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Scientist F

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Academic career

PhD	ICMR- National JALMA Institute for Leprosy and Other Mycobacterial Diseases (NJILOMD), Agra, India	Thesis title: Comparative genomics of genes encoding pyrazinamide resistance in mycobacteria (under the supervision of Dr VM Katoch, Director-General, ICMR)	2008
M. Sc.	ICMR- National JALMA Institute for Leprosy and Other Mycobacterial Diseases (NJILOMD), Agra, India	Streptomycin-resistance mechanisms in <i>M. tuberculosis</i>	2002
B. Sc.	MLS Univ Udaipur	Botany, Zoology, Chemistry	1999

Professional career:

2002-2008	Senior Research Fellow (Council of Scientific and Industrial Research) at the National JALMA Institute for Leprosy & other Mycobacterial Diseases, Agra, India	Work on <i>Mycobacterium tuberculosis</i> drug resistance mechanism and genomics
2008-2014	Scientist in Prof. Stewart Cole's lab, Global Health Institute, EPFL Lausanne, Switzerland.	Leprosy genomics, Drug resistance
2014-2016	Visiting Scientist, National Hansen's Disease Program, Louisiana State, University, Baton Rouge, USA	Molecular epidemiology and pathogenesis of leprosy
2016-2019	UGC Asstt Prof and Ramalingaswami Fellow, MS Univ of Baroda, Vadodara,	Mycobacterial genomics and Drug resistance
2019-2024	Scientist E, ICMR-NIRTH, Jabalpur.	Microbial Pathogenesis and Genomics, Bioinformatics, Comparative genomics
2024-present	Scientist F, ICMR-NITHR, Jabalpur.	Virology and Molecular diagnostics, Microbial pathogenesis and Genomics, Bioinformatics, Comparative genomics

Award/Prize/Certificate etc.

- **Bioclues Innovation, Research and Development (BIRD) Awards -2021**
- **YS Chaudhary Oration Award** and Special Achievement Award at the 30th Biennial Conference of Indian Association of Leprologists, at Digha, West Bengal 01-04 Nov 2017.
- Indian Association of Leprologists **President's Appreciation Gold Plaque**, 30th Biennial Conference of Indian Association of Leprologists, at Digha, West Bengal 01-04 Nov 2017.
- Leprosy Research Initiative (LRI) Grant for “**Identification of Biomarkers for leprosy using comparative transcriptomics**” (Eur 110,000 Yr 2016-2018) (as a **Principal Investigator**).
- Awarded **Ramalingaswami Fellowship** by the Government of India for five years (2016-2021).
- **Best Presentation Award** at the International Research Fair at LSU (18th Nov 2014).
- Winner of the Poster prize in the 2nd International Education Week at the LSU (17 Nov 2015).

Staff/Team members awarded:

List of completed/ongoing projects

Sl No	Title of Project	Funding Agency	Amount (INR) & Duration	Status
1	State Level Virus Research and Diagnostics Laboratory (VRDL) for the establishment of a network of laboratories for managing epidemics and Natural Calamities	Department of Health Research (DHR), Govt of India	4.02 Crores (5 years)	Ongoing
2	Hospital-Based Surveillance of Acute Encephalitis Syndrome: A multicentric study (involving bacterial and viral aetiologies)	Indian Council of Medical Research	1.7 Crores (2 years)	Ongoing
3	Apex Referral Lab for Dengue and Chikungunya (ARL) (Service Project)	Govt of Madhya Pradesh, India	15 Lakhs (5 years)	Ongoing
4.	Detection of subclinical leprosy using comparative transcriptomics	DBT-Ramalingaswami Project Award)	98 Lakhs (2016-2021)	Completed
5.	Biomarkers for early detection of leprosy using comparative transcriptomics	Leprosy Research Initiative, Netherlands	80 lakhs (2019-2022)	Completed

6.	Genomic markers for pathological variants and transmission of leprosy bacilli using WGS (Joint PI with Dr Rahul Sharma)	R2STOP (Leprosy Mission Canada)	31 Lakh (2019-2022)	Completed
7.	Instrument Access Grant	Seeding Labs, Boston, USA	instruments worth > 1 crore 2017- 2019	Completed
8	Genomic Characterization of Agrowaste Saccharifying Bacillus sp. of Ruminant Dung Origin	MS Univ Start up Grant	1.2 Lakhs (2017-2019)	Completed
9	Molecular characterization, genome sequencing and comparative analysis of different strains of the <i>Orientia tsutsugamushi</i> from Central India	ICMR New Delhi	67 Lakhs (2021-2024)	Completed
10	Molecular mechanisms of immunomodulation imparted by <i>M. indicus pranii</i> (MIP) against multibacillary leprosy	Leprosy Research Initiative, Netherlands	1.7 Crore (2022-2026)	Ongoing
11	Pan India Respiratory Virus Surveillance	ICMR	24 Lakhs (2024-2026)	Ongoing
12	Developing Primary Health Care Models for Integrated Palliative Care, Elderly Care and Mental Health (IPEM)	DHR	30.9 Lakhs (2023-2026)	Ongoing
13	Model Rural Health Research Unit (MRHRU)	DHR	5 Crores (2021-26)	Completed
14	Development of novel molecular diagnostic targets for detection of scrub typhus.	ICMR	2.25 Crores (13-06-2025 to 12-06-2028)	Ongoing
15	Role of DNA damage response in regulating virus replication in the trophoblast cells among pregnant women with febrile illness during first trimester.	ICMR	98 Lakhs (20-06-2025 to 19-06-2028)	Ongoing
16	Sustainable laboratory network for monitoring hemorrhagic fever viruses in India)	ICMR, New Delhi	2.9 Lakh	Completed
17	Strengthening the DHR-ICMR institutes and VRDLs enrolled in Measles and Rubella Surveillance in the context of national elimination efforts	ICMR	288,000	Ongoing
18	Global Measles & Rubella Lab Network	World Health Organization	Reagent and technical support	Ongoing
19	Establishment of the “ADOPT” (Accelerating Dissemination and	ICMR-DHR	50 Lakh	Ongoing

	Operational Promotion of Health Technology assessment in India (HTAI) recommended Technologies in health programme of States) centers			
20	Novel genomic and proteomic markers for early detection of pre-eclampsia and pregnancy complications	ANRF	54 Lakhs	
21	Strengthening Genomic Surveillance of Vector Borne Diseases Endemic in India	Bill and Melinda Gates Foundation (BMGF)	12 Lakhs	Completed
22	Immune serosurvey against COVID Vaccine (Multicentric) (2022-2024)	ICMR	2 Lakhs	Completed

List of projects as Site PI or Co-PI or Co-I

Sl No	Title of Project	Funding Agency	Status
23	Deciphering the role of fish pigmentation genes to understand the regulation of human melanoma using comparative transcriptomic and proteomic investigations.	ICMR	
24	Holistic investigation for the environmental presence of <i>Mycobacterium leprae</i> and its implications in leprosy transmission through WASH and One Health approach.	Leprosy Research Initiative, Netherlands	ongoing
25	Implementation of Wastewater Surveillance for Multi-pathogens across India	ICMR	Ongoing
26	Comparative assessment of quantitative nasal swab PCR and blood transcriptomics in early prediction of progression to clinical leprosy in healthy household contacts of leprosy patients	ICMR	Ongoing
27	Tracking the Transmission Dynamics of Measles Virus using Whole Genome Sequencing,	PM ABHIM	Ongoing
28	Vector incrimination studies for Japanese encephalitis virus in central India	MP state govt	Ongoing
29	Pilot demonstration project for reduction of TB in Saharia PVTG	ICMR	Completed

30	Detecting signatures for Genetics-Epigenetics and Biochemical correlation in Breast Cancer in Young Women visiting a Tertiary Hospital in the State of Uttarakhand	DBT	Ongoing
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Mentorship Fellowships

Sl No	Title of Project/Fellowship	Funding Agency	Amount (INR) and Duration	Status
1	Molecular epidemiology and phylogenomics of leprosy bacilli using genome wide analysis. (ICMR-SRFship, Ms Purna Dwivedi)	Indian Council of Medical Research	15 Lakh	Completed
2	Role of genomic variants in DNA repair genes of mycobacterial pathogens in the emergence of drug resistance (ICMR-RA Fellowship, Dr Mukul Sharma)	Indian Council of Medical Research	21 Lakh	Completed
3	Detection of Leprosy bacilli and its drug resistance using instrument-free molecular methods employing CRISPR- Cas approach (BioCare, Awarded by DBT)	Department of Biotechnology (DBT)	54 Lakhs (19-01-2024 - 18-01-2027)	Ongoing
4.	Role of genome maintenance in placental development and pregnancy complications (DBT-RLS fellowship of Dr Vijay Pratap Singh)	DBT-Ramalingaswami Project Award)	98 Lakhs (2016-2021)	Completed

Publications in peer-reviewed indexed journals:

(Best 10 publications) *Joint first author

1. RW Truman *, **P Singh***, R Sharma*, P Busso, J Rougemont, A Paniz-Mondolfi, A Kapopoulou, S Brisse, DM Scollard, TP Gillis, ST Cole. Probable zoonotic leprosy in the Southern United States. New England Journal of Medicine 2011;364(17): 1626-33. (IF: 70.670) (***Joint first author**)
2. VJ Schuenemann*, **P Singh***, T Mendum*, B Krause-Kyora*, G Jäger*, KI Bos, AHerbig, C Economou, A Benjak, P Busso, A Nebel, JL Boldsen, A Kjellstrom, H Wu, GR Stewart, Michael Taylor, P Bauer, O. Y.-C. Lee, HHT Wu, DE Minnikin, GS Besra, K Tucker, S Roffey, SO Sow, ST Cole, K Nieselt and J Krause. Genome-wide comparison of medieval and modern Mycobacterium leprae. Science 2013; 341(6142): 179-83. ***Joint first author**
3. **P Singh***, A Benjak*, VS Schuenemann, P Busso, A Charlotte, A Herbig, J Krause, L Vera-Cabrera, ST Cole. Insights into the evolution and origins of leprosy bacilli from the genome sequence of Mycobacterium lepromatosis. PNAS USA 2015, 112(14): 4459-4464. (ISSN:1091-6490). (IF=9.58).

4. M Monot, N Honore, G Thierry, N Zidane, D Sherafi, A Paniz-Mondolfi, M Matsuoka, GM Taylor, HD Donohue, A Bouwman, S Mays, C Watson, D Lockwood, A Khamispour, Y Dowlati, S Jianping, TH Rea, L Vera-Cabrera, MM Stefani, S Banu, M Macdonald, BR Sapkota, JS Spencer, J Thomas, K Harshman, **P Singh**, P Busso, A Gattiker, J Rougemont, PJ Brennan, ST Cole. Comparative genomic and phylogeographic analysis of Mycobacterium leprae strains. *Nature Genetics* 2009; 41(12): 1282-9.(ISSN:1061-4036)
5. Ansari A, Kumar R, Ray SK, Patel A, Dwivedi P, Ghosh A, Machado E, Suffys PN, **Singh P***. Genetic variability, genotyping and genomics of Mycobacterium leprae. *FEMS Microbiology Review* (2025, accepted on 03 April 2025, in press) (2024 Impact factor: 12.2). (***corresponding author**)
6. Benjak A, C Avanzi, **P Singh**, et al. Phylogenomics and antimicrobial resistance of the leprosy bacillus Mycobacterium leprae. *Nature Communications* 2018 9(1):352-62. (IF 11.80).
7. Grijzen ML, Nguyen TH, Pinheiro RO, **Singh P**, Lambert SM, Walker SL, Geluk A. Leprosy. *Nat Rev Dis Primers*. 2024 Nov 28;10(1):90.
8. Sondhiya G, Manjunathachar HV, **Singh P**, Kumar R. Unveiling the burden of scrub typhus in acute febrile illness cases across India: A systematic review & meta-analysis. *Indian J Med Res*. 2024 Jun;159(6):601-618.
9. Sondhiya G, Tiwari P, Manjunathachar HV, Chouksey V, Tiwari P, Barde PV, Raut CG, Chakma T, Kaur H, **Singh P**. Emergence of Scrub Typhus-Associated neurological signs in Central India: An Unusual Manifestation in Febrile Illness Cases in Madhya Pradesh, India. *Clinical Epidemiology and Global Health*, 102000, 2025/3/26.
10. Sharma M, Dwivedi P, Tripathi S, Patel P, **Singh P**. Molecular detection of Mycobacterium leprae using RLEP-LAMP and restriction enzyme to ensure amplification specificity. *Japanese Journal of Infectious Diseases*. 2024 Dec 27. doi: 10.7883/yoken.JJID.2024.251.

Other Publications (Joint-first author papers marked with *):

11. Y Gupta, C Avanzi, L Vera-Cabrera, AE Paniz Mondolfi, VJ Schuenemann, **Singh P**. Advances in the molecular epidemiology and diagnostics of leprosy and other mycobacterial diseases. *Frontiers in Tropical Diseases*. 2025; 6:1622530
12. Anjal K, Rawal V, Pandey S, Harshavarthini M, Verma AK, Mohan B,... **Singh P**. Vector incrimination studies of lymphatic filariasis in rural areas of endemic Datia district of Madhya Pradesh, India. *Trans R Soc Trop Med Hyg*. 2025;traf045.
13. Shukla S, Gaikwad S, Sureshgopi D, Chouksey VK, Pathe C, Mathews J,...**Singh P**. Molecular detection of gene mutation related to drug resistance in Mycobacterium leprae. *Int J Mycobacteriol*. 2025;14(2):117-125.
14. Singh VP, Singh P. Linking DNA damage and senescence to gestation period and lifespan in placental mammals. *Front Cell Dev Biol*. 2024 Sep 30;12:1480695. doi: 10.3389/fcell.2024.1480695. PMID: 39403126; PMCID: PMC11471632.
15. MV Murhekar, T Bhatnagar, S Selvaraju, ..., **Singh P**. SARS-CoV-2 antibody seroprevalence in India, August–September, 2020: findings from the second nationwide household serosurvey. **Lancet Global Health** 2021. DOI:https://doi.org/10.1016/S2214-109X(20)30544-1.
16. Sharma R*, **Singh P***, McCoy RC, Lenz SM, Donovan K, Estrada-Garcia OI, Silva-Miranda M, Jurado F, Cruz S, Balagon MF, Stryjewska B, Scollard DM, Pena MT, Lahiri R, Williams DL, Truman RW, Adams LB. Isolation of Mycobacterium lepromatosis and development of molecular diagnostic assays to distinguish M. leprae and M. lepromatosis. **Clinical Infectious Diseases** 2020; 71(8):e262-e269, (IF=9.055)
17. Avanzi C, Lecorché E, Rakotomalala FA, Benjak A, Rabenja FR, Ramarozatovo LS, Cauchoix B, Rakoto-Andrianarivelo M, Tió-Coma M, Leal-Calvo T, Busso P, Boy-Röttger S, Chauffour A, Rasamoelina T, Andrianarison A, Sendradsoa FA, Spencer JS, **Singh P**, Dashatwar DR, Narang R, Berland J-L, Jarlier V,

- Salgado CG, Moraes MO, Geluk A, Randrianantoandro A, Cambau E, Cole ST. Population genomics of *Mycobacterium leprae* reveals a new genotype in Madagascar and Comoros. *Frontiers in Microbiology* 2020; 11:711. (IF= 4.190).
18. Schaub R, Avanzi C, **Singh P**, Paniz-Mondolfi A, Cardona-Castro N, Legua P, Crespo L, Sewpersad K, Dávila JJ, Barreto J, Dwivedi P, Morris-Wilson H, Larrea MP, Talhari C, Lahiri R, Truman RW, Gozlan RE, Couppié P, Thoisy BD. Leprosy transmission in Amazonian countries: Current status and future trends. *Current Tropical Medicine Reports*
 19. Avanzi C, **Singh P**, Truman RW and Suffys PN. Molecular epidemiology of leprosy: an update. *Infection, Genetics and Evolution* 2020; 12:104581.
 20. urtwängler A, Neukamm J, Böhme L, Reiter E, Vollstedt M, Arora N, Singh P, Cole ST, Knauf S, Calvignac-Spencer S, Krause-Kyora B, Krause J, Schuenemann VJ, Herbig A. Comparison of target enrichment strategies for ancient pathogen DNA. *Biotechniques*. 2020 Dec;69(6):455-459.
 21. R Sharma, **P Singh**, WJ Loughry, M Lockhart, B Inman, M Duthie, MT Pena, L Marcos, DM Scollard, ST Cole, RW Truman. Zoonotic Leprosy in the Southeastern United States. *Emerging Infect Dis* 2015;21(12):2127-34. (IF = 7.422)
 22. Avanzi C, S Bühner-Sékula, A Benjak, C Loiseau, **P Singh**, MA Pontes, HS Gonçalves, EM Hungria, P Busso, J Piton, MI Silveira, R Cruz, A Schettini, MB Costa, MC Virmond, SM Diorio, IM Dias-Baptista, PS Rosa, M Matsuoka, ML Penna, ST Cole, GO Penna. Whole genome sequencing distinguishes between relapse and reinfection in recurrent leprosy cases. *PLoS Neglected Tropical Diseases* 2017; 11(6): e0005598. (IF= 3.948)
 23. VJ Schuenemann, C Avanzi, B Krause-Kyora, A Seitz, A Herbig, A Benjak, S Inskip, GM Taylor, **P Singh** et al. Ancient genomes reveal a high diversity of *Mycobacterium leprae* in medieval Europe. *PLoS Pathog* 14(5): e1006997.
 24. R Sharma, **P Singh**, M Pena, R Subramanian, V Chouljenko, J Kim, N Kim, J Caskey, MA Baudena, LB Adams, RW Truman. Differential growth of *Mycobacterium leprae* strains (SNP genotypes) in armadillos. *Infection Genetics and Evolution* 2018; 62(8); 20-26.
 25. Avanzi C, Lecorché E, Rakotomalala FA, Benjak A, Rabenja FR, Ramarozatovo LS, Cauchoix B, Rakoto-Andrianarivelo M, Tió-Coma M, Leal-Calvo T, Busso P, Boy-Röttger S, Chauffour A, Rasamoelina T, Andrianarison A, Sendradsoa FA, Spencer JS, **Singh P**, Dashatwar DR, Narang R, Berland J-L, Jarlier V, Salgado CG, Moraes MO, Geluk A, Randrianantoandro A, Cambau E, Cole ST. Population genomics of *Mycobacterium leprae* reveals a new genotype in Madagascar and Comoros. *Frontiers in Microbiology*; 2020. May 11.
 26. L Vera-Cabrera, WG Escalante-Fuentes, S Ocampo-Garza, J Ocampo-Candiani, C Molina-Torres, C Avanzi, A Benjak, P Busso, **P Singh**, ST Cole. *Mycobacterium lepromatosis* infections in Nuevo León, México. *Journal of Clinical Microbiology* 2015, 53(6): 1945-46.
 27. TA Mendum, VJ Schuenemann, S Roffey, GM Taylor, H Wu, **P Singh**, K Tucker, J Hinds, ST Cole, AM Kierzek, K Nieselt, J Krause, GR Stewart. *Mycobacterium leprae* genomes from a British medieval leprosy hospital: towards understanding an ancient epidemic. *BMC Genomics* 2014 15:270
 28. GM Taylor, K. Tucker, RE Butler, AWG Pike, J Lewis, S. Roffey, P. Marter, O Y-C Lee, HH Wu, DE Minnikin, GS Besra, **P Singh**, ST Cole, GR Stewart. Detection and strain typing of ancient *Mycobacterium leprae* from an early medieval leprosy hospital. *PLoS One* 2013; 8(4): e62406.
 29. L Vera-Cabrera, WG Escalante-Fuentes, M Gomez-Flores, J Ocampo-Candiani, P Busso, **P Singh**, ST Cole. Case of diffuse lepromatous leprosy associated with “*Mycobacterium lepromatosis*”. *Journal of Clinical Microbiology* 2011; 49(12): 4366-8.
 30. **P Singh**, A Benjak, S Carat, M Kai, P Busso, C Avanzi, C Peter, K Harshman, J Rougemont, M Matsuoka, ST Cole. Genome-wide re-sequencing of multi-drug resistant *Mycobacterium leprae* Airaku-3. *Clinical Microbiology and Infection* 2014, 20(10):O619-O622. (IF= 6.425)
 31. **P Singh**, ST Cole. Leprosy: genes, pseudogenes and genetics. *Future Microbiology* 2011; 6: 57-71. (IF= 3.190)

32. **P Singh**, A Paniz-Mondolfi, M Monot, N Honore, P Busso, ME Villarreal Olaya, C Rivas, ST Cole. Molecular drug susceptibility testing and genotyping of *Mycobacterium leprae* strains from South America. *Antimicrobial Agents and Chemotherapy* 2011; 55(6): 2971-3. (IF= 4.715)
33. **P Singh**, C Wesley, GPS Jadaun, R Das, SK Malonia, P Upadhyay, J Faujdar, P Sharma, P Gupta, Abhay Kumar Mishra, Kalpana Singh, DS Chauhan, VD Sharma, UD Gupta, K Venkatesan, VM Katoch. Comparative evaluation of L-J Proportion Method, BacT/ALERT 3D system, and enzymatic pyrazinamidase assay for pyrazinamide susceptibility testing of *Mycobacterium tuberculosis*. *Journal of Clinical Microbiology* 2007; 47(1): 76-80. (IF= 4.959)
34. **P Singh**, AK Mishra, SK Malonia, DS Chauhan, VD Sharma, K Venkatesan, VM Katoch. The paradox of pyrazinamide: An update of molecular mechanisms of pyrazinamide resistance in mycobacteria. *Journal of Communicable Diseases* 2006; 38(3):288-98.
35. **P Singh**, VM Katoch. Multi-drug resistant tuberculosis: current status and emerging tools for its management in India. *Journal of Communicable Diseases* 2006; 38(3): 216-29.
36. R Gupta, B Thakur, **P Singh**, HB Singh, VD Sharma, VM Katoch, SVS Chauhan. Anti-tuberculous activity of selected medicinal plants against multi-drug resistant isolates of *Mycobacterium tuberculosis*. *Indian Journal of Medical Research* 2010; 131(6): 809-13.
37. R Das, P Gupta, **P Singh**, K Srivastava, DS Chauhan, VD Sharma, K Katoch, VM Katoch. Association of mutations in *rpsL* gene with high degree of streptomycin resistance in clinical isolates of *Mycobacterium tuberculosis* in India. *Indian Journal of Medical Research* 2009; 129(1): 108-10.
38. M Singh, DS Chauhan, P Gupta, R Das, RK Srivastava, P Upadhyay, **P Singh**, K Srivastava, J Faujdar, GPS Jadaun, VS Yadav, VD Sharma, K Venkatesan, S Sachan, P Sachan, K Katoch, VM Katoch. Comparative in vitro activity of gatifloxacin, sparfloxacin, levofloxacin, ofloxacin and ciprofloxacin against *M. tuberculosis* isolates from Agra and Kanpur region of north India. *Indian Journal of Medical Res* 2009; 129(5): 542-7.
39. SS Kanwar, L Lumba, SK Gupta, VM Katoch, **P Singh**, AK Mishra, SB Kalia. Synthesis and mycobactericidal properties of metal complexes of isonicotinoyldithiocarbamic acid. *Biotechnology Letters* 2008; 30(4):677-80.
40. R Dayal, A Singh, VM Katoch, B Joshi, DS Chauhan, **P Singh**, G Kumar, VD Sharma. Serological diagnosis of tuberculosis. *Indian Journal of Pediatrics* 2008; 75(12): 1219-21.
41. AP Zahoor, S Sadhana, GK Khuller, **P Singh**, J Faujdar, VM Katoch. Antimycobacterial potential of Econazole against multi-drug resistant strains of *Mycobacterium tuberculosis*. *International Journal of Antimicrobial Agents* 2006; 28(6): 543-4.
42. HB Singh, **P Singh**, GPS Jadaun, K Srivastava, VD Sharma, DS Chauhan, VM Katoch. Simultaneous use of two PCR systems targeting IS6110 and *mpb64* for confirmation of diagnosis of tuberculous lymphadenitis. *Journal of Communicable Diseases* 2006; 38(3):274-9.
43. R Dayal, G Sirohi, MK Singh, PP Mathur, BM Agarwal, VM Katoch, B Joshi, **P Singh**, HB Singh. Diagnostic value of ELISA serological tests in childhood tuberculosis. *J Trop Pediatr* 2006; 52(6): 433-7.
44. Murhekar MV, Bhatnagar T, Selvaraju S, Saravanakumar V, Thangaraj JWV, Shah N, Kumar MS, Rade K, Sabarinathan R, Asthana S, Balachandar R, Bangar SD, Bansal AK, Bhat J, Chopra V, Das D, Deb AK, Devi KR, Dwivedi GR, Khan SMS, Kumar CPG, Kumar MS, Laxmaiah A, Madhukar M, Mahapatra A, Mohanty SS, Rangaraju C, Turuk A, Baradwaj DK, Chahal AS, Debnath F, Haq I, Kalliath A, Kanungo S, Kshatri JS, Lakshmi GGJN, Mitra A, Nirmala AR, Prasad GV, Qurieshi MA, Sahay S, Sangwan RK, Sekar K, Shukla VK, Singh PK, **Singh P**, Singh R, Varma DS, Viramgami A, Panda S, Reddy DCS, Bhargava B; ICMR Serosurveillance Group. SARS-CoV-2 antibody seroprevalence in India, August-September, 2020: findings from the second nationwide household serosurvey. *Lancet Global Health*. 2021;9(3):e257-e266. doi: 10.1016/S2214-109X(20)30544-1. Impact factor: 38.927.
45. Sharma M, **Singh P**. Differential Expression of Interleukin-6 in Leprosy Reactions. *Indian Journal of Dermatology, Venereology, and Leprology* 2021; 1-2.
46. Sharma M, Dwivedi P, **Singh P**. Current situation of leprosy in tribal areas of India in the post-elimination era. *Indian Journal of Dermatology, Venereology, and Leprology*. 2020

47. Sharma M, **Singh P**. Role of tlyA gene in the biology of uncultivable mycobacteria. Comb Chem High Throughput Screen. 2022;25(10):1587-1594..
48. Schaub R, Avanzi C, Singh P, Paniz-Mondolfi A, Cardona-Castro N, Legua P, Crespo L, Sewpersad K, Dávila JJ, Barreto J, Dwivedi P, Morris-Wilson H, Larrea MP, Talhari C, Lahiri R, Truman RW, Gozlan RE, Couppié P, Thoisy BD. Leprosy transmission in Amazonian countries: Current status and future trends. Current Tropical Medicine Reports 2020;7:79–91 doi: 10.1007/s40475-020-00206-1.
49. Dwivedi P, Sharma M, Patel P, **Singh P***. Simultaneous detection and differentiation between Mycobacterium leprae and Mycobacterium lepromatosis using novel polymerase chain reaction primers. The Journal of Dermatology 2021. DOI: 10.1111/1346-8138.16165 (in press).
50. Furtwängler A, Neukamm J, Böhme L, Reiter E, Vollstedt M, Arora N, **Singh P**, Cole ST, Knauf S, Calvignac-Spencer S, Krause-Kyora B, Krause J, Schuenemann VJ, Herbig A. Comparison of target enrichment strategies for ancient pathogen DNA. Biotechniques. 2020;69(6):455-459. doi: 10.2144/btn-2020-0100.
51. Murhekar M, Thangaraj JWV, Saravanakumar V, .. **Singh P**. SARS-CoV-2 seroprevalence among general population and healthcare workers in India, December 2020 - January 2021. (in press) Int J Infect Dis 2021 Jul;108:145-155 (doi: 10.1016/j.ijid.2021.05.040). Impact factor: 3.623
52. Sharma M, **Singh P***. Repurposing Drugs to Combat Drug Resistance in Leprosy: A Review of Opportunities. Combinatorial Chemistry & High Throughput Screening 2021..
53. Sharma, M., Dwivedi P., Mishra N., Patel P., & **Singh P***. (2020). Research on leprosy in tribal areas of India: Challenges in accessing health facilities and diagnostics. *Tribal Health Bulletin* 2020; 27(2).
54. Krismati, H,... **Singh P**. Implementation of Genetic Screening Test to Reduce the Incidence of Dapsone Hypersensitivity Syndrome Among Leprosy Patients in Papua: A Study Protocol. BMJ Medicine 2022 (accepted)
55. Bhat J, Rao R, Kumar R, Yadav R, **Singh P**, Rao VG, Das A. TB free India: Reaching the unreached tribal population under National Tuberculosis Elimination Programme. Indian Journal of Tuberculosis. 2021 Apr 13.DOI: 10.1016/j.ijtb.2021.04.009.
56. Mavlankar A, Ansari A, Sharma M, Dwivedi P, **Singh P***. Interaction of surface glycoprotein of SARS-CoV-2 variants of concern with potential drug candidates: A molecular docking study. F1000Research. 2022 Apr 7;11(400):400.
57. Molina-Torres C, Quinn F, Castro-Garza J, Gómez- Velasco A, Ocampo-Candiani J, Bencomo-Alert A, Sánchez-Pérez HJ, Muñoz-Jiménez S, Rendón A, Ansari A, Sharma M, **Singh P**, Lucio Vera-Cabrera. Genetic diversity of Mycobacterium tuberculosis isolates from an Amerindian population in Chiapas, México; Frontiers in Cellular and Infection Microbiology 2022, <https://pubmed.ncbi.nlm.nih.gov/35909960/>
58. Sharma M, **Singh P***. Advances in the diagnosis of Leprosy. Frontiers in Tropical Diseases 2022 (in press, page proofs received).
59. Sharma M, Gupta Y, Dwivedi P, Kempaiah P, **Singh P***. Mycobacterium lepromatosis MLPM_5000 is a potential heme chaperone protein HemW and mis-annotation of its orthologues in mycobacteria. Infection, Genetics and Evolution. Volume 94, October 2021, 105015.
60. **Singh P***, Sharma M, Dwivedi P. Quantitative estimation of different strains in co-infection experiments to determine differential growth rates and transmissibility (eLetters). Science. 2021
61. Sharma M, **Singh P***. Epidemiological scenario of leprosy in marginalized communities of India: Focus on scheduled tribes. Indian J Med Res. 2022;156(2):218-227. doi:10.4103/ijmr.ijmr_3247_21
62. Mishra N, Barde PV, Awasthi S, Kumawat A, Gaur R, **Singh P**, Srivastava S and Das A (2022) Profile of diseases prevalent in Datia District of Madhya Pradesh, India. Front. Public Health 10:926000.
63. Shukla S, Desai S, Bagchi A, **Singh P**, Joshi M, Joshi C, Patankar J, Maheshwari G, Rajni E, Shah M, Gajjar D. Diversity and Distribution of β -Lactamase Genes Circulating in Indian Isolates of Multidrug-Resistant Klebsiella pneumoniae. Antibiotics (Basel). 2023 Feb 23;12(3):449. doi: 10.3390/antibiotics12030449. PMID: 36978316; PMCID: PMC10044340

64. Gupta P, Singh P, Das A, Kumar R. Determinants of tuberculosis: an example of high tuberculosis burden in the Saharia tribe. *Front Public Health*. 2023;11:1226980. (doi:10.3389/fpubh.2023.1226980).
65. Sharma M, Dwivedi P, Joshi V, **Singh P***. Novel mutations found in *Mycobacterium leprae* DNA repair gene *nth* from central India. *J Infect Chemother*. Published online December 22, 2023. doi:10.1016/j.jiac.2023.12.011
66. Dwivedi P, Sharma M, **Singh P***. Multiplex PCR-based RFLP assay for early identification of prevalent *Mycobacterium leprae* genotypes. *Diagn Microbiol Infect Dis*. 2023;107(4):116084. doi:10.1016/j.diagmicrobio.2023.116084:
67. Grover A, Nair S, Sharma S, Gupta S, Shrivastava S, **Singh P**, Kanungo S, Ovung S, Singh C, Khan AM, Sharma S, Palo SK, Chakma T, Bajaj A. Strengthening Cause of Death Statistics in Selected Districts of Three States in India: Protocol for an Uncontrolled Before- After, Mixed –Method Study. *JMIR Research Protocols* 2024 (in press) (IF=7.2).
68. Wilkin S, Lanigan LT, Montes N, Sharma M, Avanzi C, Sejdiu D, Majander K, Pfrengle S, Chiang Y, Kunz L, Dittmann A, Rühli F, **Singh P**, Coll MF, Collins MJ, Taurozzi AJ, Schuenemann VJ. Sequential trypsin and ProAlanase digestions unearth immunological protein biomarkers shrouded by skeletal collagen. *iScience*. 2024 Apr 3;27(5):109663. doi: 10.1016/j.isci.2024.109663. PMID: 38655200; PMCID: PMC11035369.
69. Mavlankar A, Ansari A, Sharma M, Dwivedi P, **Singh P***. Comparative host transcriptomics as a tool to identify biomarkers for immune reactions in leprosy- A meta-analysis. 2024. *Indian Journal of Dermatology, Venereology and Leprology*. (in press)
70. Ansari A, Ray SK, Sharma M, Rawal R, **Singh P**. Tumor Mutational Burden as a Biomarker of Immunotherapy Response: An Immunogram Approach in Onco-immunology. *Curr Mol Med*. 2024;24(12):1461-1469. doi: 10.2174/0115665240266906231024111920. PMID: 39420726.
71. Anjal K, Rawal V, Pandey S, Harshavarthini M, Verma AK, B Mohan, S Gurha, G Sondhiya, A Ansari, S Kombiah, S Shrivastava, Barde PV, **Singh P**. Vector incrimination studies on Lymphatic filariasis in rural areas of endemic Datia District in Madhya. *Transactions of the Royal Society of Tropical Medicine and Hygiene*. DOI: 10.1093/trstmh/traf045. Manuscript ID: TRSTMH-D-24-00344 (accepted on 1st April 2025). (impact factor in June 2024: 1.9).
72. Dwivedi P, Sharma M, Ansari A, **Singh P**. Genetic diversity of *Mycobacterium leprae*: Need to move towards genome-wide approaches. *Indian J Med Res*. 2024;159(2):121-129. doi:10.4103/ijmr.ijmr_2383_22.
73. Nema RK, Singh AK, Nagar J, Prajapati B, Sikenis M, Singh S, Diwan V, **Singh P**, Tiwari R, Mishra PK. Investigating the Presence of Rotavirus in Wastewater Samples of Bhopal Region, India, by Utilizing Droplet Digital Polymerase Chain Reaction. *Cureus*. 2024 Apr 24;16(4):e58882.
74. Abdulkader RS, Ramasamy S, Vaman RS, Sapkal GN, Narayan J, Vijay N, Ravel V, Palanisamy SS, Rao Deshpande G, Gupta N, Murhekar MV; VRDLN. Acute encephalitis syndrome and Japanese encephalitis in India: insights from a nationally representative laboratory surveillance network, 2014-2023. **BMC Infect Dis**. 2025 Dec 8;26(1):989. doi: 10.1186/s12879-025-12274-7. PMID: 41361270; PMCID: PMC13196020
75. Maity C, Biswas S, Podder S, Jishna RP, **Singh P**. A narrative review on the current re-emergence of Monkeypox in India. *Discover Public Health*. 2026; 23(1): 566.
76. Maity C, Mitra S, Tripathi A, Khobdagade S, Balachandran C, **Singh P**. Comprehensive overview of the multifaceted roles of non-structural proteins of Orthoflavivirus in replication and immunopathology. *Virus Genes*. 2026 May 27:1-3.
77. Singh VP, Singh KN, Tirkey D, Verma N, Mishra S, Ukey MJ, Chouksey V, Sahare LK, Batham V, Singh MP, Kumar S, **Singh P**. Monitoring Rubella Immunity and Transmission in Central India Amidst Elimination Efforts. *Microbiol Immunol*. 2026 May 20.

78. Abdulkader, R.S., Ramasamy, S., Vaman, R.S. et al. Acute encephalitis syndrome and Japanese encephalitis in India: insights from a nationally representative laboratory surveillance network, 2014–2023. BMC Infect Dis 26, 989 (2026). <https://doi.org/10.1186/s12879-025-12274-7>
79. Gupta N, N Vijay, SD Bhardwaj, V Potdar, Abdulkader R, Suliankatchi, L Mukhopadhyay, R Sabarinathan, T Majumdar, D Biswas, R Narang, ML Choudhary, A Choudhary, M Brijwal, R Gadepalli, S Banerjee, S Rai, M Mishra, A Bhargava, SS Negi, N Khandelwal, SG Basawarajappa, T Biswas, NB Santose, RR Ghosh, A Sood, V Misra, Indira K, A Sharma, V Gupta, V Goel, JM Magdaline, U Varshney, Raji TK, R Bakshi, S Thangavel, S Mullan, G Kannan, P Kizhakkekarammel, K George, MJW Pinto, M Shanmugham, Anitha PM, J Irvane, L Jayalakshmi, A Balakrishnan, S Siba, A Majumdar, P Singh, G Dwivedi, R Ray, R Dhodapkar, RK Manojkumar Singh, P Aggarwal, N Ingle, M Kumar, S Radera, K Krishnasamy, AR Devi, D Samal, C Sugumari, N Pal, M Purohit, R Ghosh, A Manna, AK Bodigutlapalli, A Sarkar, WV Lyngdoh, M Mistry, MP Singh, B Borkakoty, B Chakraborty, J Turuk, G Sahoo, B Fomda, B Malhotra, A Gupta, S Gurung, U Kalawat, M Umpo, RK Verma, S Roy, Respiratory virus surveillance Team, Amita Jain, Santasabuj Das, Lalit Daret al 2026. **Trends of severe human Metapneumovirus infections in India.** BMC Infectious Diseases (accepted)

Book Chapters:

80. **Singh. P**, Cole ST. The genomics of leprosy. In: K Nelson, B Jones-Nelson (eds) Genomics Applications and the Developing World, Advances in Microbial Ecology. pp- 39-49. Springer Publishing Company, New York (2012). ISBN: 978-1-4614- 2182-5
81. Cole ST, **Singh P**. History and phylogeography of leprosy. In: E Nunzi, C Massone (eds) Leprosy: A practical guide. pp-3-13. Springer Publishing Company, New York (2012). ISBN: 978-88-470-2376-5.
82. **Singh P**, Tufariello JM, Wattam AR, Gillis TP, Jacobs WR Jr. Genomics insights into the biology and evolution of leprosy bacilli. In: International Textbook of Leprosy 2016, Eds: Thomas Gillis and David Scollard.
83. Sharma M, **Singh P**. Use of Artificial Intelligence in Research and Clinical Decision Making for Combating Mycobacterial Diseases. In: Artificial Intelligence and Machine Learning in Healthcare Perspective. 2020. Ed(s) Saxena A, Chandra S. Springer Publishers. (in press, DOI: 10.1007/978-981-16-0811-7).
84. Sharma M, Dwivedi P, Chodvadiya J, Bhardwaj N, Ansari A, **Singh P**. Phylogenomics of *Mycobacterium leprae*. Phylogenomics, 2023.
85. Ray SK, Gurha S, Shrivastava S, Singh VP, Suravajhala PN, **Singh P**. Personalized Medicine in Reproductive Health. In: Systems Biology And Machine Learning Methods in Reproductive Health. CRC Press. (2024)
86. Sharma A, Pandey G, Venu V, Asokan D, Chatterjee S, Bhargava H, Khilwani B, Ansari AS, Lohiya NK, **Singh P** and Suravajhala PN. Challenges in Reproductive Health. In: Systems Biology And Machine Learning Methods In Reproductive Health. CRC Press. (2024).
87. Syed M, Nikhil H, Arunima NP, Nair GS, Lalitha A, Gurha S, Singh VP, Bedse M, Sengupta A, **Singh P**, and Suravajhala P. Genomics and Transcriptomics in Reproductive Health. In: Systems Biology And Machine Learning Methods In Reproductive Health. CRC Press. (2024).
88. Ray SK, Maity C, Kumar R, Patel D, Raikwar P, Sahare LK,...,**Singh P** et al. Green chemistry in synthesis of gold nanoparticles using plant metabolites for their antiviral activity. In: Agu PC, Aja PM, Ezech EM, Anidu IC, editors. Book- Integrative technologies for drug discovery and industrial sustainability. CRC Press; 2026.

89. Ray SK, Kumar R, Jaiswal R, Lakhera Y, Raikwar P, Tiwari N,..., **Singh P** et al. MicroRNAs in infectious diseases: regulators, biomarkers, and therapeutic targets. Book- miRNA in Human disease. Elsevier. 2026