

**Dr. Sunil Kumar Srivastava**  
**Associate Professor**  
**Department of Microbiology**



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<b>Web-Page/ Bio-data</b>	-		
<b>Academic Qualifications:</b> Ph.D. (Virology), Post-doc (Germany, USA)			
<b>Teaching Experience (Year)</b>	33	<b>Research Experience (Year)</b>	12
<b>Area of Research/ Specialization</b>	Molecular Virology, Cell Biology, Mycology, Medical Microbiology & Immunology, Cancer Biology, Nanobiotechnology, Metagenomics and Bioinformatics.		
<b>Publications</b>	29		

**List of recent publications:**

<b>Title</b>	<b>Authors</b>	<b>Journal</b>	<b>Month, Year</b>	<b>ISSN</b>	<b>Links</b>
In silico and structure-based evaluation of deleterious mutations identified in human Chk1, Chk2, and Wee1 protein kinase. 2024 Jan;125(1):89-99.	Colaco V, Goswami N, Goel VK, Srivastava SK, Lalrohluu P, Senthil Kumar N, Borah P, Baruah R, Varma AK.	J Cell Biochem.	Jan 2024	1097-4644	<a href="https://onlinelibrary.wiley.com/doi/10.1002/jcb.30508">https://onlinelibrary.wiley.com/doi/10.1002/jcb.30508</a>

doi: 10.1002/jcb.30508. Epub 2023 Dec 4. PMID: 38047473.					
Synthesis of silver nanoparticles using egg white: dye degradation and antimicrobial potential	A Kaushik, D Gola, J Raghav, D Gupta, A Kumar, M Agarwal, N Chauhan, S.K Srivastava, P.K Tyagi	Biointerface Research in Applied Chemistry	June, 2021	2069-5837	<a href="https://biointerfaceresearch.com/wp-content/uploads/2021/06/20695837122.23612372.pdf">https://biointerfaceresearch.com/wp-content/uploads/2021/06/20695837122.23612372.pdf</a>
Nanotechnology as an Effective Tool for Antimicrobial Applications: Current Research and Challenges	S. K. Srivastava, S. Srivastava, N. Chauhan	Journal of Pharmaceutical Research International	July, 2021	2456-9119	<a href="http://eprints.eastindiaarchive.com/id/eprint/887/1/sciencedomain%2C%2BChauhan3338A2021JPRI71714.pdf">http://eprints.eastindiaarchive.com/id/eprint/887/1/sciencedomain%2C%2BChauhan3338A2021JPRI71714.pdf</a>
MORPHOLOGICAL IMPORTANCE OF NANOPARTICLES AND ITS APPLICATIONS	S. K Srivastava, D. Gola, P. K. Tyagi, A. Jain, A. Malik, Archana, Y. Agrawal, N. Chauhan	Plant Cell Biotechnology and Molecular Biology	July, 2021	0972-2025	<a href="https://www.ikppress.org/index.php/PCBMB/article/view/6695">https://www.ikppress.org/index.php/PCBMB/article/view/6695</a>
Silver nanoparticles for enhanced dye degradation	Deepak Gola, Neha Bhatt, Medha Bajpai, Astha Singh, Arvind Arya, Nitin Chauhan, Sunil Kumar Srivastava, Pankaj Kumar Tyagi, Yamini Agrawal	Current Research in Green and Sustainable Chemistry	July, 2021	2666-0865	<a href="https://www.sciencedirect.com/science/article/pii/S266608651000795">https://www.sciencedirect.com/science/article/pii/S266608651000795</a>

Genome-Wide Expression Profiling of Small RNAs in Indian Strain of <i>Rhizoctonia solani</i> AG1-1A Reveals Differential Regulation of miRNAs during Pathogenesis and Crosstalk of Gene Regulation	SK Srivastava	Journal of Fungi,	July, 2021	2309-608X	<a href="https://doi.org/10.3390/jof7070561">https://doi.org/10.3390/jof7070561</a>
Beauveria bassiana assisted remediation of chromium and indanthrene blue	Deepak Gola, Pankaj Kumar Tyagi, Nitin Chauhan, Anushree Malik, Sunil Kumar Srivastava	Journal of Environmental Chemical Engineering	August, 2021	2213-3437	<a href="https://www.sciencedirect.com/science/article/abs/pii/S2213343721005297">https://www.sciencedirect.com/science/article/abs/pii/S2213343721005297</a>
Phylogenetic and Antimicrobial Drug Resistance analysis of <i>Vibrio cholerae</i> O1 isolates from Ghana	SK Srivastava	Microbial Genomics	October, 2021	2057-5858	<a href="https://doi.org/10.1099/mgen.0.000668">https://doi.org/10.1099/mgen.0.000668</a>
Antimicrobial and dye degradation application of fungi-assisted silver nanoparticles and utilization of fungal retentate biomass for dye removal	Deepak Gola, Pankaj Kumar Tyagi, Arvind Arya, Dhriti Gupta, Jyoti Raghav, Ankush Kaushik, Meenu Agarwal, Nitin Chauhan, Sunil Kumar Srivastava	Water Environment Research	November, 2021	1554-7531	<a href="https://onlinelibrary.wiley.com/doi/abs/10.1002/wer.1629">https://onlinelibrary.wiley.com/doi/abs/10.1002/wer.1629</a>

The impact of microplastics on marine environment: A review	Deepak Gola, Pankaj Kumar Tyagi, Arvind Arya, Nitin Chauhan, Meenu Agarwal, SK Singh, Sunil Gola	Environmental Nanotechnology, Monitoring & Management	December, 2021	2215-1532	<a href="https://www.sciencedirect.com/science/article/abs/pii/S2215153221001276">https://www.sciencedirect.com/science/article/abs/pii/S2215153221001276</a>
Microbiome Profiling of Enterotoxigenic <i>Escherichia coli</i> (ETEC) Carriers Highlights Signature Differences between Symptomatic and Asymptomatic Individuals	SK Srivastava	Mbio, American Society for Microbiology	May, 2022	2150-7511	<a href="https://journals.asm.org/doi/10.1128/mbio.00157-22">https://journals.asm.org/doi/10.1128/mbio.00157-22</a>
Vibrio cholerae O139 genomes provide a clue to why it may have failed to usher in the eighth cholera pandemic	SK Srivastava	Nature Communications ( <i>Nat Commun</i> )	July, 2022	2041-1723	<a href="https://doi.org/10.1038/s41467-022-31391-4">https://doi.org/10.1038/s41467-022-31391-4</a>
Vitamin C and its therapeutic potential against COVID-19	SK Srivastava	Clinical Nutrition, European Society for Clinical Nutrition and Metabolism	August, 2022	2405-4577	<a href="https://doi.org/10.1016%2Fj.clnesp.2022.05.026">https://doi.org/10.1016%2Fj.clnesp.2022.05.026</a>
Removal Process of a Metal-Dye Mixture Using <i>Beauveria bassiana</i>	Deepak Gola, Pankaj Kumar Tyagi, Meenu Singh, Anushree Malik, Nitin Chauhan, Yamini Agarwal	Water Conservation Science and Engineering	October, 2022	2364-5687	<a href="https://link.springer.com/article/10.1007/s41101-022-00168-7">https://link.springer.com/article/10.1007/s41101-022-00168-7</a>

Over expression of cancer stem cell marker CD44 and Its clinical significance in patients with Oral Squamous Cell Carcinoma	SK Srivastava	Indian Journal of Otolaryngology and Head & Neck Surgery	October, 2022	0973-7707, 2231-3796	<a href="https://link.springer.com/article/10.1007/s12070-022-03200-3">https://link.springer.com/article/10.1007/s12070-022-03200-3</a>
Genomic analysis unveils the role of genome degradation events and gene flux in the emergence and persistence of <i>S. paratyphi</i> A lineages	SK Srivastava	PLOS Pathogen	April, 2023	1553-7374	<a href="https://doi.org/10.1371/journal.ppat.1010650">https://doi.org/10.1371/journal.ppat.1010650</a>

## Invited talks in conferences

1. **Srivastava SK**, 2021 Presented a keynote address entitled “Pandemics: Past, Present and Future Lessons for Public Health” jointly organized by the Public Health Foundation of India and Swami Shraddhanand College, University of Delhi, hosted on Webex on July 15, 2021.
2. **Srivastava SK**, 2020 Presented a lead paper entitled Utilisation of Viruses maintained in Plants for Vaccination, Cancer and Immunotherapy in the International Conference on Evolution of Viruses and Viral Diseases. 18<sup>th</sup> – 20<sup>th</sup> February, 2020 held at The Indian National Science Academy.
3. **Srivastava SK** and Srivastava S, 2019. Applications of Viral Nanoparticles in Vaccination, Immunotherapy and Cancer Treatment. In the National Conference on Nanobiotechnology, 2019. Jointly organised by the National Institute of Immunology and Special Center for Nanoscience, JNU. 19<sup>th</sup> – 21<sup>st</sup> December 2019 held at JNU
4. **Srivastava SK** 2019, Invited talk on Antibiotic Resistant Superbugs International conference and education jointly organised by The National Science Center, India and The British Museum, London, UK on 17<sup>th</sup> December 2019 at the National Science Center, New Delhi
5. **Srivastava SK** 2019, Invited Talk in an International Symposium. Topic of the talk – A Narrative on a Science Documentary of the Harvard Medical School co-organised by The National Science Center, India and The Goethe Institute, Germany on 12<sup>th</sup> December 2019 at The National Science Center, New Delhi
6. **Srivastava SK**, 2019, Talk on Genetics of Human Pathogenic Viruses on the first day in the three-day international conference on Role of Genetics, Epigenetics, Environment and Nutrition towards Plant, Animal and Human Health under Climate Change at Hindustan College of Science and Technology, Mathura from 22<sup>nd</sup> – 24<sup>th</sup> February 2019.

7. **Srivastava SK**, 2019, Talk on Role of Epigenetics in Immune Response against Human Viral Infections on the second day of the three-day international conference on Role of Genetics, Epigenetics, Environment and Nutrition towards Plant, Animal and Human Health under Climate Change at Hindustan College of Science and Technology, Mathura from 22<sup>nd</sup> – 24<sup>th</sup> February 2019
8. **Srivastava SK** 2019, Invited talk on Applications of Viral Nanoparticles in Medicine. Published in the proceedings of the 6<sup>th</sup> World Congress on Nano-medical Sciences. 7<sup>th</sup> – 9<sup>th</sup> January, 2019 held at Vigyan Bhawan, New Delhi.
9. **Srivastava SK** 2018, Talk on Challenges in Immunity against HIV- AIDS In: International Symposium of Frontiers in Immunobiology and Immunopathogenesis held at The University of Arizona, Tucson, USA on March 9<sup>th</sup>, 2018.
10. **Srivastava SK** 2017 Gave a Lead Talk on Molecular Studies of Viruses Transmitted by *Bemisia tabaci* (Genn.) In: Indo US Symposium “Curbing Whitefly-Plant Virus Pandemics held at the Punjab Agricultural University, Ludhiana, December 4<sup>th</sup> -5<sup>th</sup>, 2017.
11. **Srivastava SK**, 2017. Delivered the Annual Popular Science Lecture on--Infectious Microbial Diseases –Emerging Threats and Newer Challenges at National Science Centre, New Delhi, January 10th 2017.
12. **Srivastava SK**, Srivastava S Delivered lecture in VIGS 2016 on Turning Viral Foes into Friends in the Second DBT sponsored Training Course on Virus Induced Gene Silencing- VIGS-2016 at Hindustan College of Science and Technology, Mathura; Jan 2016
13. **Srivastava SK**, Srivastava S, 2016. Delivered lecture in VIGS 2016 on Advanced Tools and Techniques in Virology in the Second DBT sponsored Training Course on Virus Induced Gene Silencing- VIGS-2016 at Hindustan College of Science and Technology, Mathura; Jan 2016
14. **Srivastava SK**, Chaired a technical session in the Second DBT sponsored Training Course on Virus Induced Gene Silencing- VIGS-2016 at Hindustan College of Science and Technology, Mathura; Jan 2016
15. **Srivastava SK** and Varma A, Presented a paper: Applications of *Piriformospora indica* in obviating saline soil conditions and promoting growth of some medicinal plants In: The Eighth International Conference on Mycorrhiza (ICOM 8) held at Flagstaff, Arizona, USA; August 2nd -7th 2015
16. Srivastava, S., Jaiswal, V and **Srivastava SK** 2014. Can the Nanotechnological Applications in Agriculture and Health Sector Wait for the IPR Issues? Published In: Proceedings of the Indo-US International Congress cum Workshop on IPR, Amity University, Noida, 29<sup>th</sup> -31<sup>st</sup> January 2014.
17. **Srivastava, S.K.** 2013 lecture on Microbes in Human Health at the National Science Centre, New Delhi aimed at spreading awareness as to the various diseases caused by microbes and how the youth can take precautions to stay healthy, National Science Centre, Pragati Maidan, New Delhi, November 2013
18. **Srivastava SK** 2013. Lecture on VIGS – Mechanisms and Applications. HCST-DBT Short term Training Course on Virus induced gene silencing (VIGS) – A tool to study gene function in plants held at Hindustan College of Science and Technology (HCST), Mathura, during February 18<sup>th</sup> – March 4<sup>th</sup>, 2013
19. **Srivastava, S.K.** 2012 Bioinformatics Approach towards studying Viral Pathogenicity and designing Antiviral Strategies in Proceedings of National Conference on New Trends in Bioinformatics, IIT Delhi, New Delhi, 30-31 July, 2012.
20. **Srivastava, S.K.** 2012 Applications of Viruses in Nanobiotechnology, Nanomedicine and Nanomaterials. In: Proceedings of the International Conference cum Workshop on Nanostructured Ceramics and other Nanomaterials (ICWNCN), Conference Centre, University of Delhi, 12<sup>th</sup>-16<sup>th</sup>, March, 2012.
21. **Srivastava, S.K.** 2012 Biomedical Applications of Viral Nanoparticles. In : Proceedings of the International Conference of Biotechnology Society of India, Institute of Liver and Biliary Sciences, New Delhi, 24-25, Feb, 2012.

22. **Srivastava, S.K.** 2012 Some Applications of Plant Viruses and Bacteriophages in Nanobiotechnology and Nanomedicine. Published In: Proceedings of the International Conference on Plant Biotechnology, National Science Complex, PUSA, New Delhi 22-24 Feb, 2012.

23. **Srivastava, S.K.** 2011 Multifunctional Applications of some virus-based Nanoparticles – Promises and challenges. Published In: Proceedings of the Indian German Workshop – Initiation and Intensification of Bilateral Cooperation jointly organized by Deutsche Forschungsgemeinschaft (DFG) & Amity Institute of Microbial Technology, Amity University, 22-24, March, 2011.

24. **Srivastava, S.K.** 2011 Dot Immuno binding Assays of Viruses. In Workshop Proceedings of the International Association of Medical and Pharmaceutical Virologists Conference V.P. Chest Institute, Delhi University, 3-5 March, 2011.

25. **Srivastava, S.K.** 2011 Immunological Assays of Viruses by ELISA. In Workshop Proceedings of the International Association of Medical and Pharmaceutical Virologists Conference V.P. Chest Institute, Delhi University, 3-5 March, 2011.

26. **Srivastava SK.** 2011 Some Application of viruses as Bionanoparticles in Nanobiotechnology and Nanomedicines in the Indo-US Symposium cum Workshop on 'Modern Trends in Macromolecular Structures jointly organized by Cornell University, USA and IIT Bombay, Mumbai 21-24 February, 2011.

27. **Srivastava SK** 2010 Viral Nanoparticles Functional Applications in Nanomedicine & Nanobiotechnology. Published in: Proceedings of the Indo Italian Workshop on Bacteria and Fungi for Environmental Sustainability, Amity University, 29-30 Nov. 2010.

28. **Srivastava SK** 2009 Present status and emerging prospects of plant viruses for food security, development of vaccines, therapeutics and nanomaterials. In: Proceedings of the Indo Japan Workshop on Bimolecular Electronics and organic Nanotechnology for Environment Preservation, NPL, New Delhi, Dec. 2009

29. **Srivastava SK** 2009 Application of plant viruses in large scale production of vaccines, drugs and nanomaterials cum targeted delivery of nanostructures. In: Proceedings of the 5th International Conference on Plant Pathology, IARI, 10-13, Nov. 2009.

30. **Srivastava SK.** 2009 Application of viruses in Nanotechnology. In: Proceedings of the National Workshop cum symposium on Nanoscience – Theory and Application, JNU, 5-7 Nov. 2009.

31. **Srivastava SK.** 2009 Invited talk on Application of Plant viruses in alleviating poverty, for production of vaccines, drugs and programmed synthesis cum targeted delivery of nanostructures. In: Proceedings of the Indo-French workshop cum conference on Nanoscience and Nanotechnology, Ansal Institute of Technology, Gurgaon, 12-16, October, 2009. This paper also won the 1<sup>st</sup> prize.

32. **Srivastava SK** 2008. Invited talk on Present Status and Emerging Prospects of Plant Viruses for Food Security, Development of Vaccines, Therapeutics and Nanomaterials. In: Proceedings of the International Symposium on Microbial Biotechnology: Diversity, Genomics and Metagenomics, jointly organized by the Association of Microbiologists of India (AMI) & the American Society for Microbiology (ASM), Delhi University, 18 – 20 November, 2008.

33. **Srivastava SK** 2008 Application of Plant Viruses in Medical Sciences. In: Proceedings of the V<sup>th</sup> Indo-Australian Conference on Medical Biotechnology, National Institute of Immunology, New Delhi, and India. February 11-12, 2008.

34. **Srivastava SK** 2007, Use of Plant Viruses and their Genes in the areas of Biotechnology and Nanotechnology. In: Proceedings of International Conference on Emerging and Re-emerging Viral Diseases of the Tropics and Subtropics, IARI, New Delhi, India. December 11-14, 2007

35. **Srivastava SK** 2005. Environmental and Social Challenges posed by Emerging and Reemerging Pathogens. In: Environment and Development- Challenges and Opportunities, edited by Jagbir Singh, I K International Publications, New Delhi (Proc. of the International Conference on Environment and Development, University of Delhi, India).

36. **Srivastava SK** and Varma, A 2004. Molecular Applications of Plant Viruses in Biotechnological Research. In: Proc. of Biotech. 2004, second conference of Biotechnology Society of India, Organised by Institute of Genomics and Integrated Biology, 13-15 Oct. 04.

37. **Srivastava SK** and Varma, A 2004. Applications of Biotechnological Tools in Molecular Characterisation of Plant Viruses and for Studying Host-Pathogen Interactions. In: Proc. of Biohorizon 2004- National Symposium on Biochemical Engineering and Biotechnology, IIT, Delhi, India. This paper won the third prize for best paper (abstract of the paper and certificate attached).

38. **Srivastava SK**. 2003. Biotechnological Applications of Plant Viruses for Expression of Antigenic Proteins: Potential Role in the Development of Vaccines, Diagnostics and Therapeutics. In: Proceedings of 4th Annual Symposium on Frontiers in Biomedical Research, 13-15 April, 2003, Dr. B.R.Ambedkar Centre for Biomedical Research, University of Delhi, Delhi, India.

39. **Srivastava SK**. 2002. Invited talk on Biological Weapons in an international conference on International Terrorism – a global perspective on 6<sup>th</sup> April 2002 held at India International centre

40. **Srivastava SK** and Varma, A. 2001. Electron Microscopy and Characterisation Studies of Cowpea Golden Mosaic Virus. In: Proceedings of 13 the Biennial Australasian Plant Pathology Conference, 24-27 September 2001, Cairns, Australia.

41. **Srivastava SK** 2000. Plant Viruses -A Journey from Crop Protection to Biotechnology. In: CD- ROM Proceedings of International Conference of 2<sup>nd</sup> BIOTECHNOLOGY INDIA 2000-Session - Crop Protection and Induced Resistance to Plant Disease.

42. **Srivastava SK** 2000. Molecular Strategies for the Diagnosis, Characterization and Management of Plant Viruses. In Biotechnology India 2000, November 29-December 1, 2000, National Science Centre, Pragati Maidan, New Delhi.

43. **Srivastava SK** and Jeske, H 1998. Studies on cloning and expression of AV1 and BV1 genes of Abutilon mosaic virus in *E.coli*. In: 14th Australasian Biotechnology Conference, Adelaide, Australia, 1998

44. **Srivastava SK** and Jeske, H. 1997 Studies on expression of AV1 and BV1 genes of Abutilon Mosaic Virus In: Proceedings of International Conference on Integrated Plant Disease Management for Sustainable Agriculture - 1PS-Golden Jubilee, 10-15 November, 1997, New Delhi, India.

45. **Srivastava SK** and Jeske, H 1994. Cloning and expression of two genes of Abutilon mosaic virus (AbMV) in *E. coli*. In: 16th International Congress of Biochemistry and Molecular Biology. 19-22nd September 1994. New Delhi

46. **Srivastava SK** and Varma, A 1992. Isolation, purification and characterization of the causative virus of cowpea golden mosaic -a serious tropical disease. In: Plant Virology in the Tropics, Association of Applied Biologists and British Society for Plant Pathology Meeting, University of York, York, U.K. 9<sup>th</sup>-10th April, 1992

47. **Srivastava SK** and Varma, A (1991) Isolation and Characterization of Cowpea golden Mosaic Virus- a serious problem in the tropics. In the Proceedings of the International Conference of Virology in the Tropics, held at NBRI, Lucknow, December 1991.

48. **Srivastava SK** and Varma, A 1990c. Biotechnological approaches for the detection, identification and characterization of cowpea viruses. In: BIOTEK39;90 (2nd International Conference on Biotechnology), New Delhi, 10<sup>th</sup> - 13<sup>th</sup> December 1990.

49. **Srivastava SK** and Varma, A 1990b. Characterization and epidemiology of cowpea viruses in the Delhi region. In: International Congress of Virology, ICC, Berlin, Germany, 26th August 1990

50. **Srivastava SK** and Varma, A 1990a. Viruses diseases of cowpea (*Vigna unguiculata* ssp. (L.) Walp.) in the Delhi region, their characterization, epidemiology and management. In: Molecular and Genetic Approaches to Plant Stress. ICGEB, New Delhi, 14th 17th February 1990

## MOOC Courses

1. Successfully completed the course on Bioinformatic Methods I, Coursera, USA conducted by University of Toronto, September 2020.
2. Successfully completed the Future Learning course, UK on “Bacterial Genomes I: From DNA to Protein Function Using Bioinformatics”, conducted by Wellcome Genome Campus Advanced Courses and Scientific Conferences, 2018.

### **Faculty Development Program (FDP)**

1. Participated in the 5-Day Faculty Enrichment Programme (FEP) on “Cutting Edge Science in Cellular and Molecular Biomedicine” organized by Amity Institute of Molecular Medicine and Stem Cell Research, Amity University, Uttar Pradesh, Noida, India held from July 2021.
2. Participated in the Faculty Development Program (FDP) on Artificial Intelligence: Opportunities in Covid-19 Drug Development and Disease Management, Jointly organized by Amity University (Noida) and Mar Athanasios College for Advanced Studies Tiruvalla (MACFAST), Kerala, April 2021.
3. Participated in the Faculty Development Program in the International Symposium on Bioinformatics and Artificial Intelligence in COVID-19 Era and Beyond, Organized by Centre for Computational Biology & Bioinformatics, Amity Institute of Biotechnology, Amity University, Noida, Nov, 2020.
4. Participated in several Faculty Development Programs on Online Teaching, 2020-2021
5. Completed an International Teacher Training Course in Biotechnology organized by the British Council and University of Abertay Dundee, UK, August, 2003 at New Delhi.

### **CONTINUING MEDICAL EDUCATION (CME)**

1. Attended Mayo Clinic’s CME on COVID-19 Variants, Disease, Prevention and Management, September, 2021.
2. Attended a CME on Approaches for Rapid Genomic Surveillance to Identify SARS-CoV-2 Variants organized by Labroots, June 2021.
3. Attended an International Workshop on COVID-19 Vaccine Development and Implementation 2021, European Accreditation Council for Continuing Medical Education, Netherlands, June 2021.
4. International Workshop On Innovations In Delivery Of HIV Care 2021, European Accreditation Council for Continuing Medical Education, Utrecht, Netherlands, June 2021.

5. Attended a CME on Structural Oncology- Fighting Cancer with Cryo-EM organized by Labroots, June 2021.
6. Attended a CME of Mayo Clinic on Black Fungus in the Indian Subcontinent: Prevention and Cure, organized by Mayo Clinic College of Medicine and Science, Rochester, MN, USA, June, 2021.
7. Attended a CME on Capture Life as It Happens- The New Leica Nano Workflow organized by Labroots, June 2021.
8. Attended a CME on Exploiting Digital Histology approaches to probe the Pathopathophysiology of SARS-CoV-2 infection organized by Labroots, June 2021.
9. Attended a CME on Interrogating mechanisms of tumor-specific T cell exhaustion and activity in pancreatic ductal adenocarcinoma organized by organized by Labroots, June 2021.
10. Attended a CME on Interrogating mechanisms of tumor-specific T cell exhaustion and activity in pancreatic ductal adenocarcinoma organized by organized by Labroots, June 2021.
11. Attended a CME on New Checkpoints and Biomarkers organized by Labroots, June 2021.
12. Attended a CME on Massively Parallel CRISPER genome Editing in *S. cerevisiae* organized by Technology Networks, May, 2021.
13. International CME On Covid-19 Clinical Forums 2021, European Accreditation Council for Continuing Medical Education, Netherlands, April 2021.
14. Attended 1-Day CME Program entitled “Highlights on COVID-19 Vaccinations” Organized by AI QASSIMI Hospital, UAE, Ministry of Health and Prevention, February 2021.
15. Attended International CME “Pamella Ohashi: Immunoregulation and the tumor microenvironment” organized by International Union of Immunological Society, February 2021.
16. International Virtual CME on Advances in Cancer Immunotherapy, organized by The Post Graduate Institute for Medicine, Colorado, USA, December 2020
17. International Workshop on Breast Cancer Genetics, Best of SABCS INDIA, New Delhi, March 2020.
18. Attended a CME: Immune profiling of hospitalized COVID-19 patients, organized by Labroots, November 2020.
19. Attended a CME presentation: Targeted Profiling of Critically ill SARS-CoV-2 Subjects: From Transcriptome to Proteome, organized by Labroots, November 2020
20. Attended an International CME “The Expanding Role of Next-Generation DNA-Sequencing (NGS) in PI Diagnosis and Clinical Microbiology- Part-II”, organized by Labroots, November 2020.
21. International Vaccine CME, entitled Preclinical and Clinical Development of ChAdOx1 nCoV-19 organized by Researcher Academy on Campus, University of Oxford, UK, September, 2020.
22. International Vaccine CME, entitled Vaccine Confidence: Implications for a Covid-19 Vaccine organized by Researcher Academy on Campus, London School of Hygiene and Tropical Medicine, UK, September, 2020.
23. Attended a CME: Single-cell virus sequencing of influenza infections that trigger innate immunity, organized by Labroots, September 2020.

### **Advanced Training/workshops/participation**

1. Successfully completed the training program on “Working in BSL-III laboratory and Practices for handling *M. tuberculosis* organized by the Biosafety level-III Facility”, UDSC, a National Facility supported by DBT from March 22<sup>nd</sup> -28<sup>th</sup> 2021.

2. Received a Hands-on Training in Gene Editing and Phage Therapy workshop jointly organized by the Department of Biotechnology and IARI New Delhi Feb 18-20, 2020.
3. Successfully completed the Winter School on Cancer Immunity conducted by the SITC at MD Anderson Cancer Centre, Houston, USA Jan 13-17, 2020.
4. Attended the second International Workshop on Cancer Immunotherapy and Gene Therapy at the India Habitat Center, New Delhi Jan 11, 2020.
5. Attended the Hands-on Training on the Recent Advances in Immuno-Proteomics held at CSIR-IGIB, Delhi Aug 29 -30, 2019.
6. Successfully completed the Workshops on Cancer Immune Responsiveness and Adoptive Cellular Therapies organized by The Society of Immunotherapy of Cancer (SITC) at MD Anderson Cancer Centre, Houston USA, Sep 4-6, 2019.
7. Attended an International Symposium cum Workshop on Advances in Immunomics and Immune Oncology, held at the India Habitat Centre New Delhi, Jan 30, 2019.
8. Participated in an International Workshop on Cancer Immunotherapy from Lab to Clinic organized by the Delhi Tumor Board held at Pride Plaza, Aerocity, New Delhi Jan 12, 2019.
9. Attended IMMUNOCON 2018, an International Meeting on Immunotherapy & Advances in Immunology at the Translational Health Science and Technology Institute Nov 1-3 2018.
10. Successfully completed a training in the International Workshop on Viruses and RNAi held at the International Centre for Genetic Engineering and Biotechnology New Delhi in October 2018.
11. Attended the 14<sup>th</sup> Indo-Australian Biotechnology Conference cum Workshop with the theme on Emerging Modalities to Improve Cancer Outcomes held at the TATA Memorial Centre – Advanced Centre for Treatment, Research and Education in Cancer, Navi Mumbai 22-23 Oct 2018.
12. Attended a workshop on Malaria Parasite Biology: Strategies for Drug and Vaccine Development, Organized by ICGEB, New Delhi and Institut Pasteur, Paris, France Dec. 2017
13. Participated in 2 workshops conducted by the National Cancer Institute USA and AIIMS, New Delhi, India on Translational Oncology and role of Molecular Biology Applications in Human Health and Disease (Aug 2017) and Integrative Oncology Workshop (Nov 2017). Also attended 2 International Conferences organized subsequently on Gynecological and Head & Neck Cancer at AIIMS.
14. Attended a National Conference cum Workshop on Advancement in Immunology, Jointly Organized by V.P. Patel Chest and Indian Immunological Society, 12- 13 Oct. 2017.
15. Successfully completed an international Workshop on Update & New Concepts in Basic & Translational Immunology and another on Metagenomics (Sep 2017)
16. Successfully completed Immunology Workshop on Update and New Concepts in Basic and Translational Immunology, conducted by an international faculty of renowned immunologist including Prof. Abul K. Abbas, University of California, San Francisco, USA, 8<sup>th</sup> September, 2017.
17. Successfully completed three-day Workshop on Fundamentals of Radiological Source Security, organized jointly by The King's College, London, UK and Delhi Technological University, Delhi, 4<sup>th</sup>-6<sup>th</sup> September, 2017.

18. Participated as invited faculty in Workshop on Updates in Management of Gynaecological Cancer organized by the National Cancer Institute, USA and AIIMS India, 5<sup>th</sup>-6<sup>th</sup> August, 2017.
19. Participated in Workshop on Translational Oncology and Role of Molecular Biology Application in Human Health and Disease jointly conducted by National Cancer Institute, USA and AIIMS India, 4<sup>th</sup> August, 2017.
20. Participated in International Conference on Drug Design, organized by Schrodinger at Jawaharlal Nehru University, New Delhi 7<sup>th</sup>-9<sup>th</sup> April, 2017.
21. Attended The International Meeting cum Workshop on Proteomics and 3rd Meeting of Asia Oceania at National Institute Of Plant Genomic Research, New Delhi December 12th -13th 2016
22. Participated in the Practical Training Workshops conducted by the Asian Clinical Oncology society at New Delhi—
  - i) Lymphoma Workshop, April 8th 2016
  - ii) Workshop on Molecular Diagnostics in Lung Cancer, April 9th 2016
  - iii) Workshop on Practical Applications of Molecular Diagnostics in Oncology, April 10th 2016
23. Attended an International Symposium cum Workshop on T.B. jointly organized by AIIMS and The American Society of Microbiology in March 2016.
24. Participated in International Workshop on Cancer Awareness, Prevention, Screening and Early Detection; jointly organized by Union for International Cancer Control, Geneva and Delhi State Cancer Institute. Feb 2016.
25. Attended a practical training program on Functional Analysis of Pathogens held at Centre for Advanced Faculty Training, IARI, Jan 2016.
26. Attended the Seventh International Conference cum Workshop on *Bacillus anthracis*, *B.cereus* & *B. thuringiensis* jointly organized by The American Society for Microbiology, CDC,USA and JNU.Oct.2015
27. Attended the 52<sup>nd</sup> International Translational Research Conference cum Workshop on Cancer by Delhi State Cancer Institute in association with M.D. Anderson Cancer Research Centre, USA from 6<sup>th</sup>-9<sup>th</sup> Feb, 2014 at Vigyan Bhawan, New Delhi
28. Participated in the Indo-US Flow Cytometry Workshop at Medanta, the Medicity, Gurgaon, Oct. 2013
29. Attended an International Symposium cum Workshop on Infections and Cancer from 13<sup>th</sup>-16<sup>th</sup> February 2013 organized by Dr. B.R. Ambedkar, Center for Biomedical Research, University Of Delhi
30. Attended the International Alexander Von Humboldt Kolleg workshop on the Management of Water, Energy, Bio resources in the Changing Climate Regime and Emerging Issues and Environmental Challenges on 9<sup>th</sup> February 2013 at the Convention Center, JNU, New Delhi
31. Attended the American Society for Microbiology workshop on Scientific Writing and Publishing on 6<sup>th</sup> February, 2013 at SVC, University of Delhi
32. Participated in the workshop on Flow Cytometry and Q-PCR: Principles and Clinical Applications at Amity Institute of Virology & Immunology, Amity University, 27th – 28<sup>th</sup> September, 2012.
33. Attended an International Workshop on 1<sup>st</sup> Global Forum on Bacterial Infections Balancing Treatment Access and Antibiotic Resistance held on 3<sup>rd</sup> – 5<sup>th</sup> Oct, 2011 at the India Habitat Centre, New Delhi.
34. Presented two training lectures entitled Immunological Assays of Viruses by ELISA

- ii) 'Dot Immuno binding Assays of Viruses' in the International Association of Medical Pharmaceutical Virologists Conference on March 3-5, 2011 held at V.P. Chest institute, Delhi University.
- 35. Attended an Indo-US Conference cum Workshop on Modern Trends in Macromolecular Structures jointly organized by Cornell University USA and IIT Bombay, Mumbai, 21-24, Feb. 2011.
- 36. Attended an International Workshop on Gemini virus Genome and its Impact on RNAi by Plant Molecular Biology Group, International Centre for Genetic Engineering and Biotechnology, New Delhi, India from November 9-21, 2009.
- 37. Participated in International Training Workshop on Molecular Taxonomy of the Symbiotic Fungi held at School of Life Sciences, JNU, New Delhi, India from December 1-21, 2003.
- 38. Undergone Advanced Training on Characterisation of Viruses and Diagnosis of Viral Diseases of Plants, June 6-July 3, 2001 held at the Advanced Centre for Plant Virology at I.A.R.I, New Delhi