

PROFESSOR V. SAMUEL RAJ, PhD (Microbiology), FRSC, FRSTMH

Professor of Microbiology & Biotechnology
Registrar & Dean R&D, SRM University, Delhi NCR
Director, Centre for Drug Design Discovery & Development (C4D)

SRM University, Delhi-NCR, Sonapat – 131 029, Haryana, India
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Professional Experience at the State Level: Hon'ble Governor's Nominee in the Government Universities in Haryana

- The Court (Highest Body in the University), Kurukshetra University, Haryana
- The Court, Chaudhary Devi Lal University, Sirsa, Haryana
- Academic Planning Board, Chaudhary Bansi Lal University, Bhiwani, Haryana

Administrative and Professional Experience

(Feb. 2022 – Till date) Registrar

SRM University, Delhi-NCR, Sonapat – 131 029, Haryana

(July, 2018 – Nov. 2025) Dean Academic Affairs

SRM University, Delhi-NCR, Sonapat – 131 029, Haryana

(Sep., 2022 – Till date) Dean R&D

SRM University, Delhi-NCR, Sonapat – 131 029, Haryana

(Nov. 1, 2014 – Till date) Professor of Microbiology & Biotechnology

Director, Centre for Drug Design Discovery & Development (C4D), SRM University, Delhi-NCR, Sonapat – 131 029, Haryana

Heading the Administration (all the University Administration work including liaison with the Government), Academic Affairs and Research & Development (R&D) of the University and leading a team of highly qualified faculty and researchers in the University; also responsible for the C4D facility; guiding PhD students; teaching regularly according to the norms of the university and as needed in addition to that. My experience in the Pharmaceutical industry is applied in all sectors of the university's work (as requested and appropriate); also coordinating all of C4D's impressive International Collaborations on drug discovery.

(July 2010 – October 2014) Sr. Group Leader - Department of Infectious Diseases

Daiichi-Sankyo India Pharma Pvt Ltd, Gurgaon 122 015, India

Led major drug discovery projects, as well as led a group of well qualified scientists in the field of infectious diseases. The responsibility of leading a major drug discovery program includes everything from the discovery of the small molecules to preclinical studies. In addition, Radiation Safety Officer (RSO) approved by AERB at the company.

(2004 Nov. – June 2010) Group Leader - Department of Microbiology (New Drug Discovery Research)

Ranbaxy Research Laboratories, Gurgaon- 122 015, India

Led a research group in the Department of Microbiology in Ranbaxy Research Laboratories. Our group worked on the screening and mode of action of antimicrobial agents. One of our major responsibilities was to identify novel antibacterial targets, clone the genes, purify the proteins, and develop a high throughput assay in order to screen the new chemical entities. We also provided the complete package for in vitro screening of anti-microbial agents.

(2002 - 2004) Scientist (Faculty) - Department of Microbiology

School of Medicine, University of Pennsylvania, Philadelphia, PA19104, USA

Research: "Functional characterization of Ribosome Recycling Factor (RRF) in Bacteria & interplay between Elongation Factor-G (EF-G) and Ribosome Recycling Factor for the fourth step of Protein Synthesis".

(2001 - 2002) Post Doctoral Fellow

Thomas Jefferson University, Philadelphia, PA19107, USA

Research Title: "Thermus thermophilus Ribosome Recycling Factor (RRF) - cloning, expression, protein purification and characterization"

(1999 - 2001) Post Doctoral Fellow - Faculty of Pharmaceutical Sciences

Chiba University, Chiba, Japan

Research Title: "Mechanism of cell death by polyamine accumulation in E.coli and Molecular characterization of spermidine resistant mutant cells and characterization of genes (gene knock out) for the survival of bacteria"

(1998 - 1999) Post-Doctoral Fellow

Institute of Biomedical Sciences, Academia Sinica, Taipei, Taiwan, ROC

Research Title: "HIV-1 envelope (Env) mutants with the aim of developing a mutant based genetic anti-HIV strategy targeting the gp41 cytoplasmic domain and worked on gene therapy."

(1996 - 1998) Research Associate - School of Life Sciences

Jawaharlal Nehru University, New Delhi, India

Research Title: "Mainly worked on Vaccine development (Indo-US Vaccine Action Program) and serodiagnosis of Visceral Leishmaniasis by using recombinant antigens (ORFF and ORFG). Studied the cell mediated immunity by using the open reading frames of Leishmania LD1 locus".

(1994 - 1995) Research Scholar - Department of Microbiology

Institute of Medical Sciences, Banaras Hindu University, Varanasi, India

Research Title: "Worked on Visceral Leishmaniasis and other methods to identify the parasite Leishmania donovani. Screened the blood bank samples and high risk population serum samples for HIV. Expertised in various bacteriological and parasitological techniques"

(1990 - 1993) Ph.D. Scholar - Department of Microbiology

Institute of Medical Sciences, Banaras Hindu University, Varanasi, India

Research Title: "Worked chiefly on Serodiagnosis of Visceral Leishmaniasis and expertised various immunological techniques"

Education

- Ph.D. (Microbiology) - Banaras Hindu University, Institute of Medical Sciences, Varanasi, India (1993) | Thesis: "Serodiagnosis of Visceral Leishmaniasis"
- M.Sc. (Zoology) - Banaras Hindu University, Varanasi, India (1989)
- B.Sc. (Zoology) - Madurai Kamaraj University, Madurai, India (1987)

Research Projects as Principal Investigator

- Project: Genomics driven Dissection of Susceptibility and Drug Resistance to Pulmonary tuberculosis with a Geographical focus on NER.
Funding Department: Department of Bio Technology (DBT)
Total Project Cost (INR): 8,21,28,980.00 | Role: As one of the Principal Investigators (Consortium project)
- Project: Management of multidrug resistant (MDR) pathogens causing Urinary Tract Infection (UTI)
Funding Department: Indian Council of Medical Research (ICMR)
Total Project Cost (INR): 49,60,000.00 (2021-2024)
- Project: Re-purposing of drugs and nanoparticle approaches for the improvement of treatment against Visceral Leishmaniasis with the aim of averting the emergence of PKDL
Funding Department: Indian Council of Medical Research (ICMR)
Total Project Cost (INR): 71,00,000.00 (2021-2024)
- And 4 R&D extramural grants (as PI & Co-PI)

Supervision of PhD/MTech/MSc Thesis

- 11 completed PhD scholars, and actively supervising 8 PhD scholars.
- Supervised more than 25 MTech/MSc students for their industrial training research program (including DBT sponsored industrial projects) and guided their thesis work.

Awards / Special Recognitions

- Invited and elected as "Fellow of Royal Society of Chemistry" (FRSC, 2021)
- Mentor and peer reviewer for UK-India programs on Antimicrobial Resistance (2017)
- Reviewer of India – Norway programs on AMR (2017)
- Fellow of Royal Society of Tropical Medicine and Hygiene (FRSTMH, 2017)
- Karmaveer Chakra Award (2012)
- REX Global Fellow (2012)
- Best Alumni of Microbiology, IMS, BHU (2010)
- STARS Fellow (Next Generation Leader), Switzerland (2009)
- Tokyo Biochemical Research Foundation (TBRF) Award, Japan (1999)
- Many **Leadership awards** from various organizations (2021 – 2026)

Fellowships Received

- (2001-2004) Chiba University Fellowship, Japan
- (1999-2001) Tokyo Biochemical Research Foundation Award, Tokyo, Japan
- (1998-1999) Academia Sinica Fellowship, Academia Sinica, Taipei, Taiwan
- (1996-1998) University Grants Commission (UGC) Research Associateship, India

Professional Membership & Academic Board Roles

- Governing Body Member-Secretary, SRM University, Delhi-NCR
- Academic Council Member-Secretary, SRM University, Delhi-NCR
- Board of Management Member-Secretary, SRM University, Delhi-NCR
- Ethical Committee, Member-Secretary, SRM University, Delhi-NCR
- Chairman, Institutional Animal Ethics Committee (IAEC)
- Chairman, Institutional Biosafety Committee (IBSC)
- Chairman of many internal statutory committees in the University
- Member of American Society for Microbiology (ASM), USA
- Member of Indian Society of Gastroenterology
- Member of Indian Society of Science and Technology
- Member of Indian Science Congress Association
- Member of International Society for Infectious Diseases, USA
- Member of Microbiologist Society, India
- Fellow of Royal Society of Tropical Medicine and Hygiene (FRSTMH), UK
- Fellow of the Royal Society of Chemistry (FRSC), UK

Academic Visits to Other Countries

- USA, UK, Japan, Israel, Switzerland, Italy, France, Germany, South Korea, Netherlands, China, Taiwan, Singapore, Hong Kong, Thailand, Dubai, Mauritius, etc.

Invited Reviewer/ Mentor for Research Grants (National and International)

- DBT-BIRAC
- DBT, Govt. of India
- ICMR, Govt. of India
- Research Council of Norway
- RCUK (Research Council of UK)
- NSERC (Canada)

International Research Collaboration on Drug Discovery

- Prof. William Bishai, Johns Hopkins University, USA
- Prof. Alan Kozikowski, University of Illinois at Chicago, USA
- Dr. Laurent Kremer, IRIM, CNRS, France
- Prof. Sir Tom Blundell, University of Cambridge, UK
- Prof. Ada Yonath (Nobel Laureate), Weizmann Institute, Israel
- Prof. Simon Croft, LSHTM, London, UK
- Medicines for Malaria Venture, Switzerland
- Note: The international collaboration with Prof. William Bishai (Johns Hopkins) and Prof. Alan Kozikowski of UIC in drug discovery against TB has reached the pre-clinical stage. We have successfully identified a candidate molecule against TB for further development.

Industry Research Collaboration on Drug Discovery

- Dr. Reddy's Institute of Life Sciences, Hyderabad
- Walter Bushnell, Gurgaon

Books Published

- Deadly RNA Viruses: Diagnosis, Detection, and Mitigation of Epidemics and Pandemics. Edited By **V. Samuel Raj**, Vishwa Mohan Katoch, Nirmal Kumar Ganguly. Copyright 2026. ISBN 9780367652586. Published December 22, 2025 by **CRC Press**. DOI: <https://doi.org/10.1201/9781003132547>
- Artificial Intelligence in Managing Antimicrobial Resistance. Edited By Ramendra Pati Pandey, Chung-Ming Chang, **V. Samuel Raj**. ISBN 9781032821122. Published 30 May 2025 by **CRC Press**. DOI: <https://doi.org/10.1201/9781003503019>

Selected Research Publications (From over 150 total publications)

- Kumar S, Himanshu, Gaur P, Ahmad S, Puri P, **Raj VS**, Pandey RP. (2026). Microbiota Transplantation as a Future Novel Therapeutic Strategy Approach. *Diseases*. 2026 Jan 28;14(2):42. doi: 10.3390/diseases14020042.
- Yadav P, **Raj VS**, Yadav MK. (2026). In-Silico Identification of Natural Compounds as Dual Inhibitors of Aromatase and CDK4/6: A Multi-Target Approach for ER-Positive Breast Cancer Treatment. *Anticancer Agents Med Chem*. 2026 Apr 9. doi: 10.2174/0118715206412723251128073929. Epub ahead of print. PMID: 41968792.
- Rout M, Rani K, Mahanta J, Majhi S, Sahoo SS, Mallick S, Mohapatra D, Som TK, Mahapatra A, Mohanty S, **Raj VS**, Mohapatra SK. (2026). Genomic and functional approaches point to potential determinants of neonatal K. pneumoniae sepsis. *Microbiol Spectr*. 2026 Jun 2;14(6):e0411825. doi: 10.1128/spectrum.04118-25. Epub 2026 Apr 27. PMID: 42037379; PMCID: PMC13228087.
- Ghousepeer GD, Singh SK, Singh S, Basu S, Priyadarshini A, Rani M, Kumar A, Singh N, **Raj VS**, Pandey K, Pandey RP. (2026). Potential efficacy of repurposed drugs for treating drug-resistant visceral leishmaniasis. *Naunyn Schmiedebergs Arch Pharmacol*. 2026 Jun 27. doi: 10.1007/s00210-026-05634-w. Epub ahead of print. PMID: 42363946.
- Dahiya D, Tripathi S, Rani K, Priyadarshini A, Vibhuti A, Gaur P, **Raj VS**, Pandey RP (2026). Green synthesis of silver nanoparticles by using Ocimum sanctum and unveiling their antibacterial and antifungal properties. *Nano Trends*, 2026; 15: 100220. <https://doi.org/10.1016/j.nwnano.2026.100220>
- Yadav P, **Raj VS** and Yadav MK (2026). In-Silico Identification of Natural Compounds as Dual Inhibitors of Aromatase and CDK4/6: A Multi-Target Approach for ER-Positive Breast Cancer Treatment. *Anti-Cancer Agents in Medicinal Chemistry*. 2026. DOI: <https://doi.org/10.2174/0118715206412723251128073929>
- Ghousepeer GD, Rani M, Kumar A, Singh SK, Priyadarshini A, Leal E, Singh S, **Raj VS**, Basu S, Pandey RP. (2026). Insights into drug resistance in Leishmania: Mechanisms, therapeutics, and clinical case studies. *ADMET DMPK*. 2026 Jan 14;14:2992. doi: 10.5599/admet.2992. PMID: 41853234; PMCID: PMC12994601.
- Kumar S, Mukherjee M, Gaur P, Leal E, Lyu X, Ahmad S, Puri P, Chang CM, **Raj VS***, Pandey RP. (2025). Unveiling roles of beneficial gut bacteria and optimal diets for health. *Front Microbiol*. 2025 Feb 18;16:1527755. doi: 10.3389/fmicb.2025.1527755.

- Rani K, Tripathi S, Dahiya D, Kundu S, **Raj VS**, Sahal D, RP Pandey RP, Gaur P. (2025). Dengue virus: A Global Concern and Advances in Treatment Strategies. *The Microbe*, 2025; 9: 100591
- Sharma S, Tripathi S, Rani K, Vibhuti A, Pandey RP, **Raj VS***. (2025). The antimicrobial spectrum to manage the co-infections of *Pseudomonas aeruginosa* and *Staphylococcus aureus*. *Discover Bacteria*. 2025; 2 (1): 18
- Pandey RP, Dhiman R, Mishra V, **Raj VS**, Chang CM. Editorial: Co-morbidity of COVID 19 and fungal infections. *Front Fungal Biol*. 2024 Sep 16;5:1462172. doi: 10.3389/ffunb.2024.1462172. eCollection 2024. PMID: 39351259.
- Peer GDG, Priyadarshini A, Gupta A, Vibhuti A, **Raj VS**, Chang CM, Pandey RP. Exploration of Antileishmanial Compounds Derived from Natural Sources. *Antiinflamm Antiallergy Agents Med Chem*. 2024;23(1):1-13. doi: 10.2174/0118715230270724231214112636. PMID: 38279725.
- Yadav MK, Dahiya V, Tripathi MK, Chaturvedi N, Rashmi M, Ghosh A, **Raj VS** (2024). Unleashing the future: The revolutionary role of machine learning and artificial intelligence in drug discovery. *European Journal of Pharmacology*. 2024; 985:177103
- Masih A, Tripathi S, **Raj VS**, Thakur OP (2024). Optimum ultrasonication duration for effective antimicrobial activity of Ti3C2-MXene. *Materials Chemistry and Physics* 2024; 328: 129979
- Tripathi S, Rani K, **Raj VS***, Ambasta RK. Drug repurposing: A multi targetted approach to treat cardiac disease from existing classical drugs to modern drug discovery. *Prog Mol Biol Transl Sci*. 2024;207:151-192. doi: 10.1016/bs.pmbts.2024.02.001. Epub 2024 May 14. PMID: 38942536.
- Dhiman R, Bazad N, Mukherjee R, Himanshu, Gunjan, Leal E, Ahmad S, Kaur K, **Raj VS**, Chang CM, Pandey RP. (2024). Enhanced drug delivery with nanocarriers: a comprehensive review of recent advances in breast cancer detection and treatment. *Discov Nano*. 2024 Sep 7;19(1):143. doi: 10.1186/s11671-024-04086-6. PMID: 39243326.
- Rani K, Tripathi S, Sharma A, Sharma S, Sheba P, **Raj VS*** (2024). Solithromycin in Combination with Other Antimicrobial Agents Against the Carbapenem Resistant *Klebsiella pneumoniae* (CRKP). *Indian Journal of Microbiology* 2024; 64 (2), 540-547
- Ghouse Peer GD, Priyadarshini A, Gupta A, Vibhuti A, Leal E, da Costa AC, Prudencio C, Kaur K, Ahmad S, **Raj VS**, Pandey RP. (2024). A Systematic Assessment of *Leishmania donovani* Infection in Domestic and Wild Animal Reservoir Hosts of Zoonotic Visceral Leishmaniasis in India. *Microbiology Research* 2024; 15 (3): 1645-1654
- Rani N, Kaushik A, Kardam S, Kag S, **Raj VS***, Ambasta RK, Kumar P. Reimagining old drugs with new tricks: Mechanisms, strategies and notable success stories in drug repurposing for neurological diseases. *Prog Mol Biol Transl Sci*. 2024;205:23-70. doi: 10.1016/bs.pmbts.2024.03.029. Epub 2024 Apr 3. PMID: 38789181.
- Dutt Y, Pandey RP, Dutt M, Gupta A, Vibhuti A, Vidic J, **Raj VS**, Chang CM, Priyadarshini A (2023). Therapeutic applications of nanobiotechnology. *J Nanobiotechnology*. 2023 May 6;21(1):148. doi: 10.1186/s12951-023-01909-z. PMID: 37149615.
- Kumar S, Dhiman R, Prudencio CR, da Costa AC, Vibhuti A, Leal E, Chang CM, Raj VS, Pandey RP. Chitosan: Applications in Drug Delivery System (2023). *Mini Rev Med Chem*. 2023;23(2):187-191.
- Ruby M, Gifford CC, Pandey R, **Raj VS**, Sabbisetti VS, Ajay AK. Autophagy as a Therapeutic Target for Chronic Kidney Disease and the Roles of TGF- β 1 in Autophagy and Kidney Fibrosis (2023). *Cells*. 2023 Jan 26;12(3):412.
- Himanshu, Mukherjee R, Vidic J, Leal E, da Costa AC, Prudencio CR, **Raj VS**, Chang CM, Pandey RP. Nanobiotics and the One Health Approach: Boosting the Fight against Antimicrobial Resistance at the Nanoscale (2023). *Biomolecules*. 2023 Jul 28;13(8):1182.
- Barman TK, Kumar M, Chaira T, Singhal S, Mathur T, Kalia V, Gangadharan R, Rao M, Pandya M, Bhateja P, Sood R, Upadhyay DJ, Varughese S, Yadav A, Sharma L, Ramadass V, Kumar N,

- Sattigeri J, Bhatnagar PK, **Raj VS***. Novel fluorobenzothiazole as a dual inhibitor of gyrase B and topoisomerase IV against Gram-positive pathogens (2023). *Future Microbiol.* 2023 Jul;18:625-638.
- Gunjan, Vidic J, Manzano M, **Raj VS**, Pandey RP, Chang CM. Comparative meta-analysis of antimicrobial resistance from different food sources along with one health approach in Italy and Thailand (2023). *One Health.* 2022 Dec 22;16:100477.
 - Sharma S, Tyagi R, Srivastava M, Rani K, Kumar D, Asthana S, **Raj VS**. Identification and validation of potent inhibitor of Escherichia coli DHFR from MMV pathogen box (2023). *J Biomol Struct Dyn.* 2023 Jul;41(11):5117-5126.
 - Tyagi R, Paul A, **Raj VS**, Ojha KK, Kumar S, Panda AK, Chaurasia A, Yadav MK. A Drug Repurposing Approach to Identify Therapeutics by Screening Pathogen Box Exploiting SARS-CoV-2 Main Protease (2023). *Chem Biodivers.* 2023 Feb;20(2):e202200600.
 - Gunjan, Himanshu, Mukherjee R, Vidic J, Manzano M, Leal E, **Raj VS**, Pandey RP, Chang CM. Comparative meta-analysis of antimicrobial resistance from different food sources along with one health approach in the Egypt and UK (2023). *BMC Microbiol.* 2023 Oct 16;23(1):291.
 - Dutt Y, Pandey RP, Dutt M, Gupta A, Vibhuti A, **Raj VS**, Chang CM, Priyadarshini A. Silver Nanoparticles Phytofabricated through Azadirachta indica: Anticancer, Apoptotic, and Wound-Healing Properties (2023). *Antibiotics (Basel).* 2023 Jan 9;12(1):121.
 - Kumar S, Pandey RP, Perumal N, Yadav PK, Chang C-M, **Raj VS***. (2022). Amoxicillin impact on pathophysiology induced by short term High Salt diet in mice. *Scientific Reports* 2022 Nov 11;12(1):19351. doi: 10.1038/s41598-022-21270-9.
 - Dutt Y, Dhiman R, Singh T, Vibhuti A, Gupta A, Pandey RP, **Raj VS**, Chung-Ming Chang C-M, Priyadarshini A. (2022). The Association between Biofilm Formation and Antimicrobial Resistance with Possible Ingenious Bio-Remedial Approaches. *Antibiotics.* 2022 Jul 11; 11(7):930. doi: 10.3390/antibiotics11070930
 - Villanova F, Milagres FAP, Brustulin R, Araújo ELL, Pandey RP, **Raj VS**, Deng X, Delwart E, Luchs A, da Costa AC, Leal E. (2022). A new circular single-stranded DNA virus related with howler monkey associated porprismacovirus 1 detected in children with acute gastroenteritis. *Viruses.* 2022; 14 (7): 1472
 - Ribeiro GDO, Gill DE, Ramos EDSF, Villanova F, Ribeiro ESDA, Monteiro FJC, Morais VS, Rego MODS, Araújo ELL, Pandey RP, Raj VS, Deng X, Delwart E, da Costa AC, Leal E (2022). Chikungunya Virus Asian Lineage Infection in the Amazon Region Is Maintained by Asiatic and Caribbean-Introduced Variants. *Viruses.* 2022; Jun 30;14(7):1445. doi: 10.3390/v14071445.
 - Tyagi R, Srivastava M, Jain P, Pandey RP, Asthana S, Kumar D, **Raj VS***. (2022). Development of potential proteasome inhibitors against Mycobacterium tuberculosis. *J Biomol Struct Dyn.* 2022 Mar;40(5):2189-2203. doi: 10.1080/07391102.2020.1835722.
 - Kumar S, **Raj VS**, Ahmad A, Saini V. (2022). Amoxicillin modulates gut microbiota to improve short-term high-fat diet induced pathophysiology in mice. *Gut pathogens.* 2022; 14 (1): 40
 - Paul A, **Raj VS**, Vibhuti A (2022). In silico and in vitro evaluation of generic medicines against DENV-2. *J. Adv. Pharmacog* 2022; 2, 64-73
 - Tyagi R, Srivastava M, Singh B, Sharma S, Pandey RP, Asthana S, Kumar D, **Raj VS***. (2022). Identification and validation of potent Mycobacterial proteasome inhibitor from Enamine library. *Journal of Biomolecular Structure and Dynamics.* 2022; 40 (19): 8644-8654
 - Sharma S, Tyagi R, Srivastava M, Rani K, Kumar D, Asthana S, **Raj VS***. (2022). Identification and validation of potent inhibitor of Escherichia coli DHFR from MMV pathogen box. *J Biomol Struct Dyn.* 2022 Jun 2:1-10. PMID: 35652895.
 - do Socorro Fôro Ramos E, de Oliveira Ribeiro G, Villanova F, de Padua Milagres FA, Brustulin R, Araújo ELL, Pandey RP, **Raj VS**, Deng X, Delwart E, Luchs A, da Costa AC, Leal É. (2021).

Composition of Eukaryotic Viruses and Bacteriophages in Individuals with Acute Gastroenteritis. *Viruses*. 2021 Nov 25;13(12):2365.

- Ramos ESF, Rosa UA, Ribeiro GO, Villanova F, Milagres FAP, R Brustulin R, Morais VdS, Araújo ELL, Pati Pandey RP, **Raj VS**, Sabino EC, Deng X, Delwart E, Luchs A, Leal E, da Costa AC. (2021). Multiple clades of Husavirus in South America revealed by next generation sequencing. *PLoS One* 2021;16 (3), e0248486.
- Mathur T, Kumar M, Barman TK, **Raj VS**, Upadhyay DJ, Verma AK. (2021). Novel azoles with potent antileishmanial activity. *Future Microbiology*. 2021; 16 (12): 871-877
- Paul A, Vibhuti A and **Raj VS** (2021). Evaluation of antiviral activity of *Andrographis paniculata* and *Tinospora cordifolia* using *in silico* and *in vitro* assay against DENV-2. *Journal of Pharmacognosy and Phytochemistry*. Pages: 486-496. Vol. 10, Issue 2 (2021). DOI: 10.22271/phyto.2021.v10.i2f.13847
- Pandey RP, Nascimento MS, Moore CE, **Raj VS**, Kalil J, Cunha-Neto E. (2021). New approaches for the treatment of chagas disease. *Current drug targets*. 2021; 22 (7), 835-841
- Pandey RP, Mukherjee R, Priyadarshini A, Gupta A, Vibhuti A, Leal E, Sengupta U, Katoch VM, Sharma P, Moore CE, **Raj VS**, Lyu X. (2021). Potential of nanoparticles encapsulated drugs for possible inhibition of the antimicrobial resistance development. *Biomed Pharmacother*. 2021 Sep; 141:111943.
- Mukherjee S, Mishra AK, Peer GDG, Bagabir SA, Haque S, Pandey RP, **Raj VS**, Jain N, Pandey A, Kar SK. (2021). The Interplay of the Unfolded Protein Response in Neurodegenerative Diseases: A Therapeutic Role of Curcumin. *Front Aging Neurosci*. 2021 Nov 19;13:767493.
- de Oliveira Ribeiro G, da Costa AC, Gill DE, Ribeiro ESD, Rego MODS, Monteiro FJC, Villanova F, Nogueira JS, Maeda AY, de Souza RP, Tahmasebi R, Morais VS, Pandey RP, **Raj VS**, Scandar SAS, da Silva Vasami FG, D'Agostino LG, Maiorka PC, Deng X, Nogueira ML, Sabino EC, Delwart E, Leal É, Cunha MS. (2021). Guapiaçu virus, a new insect-specific flavivirus isolated from two species of *Aedes* mosquitoes from Brazil. *Sci Rep*. 2021 Feb 25;11(1):4674.
- Kumar S, Perumal N, **Raj VS** (2021). Evaluation of Gut Microbial Changes in Human and Murine Models in Response to Antibiotics. *Indian Journal of Pharmaceutical Sciences* 2021; 83 (6)
- Mathur T, Kumar M, Barman TK, **Raj VS**, Upadhyay DJ, Verma AK. Novel azoles with potent antileishmanial activity. *Future Microbiol*. 2021 Aug;16:871-877. PMID: 34318681.
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- Chaira, T., Barman, T.K, Raj, **VS***. (2020) In Vitro ADME, Preclinical Pharmacokinetics and Prediction of Human Pharmacokinetics of RBx14255, a Novel Ketolide with Pharmacodynamics Against Multidrug-Resistant Bacterial Pathogens. *J Pharm Pharm Sci*. 23:206-219.
- Miglani M, Rain M, Pasha Q, **Raj VS**, Thinlas T, Mohammad G, Gupta A, Pandey RP, Vibhuti A. (2020). Shorter telomere length, higher telomerase activity in association with Tankyrase gene Polymorphism contribute to High-altitude pulmonary edema. *Hum Mol Genet*. 2020 Sep 11:ddaa205.
- Barman, T.K., Kumar, M., Chaira, M., Ramkumar, G., Singhal, S., Rao, M., Mathur, T., Bhateja, P., Pandya, M., Ramadass, V., Chakrabarti, A., Das, B., Upadhyay, D.J., and **Raj, VS*** (2019). Potential of the fluoroketolide RBx 14255 against *Streptococcus pneumoniae*, *Neisseria meningitidis* and *Haemophilus influenza* in an experimental murine meningitis model. *Journal of Antimicrobial Chemotherapy* 74(7):1962-1970
- Lun, S., Tasneen, R., Chaira, T., Stec, J., Onajole, O.K., Yang, T.J., Cooper, C.B., Mdluli, K., Converse, P., Nueremberger, E., **Raj, V.S.**, Kozikowski, A., Bishai, W.R. (2019). Advancing the therapeutic potential of indoleamides for tuberculosis. *Antimicrobial Agents and Chemotherapy* 63(7):e00343-19.

- Barman, T.K., Kumar, M., Chaira, T., Dalela, M., Gupta, D., Jha, P.K., Yadav, A.S., Upadhyay, D.J., **Raj, V.S.***, and Singh, H. (2018). Improved efficacy of novel bi-aryl oxazolidinone RBx 11760 loaded polylactic acid-polyethylene glycol nanoparticles in mouse hematogenous bronchopneumonia and rat groin abscess caused by *Staphylococcus aureus*. *Nanomedicine* 14(4):1213-1225
- Tyagi, R., Kumar, D., **Raj, V.S.***. (2018). *In silico* identification of potential inhibitors against Mycobacterial proteasome. International Conference on Bioinformatics and Systems Biology (BSB). Pages 193-197
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Chapters in Books

- Rani K, Tripathi S, Chhoker B, Dahiya D, Rizvi M, and **Raj VS** (2026). Chapter 4. Biofilm and Anti-Fungal Resistance. Book on Management of Fungal Infections Pathogenesis, Diagnosis, and Therapeutic Applications. Editors: Amrendra Pratap Yadav, Mukesh Kumar Singh, Gurdeep Singh, and Md. Quaisul Hoda. Hard ISBN: 9781779646187. E-Book ISBN: 978-1-77964-619-4
- Tripathi S, Rani K, **Raj VS**, Ambasta RK (2026). Chapter Seven - Drug repurposing: A multi targetted approach to treat cardiac disease from existing classical drugs to modern drug discovery. Volume 207: Clinical Application of Repurposed Drugs. Pages 151-192. Progress in Molecular Biology and Translational Science. Book series. ISBN: 978-0-443-24114-7. ISSN: 1877-1173 Copyright © 2026. Science Direct. Elsevier Inc.
- **Raj VS**, Katoch VM, and Ganguly NK (2025). Chapter 1. Coronavirus (SARS-CoV-2). Deadly RNA Viruses: Diagnosis, Detection, and Mitigation of Epidemics and Pandemics. Edited by Raj VS, Katoch VM, and Ganguly NK Published December 22, 2025 by **CRC Press**. DOI: <https://doi.org/10.1201/9781003132547>
- Pandey, R. P., Chang, C. M., and **Raj, V. S.** (2025). *Artificial Intelligence in Managing Antimicrobial Resistance*. CRC Press. <https://doi.org/10.1201/9781003503019>
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- **Raj VS**, Pandey RP, Singh RK and Mohapatra TM. (2022). Chapter 24. Dicrocoeliasis. Springer Nature Singapore Pvt Ltd. SC Parija, A. Chaudhury (eds.). Textbook of Parasitic Zoonoses, Microbial Zoonoses. https://doi.org/10.1007/978-981-16-7204-0_24
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- **Raj VS**, Priyadarshini A, Yadav MK, Pandey RP, Gupta A, Vibhuti A. Artificial Intelligence in Bioinformatics (2021) (Pages: 21-51). Biomedical Data Mining for Information Retrieval: Methodologies, Techniques and Applications. Editor(s): Sujata Dash, Subhendu Kumar Pani, S. Balamurugan, Ajith Abraham. First published: 6 August 2021. 1Print ISBN: 9781119711247 | Online ISBN: 9781119711278 | DOI: 10.1002/9781119711278. © 2021 Scrivener Publishing LLC
- Mukherjee R, Priyadarshini A, Pandey RP, and **Raj VS**. (2021). Antimicrobial Resistance in Staphylococcus aureus. Book on Insights into Drug Resistance in Staphylococcus aureus. Edited by Amjad Aqib. Intechopen. <http://dx.doi.org/10.5772/intechopen.96888>
- Nair A, Vibhuti A, **Raj VS**, Pandey RP (2021). RNA-Seq Analysis Strategies to Understand Viral Pathogenesis. Integrated Omics Approaches to Infectious Diseases. Pages 185-193. Editors: Saif Hameed, Zeeshan Fatima. Publisher: Springer Singapore. Hardcover ISBN 978-981-16-0690-8 Published: 20 July 2021. DOI <https://doi.org/10.1007/978-981-16-0691-5>

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National/ International Patents

- A synergistic antimicrobial composition for treating neonatal sepsis caused by multidrug resistant *Klebsiella pneumoniae*. Application No.: 202511013794. Date: 18/02/2025
- A method for genome editing using CRISPR-CAS systems to enhance stress resilience and crop yield. Application No.: 202531013999. Date: 18/02/2025.
- A re-purposed drug combination for enhanced treatment of visceral leishmaniasis and prevention of PKDL. Application number: 202411089106. Date: 18/11/2024.
- A process and system for enhanced biodegradation of plastic waste using genetically engineered microorganisms. Application number: 202431089110 A; Publication date: 22/11/2024
- Benzothiazole and aza-analogues thereof use as antibacterial agents: International Application Number: PCT/IB2009/052753; Publication Number: WO2009/156966
- Pyrrole carboxylic acid derivatives as antibacterial agents: International Application Number: PCT/IB2009/053331; Publication Number: WO2010/013222

Keynote Speaker & Invited Talks

- Topic: "Challenges and Strategies to Combat Antimicrobial Resistance (AMR) – the Silent Pandemic" at the Centre for SynMikro, MAX PLANCK INSTITUTE For Terrestrial Microbiology, **Marburg, Germany** (March 23, 2026).
- Topic: "Deep Science and Deep Tech: Journey from Research Discovery - Prototype - Product Development" Special address at the Lady Doak college, Madurai (January 12, 2026).
- Topic: "Deep Science: Journey from Research Discovery – Prototype – Commercial scale" Pre-consultation Workshop on "Deep Science vs Deep Tech" December 17, 2025, at the Indian National Science Academy (INSA), New Delhi (December 17, 2025)
- Topic: "*In vivo* efficacy and pharmacokinetics of RBx 11760 loaded PLA-PEG nanoparticles in mouse bronchopneumonia and rat groin abscess caused by *Staphylococcus aureus*". Trends in Biological Sciences 2025 (TIBS – 2025) 4th Annual Conference of Microbiologists Society, India and 10th Annual International Conference of INSCR, Jawaharlal Nehru University, New Delhi (December 8 – 10, 2025).
- Topic: "Target based screening and Bioactive metabolites for Drug Discovery" at Dr. Ariel Lindner Lab, Universite Paris Cite, Inserm, **Paris, France** (May 8, 2025).
- Topic: "High-throughput phenotypic screening of the Compound Library compounds for hit(s) identification of novel anti-bacterials against clinically relevant Gram - positive and Gram - negative bacteria" at GARDP, **Geneva, Switzerland** (May 6, 2025).
- Topic: "New Drug Discovery against Pulmonary Tuberculosis" at Institute of Biological Chemistry, Academia Sinica, **Taipei, Taiwan** (December 12, 2024).
- Topic: "Drug Discovery against Leishmaniasis" at GHIT R&D Forum 2024, Tokyo Garden Terrace Kioi Conference, **Tokyo, Japan** (December 5, 2024).

- Topic: “Higher Education at the Digital Era – A Global Perspective” at the Global Education Forum, Convention Center, Pyeongchang, Gangwon, **South Korea** (October 2 – 4, 2024).
- Topic: “New Drug discovery against Tuberculosis”. Expert talk organized by Institution’s Innovation Council, Jawaharlal Nehru University, New Delhi (September 22, 2023).
- Topic: “Urgent need for Antimicrobial Agents: New Drugs & Repurposing of Drugs” Though Leadership Forum (TLF) meeting on “AMR in the Post COVID World” at the India Habitat Centre, New Delhi (14th and 15th November 2022)
- Topic: “Antimicrobial resistance in the Post-COVID world” State University of Maringa, **Brazil** (15 September 2021) online.
- Topic: “An update on anti-TB drug discovery program against multi-drug resistant Tuberculosis” Weizmann Institute of Science, **Rehovot 76100, Israel** (21 July 2019). Chaired by Nobel Laureate, Prof. Ada Yonath.
- Topic: “TB drug discovery against multi-drug resistant Tuberculosis” Chiba University, **Chiba, Japan** (14 April 2018).
- Topic: “Anti-TB drug discovery program against drug-resistant Mycobacterium tuberculosis: Hit identification to Preclinical studies” IMTech, Chandigarh (February 5, 2018).
- Topic: “Tackling Antimicrobial Resistance: Partnership on Drug Discovery”. UK-India Workshop on Tackling the Emergence of Antimicrobial Resistance, Chandigarh (7-10, November 2016).
- Topic: “Antimicrobial Resistance and intervention through New Drug Discovery & Development”. British Deputy High Commission Workshop on “£10 million Longitude Prize Discovery Awards to tackle anti-microbial resistance” Chennai (27 July 2016).
- Topic: “An update on anti-TB drug discovery program against multi-drug resistant Tuberculosis” Chiba University, Chiba, **Japan** (29 June 2016).
- Topic: “An update on anti-TB drug discovery”. World TB Day Symposium Organized by All India Institute of Medical Sciences, New Delhi, India (30th March 2016).
- Topic: “Innovation in New Drug Discovery to tackle Antimicrobial Resistance”. UK-India workshop on “New Diagnostics and Therapeutics to tackle antimicrobial resistance” New Delhi (12-13, October 2015).
- Topic: Antimicrobial Resistance: Tackling the problem from Pharmaceutical industry perspective. UK – India Workshop on “Anti-microbial resistance (AMR), Open Innovation (OI) and Drug Discovery” Bangalore (11 – 12, September, 2014).
- Topic: “Challenges in Antibacterial Drug Discovery and Novel Approaches to Drug Discovery”. College of Pharmacy, University of Illinois at Chicago (UIC), **Chicago, USA** (March 24, 2014).
- Topic: “Drug discovery against Gram negative pathogens causing urinary tract infections” at the Gordon Research Conference on New Antibacterial Discovery & Development. March 16 – 21, 2014, **Ventura, CA, USA**
- Topic: “Ribosome Recycling Factor (RRF) as an attractive antibacterial target with special reference to the intracellular pathogen Mycobacterium tuberculosis”. 1st iDDi workshop in Neglected and Orphan Diseases, **Siena, Italy** (May 29 – June 1, 2010).
- Topic: “Fourth Step of Protein Synthesis – Revolution in the Prokaryotic Translation & Implications in the Antibacterial Drug Discovery”. Golden Jubilee Celebration of Institute of Medical Sciences, BHU, Varanasi (March 20, 2010).
- Topic: “Drug discovery against Neglected Diseases with special focus on Malaria and Kala azar” at the “Next Generation Leaders Meet” organized by Stein am Rhein (STARS '09), **Stein am Rhein, Switzerland** (October 5, 2009).
- Topic: “Molecular diagnosis of intracellular pathogens with special reference to Mycobacterium tuberculosis”. Centre for Biomedical Engineering, IIT Delhi, India (February 12, 2009).

- Topic: “mRNA sequence surrounding the termination codon influences the RRF effect on the ribosomal behavior at the termination codon”. Thomas Jefferson University, **Philadelphia, USA** (September 17, 2008).
- Topic: “Mode of Action of Ranbezolid against Staphylococci and Structural Modeling Studies for its Interaction with Ribosome”. London School of Hygiene and Tropical Medicine, **London, UK** (September 8, 2008).
- Topic: “Emergence of drug resistance in Neisseria meningitides”. YangZhou University, **Yang Zhou, China** (March 16, 2007).
- Topic: “Fourth Step of Protein Synthesis in Prokaryotes”. School of Veterinary Medicine, YangZhou University, **China** (March 15, 2007).
- Topic: “Decoding of mRNA to protein by ribosome: sequential steps of dissociation of ribosomal subunits”. Chiba University, **Japan** (March 12, 2007).
- Topic: “Ribosome Recycling & Functional Characterization of Ribosome Recycling Factor”. ICGB, New Delhi, India (October 19, 2004).
- Topic: “Emerging Trends in Basic and Applied Biology” at the American College, Madurai (September 17, 2004).
- Topic: “tRNA synthetase as a potential antibacterial target”. Ranbaxy Research Laboratories, Gurgaon, India (September 5, 2004).

Conference & Symposia Presentations

- Raj. V. S. Chaired a session in the 3rd International Conference on “Antimicrobial Resistance, Novel Drug Discovery and Vaccine Development: Challenges and Opportunities” on 18 - 20 March 2024 at India Habitat Centre, India
- Raj. V. S. Chaired a session in the 2nd International Conference on “Antimicrobial Resistance, Novel Drug Discovery and Development: Challenges and Opportunities” on 17 - 19 March 2019 at IIT Delhi Campus, Sonapat, India
- Raj. V.S. (2017). Sandpit workshop on Antimicrobial resistance (AMR) organized by DBT, Government of India and RCUK, UK. 6 – 10, November 2017, near New Delhi.
- Raj V.S. (2016). How to find and Progress small molecule hits: From screening to preclinical drug candidates. 19 – 21, July 2016, Mauritius
- Raj. V. S. Chaired a session in the International Conference on “Antimicrobial Resistance, Novel Drug Discovery and Development: Challenges and Opportunities” on 1 - 2 March 2015 at India Habitat Centre, India
- Raj, V. S. (2014). Gordon Research Conference on New Antibacterial Discovery & Development. March 16 – 21, 2014, Ventura, CA, USA
- Iwakura, N., Kaji, A., Raj, V.S., Yokoyama, T., Agrawal, R., Vivanco, S., Guarneros, G., and Kaji, H. Recent advances on the studies of ribosome recycling factor (RRF). 21st IUBMB International Congress of Biochemistry and Molecular Biology, August 2 – 7, 2009, Shanghai, China
- Barat, C., Datta, P.P., Raj, V.S., Sharma, M.R., Kaji, H., Kaji, A., & Agrawal, R.K.(2006). Progression of the ribosome recycling factor (RRF) through the ribosome dissociates the ribosomal subunits. Meeting on 'Translational Control' Cold Spring Harbor Laboratory, New York, USA, Abst. No. 350
- Raj, V.S., Kaji, H. and Kaji, A. (2004). Evidence for the existence of two binding sites for ribosome recycling factor (RRF) on the ribosome. The 2004 Molecular Genetics of Bacteria and Phages meeting, Cold Spring Harbor Meetings, New York, USA
- Raj V.S., Sundar S., Singh, G.S., Mohapatra T.M., Singh, V.P. and Vinayak V.K. (1992). Clinical, parasitological and serological correlation for the diagnosis of kala azar. CSIR Golden Jubilee Symposium on Tropical Diseases: Molecular Biology and control Strategies, Lucknow, India

Special Activities / Honours

- Invited to deliver a talk on “An update on anti-TB drug discovery program against multi-drug resistant Tuberculosis” Weizmann Institute of Science, Rehovot 76100, Israel (21 July 2019). The talk was chaired by Nobel Laureate, Prof. Ada Yonath.
- Organized the 2nd International Conference on “Antimicrobial Resistance, Novel Drug Discovery and Development: Challenges and Opportunities” on 17-19 March 2019 at IIT Delhi Campus, Sonapat, Haryana.
- Invited as Mentor for the Indo-UK Sandpit meeting on AMR by DBT, Government of India (November 6 – 10, 2017 New Delhi).
- Invited as peer reviewer (for 3 years starting from February 2018) to review the UK-India projects on Antimicrobial resistance (AMR).
- Invited as peer reviewer for the Indo-Norway projects on Antimicrobial Resistance (AMR) (2017).
- Invited by the CEO of Royal Society of Tropical Medicine and Hygiene (RSTMH) as a subject expert for a special meeting with the British High Commissioner at his residence in New Delhi on 5th October 2017.
- Invited by British Deputy High Commission to give a talk at the Workshop on “£10 million Longitude Prize Discovery Awards (in association with Nesta UK) to tackle anti-microbial resistance” Chennai (27 July 2016).
- Organized the International Conference on “Antimicrobial Resistance, Novel Drug Discovery and Development: Challenges and Opportunities” on 2-3 March 2015 at India Habitat Centre, New Delhi.
- Established the Centre for Drug Design Discovery and Development (C4D) at SRM University, Delhi-NCR, Sonapat, Haryana.
- Invited to give a special presentation on the annual meeting of iCONGO/REX 2012, New Delhi (November 25 – 27, 2012).
- Bestowed the Karmaveer Chakra award and received REX Global Fellowship for 2012.
- International organizing committee member and invited speaker in the 1st Drug Discovery Workshop in Neglected and Orphan Diseases, University of Siena, Siena, Italy (May 29th- June 1st, 2010).
- Selected as prominent alumni and invited to give a special lecture at the Golden Jubilee Celebration of the Institute of Medical Sciences, Banaras Hindu University, Varanasi (March 20th-21st, 2010).
- Selected to attend the “Next Generation Leaders Meet” organized by Stein am Rhein (STARS '09) Executive Committee, Switzerland (October 3rd – 6th, 2009).

Prof. Samuel on News:

White Paper on AMR (More than 20 Newspapers)

- ET HealthWorld: <https://health.economictimes.indiatimes.com/news/industry/it-require-a-multisectoral-approach-assimilating-human-animal-and-environmental-issues-to-limit-the-spread-of-amr-prof-samuel-raj/84846757>
- PharmaBiz News: <http://www.pharmabiz.com/NewsDetails.aspx?aid=140381&sid=2>
- India TV News: <https://www.indiatvnews.com/science/amr-can-usher-a-pandemic-worse-than-covid-19-experts-722845>
- India News Republic: <https://indianewsrepublic.com/et-healthworld-health-news-professor-samuel-raj/395408/>
- National Herald India: <https://www.nationalheraldindia.com/international/amr-can-usher-a-pandemic-worse-than-covid-19-experts>

Conference on AMR (More than 15 Newspapers)

- <https://www.mpi-marburg.mpg.de/events/44949/2511>
- <https://www.bwhealthcareworld.com/article/3rd-international-conference-on-antimicrobial-resistance-addresses-global-health-threat-514028>
- <https://www.pharmabiz.com/NewsDetails.aspx?aid=167050&sid=2>
- <https://www.aninews.in/news/business/conference-on-anti-microbial-resistance-novel-drug-discovery-and-vaccine-development-organized-by-srm-university-haryana20240321163109/>
- <https://theprint.in/ani-press-releases/srm-university-delhi-ncr-sonepat-hosts-third-international-conference-on-antimicrobial-resistance-and-drug-discovery/2001969/>>
- https://www.ahmedabadmirror.com/conference-on-anti-microbial-resistance-novel-drug-discovery-and-vaccine-development-organized-by-srm-university-haryana/81864226.html#goog_rewarded
- https://www.business-standard.com/content/press-releases-ani/srm-university-delhi-ncr-sonepat-hosts-third-international-conference-on-antimicrobial-resistance-and-drug-discovery-124031500425_1.html
- <https://news.careers360.com/nobel-laureate-prof-ada-yonath-inaugurates-second-srm-university-delhi-ncr-sonepat-international>

Other news:

- <https://theprint.in/ani-press-releases/appointment-of-new-registrar-at-srm-university-delhi-ncr-sonepat/877636/>
- https://www.business-standard.com/content/press-releases-ani/appointment-of-new-registrar-at-srm-university-delhi-ncr-sonepat-122031700902_1.html