

- Collaboration with IISER-Tirupati through DST-SERB project to establish BSL3 Facility at IISER-Tirupati (worth of 8 crores - 2022-2025)

Activities undertaken during COVID-19 Pandemic

- Sanitizer preparation and distribution
- Pomplets distribution
- COVID 19 Awareness campaigns by delivering invited lectures as resource person

- Student training and placements
- Data collection on COVID 19 vaccination
- Lectures from eminent doctors and scientists

Future Plans:

- ✓ To get national and international funding / Collaborations
- ✓ To establish virus diagnostic centre
- ✓ To get networking research projects
- ✓ To make MoUs with national and international research institutes and industries for faculty/student exchange and research collaborations
- ✓ To strengthen the alumni interactive programs
- ✓ To mobilize resources through consultancy and self-financed programs etc.

Instruments available



HPLC



Lyophilizer



FPLC



Gel Doc



