

**Prof. Sarman Singh**  
Director & CEO,  
All India Institute of Medical Sciences, Bhopal

**Curriculum Vitae**

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### **Detailed Curriculum Vitae**

Name: **Prof. Sarman Singh**

Date of Birth: November 9, 1956

Position & Affiliation: Director & CEO,  
All India Institute of Medical Sciences,  
Bhopal, (MP)

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Webpage: <http://www.drsarmansingh.com>

<b>Qualifications: University Degree with date:</b>		
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B.Sc.	Agra University	1976
M.B.B.S.	KGMC, Lucknow	1982
D.H.A. (Dip. Hosp. Adm.)	YMCA, New Delhi	1985
M.D. (Medical Microbiology)	PGIMER, Chandigarh	1987
Post Graduate Course Epidemiology (Infectious Diseases)	Univ. Michigan (USA)	1990

**Appointments in Chronological Order:**

<b>Appointment</b>	<b>From</b>	<b>To</b>
Internship, Aligarh, UP	01-12-82	30-11-83
Junior Resident (Ortho) RML Hospital, New Delhi	01-01-84	31-12-84
Junior Resident (Clinical Microbiology), PGIMER, Chandigarh	01-01-85	31-12-87
Senior Resident (Clinical Microbiology), AIIMS, New Delhi	12-01-88	31-08-90
Assist. Professor (Clinical Microbiology) AIIMS, New Delhi	31-08-90	30-06-95
Overseas Research Associate (DBT), Chicago, USA	01-01-94	01-01-95
Assoc. Professor (Clinical Microbiology) AIIMS, New Delhi	01-07-95	30-06-99
National Consultant (HIC) WHO/NACO, New Delhi, India	16-07-99	15-02-00
Additional Professor (Clinical Microbiology) AIIMS, New Delhi	01-07-99	30-06-07
Professor & Head (Clinical Microbiology) AIIMS, New Delhi	01-07-07	03-06-2018
Director & CEO, AIIMS, Bhopal	04-06-18	Till date

**FELLOWSHIPS**

1. Fellow, Royal College of Pathologists (FRCP), UK, 2020
2. Fellow Indian Academy of Biomedical Sciences, 2019
3. Fellow Association for Advanced Veterinary Research, 2017
4. Fellow Royal Society of Chemistry (UK), 2014 (# 556595)
5. Fellow International Medical Sciences Academy, 2009
6. Fellow Indian Academy of Tropical Parasitology, 2008
7. Fellow Royal Society of Tropical Medicine & Hygiene (UK), 2007 (#11868)
8. Fellow National Academy of Medical Sciences, 2006
9. Fellow Society for Immunology & Immunopathology, 2001

**AWARDS/ HONOURS****• MAJOR AWARDS**

1. Pride of India Award (for Covid-Management), Public Relation Society of India, New Delhi, 2020
2. Received S.C. Dutt Memorial Oration Award of Indian Association of Veterinary Parasitologists (IAVP), Jabalpur, 2020.

3. Received Prof. TD Chugh Award of National Academy of Medical Sciences (India), 2019.
4. Received NAMS Amritsar Oration Award of National Academy of Medical Sciences (India), 2019.
5. Received Foundation Day Oration Award of National Institute for Research in Environmental Health (NIREH), Bhopal, 2019.
6. Received AIIMS Research Excellence Award for published work on Tuberculosis, September, 2017.
7. Received Senior Scientist Oration Award of Indian Immunology Society, at the 43<sup>rd</sup> IIS Conference at Visakhapatnam, February 2017
8. Received AIIMS Research Excellence Award for best published work, September 2016 (for Research in Tuberculosis) from Minister of Health & Family Welfare, Government of India.
9. Received Dr. APJ Abul Kalam Lifetime Achievement Award of Society of Bio- Medical Laboratory Scientists, 2016.
10. Received Research Excellence Award 2015, Indus Foundation, USA/India, November 2015.
11. Received BMJ Excellence Award 2014 (India) for Innovation in Healthcare Technology.
12. Received Med-Achiever Award of Indian Medical Association for Innovative Research, July 2014.
13. Received Chikitsa Ratna Award of Delhi Medical Association, June 2014.
14. Received Life Time Achievement Award of the Society for Immunology & Immunopathology, December 2013.
15. Received Prof. BK Aikat Oration Award of Indian Council of Medical Research, 2008 for his original work on Kala-Azar.
16. Received BC Roy Award (Hari Om Ashram Alembic Research Award) of Medical Council of India, for the year 2007.
17. Received Vigyan Ratna Samman awarded by Council of Science and technology, Government of UP, for the year 2006.
18. Received Biotechnology Product, Process and Commercialization Award for Commercialization of a novel recombinant antigen of Leishmania donovani for the accurate diagnosis of Kala-azar and PKDL. 2006.
19. Received Prof. BP Pandey Memorial Oration Award for Best Teacher in Parasitology, Indian Society for Parasitology 2006.
20. Received Merit Award 1998 of the International Immunocompromised Host Society (USA), June 1998, Davos (Switzerland).
21. Received ICMR Award for the work on Parasites in general and Toxoplasma gondii in particular by the Indian Council of Medical Research, 1996.
22. Received Young Scientist Award 1996 of the International Immunocompromised Host Society (USA), June 1996, Assisi (Italy).
23. Biotechnology Long Term Overseas Associateship for 1 year Awarded by the Ministry of Science and Technology, Government of India, to work in USA, 1994-95
24. Received Best Citizen Award of the Best Citizen Publishing House (Delhi) for year 2006
25. Received "Man of the Year 1998" by the American Biographical Institute, Raleigh, USA.
26. Received First prize in Hindi dictation by any faculty member at AIIMS, New Delhi for year 2006.
27. Task Force Member of SERC (FAST TRACK SCHEME) of Department of Science and Technology, Government of India. 2004-2007 & again for 2008-2011.
28. Elected Consulting Editor of The contemporary "Who's Who" (USA). 2003.

29. Elected Member of Research Advisory Board 1999, American Biographical Institute, Raleigh, USA
30. Elected Member of the New York Academy of Sciences, USA, 1997.
31. Awarded Full Scholarship from UNAIDS/Canada Government to present a paper in the XI International Conference on AIDS, Vancouver, July 1996.
32. Awarded Japan Government Full Scholarship to present a paper in the X International Conference on AIDS/STD, August 1994.
33. Awarded Young Scientist INSA travel grant to present a paper in the VII International AIDS Conference, June 1991, Italy.
34. Awarded Young Scientist DST travel grant to attend the VII International AIDS Conference, June 1991, Italy.
35. Awarded CSIR travel award for obtaining training in Epidemiology of Infectious Diseases, University of Michigan, USA, 1990.

#### • OTHER AWARDS/HONOURS

1. Elected President of Indian Association of Medical Microbiologists (Delhi Chapter), for 2016.
2. Elected President of the Society for immunology and Immunopathology, for 3 years 2014-2016.
3. Chairman of the Award committee for best Hindi book writing on medical sciences. Indian Council of Medical Research, 2013-2016.
4. Chaired the selection committee for Scientist C, at Indian Council of Medical Research, New Delhi, 2013-2016.
5. Member, Fellowship committee of Indian Council of Medical Research, 2009-2013.
6. Member Expert committee of ICMR for reemployment of retired ICMR scientists, 2010 onward.
7. Member standing selection committee of ICMR for promotion of ICMR Scientists for grade D, E and F, 2010-onward.
8. Subject Assessor of Medical Council of India, 2010-12
9. Member, Institutional Animal Ethics committee, Panacea Biotech, New Delhi 2010-2011
10. Chairman, Institutional Ethics Committee, of CARE Foundation, Namakkal, Tamilnadu, 2009- onward
11. Member of the Kala-azar elimination High power committee constituted by DGHS, Gov. of India, 2005-2013.
12. Member Model Rural Health Research Unit (MRHRU), Department of Health Research, Government of India.
13. Member- Advisory Board, Dr. B. Lal Institute of Biotechnology, Jaipur, 2009-
14. Invited Speaker on HIV-TB co-infection for the World AIDS Conference held at Mexico, August 2008.
15. Member, Board of Faculty & RDC of Life Sciences, CSJM University, Kanpur, 2007-9.
16. Member of Joint Monitoring Mission of National Vector Borne Disease Control Programme, Ministry of Health, Government of India, 2007-2008.
17. Chief Guest to inaugurate the Biotechnology Update of IP Degree College of CCS University, Meerut.
18. Member of the "Scientific Expert Committee on QA/QC Implementation" National Institute of Biological, Ministry of Health, Government of India, 2006-2009.
19. Member of the Selection Committee for "Rashtriya Gyan Vigyan Maulik Pustak Lekhan Puruskar Yojana", Ministry of Home Affairs, Govt. of India for the duration of 2002-03

20. Honorary Member and only Representative from India for Prison Healthcare Committee of Medical Advocates for Social Justice, Argentina, Since 2001.

## STUDENTS AWARDED

### a. International Fellowships

1. Arshi Munawwar, International Fellowship “HIV Research Trust –Award 2009” International AIDS Society, Geneva, to work at NIH, USA for 6 months.

### b. Shri Mohan Lal Wig Award for Best Clinical Research

1. Dr. Krishnamoorthy Gopinath was awarded this prestigious Award for the year 2008 for his thesis work titled “PCR and sequence based identification of *Mycobacterium* sp. from extra-pulmonary tuberculosis cases”

### c. Best Oral Presentation Awards

1. Krishnamoorthy Gopinath and **Sarman Singh**. “Comparative Evaluation of in-house Multiplex PCR with Conventional Methodologies for Detecting Mycobacteria Infections”. International Conference on Opportunistic Pathogens in AIDS (ICOPA-India 2006) March 27 – 29, 2006, at All India Institute of Medical Sciences, New Delhi.
2. Ayan Dey, Pawan Sharma, **Sarman Singh**. “Development of Chimeric DNA vaccine as a strategy for control of *L. donovani* and *M. tuberculosis* co-infection”. October 30- November 2, 2008, Tropacon-2, India Institute of Medical Sciences, New Delhi.

### d. Best Poster Presentation Award

1. Ramu Sivakumar, Pawan Sharma, Kwang-Poo Chang and **Sarman Singh**. “Cloning, expression, and purification of a novel recombinant antigen from *Leishmania donovani*” January 12–16, 2004, Bangalore University, Bangalore, India.
2. Kishnamoorthy Gopinath and **Sarman Singh**. “Detection and Identification of Mycobacterial infections in AIDS patients by Multiplex PCR”. IAMM Delhi Chapter, 6th August, 2005, at R.M.L Hospital, New Delhi.
3. Sandeep Kumar, K Gopinath, Mani Sankar, and **Sarman Singh**. “Tetrazolium Microplate Assay as a Rapid and Inexpensive Colorimetric Method for Antitubercular Drug Susceptibility Testing.” International Conference on Opportunistic Pathogens in AIDS (ICOPA) March 27-29, 2006, All India Institute of Medical Sciences, New Delhi.
4. Amit Singh, K Gopinath, and **Sarman Singh**. “Proteomic analysis of *Mycobacterium tuberculosis* strains sequentially acquired resistance to Isoniazid and Rifampicin.” 10-11 March 2008, Indian Institute of Science, Bangalore.
5. Amit Singh, K Gopinath, and **Sarman Singh**. “ATP Binding Cassettes transporters of *M. tuberculosis* and *M. Avium paratuberculosis* Phylogeny to Regulatory functions” in International Conference on Opportunistic Pathogens in AIDS, January 27<sup>th</sup>-29<sup>th</sup> 2008 at, New Delhi.
6. Arshi Munawwar, Swati Gupta, **Sarman Singh**. “Incidence and Prevalence of Human Herpes Virus (HHVs) Infection in HIV-Positive North Indian Patients.” AIDS Society of India (ASICON-2009), 28<sup>th</sup> Feb-1<sup>st</sup> March 2009, Jaipur, India.

7. Arshi Munawwar, Gupta S, Lisco A, Vanpouille C, Sharma SK, Grivel JC, Margolis L, **Sarman Singh**.: *Epstein Barr Virus" A Yet To Be Recognised Virus For Its Role In AIDS: Indian Scenario*. International Conference on Opportunistic Pathogens in AIDS (ICOPA- India) October 27-30, 2010, New Delhi.
8. Amit Singh, K Gopinath, P. Sharma, D. Bisht, N. Singh and **Sarman Singh**. Young Scientist Award for the work titled "Proteomics analysis of sequential isolates of *M. tuberculosis* from a patient of drug resistant pulmonary tuberculosis" FEMS-2013, July 21-25, 2013 at Leipzig, Germany.

## EXTERNAL MD/PhD/DSc. EXAMINER FOR VARIOUS UNIVERSITIES

- 1 Dr. BR Ambedkar University, Agra
- 2 Bombay University, Mumbai
- 3 Calcutta University, Kolkata
- 4 Madras University, Madras
- 5 MGR Medical University, Chennai
- 6 IMTech, Chandigarh
- 7 PGIMER, Chandigarh
- 8 Garhwal University, Srinagar
- 9 Bundelkhand University, Jhansi
- 10 Delhi University, Delhi
- 11 Jiwaji University, Gwalior,
- 12 Jamia Millia Islamia University, Delhi
- 13 BITS, Pilani
- 14 Pondicherry University
- 15 Jawaharlal Nehru University, New Delhi
- 16 Sher-e-Kashmir Institute of Medical Sciences, Srinagar
- 17 SGPGI, Lucknow
- 18 JIMER, Pondicherry

**OFFICE BEARER / MEMBER OF SCIENTIFIC / ACADEMIC/ADMINISTRATIVE COMMITTEES/ SOCIETIES AND OTHER BODIES**

1. Chairman, Institutional Human Ethics Committee, ICMR- National Institute for Research in Environmental Health (NIREH), 2019-to date
2. Chairman, Research Advisory Committee of Chettinad Academy of Research and Education, Chettinad University, Chennai -2017-2019.
3. Member Scientific Advisory Committee of the JIPMER (JSAC), Pondicherry-2016-2018.
4. Member Scientific Advisory Committee (SAC) of Desert Medicine Research Centre (DMRC), Indian Council of Medical Research, New Delhi-2015-till date.
5. Selection Committee Member (Subject Expert for Medical Microbiology) - Union Public Service Commission (UPSC), 2006, 2014, 2015.
6. Member Task Force on Tuberculosis. Department of Biotechnology, Government of India, 2013-till date.
7. Member –Joint Task Force on Tuberculosis Diagnostics. Indian Council of Medical Research and Department of Biotechnology, Government of India, 2010-till date
8. Member Scientific Advisory Committee (SAC) of National JALMA Institute of Leprosy and other Mycobacterial Diseases (NJILMOD), Indian Council of Medical Research, New Delhi-2010-till date.
9. Member Task Force for SC/ST and Rural Health. Department of Biotechnology, Government of India, 2014-2017.
10. Chairman, Condemnation Committee of Indian Council of Medical Research, New Delhi, 2014 onwards.
11. Chairman, selection committee for various posts at International Health Division of Indian Council of Medical Research, New Delhi, 2014
12. Member, Technical Evaluation Committee of Grant-in-Aid Schemes of the Department of Health Research, 2014-2017.
13. Chairman, Condemnation Committee of Indian Council of Medical Research, New Delhi, 2011-till date
14. Member, High power Technical Advisory Committee (TEC) to review and approve the projects submitted to Department of Health Research, 2014-2017.
15. Member Global Technical Committee of International Organization for Standardization (ISO), Geneva. 2013-till date
16. Member Biomedical Committee of the Bureau of Indian Standards (BIS), New Delhi, 2012-till date
17. CPCSEA (Ministry of Environment, Government of India) nominee for Institutional Animal Ethics Committees (IAEC) of University of Delhi (DU)-2010-2013
18. CPCSEA (Ministry of Environment, Government of India) nominee for Institutional Animal Ethics Committees (IAEC) of Jawaharlal University (JNU)-2009-2008
19. CPCSEA (Ministry of Environment, Government of India) nominee for Institutional Animal Ethics Committees (IAEC) of International Centre for Genetic Engineering and biotechnology (ICGEB), 2006-2012
20. CPCSEA (Ministry of Environment, Government of India) nominee for Institutional Animal Ethics Committees (IAEC) of National Institute of Malaria Research (ICMR), 2008-2011



21. CPCSEA (Ministry of Environment, Government of India) nominee for Institutional Animal Ethics Committees (IAEC) of Defence Institute of Physiology and Allied Sciences (DIPAS), 2011-current
22. CPCSEA (Ministry of Environment, Government of India) nominee for Institutional Animal Ethics Committees (IAEC) of Institute of Genomics and Integrative Biology (IGIB). 2009- current
23. CPCSEA (Ministry of Environment, Government of India) nominee for Institutional Animal Ethics Committees (IAEC) of Maharishi Dayanand University, Rohtak 2015-current
24. Member, Condemnation Board of Indian Council of Medical Research, New Delhi, 2011-till date.
25. Member, Technical Evaluation Committee of Establishment of Model Rural Health Research Units (MRHRU) in the States, 2010-till date
26. Member Equipment purchase committee of Indian Council of Medical Research, New Delhi, 2010-till date.
27. Core Committee Member of the Assessment Board for Promotion of ICMR Scientists under the Flexible Complementing Scheme for Scientists B to Scientist E, for 2011-till date.
28. Member of the Selection Committee for recruitment of Sister Gd-II at AIIMS, October 2010- 2012.
29. Member Task Force of DBT for North Eastern Region-Biotechnology Programme Management Cell (NER-BPMC), 2010 onward
30. Chairman of the Expert Group Meeting of directorate of NVBDCP to decide the disposal of sodium antimony gluconate stocks, held on 28.10.2010.
31. Core Committee Member of the Fellowship Award committee of the Indian Council of Medical Research for year 2010-onward.
32. Expert Panel Member of SERC (FAST TRACK SCHEME) of Department of Science and Technology, Government of India. 2004-2007.
33. Member Kala-azar elimination High power committee constituted by DGHS, Gov. of India.
34. Editor-in-Chief, Journal of Laboratory Physicians
35. Founder President- Association for Better Health & Society (ABHAS) - Regd. NGO. 2002-Till date
36. Secretary -General (founder), Indian Association of Laboratory Physicians
37. Secretary, Forum for Inculcation of Rational & Scientific Temperament
38. Founder Vice- President, Society for Immunology & Immunopathology
39. President, Forum for rights and Equality (Regd., NGO), 1997-1998.
40. Vice-Chairman, Scientific Committee of Indian Medical Association (SDB) 1998-9.
41. Special invitee /co-opted member of the Animal Ethics committee of the ICGEB, New Delhi
42. Working Group Member for revising NCERT books on Microbiology, Blood transfusion and Physiology for Vocational courses.
43. Project reviewer for ICMR, DST and DBT, BCIL, BIRAC, Technology Development Board.
44. Member Selection Committee meeting to select a Scientist D at RMRIMS, Patna on 25<sup>th</sup> October, 2010.

45. External Examiner, Department of Microbiology as an External Examiner in B.P. Koirala Institute of Health Sciences, Dharan, Nepal for conducting the postgraduate examinations dated July 22 to 24, 2010
46. Member of the Doctoral Committee Meeting of the PhD student at SGPGI, Lucknow, 11<sup>th</sup> October, 2010.
47. Medical Council of India Assessor for MD Microbiology and MBBS courses in India 2010-onward.
48. Member, Technical Committee and Specification Committee of National JALMA Institute for Leprosy and Other Mycobacterial Diseases, 2008-onward
49. Expert Member of the selection panel for the Department of Microbiology, Sir Ganga Ram Hospital, 23<sup>rd</sup> December 2007.
50. Member, Board of Faculty of Life Sciences, CSJM University, Kanpur, 2007-2010.
51. Task Force Member- DST (Life Sciences), Fast-Track project grants, 2004-2007.
52. Expert Committee Member- Kala-azar Elimination programme, Government of India, 2005.
53. Chairman, Departmental Promotion Committee for the post of Professors, of CCS HA University, Hissar for
54. External Expert for the DPC of CCS HAU, Hissar for promotion to the post of Professors in Microbiology, 2004-2006.
55. Member of the Medical board constituted for MBBS, BDS, B.Sc. (Human Biology) and B.Sc. (Nursing) for 1991-93, 1995-2006, 2007-2011, 2012-2016.
56. Dean's committee for the selection of senior residents/ demonstrators, December, 1992-93.
57. Union Public Service Commission- Technical Expert for the selections of Assistant Professors/specialists in Microbiology, 1993- 1998, 2014-2016.
58. Member Technical Committee of Central JALMA Institute for Leprosy, Agra. 2001-till date.
59. Regular member of the Medical Board, constituted for all appointment at All India Institute of Medical Sciences, New Delhi, since 1991-till date.
60. Member Advisory Board of AIIMS Employees Health Scheme 1997-8
61. Member, Primate Research Facility of AIIMS, 1998.
62. Working Group Member for revising the syllabi and text books for vocational (+2 level) MLT courses, NCERT, Govt. of India, 1998-2000.
63. DBT and ICMR Expert for reviewing the Kala-azar research Projects, 1997 onward.
64. Member, Advisory Committee on Institutional Animal Ethics, International Centre for Genetic engineering and Biotechnology (ICGEB), New Delhi, 1999-2003.
65. Member, Committee on AIIMS Orientation programme for Junior Residents, 1999-2000.
66. Member, High Power committee to finalise the BSc MLT course at AIIMS, 1999-2001
67. Member, High Power Committee to solve the issue of recognising/derecognising Medical Lab. Technology Courses conducted by various Indian Institutions. 1999-2001.

## REFEREE FOR SCIENTIFIC JOURNALS:

### Journals (only selected)

1. Lancet (UK)
2. JAMA (USA)
3. Clinical Infectious Diseases (USA)
4. Maternal & Child Health, (USA)
5. Clinical and Experimental Immunology (UK)
6. FEMS Immunology (Netherland)
7. Journal of Medical Virology (UK)
8. PLoS Neglected Tropical Diseases (UK)
9. PLoS One (UK)
10. Medicine (USA)
11. Gene and Immunity- NPG (UK)
12. Scientific Reports-NPG (UK)
13. Antimicrobial Agents and Chemotherapy (USA)
14. Journal of Medical Microbiology (UK)
15. Journal of Infection (UK)
16. AIDS Care & Behaviour
17. Archives of Medical Research (Elsevier Science)
18. Infectious Diseases in Clinical Practice (USA)
19. International Journal of Integrative Biology
20. Journal of Parasitology (USA)
21. Medical Science Monitor (USA)
22. International Journal of Genetics and Molecular Biology (USA)
23. International Journal of Medicine and Medical Sciences USA)
24. International Journal of Integrative Biology (USA)
25. Expert Reviews in Molecular Medicine (USA)
26. Biomed Central- Infectious Diseases (UK)
27. Tropical Medicine and Health (UK)
28. Evidence Based Complementary and Alternative Medicine (UK)
29. Molecular and Cellular Biochemistry (MCBI)
30. Scandinavian Journal of Clinical & Laboratory investigation
31. Tropical Medicine and International Health
32. Annals of Clinical Microbiology and Antimicrobials
33. International Research Journal of Biotechnology
34. Infectious Diseases in Clinical Practice
35. Current Science (India)
36. Journal of Parasitic Diseases (India)
37. Journal of Laboratory Medicine (India)
38. Neurology India
39. Journal of Postgraduate Medicine
40. Indian Journal of Gastroenterology

41. Indian Journal of Leprosy
42. Indian Journal of Medical Research
43. Indian Journal of Experimental Biology
44. Indian Journal of Paediatrics
45. Indian Journal of Physiology & Pharmacology
46. Indian Journal of Medical Microbiology
47. Indian Journal of Animal Parasitology
48. Indian Journal of Vector Borne Diseases
49. Indian Paediatrics
50. Lung India
51. Indian Journal of Tuberculosis
52. Tropical Parasitology
53. World Journal of Hepatology and several others

#### **REFEREE FOR RESEARCH GRANTS:**

##### **National**

1. Indian Council of Medical Research, India
2. Department of Biotechnology, India
3. Department of Sciences and Technology, India
4. Council for Scientific and Industrial Research, India
5. Biotech Consortium India Limited, India
6. Bill & Melinda Gates Foundation (IKP/BIRAC), India

##### **International**

1. Medical Research Council, Government of South Africa (2015).
2. Ministry of Science and Technology, Life Sciences Division. Government of Israel (2015-16).
3. Ministry of Health (General Direction for Scientific Research and Health Innovation), Italy (2014-15).
4. United Arab Emirates University Grant, UAE (2016-17).
5. Medical Research Council (MRC) –Newton Fund, United Kingdom (2017-18).

## **MEMBER OF EDITORIAL BOARDS OF PEER REVIEWED SCIENTIFIC JOURNALS**

1. Editor-in-Chief, Journal of Laboratory Physicians, New Delhi, India, 1999- to till date.
2. Elected Member of the Editorial Board of “Recent Patent Reviews on Anti-Infective Drug Discovery”. Bentham Publications, USA, 2006 till date.
3. Elected Member of the Editorial Board of “The Open AIDS Journal” Bentham Publications, USA, 2007 till date.
4. Elected Member of the Editorial Board of “Journal of Infection in Developing Countries” Italy, 2007 till date.
5. Member of the Editorial Board, Indian Journal of Medical Microbiology, 2003 Onward.
6. Elected Member of Editorial Board of “Clinical Medicine: Dermatology”, La-Press, Australia, 2008- till date.
7. Abstract Reviewer for International AIDS Society (IAS) world AIDS conference held at Mexico, 2008.
8. Editor, Tuberculosis Research and Treatment. Hindawi Publishing Corporation, USA 2009- till date.
9. Abstract Reviewer for the 16<sup>th</sup> International AIDS Conference held at Vienna, Austria, 2010.
10. Abstract Reviewer for the 17<sup>th</sup> International AIDS Conference held at Rome, Italy, 2011.
11. Abstract Reviewer for the 16<sup>th</sup> International Conference on AIDS and STIs in Africa (ICASA) held at Addis Ababa, Ethiopia, 2011.
12. Abstract Reviewer for the 18<sup>th</sup> International AIDS Conference held at Washington DC, USA, 2012.
13. Abstract Reviewer for the 19<sup>th</sup> International AIDS Conference held at Kuala Lumpur, Malaysia in July 2013.
14. Abstract Reviewer for 20<sup>th</sup> International AIDS Conference held at Melbourne, Australia July 20-25, 2014.
15. Abstract Reviewer for 20<sup>th</sup> International AIDS Conference held at Cape Town, South Africa July, 2015.

## **MEMBERSHIP OF MEDICAL & SCIENTIFIC SOCIETIES**

1. International AIDS Society (Switzerland)
2. American Society for Microbiology (USA)
3. International Society for Infectious Diseases (USA)
4. International Society for AIDS in Asia and the Pacific
5. International Immunocompromised Host Society (USA)
6. American Society for Tropical Medicine & Hygiene (USA)
7. International Union of Tuberculosis and Lung Diseases (UK)
8. New York Academy of Sciences (USA)
9. Indian Medical Association (Life Member)
10. Indian Society of Gastroenterology (Life Member)
11. Indian Association of Medical Microbiologists (Life Member)
12. Indian Society of Parasitologists (Life Member)
13. Society for Immunology and Immunopathology (Founder-Vice-President & Life Member)
14. Indian Association of Laboratory Physicians ( Secretary-General & Life Member)
15. Indian Society for Prenatal Diagnosis and Therapy (Life Member)
16. Indian Academy of Tropical Parasitology (Life Member)
17. Indian Society of Immunology (Life Member)
18. AIDS Society of India ((Life Member)

19. National Academy of Vector Borne Diseases (Life member)
20. Indian Society for the Study of Reproduction and Fertilisation (Life Member)
21. Infectious Diseases Society of America (USA)
22. European Society of Clinical Microbiology and Infectious Diseases (Germany)
23. American Association for the Advancement of Science (USA)
24. Royal Society of Chemistry (UK)

## **CONFERENCES/SEMINARS/WORKSHOPS: PAPERS PRESENTED/ATTENDED**

### **A: International**

1. International Symposium on Amoebiasis: held at New Delhi, Dec. 14-16, 1990.
2. VII International Conference on AIDS/STD, Florence, Italy, June 16-21, 1991.
3. International Congress of Infectious Diseases, Nairobi, Kenya, June 7-11, 1992.
4. 2nd International Congress on AIDS in Asia and the Pacific, New Delhi, November 9-12, 1992.
5. International CME programme on AIDS, New Delhi from November 7-9, 1992.
6. IX International Conference on AIDS & International Conference on STD, Berlin, June 6-11, 1993.
7. Workshop on Animal Ethics. University of Health Sciences, Chicago, March 1994.
8. Seminar on Radiation Safety. University of Health Sciences, Chicago, August 1994.
9. X International Conference on AIDS and International Conference on STD, Yokohama, Japan, August, 1994.
10. International workshop on Diagnosis of parasitic infections. Cincinnati, USA, Nov. 12, 1994.
11. Annual Congress of American Society of Tropical Medicine & Hygiene, Cincinnati, USA, Nov. 13-17, 1994.
12. Third International Conference on AIDS in Asia and the Pacific, Chiang-Mai, Thailand, Sept. 17-21, 1995.
13. International CME on Laboratory Approach to Paediatric Problems, New Delhi, Oct. 11-13, 1995.
14. Global Meet on Parasitic Diseases, New Delhi, March 18-22, 1996.
15. International Symposium on Kala-azar Research, Banaras Hindu University, Varanasi, March 22-24, 1996.
16. 9th International Symposium on Infections in the Immunocompromised Host. Assisi, Italy, June 17-21, 1996.
17. XI International Conference on AIDS. Vancouver, Canada, July 7-12, 1996.
18. Second Global Meet on Parasitic Diseases, Hyderabad, India, August 18-22, 1997.
19. 10th International Symposium on Infections in Immunocompromised Host, Davos, Switzerland, June 21-25, 1998.
20. XII International Conference on AIDS, Geneva, Switzerland, June 28-July 3, 1998
21. Tenth International Conference of Immunology, New Delhi, November 1-6, 1998.
22. International Conference and Workshop on recent advances in medical Toxicology and Legal Medicine. New Delhi, November 2-7, 1998.
23. International CME of American College of Physicians and American Association of Physicians from India, Hyderabad August 12-14, 1999.
24. XIII International Conference of AIDS, Durban South Africa, July 2000.

25. Workshop on Ethical Issues in International Health Research, organised jointly by Harvard and Tuft Universities of USA and Univ. of Natal, South Africa, Natal, South Africa, July 2000.
26. 5<sup>th</sup> International Meeting on Molecular Epidemiology and Evolutionary Genetics of Infectious Diseases. Hyderabad, India. November 12-16, 2000.
27. ICMR-WHO symposium on Kala-azar. Gave a talk on “problems associated with repeated injection treatment in kala-azar patients”. The symposium was held on December 18-19, 2000, at Hotel Imperial, New Delhi.
28. WHO-Safe injection Global Network Annual Meeting held at New Delhi, August 29-31, 2001.
29. Annual Conference of Australian Society for HIV Medicine, Melbourne. October 3-7, 2001.
30. Sixth International Congress on AIDS in Asia & the Pacific, Melbourne, Australia, Oct. 5-10, 2001.
31. III International Conference of AIDS-India 2000, Chennai, December 2-5, 2001.
32. VIII International CME of Medicit, Hyderabad, December 27-30, 2001.
33. International Symposium on Leishmaniasis. New Delhi, February 23-24, 2002.
34. First International Conference of the Society for Antimicrobial Chemotherapy, As a Rapporteur. New Delhi, March 9, 2002.
35. 10<sup>th</sup> International Conference of Infectious Diseases. Singapore March 11-14, 2002.
36. 12<sup>th</sup> International Symposium of International Immunocompromised Host Society, Bergen (Norway), June 21-26, 2002.
37. 14<sup>th</sup> International AIDS Conference, Barcelona (Spain), July 5-11, 2002.
38. International Symposium on Toxoplasmosis. Only Representative from India. Paris. Oct 11-12, 2002.
39. 3<sup>rd</sup> International Conference on Integrated Medicine organised by Medicit, Hyderabad, January 4-5, 2003.
40. International Conference of HospiMedica, Bangkok, Thailand, September 4-7, 2003.
41. 3<sup>rd</sup> International Conference of AIDS India. Chennai, India, November 9-12, 2003.
42. Attended 8<sup>th</sup> International Conference on Emerging Infectious Diseases in Pacific Rim”, at Dhaka, December 11-12, 2003.
43. Delivered a lecture on Non-tuberculous Mycobacteria in Indian AIDS patients during the 8<sup>th</sup> International Conference on Emerging Infectious Diseases in Pacific Rim at Dhaka, Bangladesh, from December 11-12, 2003.
44. 3<sup>rd</sup> Global Meet on Parasitic Diseases held at Bangalore, January 12-16, 2004.
45. 11<sup>th</sup> the International Conference of Infectious Diseases, Cancun, Mexico, March 4-8, 2004.
46. BioMerieux Science Foundation International Conference on Tuberculosis. Annecy, France. July 1-4, 2004.
47. 10<sup>th</sup> Annual International Continuing Medical Education Program HIV Update at MediCiti Hyderabad, India. August 7-8, 2004.
48. International Symposium on Emerging Trends in Tuberculosis. ICGEB, New Delhi, November 15-17, 2004.
49. 9<sup>th</sup> International Conference on Emerging Infectious Diseases, Kyoto, Japan, December 7-10, 2004.
50. International Conference on Functional Genomics for Vaccine & Novel Drug Design against Mycobacteria, IIT Kharagpur (WB) February 10-14, 2005.

51. Asian Regional Workshop on Emerging Infectious Diseases, Seattle Biomedical Research centre, USA and JNU, India, New Delhi, March 8-10, 2005.
52. Indo-US workshop on Diarrhoeal diseases held at NICED, Kolkata from October 3-5, 2005.
53. 5<sup>th</sup> International Conference on AIDS India. Chennai, India, October 22-24, 2005.
54. International Conference on “Global Clinical Trials in India-Prospects & Challenges” organised by FICCI, at New Delhi, November 14-16, 2005.
55. International Conference on Opportunistic Pathogens in AIDS, New Delhi, March 27-29, 2006.
56. Attended and delivered a lecture International Workshop on “Defining the Future- HIV/AIDS next 25 years” Chennai, December 18-20, 2006.
57. Chaired a Scientific Session during the “International Workshop on Defining the Future – HIV/AIDS- Next 25 years” Chennai, December 18-20, 2006.
58. International Workshop on “Laboratory Diagnosis of Enteric Parasites” Calcutta from February 17-20, 2008.
59. Delivered an Invited lecture on “HIV-TB co-infection and emergence of drug resistance” during XVII International AIDS Conference in Mexico City, Mexico, August 3-8, 2008.
60. Delivered an Invited lecture on Microbiological investigations for detecting MRSA during the Symposium on Methicillin Resistant Staphylococcus aureus (MRSA), Kathmandu, Nepal, August 22-24, 2008.
61. Delivered an Invited lecture on Viral Hepatitis: Indian scenario during the Indo-Bulgarian DST meeting on “Contemporary State of the VIH infections in Bulgaria” at Sofia, from October 16-18, 2008.
62. Delivered an Invited lecture on TB diagnosis in India during the Project Kick-off meeting held at Brussels, Belgium from November 14-15, 2008.
63. Delivered an Invited lecture on “HIV-TB: co-infection” during the International Tuberculosis Symposium at ICGEB, Delhi, from December 1-3, 2008.
64. Delivered an Invited lecture on “HIV and Hepatitis C virus co-infection” in “International Conference on Biotechnological Approaches to Neuroimmunomodulation and Infectious Diseases” at NIPER, SAS Nagar, Punjab, December 11-13, 2008.
65. Delivered lecture on HIV and Leishmania co-infection, during HIV Congress, 2010 at Mumbai on January 10<sup>th</sup>, 2010.
66. Delivered lecture on HIV and opportunistic Toxoplasmosis, during HIV Congress, 2010 at Mumbai on January 10<sup>th</sup>, 2010.
67. Participated in the 41<sup>st</sup> Union World Conference on Lung Health held at Berlin, Germany from November 10-15, 2010.
68. Participated in an International meeting “Tuberculosis Diagnostic Research – from basics to advanced techniques”, organized at the Tuberculosis Research Centre, Chennai, from December 13<sup>th</sup> -15<sup>th</sup>, 2010.
69. Delivered Invited lecture titled “HIV-TB Co-infection: A diagnostic challenge” in the International TB Symposium (ITBS-2010): TB Diagnostics - Innovating to Make an Impact, New Delhi, India, December 16<sup>th</sup> to 17<sup>th</sup>, 2010.
70. Chaired a scientific session on Rapid Methods of Detecting Drug Resistance and Strengthening of Laboratory Capacity” during the International Meeting on Facing the reality of MDR-TB: challenges and potential solutions in India, organised jointly by ICMR, INSA and Institute of Medicine (USA), at Delhi, from April 18<sup>th</sup>-19<sup>th</sup>, 2011.
71. Delivered an Invited Lecture on Quality Control in Molecular Medicine during the workshop on Good Laboratory Practices (GLP) at BPKIHS, Dharan, Nepal, from June 26<sup>th</sup>-27<sup>th</sup>, 2011.



72. Delivered an Invited Lecture on Quality Control in Clinical Microbiology during the workshop on Good Laboratory Practices (GLP) at BPKIHS, Dharan, Nepal, from June 26<sup>th</sup>-27<sup>th</sup>, 2011.
73. Participated in the International Workshop in TB diagnostics at St John's Research Institute, Bangalore from August 25<sup>th</sup>-26<sup>th</sup>, 2011.
74. Delivered a lecture on Clinical aspects of Indian visceral leishmaniasis during the Symposium cum workshop on "Drugs for Neglected Diseases and Cancer" held at IBMC, University of Porto, Portugal, September 8<sup>th</sup>-10<sup>th</sup>, 2011.
75. Presented a paper in the 42<sup>nd</sup> Union World Conference on Lung Health, Lille, France, October 26<sup>th</sup>-30<sup>th</sup>, 2011.
76. Participated in the DBT sponsored International Symposium on "Vaccine: Discovery to Translation", New Delhi, November 14<sup>th</sup>-17<sup>th</sup>, 2011.
77. Chaired a scientific Session during the International Conference on Reproductive Health with Emphasis on Strategies for Family Planning. New Delhi, February 19-21, 2012.
78. Delivered guest lecture on "Point of care diagnostic methods for Leishmaniasis" during the International Conference on In-Vitro Molecular Diagnostics, Mumbai, India, March 11<sup>th</sup>-14<sup>th</sup>, 2012.
79. Chaired a scientific Session during the 5<sup>th</sup> International FIMSA Congress of Immunology, New Delhi, March 14<sup>th</sup>-17<sup>th</sup>, 2012.
80. Participated in the 112<sup>th</sup> Annual ASM meeting at San Francisco, USA, June 16<sup>th</sup>-19<sup>th</sup>, 2012.
81. Visiting Professor, Department of Pharmacology & Toxicology, University of Missouri, Kansas, USA, June 20<sup>th</sup>-21<sup>st</sup>, 2012.
82. Vesting Professor, Department of Microbiology & Immunology, University of Rochester Medical Centre, Rochester, USA, June 22<sup>nd</sup>-23<sup>rd</sup>, 2012.
83. Delivered guest lecture on HIV and HHV co-infection, Department of Microbiology & Immunology, University of Rochester Medical Centre, Rochester, USA, June 22<sup>nd</sup>, 2012.
84. Visiting Professor National Institute of Health, Washington DC, USA September 25-October 4<sup>th</sup>, 2012.
85. Delivered guest lecture on HIV-TB at National Institute of Health, Washington DC, USA September 27<sup>th</sup>- 2012.
86. Visiting Professor College of Dentistry, New York University, NY, USA, October 1<sup>st</sup>-2<sup>th</sup>, 2012.
87. Delivered a Guest Lecture on HIV and Human Herpes Viruses: How they help each other? College of Dentistry, New York University, NY, USA, October 1<sup>st</sup>, 2012.
88. Represented Asia and Delivered an Invited lecture on "Uniting to Combat Neglected Tropical Diseases at World Bank, Washington, USA, November 17<sup>th</sup>, 2012.
89. Delivered a guest lecture titled "Human herpes viruses in HIV seropositive Indian males" at Department of Pharmacology, University of Missouri, Kansas City, Kansas, USA, April 11, 2014.
90. Chaired a Scientific Session titled "Infectious Diseases and Infection Control" during the Indo-Global Healthcare Summit & Expo, 2014, held at Hyderabad from June 20-22, 2014.
91. Delivered a guest lecture titled "Innovative Research: challenges in India" during the Indo-Global Healthcare Summit & Expo, 2014, held at Hyderabad from June 20-22, 2014.
92. Delivered a guest lecture titled "Newer Diagnostic Modalities and Biomarkers for early detection of drug resistant Tuberculosis" during the Indo-Global Healthcare Summit & Expo, 2014, held at Hyderabad from June 20-22, 2014.

93. Participated and delivered a lecture on “Leishmaniasis in India: an overview”. During the KINDRed project consortium meeting held at Porto, Portugal, September 14-17, 2014.
94. Participated and Delivered an invited guest lecture on “Newer advances in the TB diagnosis” during the International Symposium on Recent advances in TB Therapy held at Chennai, India, November 15, 2014.
95. Participated as guest of honour during the international workshop on Use of Experimental Animals held at Institute of Genomic and Integrative Biology (IGIB) Jan 19, 2015.
96. Participated and Delivered a guest Lecture on “Recent advances in the diagnosis of Leishmaniasis” during the World IVD Conferences (China) held at New Delhi, February 5-6, 2015
97. Participated and Delivered invited guest lecture at 1<sup>st</sup> Congress of Asia Africa Society of Mycobacteriologists, Isfahan, Iran, March 7-12, 2015.
98. Delivered an invited lecture on “Anti-Leishmanial drugs and threat of drug resistance” during the SRM International Conference on “Antimicrobial resistance, Novel Drug Discovery and Development: Challenges and Opportunities” held at New Delhi, March 22, 2015.
99. Participated and presented an ePoster during the 26<sup>th</sup> European Congress of Clinical Microbiologists and Infectious Diseases (ECCMID) at Amsterdam from April 9-12, 2016.
100. Delivered a lecture on HIV-TB co-infection at the University of Tennessee, Memphis, USA as visiting Professor on May 17, 2016.
101. Presented the progress report in the KINDReD project review meeting at Modena, Italy from June 15-16, 2016.
102. Delivered a guest lecture on ‘Recent advances in the diagnosis of Leishmaniasis’ during the International Medical Sciences Academy Conference (IMSACON-2016), held at Mauritius, October 5-9, 2016.
103. Represented the Indian Research During the International Conference on Poverty-Related and Neglected Disease: from Funding to Health Coverage. Brussels, Belgium, January 31-February 1, 2017.
104. Presented a Paper on Emergence of Miltefosine resistant cases of visceral leishmaniasis in India. During the 6<sup>th</sup> World Congress of Leishmaniasis held at Toledo, Spain, 18-20 May 2017.
105. Delivered an invited Plenary lecture on “Toxoplasma and Toxoplasmosis” during the Annual Scientific Session of Sri Lanka College of Microbiologists, held at Colombo, August 31- September 1, 2017.
106. Judged the poster session during the Annual Scientific Session of Sri Lanka College of Microbiologists, held at Colombo, August 31- September 1, 2017.
107. Invited Guest lecture on “Intestinal parasitic infections in children: during the 2<sup>nd</sup> International Conference on Research in Tropical Medicine, University of Peradeniya, Sri Lanka, December 8-9, 2017.
108. Invited Lecture on Toxoplasmosis in pregnant Women. The Continuing Medical Education Programme of Sri Lanka College of Gynaecologists and Obstetricians, Colombo, March 25, 2018. Invited Plenary Lecture on “Biotechnology in Infectious Disease Diagnosis and Prevention” during the South Asian Conference on Biotechnology, Organised by ICGEB and National Academy of Sciences, Sri Lanka at Colombo, March 28-30, 2018.
109. Delivered a lecture at 49<sup>th</sup> Union World Conference on Lung Health, Hague, Netherland, 24-27 October, 2018.
110. Invited Lecture in 6<sup>th</sup> World congress on Nano-medical sciences (ISNSCON) 2018, New Delhi, 8<sup>th</sup> January, 2019.

111. International Conference for transforming higher education for the future, Mexico, November 13-15, 2019.

**B: National**

1. Attended Computers: A management Tool: CMC limited 16-17, December 1985.
2. Attended XXVIII Annual Conference of Indian Society of Gastroenterology, Gandhi Medical College, Bhopal, Nov. 26-29, 1987.
3. Attended XIII National Congress of Indian Association of Medical Microbiologist, Jaipur, November 10-12, 1989.
4. Attended XXXI National Conference of ISG, Jaipur, November, 25-29, 1990.
5. Attended XXXII National Conference of ISG, Trivandrum, October, 6-9, 1991.
6. Attended National Symposium on Eye Banking (North Zone), guest lecture on "Rapid diagnosis of corneal ulcers" New Delhi, August 25-26, 1990.
7. Delivered a lecture on Rapid diagnosis of corneal ulcers at National Symposium on Eye Banking (North zone) held at New Delhi, from August 25-26, 1990.
8. Delivered a lecture and demonstrations on Acanthamoeba keratitis during "Workshop on Ophthalmic Microbiology / Pathology, Dr. RPC for Ophthalmic Sciences., AIIMS, New Delhi, September, 17-19, 1991.
9. Attended Workshop on "Ophthalmic Microbiology and Pathology, Lectures and demonstration on Acanthamoeba keratitis Dr. RPC for Ophthalmic Sciences, New Delhi, September 17-19, 1991.
10. Attended Workshop on "Media in Medical Education", CMET, AIIMS, New Delhi, Jan. 2-3, 1992.
11. Attended ICMR sponsored Workshop on "Parasites in AIDS-Cryptosporidium", Department of Parasitology, PGIMER, Chandigarh, April 27-29, 1992.
12. Delivered a lecture and demonstrations on "Parasites in AIDS- Cryptosporidium" in ICMR sponsored Workshop at Department of Parasitology, PGIMER, Chandigarh, April 27-29, 1992.
13. Attended XIX National Conference of Indian Immunology Society, Bangalore January 8-11, 1993.
14. Attended XXXIV National Congress of ISG, Panji (Goa), October 13-17, 1993.
15. Delivered a lecture on Sero-epidemiology of Toxoplasmosis in sheep and goats of Rajasthan state and their butchers. Centenary celebrations of IVRI, Mukteshwar campus, December 2-3, 1993.
16. Attended Centenary Conference of Indian Veterinary Research Institute, Mukteshwar Campus, Mukteshwar, Nainital, December 2-3, 1993.
17. Attended National Symposium on Toxoplasmosis, New Delhi, September 27-28, 1995.
18. Attended 37th Annual congress of Veterinary Science and Avian Research, IVRI, Bareilly, February 22-23, 1996.
19. Chaired a Scientific Session during the Global Meet on Parasitic Diseases, New Delhi, November, 1996.
20. Panellist- Workshop on quality control and quality assurance in medical laboratory. April 26-8, 1997, New Delhi.
21. Guest Speaker, DBT Sponsored Training programme on "Immunopathology- Modern trends in Diagnosis & Control" Department of Pathology, College of Veterinary

- Sciences, GB Pant University of Agriculture and Technology, Pant Nagar, UP, February 17-19, 1998.
22. Attended Seminar on Accreditation of Clinical Laboratories, New Delhi, February 28, 1998.
  23. Attended Zoonotic Parasites- their diagnosis and control” - III National Training Programme, Centre for Advanced Studies. Department of Parasitology, Veterinary College, University of Agricultural Sciences, Bangalore, March 15-17, 1998.
  24. Delivered a lecture on Molecular diagnosis of Kala-azar during 13th National Congress of Indian Society of Parasitologists, February 24-26, 1999, Bangalore.
  25. Delivered an invited lecture on “Current situation of HIV AIDS in India” during an Annual Symposium of Immunology Society of India “An update on Clinical Immunology”, Srinagar, August 24-5, 1999.
  26. Participated in 49<sup>th</sup> National Conference of Indian Association of Pathologists and Microbiologist at Safdarjung Hospital, New Delhi from November 15-19, 2000.
  27. Participated in Ranbaxy Science Foundation- 7<sup>th</sup> Round Table Conference on Tuberculosis. New Delhi, September 2000.
  28. Delivered an invited lecture on recent advances in molecular tools in the Diagnosis of Toxoplasmosis in a DBT-IVRI workshop at IVRI, Izatnagar, Bareilly, UP. March 26-27, 2001.
  29. Participated in NACO/UNICEF workshop to draft a module on Mother-to-child-transmission of HIV. Gurgaon, Haryana, July 4-5, 2001.
  30. Attended Annual Conference of Australian Society for HIV Medicine, Melbourne, October 3-7, 2001.
  31. Attended Sixth International Congress on AIDS in Asia & the Pacific, Melbourne, Australia, October 5-10, 2001.
  32. Attended III International Conference of AIDS-India 2000, Chennai, December 2-5, 2001.
  33. Attended VIII International CME of Medici, Hyderabad, December 27-30, 2001.
  34. Attended Second National Symposium of Society for Immunology & Immunopathology, Pantnagar, December 14-15, 2001.
  35. Attended CII-CSIR Conference on Medicines in malaria. Hotel Hyatt, New Delhi. February 11-12, 2002.
  36. Attended Rheumatology Update (Delhi Chapter). New Delhi. February 17, 2002.
  37. Attended Second National Conference of Laboratory Medicine, February 21-23, 2002.
  38. Attended CII Sponsored HIV/AIDS Meeting, Hotel Taj Mahal, New Delhi. February 27, 2002.
  39. Attended Third Sir Dorabji Tata Symposium on Diarrhoeal Diseases. Bangalore, March 21-22, 2002.
  40. Attended XXVI Annual Conference of IAMM, Bangalore, November 21-24, 2002.
  41. Attended Short term training course on Biotechnology and Intellectual Property Rights, Bangalore, 8-13 December, 2002.
  42. Lecture on HIV-TB co-infection, King George Medical College, Lucknow, December 27-29, 2002.

43. Delivered a lecture on Recent advances in the diagnosis of Toxoplasmosis during the National Conference on Veterinary Public Health. GB Pant University, Pantnagar, UP. November 28-29, 2002.
44. Chaired a Scientific Session during the WHO-ICMR sponsored International Symposium on Leishmaniasis. New Delhi. February 23-24, 2002.
45. Chaired a Scientific Session during the LABCON-2, New Delhi. February 21-22, 2002.
46. Delivered a lecture on Medical Laboratory Technology: Key to Modern Medicine. PGIMER, Chandigarh. April 26, 2002
47. Delivered a lecture on "Opportunistic Intestinal Pathogens" during the Sir Dorabji Tata memorial Symposium on Diarrhoeal diseases. Bangalore, March 22-23, 2002.
48. Delivered a Talk on "TORCH Group of Infections", Chhattisgarh Association of Pathologists at Raipur, Chhattisgarh, February 15-16, 2003.
49. Attended Workshop on Veterinary Medicine at IVRI, Izatnagar, Bareilly, February 27-28, 2003.
50. Attended Brainstorming session on "Molecules of therapeutic importance from Marine and Estuarine environment" Calcutta, April 17-18, 2003.
51. Delivered Public Lecture on Waterborne diseases, Organised by an NGO, Gurgaon, April 26, 2003.
52. Attended 27<sup>th</sup> National Conference of Indian Association of Medical Microbiologists, held at Mumbai, November 5- 9, 2003
53. Attended National Conference on Management of HIV/AIDS in Resource Restricted Setting from February 20-22, 2004.
54. Attended Third Convention of Society for Immunology and Immunopathology & National Symposium on Cytokines and Signal Transduction, JALMA, Agra, February 13-15, 2004.
55. Attended 28<sup>th</sup> National Conference of Indian Association of Medical Microbiologists, held at Lucknow, November 25- 28, 2004.
56. Delivered a lecture on Leishmaniasis during the Fifth Sir Dorabji Tata Symposium on "Leishmaniasis" to be held at J.N. Tata Auditorium, Bangalore from March 10-11, 2004.
57. Chaired a Scientific Session during the National Convention of SIIP at CJIL, Agra, February 13-15, 2004.
58. Delivered a lecture on Diagnosis and management of Lymphatic Filariasis. During the NVBDCP, Government of India, Symposium, Pune, February 26-27, 2004.
59. Delivered a lecture on "Non-tuberculous Mycobacteria in AIDS" during the National Conference on Management of HIV/AIDS in Resource Restricted Setting from February 20-22, 2004.
60. Delivered a lecture on "Molecular Methods for Diagnosis of Tuberculosis" at Bundelkhand University, Jhansi. October 15, 2004.
61. Delivered a lecture on "Recent advances in the diagnosis of Leishmaniasis" during the Kala-azar capacity building CME. Patna, October 27-28, 2004
62. Attended Summer School Programme of Punjab Agriculture University, Ludhiana, October 10, 2005.
63. Attended 29<sup>th</sup> National Conference of Indian Association of Medical Microbiologists, held at Chennai, October 21- 23, 2005.
64. Attended 17<sup>th</sup> National Congress of Parasitology. Held at Dibrugarh, Assam, October 24-26, 2005.

65. Attended 4<sup>th</sup> Biennial Conference of The Indian Association of Leprologists at JALMA, Agra, from November 12-14, 2005.
66. Attended 4<sup>th</sup> National workshop on “Simple Diagnostic Methods in Infectious Diseases” JIPMER, Pondicherry November 22-26, 2005.
67. Speaker and Chairperson of scientific session, XXX National Conference of Medical Microbiologists” at Nagpur, October 26- 27, 2006.
68. Attended 46<sup>th</sup> Annual Conference of National Academy of Medical Sciences” at Hyderabad, October 27- 29, 2006.
69. Speaker and Chairperson of scientific session 18<sup>th</sup> National Congress of Parasitology” at Kolkata, November 22-24, 2006.
70. Delivered a lecture on “Intrauterine infections”. Perinatology CME of the Indian Academy of Paediatrics, April, 24, 2005, NOIDA, UP.
71. Delivered a lecture on “Diagnosis of non-tubercular mycobacteria” during the 4<sup>th</sup> National workshop on “Simple Diagnostic Methods in Infectious Diseases” JIPMER, Pondicherry November 22-26, 2005.
72. Chaired a scientific session during the 4<sup>th</sup> Biennial Conference of The Indian Association of Leprologists at JALMA, Agra, from November 12-14, 2005.
73. Delivered a lecture on “Toxoplasmosis in meat animals.” During the Summer School Programme of Punjab. Agriculture University, Ludhiana, October 10, 2005.
74. Delivered a lecture on Food Borne Toxoplasmosis. 17<sup>th</sup> National Congress of Parasitology. Held at Dibrugarh, Assam, October 24-26, 2005.
75. Delivered a lecture on “To Harness and Streamline the Regulatory Issues for Import and Export of Biological Materials”. National Meeting on Global Clinical Trials in India-Prospects & Challenges” FICCI, New Delhi from November 14-16, 2005.
76. Chaired a Scientific Session during the International Conference on HIV/AIDS and TB: Past, Present and Future, January 13-15, 2006.
77. Delivered a lecture on “TORCH investigations and their interpretation” during the National conference of ISPAT, February 18, 2006, New Delhi.
78. Co-Chaired a Scientific Session during the International Conference on Opportunistic Pathogens in AIDS, March 27-29, 2006, New Delhi.
79. Delivered a lecture on “Quality Control of Diagnostic Medicine for Parasitic Diseases” at National Institute of Biologicals, NOIDA, November 3, 2006.
80. Co-Chaired a Scientific Session during the XXX National Conference of Medical Microbiologists” at Nagpur, October 26- 27, 2006.
81. Chaired a Scientific Session during the 18<sup>th</sup> National Congress of Parasitology” at Kolkata, November 22-24, 2006.
82. Delivered a lecture on “Molecular Diagnostic Tools for the Diagnosis of Infectious Diseases.” HNB Garhwal University, Sri Nagar. January 15, 2007.
83. Chaired and delivered a lecture on “Methods HIV Testing” during the First Hands-on Workshop on Training course on HIV/AIDS for Medical Officers and Laboratory technicians, National Institute of Biologicals, NOIDA, January 16, 2007.
84. Chaired a Scientific Session during the “33<sup>rd</sup> Indian Immunology Society Conference” New Delhi, January 27-30, 2007.
85. Chaired and delivered a lecture on “Methods HIV Testing” during the Second Hands-on Workshop on Training course on HIV/AIDS for Medical Officers and Laboratory technicians, National Institute of Biologicals, NOIDA, February 12, 2007.

86. Chaired and delivered a lecture on “Methods HIV Testing” during the Third Hands-on Workshop on Training course on HIV/AIDS for Medical Officers and Laboratory technicians, National Institute of Biologicals, NOIDA, February 19, 2007.
87. Deliver a guest lecture on “Quality Assurance” during the Microbiology Update 2007 at MAMC, Delhi on March 9, 2007.
88. Chaired and deliver an invited lecture on Leishmaniasis and its diagnosis at Span Diagnostics Pvt Ltd., Surat (Gujarat) on April 28, 2007.
89. Delivered a guest lecture on “Molecular Epidemiology of Mycobacterium Paratuberculosis” during the National Seminar & Workshop on Johne’s Disease at Bareilly (UP) from August 7-9, 2007.
90. Chaired a Scientific Session and headed the jury to adjudge the best oral presentation during the National Conference of Indian Academy of Tropical Parasitology (Tropacon), Chennai, October 6-7, 2007.
91. Delivered guest lecture on indigenous developments in the Leishmania diagnostics. National Conference of Indian Academy of Tropical Parasitology (Tropacon), Chennai, October 6-7, 2007.
92. Delivered Dr. BP Pandey Oration on “Recent Advances in Leishmania diagnostics” during 19<sup>th</sup> National Conference of Indian Society for Parasitology (NCP) at Vishakhapatnam from October 26-28, 2007.
93. Delivered a lecture during 31<sup>st</sup> National Conference of Indian Association of Medical Microbiologists (IAMM) at Mangalore from November 16-18, 2007.
94. Delivered guest lecture on “Non-tubercular Mycobacteria in immunocompromised patients” during the Indian Association of Leprologists (IAL) conference at Kanpur University on 21<sup>st</sup> November, 2007.
95. Delivered a guest lecture “Recent trends in Diagnosis and Prevention of AIDS” during the World AIDS Day celebrations at Bundelkhand University, Jhansi, UP on 1<sup>st</sup> December, 2007.
96. Delivered a guest lecture in UP-MICROCON on “Emerging Viral Infections” at Lucknow on 16<sup>th</sup> February 2008.
97. Chaired the Scientific Session in “Society for Free Radical Research – India (SFRR)-India) Satellite Meeting” at All India Institute of Medical Sciences, New Delhi on February 12, 2008.
98. Co-Chaired a scientific session during the International Workshop on “Laboratory Diagnosis of Enteric Parasites” Calcutta from February 17-20, 2008.
99. Inaugurated Fourth Hands-on Workshop and Training course on HIV/AIDS for Medical Officers and Laboratory technicians, and Delivered a inaugural lecture on “HIV and Overview” at the National Institute of Biologicals, NOIDA, May 7, 2008.
100. Delivered a guest lecture on “Methicillin Resistant Staphylococcus aureus (MRSA)” during an International Symposium on Staphylococcus. At Kathmandu, Nepal, August 23-24, 2008.
101. Delivered an invited lecture on “Newer Diagnostic tests for Tuberculosis” during MICROCON 2008 from October 21-25, 2008 at Pune.
102. Delivered an invited lecture on “Research Ethics in Animal Studies” at the Central Council for Research in Unani Medicine, Janakpuri, Delhi on June 3, 2008.
103. Delivered an invited lecture on Immunology at Boston College, Gwalior on June 13, 2008.

104. Delivered an invited lecture on “Mechanisms and Clinical Implications of drug resistance in tuberculosis” International TB Symposium” at MGR Medical College, Gwalior, Dec. 1, 2008.
105. Delivered an invited lecture on “Immunology at Boston College, Gwalior on June 13, 2008.
106. Delivered key note lecture on “Microscope to Microarray” during the XIX National Congress of Veterinary Parasitology at Ludhiana on February 3, 2009.
107. Delivered guest lecture on CNS HIV infections, Central India Institute of Medical Sciences, Nagpur, 8<sup>th</sup> February, 2009.
108. Delivered an invited talk during the training course on immunodiagnostics for infectious diseases at Mahatma Gandhi Institute of Medical Sciences, Wardha on February 13-14, 2009.
109. Delivered an invited talk on “HIV and Tuberculosis” during the Second National Conference of AIDS society of India (ASICON 2010) at Jaipur on February 27, 2009.
110. Delivered an invited talk on “HIV and Hepatitis infections” during the Second National Conference of AIDS society of India (ASICON 2010) at Jaipur on February 28, 2009.
111. Delivered an invited lecture in Hindi on “Swine Flu: its epidemiology and Prevention” at Indian Council of Medical Research, New Delhi, on September 16, 2009.
112. Delivered lecture in TROPACON Conference of Indian Academy of Tropical Parasitology at PGIMER, Chandigarh. From 17<sup>th</sup> to 18<sup>th</sup> November 2009.
113. Delivered lecture on Controlling Kala-azar in Bihar by ameliorating the soil pH with Zinc Sulphate in house hold plastering materials. National Symposium on Weather, Climate and Sustainable Development, New Delhi, December 17, 2009.
114. Delivered lecture on HIV and Leishmania coinfection during HIV Congress 2010 at Mumbai on 10<sup>th</sup> January 2010.
115. Delivered lecture on HIV and opportunistic Toxoplasmosis during HIV Congress 2010 at Mumbai on 10<sup>th</sup> January 2010.
116. Delivered lectures on soil transmitted parasites and conducted wet workshop on parasite prevalence study conducted by Deworm the World and Government of Bihar at Patna from May 19<sup>th</sup> -23<sup>rd</sup>, 2010.
117. Delivered lectures on soil transmitted parasites and conducted wet workshop on parasite prevalence study conducted by Deworm the World and Government of Bihar at Patna from and again from May 26<sup>th</sup>-29<sup>th</sup>, 2010.
118. Delivered lecture on “Tuberculosis Disease Burden” at the Department of Biotechnology, Biyani Girls College (University of Rajasthan), Jaipur, September 21, 2010.
119. Chaired a Scientific sessions and Delivered guest lecture on MDR/XDR Tuberculosis in HIV Infected persons during the 3<sup>rd</sup> National Conference of AIDS society of India (ASICON 2010) at Hyderabad on 30<sup>th</sup> October 2010.
120. Delivered guest lecture on Emerging Viral infections and HIV infection during the 3<sup>rd</sup> National Conference of AIDS society of India (ASICON 2010) at Hyderabad on 31<sup>st</sup> October 2010.
121. Delivered a guest lecture on “Automation in Liquid culture and DST in TB” during the annual conference of IAMM at Calcutta on 27<sup>th</sup> November 2010.
122. Participated in the Consultative Meeting on “Galvanizing Evidence for HIV Management” held at NARI, Pune from January 27-29, 2011.
123. Delivered guest lecture on “Methods for improvement in productivity in Forensic Sciences Laboratory services” at Directorate of Forensic Sciences Services, New Delhi, April 15, 2011.



124. Delivered a guest lecture on Recent Advances in the Laboratory Diagnosis of Leishmaniasis during 8<sup>th</sup> Annual Conference of Indian Society of Malaria & Other communicable Diseases, held at Bhubaneswar, from April 17, 2011.
125. Delivered Guest Lecture on 'Rapid Diagnosis of MDR/XDR Tuberculosis' during the bimonthly conference of Twin City Microbiologists at Lepa-India-BPRC, Hyderabad, on July 1, 2011.
126. Delivered guest lecture on "Kala-azar diagnostics" during the XI Symposium on Vector Borne diseases, 15-16.10.2011 Jabalpur.
127. Delivered a Guest Lecture on "Quality control" during the XXXV National Conference of Indian Association of Medical Microbiologists, Varanasi, November 23-26, 2011.
128. Delivered a Plenary Lecture on "Past, Present and future of Research in Medical Faculties" during the Annual conference of Association of Medical Biochemists of India (AMBICON2011), Government Medical College, Tiruchirappalli, Tamilnadu from December 16-18, 2011.
129. Delivered a Guest lecture on "Point of care tests for kala-azar: during the Annual conference of Association of Medical Biochemists of India (AMBICON2011), Government Medical College, Tiruchirappalli, Tamilnadu from December 16-18, 2011.
130. Delivered guest lecture on "Evaluation of Diagnostic Kits in Microbiology Laboratory" during the XXXV national conference of IAMM, Varanasi, November 22-25, 2011.
131. Participated in RNTCP-Regional Laboratory and PMDT Review Meeting of Northern States at Chandigarh, Punjab, May 17-18, 2012.
132. Attended the 4 day training course on Internal Auditor & Quality Management System (ISO 15989-2012) conducted by the National Accreditation Board for Laboratories (NABL) from August 8-11, 2012.
133. Delivered a guest lecture on "Leishmaniasis in India: current diagnostic modalities" during the 24<sup>th</sup> National Parasitology Congress (Indian Society of Parasitologists) held at RMRCT, Jabalpur, India from April 27-29, 2013.
134. Delivered a lecture during the workshop on "Pre-requisites in Animal Experimentation" at DIPAS, New Delhi on 15<sup>th</sup> May 2013.
135. Presided over the inaugural function of the International Symposium on Latest Trends in Immunodiagnosis, Immunopathology and Immunomodulation held at Bikaner, Rajasthan. from December 22-24 , 2013.
136. Chaired a session during the International Symposium on Latest Trends in Immunodiagnosis, Immunopathology and Immunomodulation held at Bikaner, Rajasthan, from December 22-24, 2013.
137. Delivered a lead lecture titled "Zoonotic Leishmaniasis in India" during the International Symposium on Latest Trends in Immunodiagnosis, Immunopathology and Immunomodulation held at Bikaner, Rajasthan, from December 22-24, 2013.
138. Chaired a Scientific Session during the National Symposium on "Innovation in TB Diagnostics, Drug Targets and Biomarkers" being organized Mahatma Gandhi Institute of Medical Sciences, Wardha, India, from January 27-28, 2014.
139. Delivered a lecture on "Banning the serology of TB diagnosis Ban on tuberculosis serology: moratorium or opportunity for novel molecules? National Symposium on "Innovation in TB Diagnostics, Drug Targets and Biomarkers" being organized Mahatma Gandhi Institute of Medical Sciences, Wardha, India, from January 27-28, 2014.

140. Chaired a scientific session titled “TB Immunology & Laboratory Diagnosis” during the 6<sup>th</sup> National Conference on Tuberculosis (NATCON), at NIRTD, New Delhi, from February 24-26, 2014.
141. Delivered a keynote lecture titled “The Modern Detectives: Emerging Technologies for Diagnosis of Tuberculosis & Drug Resistance” during the 6<sup>th</sup> National Conference on Tuberculosis (NATCON) at NIRTD, New Delhi, from February 24-26, 2014.
142. Organized a TB awareness and anti-spitting rally on the occasion of World TB Day, New Delhi, 24<sup>th</sup> March 2014.
143. Chief Guest of the valedictory function of the conference titled “Application of Computer software in mathematical modelling” at Guru Govind Singh IP University, Delhi, May 17, 2014.
144. Delivered a guest lecture “Innovative Research: Challenges in India” during the Indo-Global Health Summit & Expo 2014, Hyderabad, June 21, 2014.
145. Chaired the scientific session and delivered a guest lecture “Newer Diagnostic modalities and Biomarkers for early detection of MDR Tuberculosis.” Indo-Global Health Summit & Expo 2014, Hyderabad, June 22, 2014.
146. Participated in the joint DBT Task Force for Scheduled castes, Scheduled Tribes and Rural women, held at Delhi, July 1-2, 2014.
147. Was chief guest and delivered a lecture on “Drug Resistance in Bacteria with special emphasis on MDR & XDR-Tuberculosis: at RKG Institute of Technology, Ghaziabad, 27 August, 2014.
148. Participated in the joint DBT Task Force for Scheduled castes, Scheduled Tribes and Rural women, held at Jammu, September 4-6, 2014.
149. Participated in the editors meeting of Wolters Kluwer India, held at AIIMS, New Delhi, November 5, 2014.
150. Delivered an invited guest lecture on “Newer diagnostic tests in pulmonary Tuberculosis” AIIMS Conference on Childhood Tuberculosis, Held at New Delhi, 15 Nov, 2014.
151. Delivered an invited lecture on “Visceral Leishmaniasis: Changing trend in Epidemiology and Management” during the 8<sup>th</sup> National Conference of Indian Academy of Tropical Parasitology held at Dibrugarh, Assam on November 20, 2014.
152. Chaired the session and Delivered an invited lecture on “Seroepidemiology of Toxoplasmosis: National Scenario” during the pre-conference CME of 8<sup>th</sup> National Conference of Indian Academy of Tropical Parasitology held at Dibrugarh, Assam on November 21, 2014.
153. Delivered invited guest lecture on “Comparison of different genotypic tests in TB” during the 8<sup>th</sup> National Respiratory Update, at Bombay on 28<sup>th</sup> November 2014
154. Participated in the Joint Scientific Advisory Committee of NIRT and JALMA, on Tuberculosis held at Agra, November 29-30, 2014.
155. Delivered the special guest of Honour Lecture on “HIV/AIDS” at Bundelkhand University, Jhansi, on the occasion of World AIDS Day, December 1, 20014.
156. Delivered an invited guest lecture titled “Tracking the drug resistance” during the National Symposium on Hospital Acquired Infections & Antimicrobial Resistance, held at Jawaharlal Nehru Medical College, AMU, Aligarh, December 9, 2014.
157. Delivered an invited guest lecture titled “Human Herpes Viruses in HIV/AIDS: Indian scenario” during the Seventh National Conference of AIDS Society of India (ASICON-2014), held at Calcutta, December 12-13, 2014.
158. Delivered a guest lecture on National Institute for Research in Tuberculosis (NIRT), ICMR, Chennai, December 14-15, 2014.
159. Participated in DBT task force meeting held at New Delhi, January 29-30, 2015.

160. Delivered an invited guest lecture on “Molecular tests for the diagnosis of Tuberculosis” during the “TB update” organized by Vadodra Chest association, held at Vadodara March 22, 2015.
161. Chaired a session and organized the “Brain storming symposium on Tuberculosis: Challenges in diagnosis and management” organized at the occasion of World TB Day, AIIMS, New Delhi, 24<sup>th</sup> March 2015.
162. Participated in the Editors Meeting of Wolters Kluwer India, held at Hotel Marriott, March 26, 2015.
163. Delivered an invited lecture on “Human Toxoplasmosis in Pregnant women” during the State Chapter of Tropacon, organized by Indian Academy of Tropical Parasitology, held at Kasturba Medical College, Manipal, Karnataka, May 1, 2015.
164. Delivered an invited lecture on “Molecular tests for the diagnosis of Tuberculosis”: A CME on TB organized by Uttarakhand Chest Association and Clinton Health Access Initiative, Delhi, at Dehradun, May 17, 2015.
165. Delivered an invited lecture on Parasitic Zoonotic Diseases. During a CME organized jointly by IMA and Millennium India Education Foundation, New Delhi, IMA HQ, Delhi, July 6, 2015.
166. Delivered an invited lecture on R & D in India: Infrastructure and Its role in Economic growth of the country: during the Indo-Global Education Summit, ITC Hotel, Hyderabad, November 12-14, 2015.
167. Delivered an invited lecture on AIDS/AIDS in young adults: what you need to know: A key note address as Chief Guest, during the National Science Colloquium and 1<sup>st</sup> Scholar’s Meet, Ghaziabad, UP, October 26, 2015.
168. Delivered an invited lecture on Opportunistic Parasitic infections: Preconference Hands On-Workshop on the Laboratory Diagnosis of Intestinal Parasitic Diseases: under the aegis of Indian Association of Medical Microbiologists- Delhi Chapter (MICRO-D-CON 2015). AIIMS, New Delhi, December 10, 2015.
169. Session Chair: Scientific session on infections in pregnancy, during the 59<sup>th</sup> All India Congress of Obstetrics and Gynaecology, Hotel Kalakriti, Agra, January 15, 2016.
170. Delivered an invited lecture on Toxoplasmosis in Pregnant women: an update, during the 59<sup>th</sup> All India Congress of Obstetrics and Gynaecology Hotel Kalakriti, Agra, January 15, 2016.
171. Delivered an invited lecture on Diagnosis of pulmonary Tuberculosis: during the CME organized by Agra Pathology Association, Agra, February 6, 2016.
172. Novel technologies in the diagnosis of Tuberculosis: CME to commemorate the World TB Day at Mahatma Gandhi Mission University of Health Sciences (MGMUHS), Navi Mumbai, March 19, 2016.
173. Gave a Radio-Live talk on Tuberculosis for general public awareness on FM Gold, All India Radio, March 22, 2016.
174. Delivered an invited lecture on Recent advances in the diagnosis of Tuberculosis: during the National symposium on Challenges in Tuberculosis Diagnosis and Management: organized by AIIMS at the occasion of World TB Day, AIIMS, New Delhi, March 30, 2016.
175. Chaired the Brainstorming Meeting on “MDR-TB in NER India” and delivered a lecture held at Institute for Advanced Studies in Science and Technology (IASST), Guwahati, August 19-20, 2016.
176. Speaker and panel discussant on Tuberculosis, during the 6<sup>th</sup> Annual Conference of Clinical Infection Diseases Society, held at BHU, Varanasi, August 26-28, 2016.

177. Chief Guest and keynote speaker during the National Workshop on Latest Techniques in Molecular Biology, Medical Biotechnology, Bioinformatics and Industrial Microbiology at Amity University, Gwalior, October 12, 2016.
178. Delivered invited plenary lecture on 'Recent advances in Haemoparasites-Toxoplasmosis' during the 9<sup>th</sup> National Conference of Indian Academy of Tropical Parasitology, organised at JIPMER, Pondicherry, November 4, 2016.
179. Judged the poster session for various prizes during the 9<sup>th</sup> National Conference of Indian Academy of Tropical Parasitology, organised at JIPMER, Pondicherry, November 5, 2016.
180. Attended and actively participated as member of the SAC Meeting of DMRC (ICMR) Jodhpur as its member and delivered a guest lecture in the Rajasthan Conclave, organized by DMRC, Jodhpur, November 12-13, 2016.
181. Attended and actively participated as member of the Joint SAC Meeting of JALMA, Agra and NIRT (ICMR), Chennai held in Agra, November 15-16, 2016.
182. Delivered an invited lecture on Water born parasitic diseases, lecture during the 40<sup>th</sup> National Conference of Medical Microbiologists (Microcon-2016) held at Chandigarh, November 23-27, 2016.
183. Chaired the session during the 40<sup>th</sup> National Conference of Medical Microbiologists (Microcon-2016) held at Chandigarh, November 23-27, 2016.
184. Delivered Oration Award Lecture on Leishmania research during the National Conference of Indian Immunology Society, held at Vishakhapatnam, February 16-18, 2017.
185. Delivered a lecture on New Diagnostic tools for Tuberculosis during the symposium on "Challenges in diagnosis and elimination of Tuberculosis "held at AIIMS, New Delhi, March 24, 2017.
186. Delivered invited lecture on Mycobacteria of Zoonotic importance: with special emphasis on *Mycobacterium avium subsp paratuberculosis* during the 17<sup>th</sup> Indian Veterinary Congress & National Symposium on New Generation Vaccines for Societal benefits at IVRI, Bareilly from April 8-9, 2017.
187. Chaired a Scientific Session during the 17<sup>th</sup> Indian Veterinary Congress & National Symposium on New Generation Vaccines for Societal benefits at IVRI, Bareilly from April 8-9, 2017.
188. Delivered an invited talk on Recent Advances in the Diagnosis of Tuberculosis during the national symposium on "*Multidrug Resistant Tuberculosis: Challenges & Strategies*" held at Amity University, Haryana, April 20, 2017.
189. Delivered an invited lecture on Recent Developments in the transmission of Visceral Leishmaniasis during the 27<sup>th</sup> Indian Society of Parasitology Congress at NIMHANS, Bangalore, April 25-27, 2017.
190. Delivered an invited lecture on "Human Herpes Viruses and HIV: How much we know about their co-pathogenesis" during the Second Euro International Conference on HIV and AIDS, held at Kottayam, Kerala, May 12-14, 2017.
191. Delivered an invited lecture on Good Laboratory Practices during the workshop on Molecular Biology Techniques & Stem Cells in Human Health and Diseases" at Amity Institute of Molecular Medicine and Stem Cell Research (AIMMSCR), Amity University Noida, June 16, 2017.
192. Delivered invited plenary lecture on "Recent advances in Toxoplasmosis Research". during the 10<sup>th</sup> National Conference of Indian Academy of Tropical Parasitology, organised at SKIMS, Gangtok, Sikkim, September 7, 2017.

193. Presented a paper on “Prevalence of Soil Transmitted Helminthic parasitosis in Delhi School Children” during the 10<sup>th</sup> National Conference of Indian Academy of Tropical Parasitology, organised at SKIMS, Gangtok, Sikkim, September 7, 2017.
194. Judged the poster session for various prizes during the 10<sup>th</sup> National Conference of Indian Academy of Tropical Parasitology, organised at SKIMS, Gangtok, Sikkim, September 7, 2017.
195. Organized a pre-conference hands-on workshop on “Diagnosis of Opportunistic Parasitic infections” during the 41<sup>st</sup> National Conference of IAMM, at Ranchi, Jharkhand, India, November 22, 2017.
196. Organized and chaired a special Symposium on “Drug resistant Tuberculosis” as a part of the 41<sup>st</sup> National Conference of IAMM, at Ranchi, Jharkhand, India, November 24-26, 2017.
197. Delivered an invited lecture on “Recent advances in the laboratory diagnosis of MDR tuberculosis” during the special Symposium on “Drug resistant Tuberculosis” as a part of the 41<sup>st</sup> National Conference of IAMM, at Ranchi, Jharkhand, India, November 24-26, 2017.
198. Delivered an invited lecture Annual Conference of Indian Academy of Tropical Parasitology (TROPACON 2018), Varanasi, U.P., 06-08 September, 2018.
199. Delivered an invited lecture in Annual Conference of Indian Association of Medical Microbiologist (MICROCON 2018), NIMHANS, Bengaluru, 28 November to 02 December, 2018.
200. Chief guest and plenary lecture at the Workshop on basics of research and its methodology in the light of ethics, Government Homeopathic Medical College & Hospital, Bhopal, M.P., February 14, 2019.
201. Chief Guest and plenary lecture during the Workshop on Bioethics, Peoples medical college, Bhopal, M.P., March 30, 2019.
202. Attended the 11<sup>th</sup> Annual Conference of Indian Society of Neuro-Oncology, Bhopal, M.P., April 5, 2019.
203. Delivered an Invited lecture and session Chair at the 30<sup>th</sup> National Congress of Parasitology & Global Summit on Malaria Elimination, New Delhi, September 26-28, 2019.
204. Guest Lecture at the 40<sup>th</sup> Annual Conference of Indian Association of Biomedical Scientists (IABMS) 2019, Chettinad, Chennai, Tamil Nadu, November 01-02, 2019.
205. Oration during the 29<sup>th</sup> National Conference of Veterinary Parasitology and National Symposium, Jabalpur, M.P., February, 04-05, 2020.
206. Attended the 17<sup>th</sup> Healthcare executive management development program (HxMDP), Goa, India, March 1-7, 2020.

- **STUDENTS GUIDED/SUPERVISED**

**For Post Doctoral Fellowship:**

- ***Virology Research Group: Dr. Arshi Munawwar***
- ***Toxoplasma Research Group: Dr. Prem Shankar (Presently)***
- ***Leishmania Research Group: Dr. Prem Shankar, Dr. Awakash Sony, Dr. Diwakar Kumar***
- ***Tuberculosis Research Group: Dr. Jitendra Singh, Dr. Amit Singh, Dr. Anil Gupta, Dr. Parveen Kumar, Dr. Syed Beenish Rufai***

## For Degree of Ph.D.:

### As Chief Guide:

1. **Dr. Saba Shahdad:** Species identification of Mycobacteria using 16S rRNA gene sequencing. 1999.
2. **Dr. Mohapatra DP:** Studies on the stage specific antigenic proteins of *Toxoplasma gondii* and their possible diagnostic and immunoprophylactic application. 2000.
3. **Dr. Ramu Sivakumar:** Studies on Kinesin related antigen gene of *Leishmania donovani* and its diagnostic application. 2001.
4. **Ms. Sudha Garg:** Studying the genetic basis of drug resistance in *Leishmania donovani*. 2000.
5. **Ms. Manjot Kaur:** Study of the utility of automated Mycobacterial culture system (Bactec-960) and PCR technique for Mycobacterial disease diagnosis. 2001.
6. **Dr. Ayan Dey:** Developing chimeric DNA vaccines for Leishmaniasis and Tuberculosis. 2004.
7. **Dr. Krishnamoorthy Gopinath:** PCR and sequence-based identification of *Mycobacterium* sp from extrapulmonary tuberculosis cases. 2004.
8. **Ms. R. Kumud:** Clinical and Molecular evaluation of Drug resistance patterns in HIV positive and negative patients. 2005.
9. **Mr. Sandeep Kumar:** Genotyping of *Mycobacterium tuberculosis* using Molecular methods, Spoligotyping and IS6110 RFLP Contact investigations in tuberculosis. 2005.
10. **Ms. Anubha Saxena:** Study of molecular mechanism of Miltefosine induced drug resistance in *Leishmania donovani*. 2005.
11. **Dr. Umakant Sharma:** Isolation and Purification of active compounds with Anti-Leishmanial activity from Indian flora. 2006.
12. **Dr. Jyotsna Mishra:** Elucidating the expression profile of the genes involved in apoptosis of *L. Donovanii* & their possible role in miltefosine resistance. 2006.
13. **Dr. Manimuthu Mani Sankar:** Detection of *Mycobacterium* in patients of suspected extra pulmonary tuberculosis. 2006.
14. **Dr. Manoj Kumar:** Prevalence of Beijing and non-Beijing genotypes of *Mycobacterium tuberculosis* isolated from different human body sites. 2007.
15. **Dr. Amit Singh:** Identification, molecular cloning and characterization of protein(s) involved in multi-drug resistance of *Mycobacterium tuberculosis*. 2008.
16. **Ds. Arshi Munawwar:** To study the Role of Various Human Herpes Viruses in the Sexual Mode of Transmission and Pathogenesis of HIV-1. 2008.
17. **Dr. Parveen Kumar:** Development of a Loop Mediated ISO thermal Amplification Assay (LAMP) for rapid detection of *Mycobacterium tuberculosis* & Non tuberculosis Mycobacteria (NTM) for clinical samples. 2010.
18. **Dr. Jitendra Singh:** Molecular epidemiology of *Mycobacterium tuberculosis* isolated from various parts of India. 2010.
19. **Dr. Prem Shankar:** Isolation and characterization of *Leishmania* and *Leishmania* like parasites from seropositive goats. 2011.
20. **Dr. Dinesh Kumar:** To see the prevalence of Microsporidia in stool samples of HIV-seropositive and HIV-seronegative adult and paediatric patients with diarrhoea. 2011.
21. **Dr. Anil Kumar Gupta:** Raising mono and polyclonal antibodies against novel antigens of *M. tuberculosis* and their diagnostic value in clinical samples. 2012.
22. **Dr. Syed Beenish Rufai:** "Development of new molecular test(s) for rapid diagnosis of India specific Pre -XDR/XDR- TB. 2012.

23. **Dr. Saumya Srivastava:** Cloning expression and purification of the novel recombinant protein from *Toxoplasma gondii* and its evaluation for the diagnosis of human toxoplasmosis. 2014.
24. **Ms. Arti Shrivastava:** Towards development of *in-house* diagnostic test for detection of low level mutations associated with drug resistance in *rpoB* gene. 2018 (Ongoing).
25. **Ms. S Rashmi Mudliar:** Understanding genomic landscape of mycobacterium tuberculosis isolates of Arunachal Pradesh, India. 2018 (Ongoing).
26. **Ms. Payal Soni:** Isolation and Speciation of *Mycobacterium Species* from Animal Necropsy Samples from India. 2018 (Ongoing).

#### As Co-guide:

1. **Dr. Raj Kumari:** Sequence based species identification of Mycobacteria from tubercular lymphadenitis and environment. (Shri Shahu Ji Maharaj Kanpur University). 2001-2008.
2. **Dr. Nagendra Kumar Kaushik:** Effects of Stress proteins in Infectious Diseases. Delhi University, Delhi, 2007-2011.
3. **Dr. Mohammed Naseem Mansoor:** Study of genetic predisposition and biochemical risk factors for Alzheimer's disease and vascular dementia. Department of Laboratory Medicine, All India Institute of Medical Sciences, New Delhi, 2005-2011.
4. **Dr. Nidhi Bhardwaj:** Department of Laboratory Medicine, All India Institute of Medical Sciences, New Delhi, 2010-2017.
5. **Dr. Ritu Singh:** Survival Strategy of Mycobacteria in Dormancy through Transcriptional Control. Faculty of Life Sciences, Chhatrapati Shahu Ji Maharaj University, Kanpur.
6. **Dr. Manisha Bhatnagar:** Evaluation of anti-leishmanial and antimycobacterial activity of herbal products. Amity University, NOIDA, India.

#### D.M.

##### As Co-guide

1. **Dr. Atul Kumar Srivastava:**  
Assessment of risk factors, clinical profile and outcome of early versus late CMV infection in Living Renal allograft Recipients, in Indian Context. With Department of Nephrology, 2014-2016.
2. **Dr. Shreepriya Joshi:**  
Pulmonary infections in renal transplant recipients: a prospective cohort observational study. With Department of Nephrology, 2015-2017.
3. **Dr. Nishita Mohan Philip:**  
Impact of universal CMV prophylaxis with valganciclovir on CMV infection in live renal transplant recipients in Indian setting. With Department of Nephrology. 2016-2018.

#### M.D.

##### As Chief Guide

1. **Dr. Alok Mohanty:** The incidence of hepatitis E virus infection in pregnant women with hepatitis seen at AIIMS and pregnancy outcome in those infected. 1999-2001.
2. **Dr. Naveen Kumar:** Standardization and evaluation of PCR technique for early diagnosis of congenital HCMV infection. 2001-2003.

3. **Dr. Taran Prit Saluja:** Evaluation of fast plaque TB (Bacteriophage) assay in the detection of Mycobacterium tuberculosis and its comparison with conventional culture methods and Polymerase chain reaction. 2002-2004.
4. **Dr. Richa Gupta:** Transmission rate of HBV and HCV in family members of dually infected patient. 2005-2007.
5. **Dr. Ashish Hota:** Hepatitis B viral load monitoring in patients undergoing Anti-HBV therapy using Quantitative Real-Time PCR. 2006-2008.
6. **Dr. Varsha Singhal:** Hepatitis B in Health Care Workers: Prevalence, Vaccination and relation to occupational factor. 2007-2009.
7. **Dr. Rajeswari Jaykumar:** Hepatitis B viral load monitoring in patients undergoing anti-HBV therapy using quantitative Real Time PCR. 2009-2011.
8. **Dr. Praveen Kumar:** To Study the prevalence of UL97 gene mutation in Gangyclovir non-responders vis-à-vis responder in Indian renal transplant patients. 2011-2013.
9. **Dr. Ranjit Kumar:** To study the performance of Xpert MTB/RIF in urine of patients with pulmonary and extra-pulmonary tuberculosis. 2015-2017.

#### As Co-guide:

1. **Dr. Urmila Gupta:** Study of the efficacy of ketoconazole in visceral leishmaniasis. Department of Medicine, 1992-1994.
2. **Dr. Sesham Uma Rani:** Prenatal diagnosis of congenital Toxoplasmosis using PCR on amniotic fluid. Department of Obstetrics & Gynaecology. 1996-1998.
3. **Dr. A. B. Singh:** Seroprevalence of Toxoplasma infection among primigravida women attending antenatal clinical at C.R.H.S, Ballabgarh, Haryana. Department of community medicine, AIIMS. 1998-2000.
10. **Dr. Dharmendra Gupta:** Evaluation of various diagnostic modalities in suspected cases of tubercular lymphadenitis. VP Chest Institute, Delhi University, 1999.
11. **Dr. Abhijit Ghosh:** Laboratory evaluation of renal functions in severe anaemia. Department of Laboratory Medicine, 2000-2002.
12. **Dr. Jaya Sinha:** Comparison of antibodies to nicotinic acetylcholine receptors and non-receptor muscle autoantigens in myasthenia gravis. Department of Laboratory Medicine, 2000-2002.
13. **Dr. Niladri Mal:** Serum adenosine deaminase isoenzymes in myasthenia gravis. Department of Laboratory Medicine, 2002-2004.
14. **Dr. Rachna Rustgi:** Evaluation of immune status of Rubella in adolescent unmarried girls and pregnant women. (Department of Obstetrics and Gynaecology, AIIMS). 2002-2004.
15. **Dr. Lokesh Pant:** Evaluation of Diagnostic tests in suspected TBM patients. Department of Medicine, BHU, Varanasi. 2002-2004.
16. **Dr. Santosh L Wakode:** Absorption of glucose, water and electrolytes from commercially available oral rehydration solutions in small intestine of rats. Department of Physiology, AIIMS. 2002-2004.
17. **Dr. Mrinal Nanda:** Profile of nosocomial infections in the paediatric ICU. Department of Paediatrics, AIIMS. 2002-2004.
18. **Dr. Manjeera Jagannati:** Opportunistic infections in AIDS patients attending AIIMS. Department of Medicine. 2002-2004.
19. **Dr. Chanaveerappa B:** Spectrum of Opportunistic parasitic infections in AIDS patients. With Department of Medicine. 2003-2005.
20. **Dr. BN Vinodh:** Prevalence of Bacteraemia and fungemia in HIV/AIDS. With Department of Medicine, 2004-2006.



21. **Dr. DK Muduly:** Focussed abdominal sonography in trauma (FAST) in patients with blunt trauma abdomen. With Department of Surgery, 2006-2008.
22. **Dr. Pawan Kumar Sarda:** To study reintroduction of anti-tuberculosis drugs and risk factors for anti-tuberculosis treatment induced hepatotoxicity. With Department of Medicine, 2004-2006.
23. **Dr. Venkanna:** Prevalence and treatment response of coccidian parasitic infections in HIV positive patients at AIIMS. With Department of Medicine, 2005-2007.
24. **Dr. Rohit Singla:** To study reintroduction of anti-tuberculosis drugs and risk factors for anti-tuberculosis treatment induced hepatotoxicity. With Department of Medicine, 2007-2009.
25. **Dr. Malik Ajharuddin:** Study of Mycobacteremia in Patients with extrapulmonary and disseminated tuberculosis. With Department of Medicine. 2007-2009.
26. **Dr. Moka Praneeth:** Study of Mycobacteremia in Millitary and disseminated tuberculosis. With Department of Medicine. 2009-2011.
27. **Dr. Varun Raghavan:** Viral hepatitis co-infection among HIV/AIDS. With Department of Medicine. 2009-2011.
28. **Dr. Anil Satyaraddi:** Estimation of Free Rifampicin Drug Levels in Patients on Anti-Tuberculosis Therapy. With Department of Medicine. 2010-2012.
29. **Dr. Aditya Singh Katiyal:** Study of Haemostasis parameters in Tuberculosis. Department of Medicine, Maulana Azad Medical College, New Delhi, 2010-13.
30. **Dr. Dibyasundar Mahanta:** To study the diagnosis utility of GeneXpert in diagnosis of pleural and lymph node tuberculosis. With Department of Medicine. 2012-2014.
31. **Dr. Shailesh Patel:** Rapid diagnosis of Mycobacterium tuberculosis by GeneXpert in gastric aspirate of children with smear negative pulmonary tuberculosis. With Department of Paediatric Dr. RML Hospital and PGIMER, New Delhi, 2014-2016.
32. **Neha Bidhuri:** Rapid Diagnosis of Mycobacterium tuberculosis by GeneXpert in gastric aspirates of children with clinically and radiologically diagnosed cases of pulmonary tuberculosis. With Department of Paediatric Dr. RML Hospital and PGIMER, New Delhi, 2015-2017.
33. **Pronita Banerjee:** Rapid Diagnosis of Suspected Pulmonary TB in Children Less Than 18yrs by Loop-mediated Isothermal Amplification. With Department of Paediatric Dr. RML Hospital and PGIMER, New Delhi, 2017-2020.

### **MSc. /M. Tech Students (only Recent)**

#### **2005**

Pawan Dharkee, CCS University, Meerut  
 Naveen Kumar Bhardwaj, Bundelkhand University, Jhansi  
 Vijaya Bharti, Dept. of Biomedical Science, Bundelkhand University, Jhansi  
 Dilip Kumar, Dr. B.R. Ambedkar University, Agra  
 Prasant Kumari, Dr. Bhim Rao Ambedkar University, Agra  
 Vinay Sagar, Bundelkhand University, Jhansi  
 Varish Ahmed, Dept. of Biotechnology, Madhav Institute of Technology, Gwalior

#### **2006**

Preeti Tripathi, Dept of Biotechnology, CSJM University, Kanpur  
 Mona Singh, Allahabad Agriculture Institute, Allahabad  
 Anjali, Dept. of Biosciences, Sardar Patel University, Vallabh Vidyanagar, Gujarat  
 Prodiksha Chaturvedi, Jiwaji University, Gwalior

Chandni Trehan, Dept. of Biotechnology, Guru Jambheshwar University, Hissar  
Parul Aggarwal, Extol Faculty of Life Sciences Bhopal  
Arshi Munawwar, Extol Faculty of Life Sciences, Bhopal  
Shivani Chhabra, Dolphin Institute of Biomedical & Natural Science, HNB Garhwal Univ. Srinagar  
Stephan Carpenter, University of Massachusetts Medical School's  
Jogendra Singh Nim, Ch. Charan Singh University, Meerut  
Ginni Singh, Ch. Charan Singh University, Meerut  
Garima Sharma, Banasthali Vidyapeeth

### **2007**

Shatakshi Sood, Bioengineering Research Centre, Rai Foundation College, Delhi  
Hem Kumar, Ch. Charan Singh University, Meerut  
Dolly Dixit, Ch. Charan Singh University, Meerut  
Harishankar Yadav, EFLS Extol College, Bhopal  
Shah Alam, JRN-RVP-University, Udaipur  
Sharad Kr. Nimlekar, Bundelkhand University  
Dr. Rajani Malla (Ph.D.), Department of Microbiology, Tribhuvan University, Kathmandu, Nepal

### **2008**

Kumar Siddharth Talakdar, Jaypee Institute of Information Technology, Noida  
Deepak Parashar, I.P. College, Bulandshahr  
Mamta Mishra, Punjab Technical University, Delhi  
Mohd. Tarique, Deptt. of Biotechnology, Jamia Hamdard, New Delhi  
Raj Narayan Yadav, Allahabad Agriculture Institute, Deemed University, Allahabad

### **2009**

Tanika Singh, Punjab Technical University, Delhi  
Cynthiya, Madurai Kamraj University, Madurai  
Manisha Jain, Punjab Technical University, Delhi  
Pratiksha Singh, CCS University, Meerut  
Pratima Devi, Dr. BR Ambedkar University, Agra  
Ravi Rajput, Deptt. of Microbiology, Ch. Charan Singh University, Meerut  
Ravi Raj Singh, Deptt. of Microbiology, Jiwaji University, Gwalior  
Himank Kumar, College of Nursing, L.H.M.C., New Delhi  
Rhea Tyagi, Amity University  
Shefali Jain, Dept. of Microbiology, Jiwaji University, Gwalior  
Nayeem Ahmed, Deptt. of Microbiology, Ch. Charan Singh University, Meerut

### **2010**

Ravi Raj Singh, Deptt. of Microbiology, Jiwaji University, Gwalior  
Nisha Fatima, Deptt. of Biotechnology, Institute of Engg. & Technology, Meerut  
Paramjeet Kinha, Vanasthali Vidyapeeth University, Rajasthan  
Nayeem Ahmed, Deptt. of Microbiology, Ch. Charan Singh University, Meerut  
Ravi Rajput, Deptt. of Microbiology, Ch. Charan Singh University, Meerut

### **2011**

Sanchit Bhatnagar, Amity University, NOIDA  
Abhay Jeet Singh, Amity University, NOIDA

Shreyanshi Paul, Amity University, NOIDA  
Iqram Singh, Amity University, NOIDA  
Siddhartha Singh Shisodia, Amity University, NOIDA  
Syed Beenish Rufai, H.N.B. Garhwal University Uttarakhand

### **2012**

Preeti Gujan, Jiwaji University, Gwalior  
Bhairab Mondal, Jiwaji University, Gwalior  
Sakshi Rawat, N.C. College of Engineering, Kurukshetra University  
Niharika Marmat, Vikram University, Ujjain  
Karuna Goswami, Jiwaji University, Gwalior  
Alpana Singh, Jiwaji University, Gwalior

### **2014**

Vivek Singh Rawat, HNB University, Garhwal  
Divya Sharma, Banashthali Vidyapeeth, Jaipur

### **2016**

1. Shruti Kahol, Jamia Hamdard University, Delhi
2. Pavitaran Alambyan, Department of Biophysics, AIIMS, New Delhi

### **Short Term Trainings Imparted:**

1. Conducted a three Months Certificate Course on Molecular Methods in Infectious Disease Diagnosis (Govt. of India Programme), March- June 1996.
2. Several M.Sc. and Ph.D. students from various universities from within and outside India have been offered summer and other short term training on the molecular biology and diagnostic microbiology in my laboratory.
3. National level Continuing Medical Education Programme on Molecular Methods in Infectious Disease Diagnosis, AIIMS, November 21, 1997.
4. One MD Student from University of Karolinska (Sweden) was taught AIDS and trained for diagnosing the opportunistic infectious diseases in AIDS patients, under International Collaborative Programme for 15 days in 1998-99.
5. Conducted a Ten days hands-on molecular biology training programme sponsored by World Health Organisation and National Institute of Biologicals. July 6-15, 1999.
6. Conducted a hands-on-training programme on gene amplification techniques including NASBA for senior scientists. January 21-15, 2000.
7. Conducted a hands-on DBT sponsored workshop on Molecular methods for Infectious Disease Diagnosis for Mid-career Laboratory Managers from December 1-21, 2000.
8. Three months summer training given to 5 PG /PhD students from AMU, Aligarh; Dr. BR Ambedkar University, Agra; University of Patiala and Patliputra University, Patna, in 2001.
9. In year 2002, Six months training was imparted to 6 PG/PhD students from, Vikram University, Ujjain; Garhwal University, Srinagar; Jamia Millia University, Delhi and IIT, Bombay in 2002.
10. Six months training on molecular biology was imparted to 5 PG/PhD students from Vikram University, Ujjain, Bundelkhand University, Jhansi and MD University, Rohtak in 2003.
11. Eight students, 4 from Bundelkhand University, Jhansi; 2 from JP Institute of Technology, Himachal Pradesh, 1 from Allahabad University, Allahabad and 1 PG Doctor from Cuttack, Orissa underwent short term training in Molecular Biology during 2004.

12. One MD student (Eric Fauvel) from University of Paris underwent training in TB laboratory under my guidance for 3 months, August-November, 2004.
13. Nine students, 4 from Bundelkhand University, Jhansi; 2 from CCS University, Meerut; 2 from Dr. Bhim Rao Ambedkar University, Agra; and 1 from Madhav Institute of Technology Science, Gwalior; underwent short term training in Molecular Biology in 2005.
14. Nine students, 2 from Bhopal University, Bhopal, 1 from Guru Jambheshwar University, Hissar, 1 from Sardar Patel University, Anand, Gujarat, 1 from Madhav Institute of Technology Science, Gwalior, 1 from CSJM University, Kanpur, 1 from Bundelkhand University, Jhansi, 1 from Allahabad Agricultural University, Allahabad, 1 from Jiwaji University, Gwalior underwent short term training in Molecular Biology during 2006.
15. One student from University of Massachusetts, USA worked successfully on a research project in my laboratory from August to November 2006.
16. Organised workshop on Right to information for government employees, on 27<sup>th</sup> April 2007.
17. Ten national and international participants were trained on NASBA system for HIV Viral Load monitoring during the Preconference International workshop on January 25, 2008.
18. Twenty five participants were trained on recent advances in the diagnosis of intestinal parasitic diseases during the Pre-IAMM conference workshop November 21, 2012.
19. Ten participants from NER India were trained during a Short term training course on recent techniques in infectious disease diagnosis for mid-career doctors/scientists of North East Region in India from 29<sup>th</sup> April to 9<sup>th</sup> May 2013.

## ORGANISATION OF SCIENTIFIC CONFERENCES/ MEETINGS

1. **Member-** National Congress of Medical Microbiologists, at All India Institute of Sciences, New Delhi, October, 1992.
2. XXXIII National Conference of Indian Society of Gastroenterology at All India Institute of Medical Sciences, New Delhi, November 1992.
3. **Organising Secretary-** National Symposium on Toxoplasmosis in India. First symposium held at AIIMS, New Delhi from September 27-28, 1995.
4. **Member-** International CME on Laboratory Approach to Paediatric Problems, at All India Institute of Medical Sciences, New Delhi, October 11-13, 1995.
5. **Course Director-** Three Months Certificate Course on Molecular Methods in Infectious Disease Diagnosis (Govt. of India Programme) March- June 1996.
6. **Organising Secretary-** National Continuing Medical Education Programme on Molecular Methods in Infectious Disease Diagnosis, AIIMS, November 21, 1997.
7. **Organising Secretary-** National Symposium on Rapid Diagnosis of Infections in Immunocompromised Hosts, AIIMS, November, 22-23, 1997.
8. **Course Co-ordinator** for WHO-AIIMS-NIB Hands-on Workshop on Molecular methods in Infectious Disease Diagnosis. July 5-15, 1999.
9. **Organising Secretary-** First National Conference of Laboratory Medicine, AIIMS, New Delhi from January 27-29, 2000.
10. **Course Co-ordinator-** Hands-on Workshop on Molecular Methods in Disease Diagnosis. AIIMS, New Delhi, January 21-25, 2000.
11. **Course Director-** DBT-AIIMS, Hands-on Wet Workshop on Automation and Molecular Methods in Infectious Disease diagnosis. December 1-23, 2000.
12. **Organising Secretary-** Hands-on Workshop on Molecular Methods in Infectious Disease Diagnosis, AIIMS, New Delhi, February 16-20, 2002.

13. **Organising Secretary-** Second National Conference of Laboratory Medicine, AIIMS, New Delhi, February. 21-23, 2002.
14. **Organising Secretary-** International Symposium on Leishmaniasis, New Delhi, Feb. 23-24, 2002.
15. **Course Director-** DBT-AIIMS Hands-on Workshop on Molecular Biology in Infectious Disease Diagnosis, May 1-23, 2002.
16. **Course Director-** DBT-AIIMS Hands-on Workshop on Molecular Biology in Infectious Disease Diagnosis, August 4-23, 2003.
17. **Course Director-** DBT-AIIMS Hands-on Workshop on Molecular Biology in Infectious Disease Diagnosis, February 17- March 5, 2005.
18. **Course Director-** Hands-on Workshop on HIV Viral Load monitoring, AIIMS, New Delhi, March 25-26, 2006.
19. **Course Director-** Hands-on Workshop on Molecular Diagnosis of Tuberculosis, AIIMS, New Delhi, March 25-26, 2006.
20. **Course Director-** Hands-on Workshop on Laboratory Diagnosis of Opportunistic Intestinal Parasites in AIDS Patients, AIIMS, New Delhi, March 25-26, 2006.
21. **Course Director-** Hands-on Workshop on Laboratory Diagnosis of acute Toxoplasmosis in AIDS, AIIMS, New Delhi, March 26, 2006.
22. **Organising Secretary, International Conference on Opportunistic Pathogens in AIDS (ICOPA-INDIA),** New Delhi, February 27-29, 2006.
23. **Chairman, International Conference on Opportunistic Pathogens in AIDS (ICOPA-INDIA),** New Delhi, February 27-29, 2008.
24. **Chairman,** Organising Committee, Second National Conference of Tropical Parasitology (Tropacon-2), New Delhi, October 30- November 2, 2008.
25. **Chairman, International Conference on Opportunistic Pathogens (ICOPA-INDIA),** New Delhi, September 27-30, 2010.
26. **Chairman,** Organising Committee, One day TB awareness and anti-spitting rally and awareness programmes organized on the occasion of World TB Day, New Delhi, 24<sup>th</sup> March 2014.
27. **Chairman,** Organising Committee, TB awareness Marathon, organized on the occasion of World TB Day, New Delhi, 24<sup>th</sup> March 2014.
28. **Chairman,** Organising Committee, One day “Brain storming symposium on Tuberculosis: Challenges in diagnosis and management” and expert panel discussion, organized at the occasion of World TB Day, New Delhi, 24<sup>th</sup> March 2015.
29. **Chairman,** Organising Committee, Hands On-Workshop on The laboratory Diagnosis of Intestinal Parasitic Diseases: under the aegis of Indian Association of Medical Microbiologist Delhi Chapter (MICRO-D-CON 2015). December 10, 2015.
30. **Chairman,** Organising Committee, CME on Rapid Diagnostics: During the Bio-Asia Global Summit under the aegis of Federation of Asian Biotech Associations [FABA], Hotel Novotel, Hyderabad. February 8, 2016.
31. **Chairman,** Organising Committee, National symposium on Challenges in Tuberculosis Diagnosis and Management: organized at the occasion of World TB Day, March 30, 2016.
32. **Chairman,** Organising Committee, National Conference on Scientific Updates on Zoonotic Disease Control, at AIIMS, New Delhi, On the occasion of World zoonosis day- July 6, 2016.

33. **Chairman**, Organising Committee, PG Assembly, 2016 for MD students titled “Preparing for the future” under the aegis of IAMM-Delhi, August 22-24, 2016.
34. **Chairman**, Organising Committee, Hands on Workshop for Technical Staff for Quality Control in Serology. Under the aegis of IAMM-Delhi, September 9-12, 2016.
35. **Chairman**, Organising Committee, Symposium on “Challenges in Diagnosis and Elimination of Tuberculosis” on World TB day-March 24, 2017.
36. **Chairman**, Organising Committee, Indian Association of Medical Microbiologists–Delhi Chapter meeting. March 25, 2017.
37. **Chairman**, Organising Committee, National Conference on Scientific Updates on Zoonotic Disease Control, at AIIMS, New Delhi, On the occasion of World zoonosis day- July 6, 2017.
38. **Organising Chairman**- 59 Annual Conference of National Academy of Medical Sciences, AIIMS, Bhopal, October, 11-13, 2019.

### **Organization of Medical and-Social Awareness Camps**

Actively involved in social upliftment of underprivileged and providing free medical help and awareness programmes through medical camps, public lectures etc.

- **2009**, Organised a WORKSHOP ON SOLID WASTE MANAGEMENT, at Jindal International School, Rohini on January 11, 2009.
- **2008**, Co-organised a Free Medical Check-up camp at Jindal International School, Sector, 28, Rohini, Delhi on Sunday, the 20<sup>th</sup> April.
- **2007**, Co-organised a Free Medical Check-up camp at Jindal International School, Sector, 28, Rohini, Delhi on Sunday, the 22<sup>nd</sup> April.
- 2007, Organised a Seminar-Cum-Workshop on RTI, Act, 2005 on Sunday, the 27<sup>th</sup> May, at AIIMS, New Delhi.
- **2006**, Organised One Day Free Medical Camp with CAP Foundation at Jindal Public School, Dashrathpuri, Dwarka Palam Road, New Delhi on Sunday, the 27<sup>th</sup> September.
- **2004** , Organised medical camp at Gurgaon through an NGO.
- **2002**, Organised kala-azar and malaria diagnostic camps various districts of Bihar.
- **2000**, Organised kala-azar detection camp in Samastipur district of Bihar.
- **1998-9**, Organised kala-azar detection camp in Samastipur, Vaishali, Patna, Hazipur, Bihar.
- **1996-1997**, Organised kala-azar detection camp in Darbhanga, Samastipur, Shahibganj, Dumka and Vaishali districts, Bihar.
- **1993**, Organised a medical camp to help, diagnose and treat the victims of poisonous smoke broke out in Kardam Puri, Trans-Yamuna area of Delhi. Findings Published in Lancet.

## Research projects Directed with main outcomes

### As Principal Investigator

Title	Funding agency	Period
<b>1. <u>PCR for the Diagnosis of Toxoplasmosis</u></b> Developed an in-house PCR kit for the diagnosis of antenatal and acquired Toxoplasmosis. The protocol and primers are being routinely used in diagnostic laboratory.	DBT, India	1991-1993
<b>2. <u>TNF-alpha in Malaria</u></b> High levels of TNF- $\alpha$ were found in patients with fulminant and cerebral falciparum malaria, as compared to benign malaria. The results are published in peer reviewed journals.	AIIMS	1992-1993
<b>3. <u>Developing Indigenous ELISA, DAT &amp; Latex agglutination test kits for the diagnosis of Acute Toxoplasmosis.</u></b> Developed an in-house modified direct agglutination test kit. The kit is patented in India for the diagnosis of human and animal toxoplasmosis.	DBT, India	1996-1999
<b>4. <u>Are Visceral and post Kala-azar dermal leishmaniases caused by same stain of L. donovani?</u></b> This study revealed that VL and PKDL isolates of Leishmania donovani have significant genetic heterogeneity. These isolates also have significant difference in their drug susceptibility pattern to standard drugs. Several papers have been published from the project.	DBT, India	1996-2000
<b>5. <u>Identification of Drug Resistant strain (s) of clinically relevant Mycobacteria specially M. tuberculosis and genes associated with resistance.</u></b> A data base was prepared for the first time from North India and several new species and strains of M. tuberculosis were identified. These strains were used as resource by other scientists of the country.	DBT, India	1996-2000
<b>6. <u>Isolation of free living amoeba from AIIMS water supply.</u></b> Acanthamoebae were isolated in majority of drinking water samples collected from households. The isolation was significantly higher from the pre-filter collection and overhead tanks. The findings are published.	AIIMS	1996-1999
<b>7. <u>PCR and Cytokine assays in the diagnosis of visceral leishmaniasis.</u></b> This pilot project revealed possibility of animal reservoirs of Indian VL. This hypothesis leads us to plan a bigger study to screen various domestic and wild animals using molecular methods of screening.	ICMR, India	1999-2001
<b>8. <u>Collection of well-characterized clinical samples for the purpose of evaluation of tests developed by various groups for early detection of M. tuberculosis.</u></b> As evident from the title, a repository of Mycobacterial isolates and clinical samples was established. The well	DBT, India	1996-2000

characterized isolates and clinical material was/is being sourced out to various other scientists working on TB diagnosis. Several daughter projects were planned out from this resource.		
<p><b>9. <u>Collection of well-characterized clinical samples and strains of M. tuberculosis and development of molecular techniques for the detection of drug resistant strains.</u></b></p> <p>As an offshoot of the previous study, several molecular methods were developed by our laboratory and others. The samples and isolates in our repository were used for evaluation and validation of various tests developed in-house by Indian scientists and also commercially for the diagnosis and detection of drug resistant M. tuberculosis.</p>	DBT, India	2000-2003
<p><b>10. <u>Base line Database collection and documentation of Good manufacturing and supply practices adopted by the manufacturers of TORCH- ELISA kits and quality control assessment at the user level of these kits.</u></b></p> <p>The study revealed that quality control and Human Resource standards adopted by majority of small and middle-level private laboratories are dismal in India. The recommendations were submitted to Government of India, which in-turn formulated important guidelines and accreditation of these laboratories.</p>	DST, India	2003-2005
<p><b>11. <u>Expression, Characterization &amp; purification of recombinant kinesin like protein of VL &amp; PKDL and developing test methods using the above antigen.</u></b></p> <p>A novel recombinant kinesin-like antigen was prepared from an Indian isolate of Leishmania donovani (Ld-rKE16). Invention is patented globally. The technology was transferred to a commercial firm. Using this novel antigen, ELISA and rapid diagnostic test kits are prepared. The kit has 99% sensitivity and 100% specificity. Several national Governments are using this kit. The kit has also been endorsed by WHO.</p>	DBT, India	2003-2006
<p><b>12. <u>Screening of marine products for in-vitro anti-Mycobacterial activity.</u></b></p> <p>A natural product was found to have anti-mycobacterial activity. The molecule was transferred to a pharmaceutical company for further evaluation.</p>	CSIR, India	2003-2005
<p><b>13. <u>Comparative Evaluation of various in-vitro methods for diagnosing pulmonary and extra-pulmonary tuberculosis.</u></b></p> <p>Various microbiological and serological methods were compared for the accurate diagnosis of PTB and EPTB. The results are published in reputed journals. These results helped Government of India to ban the serology.</p>	BioMerieux, India	2004-2007
<p><b>14. <u>Rapid and accurate diagnosis of Tuberculosis using a novel set of primers directly from clinical samples.</u></b></p> <p>Various monoplex and a novel multiplex PCR system was developed. The multiplex PCR detects M. tuberculosis, M</p>	ICMR, India	2004-2007



avium and other NTM in a single tube. The results of validation and cross evaluation are published in reputed journals.		
<b>15. <u>Evaluation of toxicity of Kalsome in Mouse model.</u></b> Kalsome is a new form of liposomal amphotericin B being used for the treatment of Leishmaniasis and fungal infections. It uses ergosterol as lipid capsule. A real-time PCR was developed to evaluate the efficacy of this drug. In mice model	DST, India	2005-2007
<b>16.</b> The role of TNF- $\alpha$ in the success of anti-tubercular therapy in Immune Restoration Disease in HIV/MTB co-infected patients responding to ART.	Aust-Ind Council	2007-2009
<b>17. <u>Transmission of Drug Resistant Hepatitis B Virus in Close Family Contacts of HBV-Related Chronic Liver Disease Patients.</u></b> High rate of transmission was demonstrated in household contacts of Hepatitis B infected source patients. Close contact and clothes were incriminated in the transmission of this virus to contacts.	DST, India	2006-2009
<b>18. <u>Proteomic analysis of the M. tuberculosis during the stage of acquisition of resistance to the Isoniazid and Rifampicin.</u></b> Four Novel proteins are identified which are overexpressed during the acquisition of drug resistance. The results are published in peer reviewed journal. A patent has also been filed.	DBT, India	2006-2011
<b>19. <u>Genotyping of Mycobacterium tuberculosis isolates from Delhi &amp; determining their Transmission Dynamics using Mol. methods.</u></b> This community based study showed that a significant number of asymptomatic household contacts of index patients can be diagnosed well before they clinically manifest, using molecular and modern diagnostic tools. The study concluded that contact tracing was most useful of treating and controlling tuberculosis.	ICMR, India	2007-2011
<b>20. A novel multiplexes PCR for simultaneous identification and discrimination of M. tuberculosis complex, M. avium complex and other NTM ....clinical specimens.</b> This was in continuation of previous study. The novel multiplex PCR developed for the diagnosis and differentiation of M. tuberculosis (novel Esat-6 primers), 16SrRNA and hsp60 was evaluated across the country on various types of clinical samples and standard strains. The PCR was found to be 98% sensitive and 97% specific. The invention is patented in several countries and ready for commercialization.	DBT, India	2007-2011
<b>21. <u>Detection of Hepatitis A, E, Salmonella, E. histolytica and Giardia lamblia from drinking water samples using novel multiplex PCR.</u></b> A pentaplex PCR was developed and evaluated for the simultaneous diagnosis of Hepatitis A, E, Salmonella typhi, E.	DBT, India	2007-2010

histolytica and Giardia lamblia from drinking water and stool samples. The technology is ready for commercialization.		
<b>22. Isolation and purification of active compounds with anti-leishmanial activity from Unani Medicinal Plants</b>	CCRUM, India	2007-2010
<b>23. Role of Micronutrient Supplementation in Childhood Tuberculosis.</b> This comprehensive study revealed several new findings that included efficacy of Gene-Xpert in archived gastric aspirate and induced sputum samples; high rate of MDR in paediatric tuberculosis, as compared to adults; better diagnostics tools and algorithms and new biomarkers for childhood tuberculosis. Six papers in high impact journals have been published and many more are in pipeline.	University of Bergen, Norway	2008-2012
<b>24. Doctor's Office Diagnostic Instrument for detection of M. tuberculosis</b> This grant was primarily coordinated by Prof. VK Chaudhary from Delhi University. The innovations are in developmental stage.	Indo-Sweden collaboration	2009-2011
<b>25. Animal studies on Chimeric Vaccine for the Prophylaxis of Leishmaniasis and Tuberculosis.</b> A new chimeric vaccine against TB and Leishmania (both) has been developed and the innovation has been patented globally through PCT route. Two papers in high impact journals have been published.	ICMR, India	2010-2014
<b>26. Cloning Expression purification and evaluation of recombinant antigens for the diagnosis prognosis and prediction of MDR/XDR tuberculosis.</b> Five novel antigens have been identified and patent has been filed and technology is being considered for transfer for commercialization. Three publications in reputed journals have been published.	ICMR, India	2010-2014
<b>27. A novel loop mediated isothermal amplification (LAMP) assay for rapid detection and differentiation of mycobacterium tuberculosis M. avium complex and other mycobacterium species directly from clinical samples.</b> A novel set of 6 primers and probes has been developed. One publication in reputed journals has been published.	DBT, India	2011-2014
<b>28. Leishmania kinesin Motor Domain with BCG as a vaccine formulation against experimental visceral Leishmaniasis.</b>	ICMR, India	2012-2014
<b>29. Molecular Epidemiology and Genetic Characterization of M. tuberculosis from HIV seronegative and HIV seropositive patients.</b> No major difference was found in the genotypes of MTB isolated from HIV-TB co-infected patients vis-à-vis HIV uninfected patients.	ICMR, India	2012-2014
<b>30. Sero-epidemiology of Toxoplasmosis in women of Child bearing Age in India.</b> One publication in a highly reputed journal has been	Abbott Health Care, India	2011-2012

published. On the basis of this publication which shows several new observations, PI has been invited to deliver talks on Toxoplasmosis within and outside India as guest speaker.		
<b>31. A side by side comparison of current gold standard methods for diagnosing tuberculosis from sputum with DNA Genotek chemistries</b>	Genotek/ Imperial Life Sciences, India	2013-2014
<b>32. Kinetoplastid Drug Development: Strengthening the preclinical pipeline- KINDReD.</b> Two publications in reputed journals have been published. At least two compounds have been identified as potential drugs against VL and one compound against CL.	European Commission, Belgium	2013-2016
<b>33. Molecular Epidemiology &amp; drug resistance pattern of Mycobacterium tuberculosis from North-East region of India</b>	DBT	2014-2017
<b>34. Medicinal Orchids of Arunachal Pradesh: Micropropagation, phytochemical characterization and biological activity</b>	DBT	2013-2017
<b>35. Batch Efficacy Testing for Infectious Diseases markers on Advia Centaur system</b>	Siemens India	2014-2017
<b>36. Evaluation of Adhesive Sensors for the detection of Tuberculosis specific volatile organic compounds</b>	Bill & Melinda Gates foundation with Technion R&D foundation Ltd. Israel	2015-2017
<b>37. <u>Development of Rapid Biosensor Based Diagnostic Test For Tuberculosis</u></b> <b><u>Prospective outcome:</u></b> Development of biosensor based rapid diagnostic test for tuberculosis including extra-pulmonary tuberculosis. Four antigens (SS1, SS3, SS4 and SS5) will be selected for the development of Graphene/ CNTs electrode based amperometric sensor-based device for point of care diagnosis of tuberculosis. It will help to explore the commercial utility of these antigens in India or worldwide.	DHR, India	2017- Ongoing
<b>38. <u>Development of platform technologies for high affinity antibodies for <i>in vitro</i> diagnostics.</u></b> <b><u>Prospective outcome:</u></b> The prime focus of the project would be to establish basic platform technologies for production of high affinity antibodies using conventional hybridoma techniques with high-throughput approaches, and involving phage display based technology for producing high affinity recombinant antibodies from immunized mice and rabbits. The work employing rabbit will be the first of its kind in the country. For establishing these technologies, we have aimed at producing immuno-reagents for developing antigen-detection diagnostic tests for Tuberculosis, as model system. The project is expected to deliver rapid tests for the detection of TB. In addition, we propose to develop a strategy to identify	DBT, India	2017- Ongoing

antigen-antibody cognate pairs at genome scale again using <i>M. tuberculosis</i> genome as a model system.		
<b>39. <u>Study of the Relative Contributions of Genotypic/Phenotypic Means of Stress Tolerance: Investigation of the Physiology of <i>Mycobacterium tuberculosis</i> Populations of Patient Origin (Project 4 of the COE on- Mechanisms of stress tolerance in <i>M. tuberculosis</i> and its physiological relevance)</u></b> <b><u>Prospective outcome:</u></b> In the present study, we showed a dominant role of phagosomal acidification in facilitating heterogeneity in the redox physiology of <i>Mtb</i> to generate an actively replicating, drug-tolerant population exhibiting higher antioxidant capacity ( <i>EMSH</i> -reduced) during infection. Our study constitutes an important foundation linking the macrophage environment with the core redox physiology of <i>Mtb</i> to promote drug tolerance in replicating <i>Mtb</i> , a population not typically associated with tolerance.	DBT, India	2017-Ongoing
<b>40. <u>New Multiplex Blood Based Assay for Diagnosis of <i>Mycobacterium</i></u></b> <b><u>Prospective outcome:</u></b> To determine diagnostic utility of multiplex microbeads immunoassay in TB diagnosis. This assay (RU-1) will be developed using 11 recombinant antigens against M.Tb. The sensitivity and specificity of the RU-1 test will be calculated from plasma samples and DBS (Dried Blood Spot) from patients with pulmonary tuberculosis patients, other respiratory diseases and healthy controls.	NextGen Invitro Diagnostics Pvt. Ltd.	2017-Ongoing
<b>41. <u>Development of Novel Molecular test for rapid diagnosis of XDR-TB</u></b> <b><u>Prospective outcome:</u></b> Development of the test may prove to be more specific than Phenotypic DST/Available molecular test and will be helpful in treatment management of drug resistant tuberculosis by decreasing diagnostic delay.	ICMR, India	2018-Ongoing
<b>42. <u>Blood test for all forms of active tuberculosis (TB) for commercialization in India</u></b> <b><u>Prospective outcome:</u></b> The completion of a validation trial of a novel multiplex serological antibody detection test (RU-1) under the approved directions of Indian Council on Medical Research (ICMR). Upon the completion of the studies in three years this test will seek approval for commercialization in India. It is expected that the necessary approvals will be obtained within six months to begin the commercialization and marketing process. The test contains 11 M.tb. antigens (RU-1) for the detection of all forms of TB including EPTB (Extra-Pulmonary TB) and PED-TB (Paediatric-TB) accurately, efficiently and economically with high	DST, India	24.11.2018 to 23.11.2021-Ongoing

<p>sensitivity/specificity. A public/private partnership will be developed between the Indian PI's (Dr. Sarman Singh) clinical laboratory and NextGen In Vitro Diagnostics (NGIVD), New Delhi, a private company, for commercialization of the TB diagnostic product. RU-1 test is low cost, priced at INR500. It has high sensitivity (91%; 96% specificity), which is a major improvement over the front-line test, sputum smear microscopy recommended by WHO, that suffers from low sensitivity (~50%).</p>		
<p><b>43. <u>A Multi-drug Combination (MDC) formulated on the basis of ancient old Science of Ayurveda</u></b>  <b><u>Outcome:</u></b>  The project is designed to evaluate the sensitivity of a multidrug combination Fifatrol (Aimil Pharmaceuticals) and it's constitutes against various gram positive and gram negative bacteria and also the antimicrobial spectrum for other microbes. Fifatrol is an ancient medicine for modern time which has anti-bacterial activity for various infectious micro-organisms with the combination of five poly phyto mineral and eight active herbal extracts providing the fast relief in fever, nasal congestion, sore throat and body ache. It has also antipyretic, analgesic, anti-infective, anti-oxidant, decongestant, anti-allergic and anti-inflammatory properties and is an immunomodulator. This study will help to find out a new promising drug for many infectious diseases with no side effects and reduced the possibilities of microbes to become resistant for naturally synthesized antibiotics.</p>	<p>AIMIL Pharmaceuticals, India</p>	<p>2018- Waiting for extension</p>
<p><b>44. <u>Evaluation of Loop Mediated Isothermal Amplification Assay (LAMP) for rapid detection of Mycobacterium tuberculosis from clinical samples</u></b>  <b><u>Prospective outcome:</u></b>  Developed a isothermal based assay for diagnosis of <i>Mycobacterium tuberculosis</i></p>	<p>DBT, India</p>	<p>2018- Waiting for extension</p>
<p><b>45. <u>Centre of Learning and Excellence in Advance Nursing (CLEAN) funded by NHM, Directorate of Health Services</u></b>  <b><u>Prospective outcome</u></b>  To train the staff nurse/staff in the various speciality/areas: Trauma Emergency, Operation theatre, Intensive care ICU, Haemo-dialysis and Cancer care</p>	<p>NHM, MP Govt.</p>	<p>12.12.2018 to 11.12.2021</p>

<p><b>46. <u>Comprehensive OMICS studies to understand the biology of drug resistant <i>Mycobacterium tuberculosis</i> clinical isolates from Arunachal Pradesh</u></b>  <b><u>Prospective outcome:</u></b>  The study at genome, proteome and lipidome scale of the drug resistant <i>Mycobacterium tuberculosis</i> isolates from Arunachal Pradesh will open new vistas to drive biological discovery in the TB research field by providing scaffolding for the interpretation of “omic” scale datasets, directing hypothesis that presence of some novel/unique genes or pathways in different geno-lineages such as Beijing make them more virulent and resistant to anti-tubercular drugs and also assisting in the identification of novel drug and diagnostic targets. Evolutionary relationship among drug resistant and sensitive strains will help in development of potential candidates for vaccine/diagnostics for TB.</p>	DBT, India	2019- Ongoing
<p><b>47. <i>Toxoplasma gondii</i>: Seroprevalence, associated risk factors, genotyping and Pregnancy outcome in tea tribe population of Assam funded by DBT</b>  <b><u>Prospective outcome:</u></b> It will detect the sero-prevalence of the <i>Toxoplasma gondii</i> infection in female of tea tribe population of the North East (Assam). And associated risk factors, genotyping and pregnancy outcome in the selected population.</p>	DBT, India	11.01.2019 to 10.01.2022
<p><b>48. <u>Intensified Pulmonary Tuberculosis case finding among selected high risk clinical groups attending secondary level public health care facilities</u></b>  <u>(Yet to start)</u></p>	ICMR, India	2020- Due to COVID- 19, Recruitment process is pending

❖ **Research projects directed with main outcomes as Co-Investigator investigator**

<b>SL. No</b>	<b>Title</b>	<b>Funding agency</b>	<b>Period</b>
<b>1</b>	<b>Genetic Diversity of Nontuberculous Mycobacteria in Central India: Rapid Identification and Differentiation of Mycobacterium species by PCR-restriction enzyme analysis -hsp65 gene and 16S-23S ITS region of rDNA</b>	<b>SERB-SRG</b>	<b>Joining of project staff is pending</b>
<b>2</b>	<b>Systematic TB case findings among children with SAM at Nutritional Rehabilitation Centres (Data Collection is on process)</b>	<b>ICMR, India</b>	<b>2019-Ongoing</b>
<b>3</b>	<b>Establishment of a sample and cost-effective method for molecular surveillance of influenza using Oxford Nanopore MinION sequencing technology</b>	<b>DHR, India</b>	<b>Fund not received</b>
<b>4</b>	<b>Evaluation of inherited defects in leukocyte function by combined clinical, haematological, flowcytometric and genetic analysis</b>	<b>ICMR, India</b>	<b>1. Fund not received 2. Due to COVID- 19, Recruitment process is pending</b>

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### Gene Sequences and Genome Projects Submitted to Gene-Bank (1135)

- i. Leishmania:
- ii. Mycobacterium:
- iii. Cytomegalovirus:

### Whole Genome Projects (4)

#### **(1) Whole genome sequencing of XDR TB isolate of East African Indian lineage from India**

Identifiers: BioSample: SAMN06203364; Sample name: L-823

Organism: Mycobacterium tuberculosis, strain: AIIMS/LM/SS/PTB/L-823

Package: Pathogen: clinical or host-associated; version 1.0

Accession: SAMN06203364 ID: 6203364

[BioProject](#) [Nucleotide](#)

#### **(2) Whole genome sequence of leishmania strain AIIMS/LM/SS/PKDL/LD-974 Clinical isolate from Bihar, India.**

Identifiers: BioSample: SAMN03457191; Sample name: LD-974; SRA: SRS893466

Organism: Leishmania sp. AIIMS/LM/SS/PKDL/LD-974, strain: AIIMS/LM/SS/PKDL/LD-974

Package: Pathogen: clinical or host-associated; version 1.0

Accession: SAMN03457191

ID: 3457191

[BioProject](#) [SRA](#) [Nucleotide](#)

#### **(3) Pathogen: clinical or host-associated sample from Mycobacterium tuberculosis**

Identifiers: BioSample: SAMN06761088; Sample name: L-182

Organism: Mycobacterium tuberculosis, strain: AIIMS/LM/SS/PTB/L-182

Package: Pathogen: clinical or host-associated; version 1.0

Accession: SAMN06761088

ID: 6761088

[BioProject](#)

#### **(4) Pathogen: clinical or host-associated sample from Mycobacterium tuberculosis**

Identifiers: BioSample: SAMN06760364; Sample name: L-31

Organism: Mycobacterium tuberculosis, strain: AIIMS/LM/SS/PTB/L-31

Package: Pathogen: clinical or host-associated; version 1.0

Accession: SAMN06760364

ID: 6760364

[BioProject](#)



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100. **Singh S.** Epidemiology of Non-Tubercular Mycobacterial infections in AIDS patients. Fifth International Conference on AIDS in India. Chennai. October 21-24, 2005.
101. Sharma U, Dey A, **Singh S.** "First case report of indigenous visceral leishmaniasis from Central India" in International conference on opportunistic pathogens in AIDS held at All India Institute of Medical Sciences, New Delhi, India from 27<sup>th</sup>-29<sup>th</sup> March 2006.
102. Sharma U, Dey A, **Singh S.** "Leishmania-HIV co-infection: An emerging problem in India" National Conference on Immunology in health and disease 2006 held at Chhatrapati Shahu Ji Maharaj University, Kanpur, India from 11<sup>th</sup> -12<sup>th</sup> January 2006.
103. Kumar Sandeep, Singh Niti, Katharya, Dhankhar Pawan, **Singh Sarman.** "*A preliminary Report of Household Contact Investigation for Tuberculosis.*" International Symposium on New Frontiers in Tuberculosis Research, Dec 2006, ICGEB, New Delhi.
104. **Singh S.** AIDS associated toxoplasmosis. International Conference on Opportunistic Pathogens in AIDS, March 27-29, 2006. New Delhi.
105. Redhu NS, Dey A, Balooni V and **Singh S.** HIV-Leishmania Co-infection: A Retrospective Study from India. International Conference on Opportunistic Pathogens in AIDS, March 27-29, 2006, New Delhi.
106. Gupta S and **Singh S.** Seroprevalence of Hepatitis B and HIV Infections. Among Pregnant Women Attending Antenatal Clinics at a Tertiary Care Hospital in India. International Conference on Opportunistic Pathogens in AIDS, March 27-29, 2006, New Delhi.
107. Gupta R, Gupta S, Mathur P, Aggarwal S, **Singh S.** Seroprevalence Of Toxoplasma In HIV Positive Vs. HIV Negative Patients In North India. International Conference on Opportunistic Pathogens in AIDS, March 27-29, 2006, New Delhi.
108. Narang S, Mathur P, **Singh S.** Intestinal parasite Profile in the Stool sample of HIV Positive patients. International Conference on Opportunistic Pathogens in AIDS, March 27-29, 2006, New Delhi.
109. Aruna, Matthew J Magee, **Singh S.** Drug resistant Tuberculosis in Delhi: prevalence. International Conference on Opportunistic Pathogens in AIDS, March 27-29, 2006, New Delhi.
110. Gupta S, Mathur P, Gupta R, Balooni V, **Singh S.** Hepatitis B Virus and Hepatitis C Virus Co-infections in HIV Positive Patients in India. International Conference on Opportunistic Pathogens in AIDS, March 27-29, 2006, New Delhi.
111. Mishra J and **Singh S.** Prevalence of Herpes simplex IgG (1 & 2) and IgM antibodies among women of reproductive age group at a Tertiary Care Hospital of Northern India. International Conference on Opportunistic Pathogens in AIDS, March 27-29, 2006. New Delhi.
112. Kumar S, Shankar M, **Singh S.** Tetrazolium Micro plate Assay as a Rapid and Inexpensive Colorimetric Method for Anti-tubercular Drug Susceptibility testing. International Conference on Opportunistic Pathogens in AIDS, March 27-29, 2006, New Delhi.
113. **Singh S.**, Shahdad S, Sharma P. Non-Tubercular Mycobacterial infections in Indian AIDS patients diagnosed by genus and species specific 16S rRNA and Novel ESAT-6 Polymerase Chain Reaction primers. XVI International AIDS Conference held at Toronto, Canada, August 13-18, 2006.
114. **Singh S.** Singh N. Serum cholesterol levels as surrogate marker for HIV diseases progression: May replace repeated CD4<sup>+</sup> cell counts in resource limited countries. XVI International AIDS Conference held at Toronto, Canada, August 13-18, 2006.

115. **Singh S.** Recent advances in the diagnosis of Leishmaniasis. National Conference on “Immunology in Health & Diseases” Institute of Life Sciences, Chhatrapati ShahujiMahraj University, Kanpur, January 11-12, 2006.
116. **Singh S.** TORCH investigations and their interpretation. National conference of ISPAT. February 18, 2006, New Delhi.
117. **Singh S.** Microarrays in the diagnosis of Parasitic Diseases. Pre-conference CME. XXX National Conference of Medical Microbiologists” at Nagpur, October 26- 27, 2006.
118. **Singh S.** Recent advances in the Diagnosis of Leishmaniasis. 18<sup>th</sup> National Congress of Parasitology” at Kolkata, November 22-24, 2006.
119. **Singh S.** Delivered a lecture on “Methods HIV Testing” during the First Hands-on Workshop on Training course on HIV/AIDS for Medical Officers and Laboratory technicians, National Institute of Biologicals, NOIDA, January 16, 2007.
120. **Singh S.** Delivered a lecture on “Methods HIV Testing” during the Second Hands-on Workshop on Training course on HIV/AIDS for Medical Officers and Laboratory technicians, National Institute of Biologicals, NOIDA, February 12, 2007.
121. **Singh S.** Delivered a lecture on “Methods HIV Testing” during the Third Hands-on Workshop on Training course on HIV/AIDS for Medical Officers and Laboratory technicians, National Institute of Biologicals, NOIDA, February 19, 2007.
122. **Singh S.** Provided hands on-training and delivered a lecture on Recent Advances in the Diagnosis of Leishmaniasis during the Andhra Pradesh Chapter of IAMM, Hyderabad, February 9, 2007.
123. **Singh S.** Delivered a lecture on Quality Assurance in Molecular Diagnostics. Microbiology Update. Maulana Azad Medical College, Delhi. March 9, 2007.
124. **Singh S.** Lecture on Molecular Epidemiology of Mycobacterium Paratuberculosis. National Seminar & Workshop on Johne’s Disease. Indian Veterinary Research Institute, Izatnagar. August 8, 2007.
125. **Singh S.** Delivered guest lecture on indigenous developments in the Leishmania diagnostics. National Conference of Indian Academy of Tropical Parasitology (Tropacon), Chennai, October 6-7, 2007.
126. Gupta S, **Singh S.** Horizontal spread of HBV among contacts of HBV-CLD patients. Indian Journal of Gastroenterology March, 2008 vol 27 (supplement 1) S17.
127. Magee M, Manning G, Gopinath K, **Singh S.** MDR- M. tuberculosis in High-Risk Groups of Delhi: Preliminary Results from an On-going Cross-Sectional Study. PS-61292-02. 37<sup>th</sup> Union World Conference on Lung Health, Paris – France, 31 October - 4 November 2006.
128. **Singh S.**, Gopinath K, Mani Sankar M, Kumar S. Emergence of XDR-tuberculosis in India. International Conference of Infectious Diseases, Vienna, Austria. February 22-25, 2007: abstract No. 13.029.
129. Mishra J, Carpenter S, **Singh S.** Low serum zinc levels in Bihar: Associated with kala-azar endemicity. 34<sup>th</sup> Indian Immunology Society conference, Pune from 16<sup>th</sup> -18<sup>th</sup> December, 2007.
130. Dey A, Redhu NS, **Singh S.** Kinesin Motor Domain of Leishmania Donovanii as future vaccine candidate. Vaccine Conference, Amsterdam, December 13-15, 2007.
131. Sharma U, **Singh S.** Leishmanicidal activity and therapeutic potential of some medicinal plants. IX International Symposium on Vectors and Vector Borne Diseases Puri, Orissa (India), 15-17 February 2008.

132. Singh A, Gopinath K., Sharma P., Singh N., Bisht D., Katoch V.M., **Singh S.** Proteomic analysis of *M. tuberculosis* strains sequentially acquired resistance to Isoniazid and Rifampicin. Ninth Dorabji Tata Symposium on Antimicrobial resistance, Indian Institute of Science Campus, Bangalore on 10-11<sup>th</sup> March, 2008.
133. Gopinath K., Kumar S., **Singh S.** Prevalence of Mycobacteremia in Indian HIV infected patients detected by MB/BacT automated culture system. International conference on Opportunistic Pathogens in AIDS 2008 (ICOPA-INDIA 2008), New Delhi, January 27-29, 2008.
134. Gupta S., Balooni V., **Singh S.** Occult HBV infection in HIV patients: a preliminary study at a tertiary care hospital. International conference on Opportunistic Pathogens in AIDS 2008 (ICOPA-INDIA 2008), New Delhi, January 27-29, 2008.
135. Sankar M., Gopinath K., **Singh S.**, Evaluating tetrazolium Microplate Assay for drug susceptibility testing in Non-tuberculous mycobacterial isolates. International conference on Opportunistic Pathogens in AIDS 2008 (ICOPA-INDIA 2008), New Delhi, January 27-29, 2008.
136. Kumar M., Sankar M., Malik A, **Singh S.**, Conventional and molecular techniques in detection of Mycobacterium tuberculosis Complex in Human Immunodeficiency Virus Infected Patients. International conference on Opportunistic Pathogens in AIDS 2008 (ICOPA-INDIA 2008), New Delhi, January 27-29, 2008.
137. Gupta S., Mathur P., Maskey D., Wig N., **Singh S.** Immune Restoration Syndrome with disseminated penicillium marneffeii and CMV: 1<sup>st</sup> report from a non-endemic area. International conference on Opportunistic Pathogens in AIDS 2008 (ICOPA-INDIA 2008), New Delhi, January 27-29, 2008.
138. Gopinath K., Singh A., **Singh S.** Comparative genomic analysis of ATP Binding Cassettes transporters of *M. tuberculosis* and *M. avium* paratuberculosis. International Conference on Opportunistic Pathogens in AIDS 2008 (ICOPA-INDIA 2008), New Delhi, January 27-29, 2008.
139. Sharma U, Velpandian T, Sharma P, **Singh S.** “Development of novel anti-leishmanial herbal compounds and their molecular mechanism of action against *Leishmania donovani*” in Theoretical and practical course ‘Molecular biology of *Leishmania*’ held at International Center for Genetic Engineering and Biotechnology, Trieste, Italy from 23<sup>th</sup> -25<sup>th</sup> October 2008.
140. Sharma U, **Singh S.** “Leishmanicidal activity and therapeutic potential of some medicinal plants” in IX International Symposium on Vectors and Vector Borne Diseases held at Puri, India from 15<sup>th</sup> -17<sup>th</sup> February 2008.
141. Carmen C, Flores M, Pradas MA, Gonzalez R, Neito J, **Singh S.** Use of Signal –KA kit for the Diagnosis of Visceral Leishmaniasis. Abstract No. 565. 4<sup>th</sup> World Congress on Leishmaniasis (Worlleish 4), Lucknow, February 3-7, 2009.
142. Arshi Munawwar, Swati Gupta, Veena Ballooni, **Singh S.** Incidence and Prevalence of Human Herpes Viruses in HIV Positive Patients in India. ASICON-2009. Jaipur (India).
143. Sharma U, Velpandian T, Sharma P, **Singh S.** “Demonstration of *In vitro* antileishmanial activity of active extracts from Indian plants” in WorldLeish 4 held at Central Drug Research Institute, Lucknow, India from 3<sup>rd</sup> -7<sup>th</sup> February 2009.
144. Sharma U, Dharmendra Singh, M. P. Dobhal, **Singh S.** “*In vitro* anti-leishmanial activity of plumericin, Isolated from *Plumeria bicolor*” in X International Symposium on Vectors and Vector Borne Diseases held at Goa, India from 4<sup>th</sup> -6<sup>th</sup> November 2010.

145. **Singh S.** Invited Lecture as visiting Professor: Opportunistic Infections in AIDS Patients: Indian Scenario. NIH, Bethesda, USA, March 5, 2010.
146. **Singh S.** Occult hepatitis B virus infection in ART-naive HIV-infected Indian patients. Abstract # 53.0065, 14<sup>th</sup> International Conference of Infectious Diseases, Miami, Florida, USA, March 8-12, 2010.
147. Lisco A, Munawwar A, Saba E, Grivel J C, Vanpouille C, **Singh S.** Margolis L. HIV-1 viral shedding in semen and early events of HIV-1 infection of human cervico-vaginal tissue in an optimized ex vivo model. World AIDS Conference, Vienna, July 18-23, 2010.
148. Kumar M, Oliver B, Kumar A, Agarwal U, Price P, **Singh S.** Levels of IL-18, sCD14 & CCL2, CXCL8 and CXCL10 in tubercular Immune Restoration Disease in a North India Population. World AIDS Conference, Vienna, July 18-23, 2010.
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## **PUBLICATION FOR GENERAL PUBLIC/ MASS COMMUNICATION**

- i) Public Awareness talks and discussion on COVID-19 at Door Darshan (live TV) Bhopal, in 2020
- ii) Regularly invited by Door Darshan (live TV) Bhopal, on health topics since August 2018 till date
- iii) Participated at various Radio awareness programmes of Akashwani, Bhopal ( All India Radio) and private FM (Radio Mirchi) on topic like PM-JAY scheme of Prime minister, Threat of antibiotic resistance and COVID-19, since 2018 to date
- iv) Radio Talk (Live) on Tuberculosis. All India Radio FM Gold. New Delhi, 23<sup>rd</sup> March 2015,
- v) TV interview on Tuberculosis. Rajya Sabha TV. New Delhi, Telecast on 24th March 2015,
- vi) Radio Talks (Live) on Tuberculosis. All India Radio FM Gold. New Delhi, 24th March 2014,
- vii) TV interview on Tuberculosis. News Nations TV. New Delhi, Telecast on 24th March 2014,
- viii) Radio Talks (Live) on Tuberculosis. All India Radio FM Gold. New Delhi, 23<sup>rd</sup> March 2013.
- ix) Dozens of articles and Interviews on COVID-19: its prevention, Diagnosis etc published in various English and Hindi Newspapers 2020
- x) Articles and interviews on Drug Resistance in Tuberculosis published in top ranking daily news papers such as The Independent, The Times of India, The Hindu, Hindustan Times, Gulf News etc. 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017.
- xi) Several articles and interviews on Banning the Serology for TB diagnosis published in top ranking daily news papers such as The TIMES, The Times of India, The Hindu, Indian Express, Hindustan Times, Gulf News etc. 2010-11.
- xii) Written several articles on Toxoplasmosis and its zoonotic importance in Daily news papers and magazines both in Hindi and English including PTI and Univarta.
- xiii) An Interview of International importance on “Risks of hospital acquired infections AIDS & HBV infection” published in New Scientists (England) August 3, 1991, p10.
- xiv) Written several educational articles for Hindi and English news papers on Kala-azar for general public.
- xv) Presently scientist on panel for “Univarta”: articles of public interest published on Toxoplasmosis, Genetic & Congenital infectious disease and on PCR based diagnoses.
- xvi) Publications of mass awareness about water contamination in Delhi, through PTI, Times of India, HT, Tribune, etc.
- xvii) Published several pamphlets and handbooks/handouts in Hindi language for public awareness various diseases and their diagnosis.
- xviii) Participated in a “Documentary film on Universal Precautions” directed by Dr. Ashok Rattan and Produced by AIIMS, New Delhi, 1993.
- xix) Participated as subject expert in a “Documentary film on AIDS: its social impact” produced by Mass Communication Centre, Jamia Millia University, Delhi, 1992.
- xx) Mass awareness articles in Nav Bharat Times, Hindustan, Tribune (Hindi) and TOI, Hindustan (English) on Toxoplasmosis, 1998, 1999, 2000.