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Educational and Professional Record:

Institution	Degree/Post	Year	Field of study/Research
University of Delhi, Delhi	B. Sc. (Hons.)	1971	Botany (main), Zoology, Chemistry
Indian Agricultural Research Institute, New Delhi	M. Sc.	1973	Biochemistry (main), Genetics, Microbiology
Indian Agricultural Research Institute, New Delhi	Ph. D.	1977	Biochemistry
Stanford University, USA	Post-doctoral	1977-1979	Bacteriophage genetics
Boston Biomedical Research Institute, USA	Staff-fellow	1979-1981	Bacterial DNA Replication
All India Institute of Medical Sciences, New Delhi	Research Officer	1981 -1982	Genetic engineering in Mycobacteria
Tata Research Development & Design Centre, Pune	Scientist	1982-1985	Development of DNA probes for tuberculosis and other diseases
National Institutes of Health, U.S.A.	World Bank Fellow	1985-1986	Repetitive DNA in <i>Entamoeba histolytica</i>
Jawaharlal Nehru University, New Delhi	Assistant Professor	1986-1995	Molecular biology of amoebiasis
Jawaharlal Nehru University, New Delhi	Associate Professor	1995-2003	Molecular biology of amoebiasis
Jawaharlal Nehru University, New Delhi	Professor	2003- present	Molecular biology of amoebiasis

Awards:

National Science Talent Search Scholarship (1968)
Merit position in Central Board of Secondary Education (1968)
Robert Mc Namara Fellow of World Bank (1985)
Rockefeller Biotechnology Career Development Award (1987)
Fogarty International Research Collaboration Award (1996)
Fogarty International Research Collaboration Award (2001)

Honours:

Member of Guha Research Conference (1993)
Fellow of the Indian Academy of Sciences, Bangalore (2001)
Fellow of the National Academy of Sciences, Allahabad (2008)

Fellow of the Indian National Science Academy (2014)

List of Publications:

1. **S. Sehgal** and H.K. Das (1980) Mis-transcription during uridine starvation in *Escherichia coli* K12. **J. Gen. Microbiol.** 116: 243-247.
2. **S. Bhattacharya** and H.K. Das (1980) Noncoordinate control of the synthesis of different species of RNA in *E. coli* K12 during uridine starvation. **Mol. Biol. Reports** 6: 73-77.
3. **S. Bhattacharya** and N. Sarkar (1981) Study of DNA replication in permeable cells of *Bacillus subtilis* using mercurated nucleotide substrates. **Biochemistry** 20: 3029-3034.
4. **S. Bhattacharya** and N. Sarkar (1981) Inhibition of DNA replication in *Bacillus brevis* by RNA Polymerase inhibitors. **J. Bacteriol.** 145: 1142-1144.
5. **S. Bhattacharya** and N. Sarkar (1981) ATP requirement for in vitro DNA synthesis in permeable cells of *Bacillus brevis*. **Biochem. Biophys. Acta** 653: 289-293.
6. **S. Bhattacharya** and N. Sarkar (1982) Transforming activity of mercury-substituted DNA synthesized in vitro by permeable cells of *Bacillus subtilis*. **J. Biol. Chem.** 257: 1610-1612.
7. **S. Bhattacharya**, A. Bhattacharya, S. Trehan and G.P. Talwar (1984) Molecular cloning of *Mycobacterium tuberculosis* H37Ra DNA in *E. coli*. **Ind. J. Biochem. Biophys.** 21: 201-202.
8. G. Banfalvi, **S. Bhattacharya** and N. Sarkar (1985) Selective isolation of mercurated DNA by affinity chromatography on thiol matrices. **Anal. Biochem.** 146: 64-70.
9. S.N. Ranadive, **S. Bhattacharya**, M.K. Kale and A. Bhattacharya (1986) Humoral immune response in tuberculosis: initial characterization by immuno-precipitation of 125-Iodine labelled antigens and sodium dodecyl sulfate polyacrylamide gel electrophoresis. **Clin. Exp. Immunol.** 64: 277-284.
10. **S. Bhattacharya**, S.N. Ranadive and A. Bhattacharya (1986). Expression of *Mycobacterium tuberculosis* genes in *E. coli*. **J. Biosci.** 10: 277-281.
11. A. Bhattacharya, S.N. Ranadive, M.K. Kale and **S. Bhattacharya** (1986) Antibody based enzyme linked immunosorbent assay for determination of immune-complexes in clinical tuberculosis. **Am. Rev. Resp. Dis.** 134: 205-209.
12. **S. Bhattacharya**, S.N. Ranadive and A. Bhattacharya (1988) Distinction of *Mycobacterium tuberculosis* from other mycobacteria through DNA hybridization. **Ind. J. Med. Res.** 87: 144-150.

13. **S. Bhattacharya**, A. Bhattacharya and L.S. Diamond (1988) Comparison of repeated DNA from strains of *Entamoeba histolytica* and other *Entamoeba*. **Mol. Biochem. Parasitol.** 27: 257-262.
14. **S. Bhattacharya**, A. Bhattacharya, L.S. Diamond and A.T. Soldo (1989) Circular DNA of *Entamoeba histolytica* encodes ribosomal RNA. **J. Protozool.** 36: 455-458.
15. **S. Bhattacharya**, A. Bhattacharya and L.S. Diamond (1989) Molecular comparisons among *E. histolytica* strains using DNA and protein profiles. In "**Progress in vaccinology**" Vol. 2, pp. 253-258 (G.P. Talwar, ed.) Springer-Verlag.
16. A. Bhattacharya, **S. Bhattacharya**, M.P. Sharma and L.S. Diamond (1990) Metabolic labelling of *Entamoeba histolytica* antigens: Characterization of a 28 kD major intracellular antigen. **Exp. Parasitol.** 70: 255-263.
17. A. Bhattacharya, R. Ghildyal, **S. Bhattacharya** and L.S. Diamond (1990) Characterization of a monoclonal antibody that selectively recognizes a subset of *Entamoeba histolytica* isolates. **Infect. Immun.** 58: 3458-3461.
18. S. Babu, N.K. Jain, G. Prasad, **S. Bhattacharya** and A. Bhattacharya (1990) Characterization of cell-wall derived polypeptide antigens from different species of mycobacteria. **J. Med. Microbiol.** 32: 263-269.
19. V. Mittal, S. Ramachandran, D. Sehgal, A. Bhattacharya and **S. Bhattacharya** (1991) Sequence analysis of a DNA fragment with yeast autonomously replicating sequence activity from the extrachromosomal ribosomal DNA circle of *Entamoeba histolytica*. **Nucl. Acids Res.** 19: 2777.
20. A. Bhattacharya, **S. Bhattacharya** and D. Sehgal (1991). Molecular basis of immune response against parasites. **Curr. Sci.** 60: 569-580.
21. **S. Bhattacharya**, A. Bhattacharya and L.S. Diamond (1992) *E. histolytica* extrachromosomal circular DNA: Analysis of clonal variation in a hypervariable region. **Exp. Parasitol.** 74: 200-204.
22. A. Bhattacharya, R. Ghildyal, J. Prasad, **S. Bhattacharya** and L.S. Diamond (1992) Modulation of a surface antigen of *Entamoeba histolytica* in response to bacteria. **Infect. Immun.** 60: 1711-1713.
23. V. Mittal, D. Sehgal, A. Bhattacharya and **S. Bhattacharya** (1992). A second short repeat sequence detected downstream of rRNA genes in the *Entamoeba histolytica* rRNA episome. **Mol. Biochem. Parasitol.** 54: 97-100.
24. J. Prasad, **S. Bhattacharya** and A. Bhattacharya (1992) Cloning and sequence analysis of a calcium binding protein gene from a pathogenic strain of *Entamoeba histolytica*. **Mol. Biochem Parasitol.** 52, 137-140.
25. R. Prasad, M. Tola, **S. Bhattacharya**, M.P. Sharma and A. Bhattacharya (1992) Recognition of *Entamoeba histolytica* Lipophosphoglycan by a strain-specific monoclonal antibody and human immune sera. **Mol. Biochem. Parasitol.** 56, 279-288.
26. S. Ramachandran, A. Bhattacharya and **S. Bhattacharya** (1993) Nucleotide sequence analysis of the rRNA transcription unit of a pathogenic *Entamoeba histolytica* strain HM-1: IMSS. **Nucl. Acids Res.** 21, 2011.
27. D. Sehgal, A. Bhattacharya and **S. Bhattacharya** (1993) Analysis of a polymorphic locus present upstream of rDNA transcription units in the extrachromosomal circle of *Entamoeba histolytica*. **Mol. Biochem Parasitol.** 62, 129-130.
28. J. Prasad, **S. Bhattacharya** and A. Bhattacharya (1993) The Calcium binding protein of *Entamoeba histolytica*: Expression in *Escherichia coli* and immunochemical characterisation. **Cell. Mol. Biol. Res.** 39, 167-175.
29. V. Mittal, A. Bhattacharya and **S. Bhattacharya** (1994) Isolation and characterization of a species-specific multicopy DNA sequence from *Entamoeba histolytica*. **Parasitology**, 108, 237-244.
30. D. Sehgal, V. Mittal, S. Ramachandran, S.K. Dhar, A. Bhattacharya and **S. Bhattacharya** (1994) Nucleotide sequence organisation and analysis of the

- nuclear ribosomal DNA circle of the protozoan parasite *Entamoeba histolytica*. **Mol. Biochem. Parasitol.** 67, 205-214.
31. S. K. Dhar, N. Roy Choudhary, A. Bhattacharya and **S. Bhattacharya** (1995) A multitude of circular DNAs exist in the nucleus of *Entamoeba histolytica*. **Mol. Biochem. Parasitol.** 70, 203-206.
 32. G. Srivastava, M. Tola Anand, **S. Bhattacharya** and A. Bhattacharya (1995) Lipophosphoglycan is present in distinctly different form in different *Entamoeba histolytica* strains and absent in *Entamoeba moshkovskii* and *Entamoeba invadens*. **J. Euk. Microbiol.** 42, 617-622.
 33. S. K. Dhar, N. Roy Choudhary, V. Mittal, A. Bhattacharya and **S. Bhattacharya** (1996) Replication initiates at multiple random sites in the ribosomal DNA plasmid of the protozoan parasite *Entamoeba histolytica*. **Mol. Cell Biol.** 16, 2314-2324.
 34. A. Azam, J. Paul, D. Sehgal, J. Prasad, **S. Bhattacharya** and A. Bhattacharya (1996) Identification of novel genes from *Entamoeba histolytica* by expressed sequence tag analysis. **Gene** 181, 113-116.
 35. S. Tiwari, A. Bhattacharya, **S. Bhattacharya** and R. Ramaswamy (1996) Gene identification in silico. **Current Science** 71, 12-24.
 36. D. Sehgal, A. Bhattacharya and **S. Bhattacharya** (1996) Pathogenesis of infection by *Entamoeba histolytica*. **J. Biosc.** 21, 423-432.
 37. S. Tiwari, S. Ramachandran, A. Bhattacharya, **S. Bhattacharya** and R. Ramaswamy (1997) Prediction of probable genes by fourier analysis of genomic sequences. **CABIOS** 13, 263-270.
 38. B. Gopal, C.P. Swaminathan, **S. Bhattacharya**, A. Bhattacharya, M.R. Murthy and A. Surolia (1997) Thermodynamics of metal ion binding and denaturation of a calcium binding protein from *Entamoeba histolytica*. **Biochemistry** 36, 10910-10916.
 39. N. Yadava, M.R. Chandok, J. Prasad, **S. Bhattacharya**, S.K. Sopory and A. Bhattacharya (1997) Characterization of EhCaBP, a calcium binding protein of *E. histolytica*, and its binding proteins. **Mol. Biochem. Parasitol.** 84, 69-82.
 40. A. Olvera, F. Olvera, R.R. Vines, F. Recillas-Targa, P.M. Lizardi, S. Dhar, **S. Bhattacharya**, W. Petri and A. Alagon (1997) Stable transfection of *E. histolytica* trophozoites by lipofection. **Arch. Med. Res.** 28, 49-51.
 41. **S. Bhattacharya**, I. Som and A. Bhattacharya (1998) The Ribosomal DNA Plasmids of *Entamoeba*. **Parasitology Today** 14, 181-185.
 42. S. K. Dhar, R. R. Vines, **S. Bhattacharya** and W. A. Petri (1998) Ribosomal DNA fragments enhance the stability of transfected DNA in *Entamoeba histolytica*. **J. Euk. Microbiol.** 45, 656-660.
 43. A. Bhattacharya, M.T. Anand, J. Paul, N. Yadava and **S. Bhattacharya** (1998) Molecular changes in *Entamoeba histolytica* in response to bacteria. **J. Euk. Microbiol.** 45, 28S-33S.
 44. A. Bhattacharya, **S. Bhattacharya** and J. P. Ackers (1999) Nontranslated polyadenylated ribonucleic acids from the protozoan parasite *Entamoeba histolytica*. **Curr. Science** 77, 564-567.
 45. A. Bagchi, A. Bhattacharya and **S. Bhattacharya** (1999) Lack of a chromosomal copy of the circular rDNA plasmid of *Entamoeba histolytica*. **Intl. J. Parasitol.** 29, 1775-1783.
 46. R. Sharma, A. Azam, **S. Bhattacharya** and A. Bhattacharya (1999) Identification of novel genes of nonpathogenic *Entamoeba dispar* by expressed sequence tag analysis. **Mol Biochem. Parasitol.** 99, 279-285.
 47. A. Bhattacharya, **S. Bhattacharya**, A. Joshi, S. Ramachandran and R. Ramaswamy (2000) Identification of parasitic genes by computational methods. **Parasitol. Today** 16, 127-131.
 48. A. Bhattacharya, S. Satish, A. Bagchi and **S. Bhattacharya** (2000) The genome of *Entamoeba histolytica*. **Int. J. Parasitol.** 30, 401-410.

49. I. Som, A. Azam, A. Bhattacharya and **S. Bhattacharya** (2000) Inter- and intra-strain variation in the 5.8S ribosomal RNA and internal transcribed spacer sequences of *Entamoeba histolytica* and comparison with *Entamoeba dispar*, *Entamoeba moshkovskii* and *Entamoeba invadens*. **Int. J. Parasitol.** 30, 723-728.
50. R. Sharma, A. Bagchi, A. Bhattacharya and **S. Bhattacharya** (2001) Characterization of a retrotransposon-like element in *Entamoeba histolytica*. **Mol. Biochem. Parasitol.** 116, 45-53.
51. S. Ghosh, M. Zaki, C.G. Clark and **S. Bhattacharya** (2001) Recombinational loss of a ribosomal DNA unit from the circular episome of *Entamoeba histolytica* HM-1:IMSS. **Mol. Biochem. Parasitol.** 116, 105-108.
52. **S. Bhattacharya**, A. Bakre and A. Bhattacharya (2002) Mobile genetic elements in protozoan parasites. **J. Genet.** 81, 73-86.
53. J. Paul, A. Bhattacharya and **S. Bhattacharya** (2002) Close sequence identity between ribosomal DNA episomes of the nonpathogenic *Entamoeba dispar* and pathogenic *Entamoeba histolytica*. **J. Biosci.** 27, 619-627.
54. R. Arya, A. Mehra, R. Viswakarma, **S. Bhattacharya** and A. Bhattacharya (2003) Biosynthesis of *Entamoeba histolytica* proteoglycan in vitro. **Mol. Biochem. Parasitol.** 126, 1-8.
55. N. Sahoo, **S. Bhattacharya** and A. Bhattacharya (2003) Blocking the expression of a calcium binding protein of the protozoan parasite *Entamoeba histolytica* by tetracycline regulatable antisense RNA. **Mol. Biochem. Parasitol.** 126, 281-284.
56. S. Ghosh, S. Satish, S. Tyagi, A. Bhattacharya and **S. Bhattacharya** (2003) Differential use of multiple replication origins in the ribosomal DNA episome of the protozoan parasite *Entamoeba histolytica*. **Nucleic Acids Res.** 31, 2035-2044.
57. A. Bhattacharya, **S. Bhattacharya** and J. P. Ackers (2003) Nontranslated polyadenylated RNAs from *Entamoeba histolytica*. **Trends Parasitol.** 19, 286-289.
58. S. Satish, Abhijeet A. Bakre, **S. Bhattacharya** and A. Bhattacharya (2003) Stress-dependent expression of a polymorphic, charged antigen in the protozoan parasite *Entamoeba histolytica*. **Infect. Immun.** 71, 4472-4486.
59. P. K. Mandal, A. Bagchi, A. Bhattacharya and **S. Bhattacharya** (2004) An *Entamoeba histolytica* LINE/SINE pair inserts at common target sites cleaved by the restriction enzyme-like LINE-encoded endonuclease. **Eukaryotic Cell**, 3, 170-179.
60. P. Chakrabarty, D. K. Sethi, N. Padhan, K. J. Kaur, D. M. Salunke, **S. Bhattacharya** and A. Bhattacharya (2004) Identification and characterization of EhCaBP2: A second member of the calcium-binding protein family of the protozoan parasite *Entamoeba histolytica*. **J. Biol. Chem.** 279, 12898-12908.
61. N. Sahoo, E. Labruyere, **S. Bhattacharya**, P. Sen, N. Guillen and A. Bhattacharya (2004) Calcium binding protein 1 of the protozoan parasite *Entamoeba histolytica* interacts with actin and is involved in cytoskeleton dynamics. **J. Cell Sci.** 117, 3625-3634.
62. Loftus B, Anderson I, Davies R, Alsmark UC, Samuelson J, Amedeo P, Roncaglia P, Berriman M, Hirt RP, Mann BJ, Nozaki T, Suh B, Pop M, Duchene M, Ackers J, Tannich E, Leippe M, Hofer M, Bruchhaus I, Willhoeft U, Bhattacharya A, Chillingworth T, Churcher C, Hance Z, Harris B, Harris D, Jagels K, Moule S, Mungall K, Ormond D, Squares R, Whitehead S, Quail MA, Rabbinowitsch E, Norbertczak H, Price C, Wang Z, Guillen N, Gilchrist C, Stroup SE, **Bhattacharya S**, Lohia A, Foster PG, Sicheritz-Ponten T, Weber C, Singh U, Mukherjee C, El-Sayed NM, Petri WA Jr, Clark CG, Embley TM, Barrell B, Fraser CM,

- Hall N. (2005) The genome of the protist parasite *Entamoeba histolytica*. **Nature**. 433 (7028), 865-8.
63. A. A. Bakre, K. Rawal, R. Ramaswamy, A. Bhattacharya and **S. Bhattacharya** (2005) The LINEs and SINEs of *Entamoeba histolytica*: Comparative analysis and genomic distribution. **Exp. Parasitol.** 110, 207-213.
64. S. Srivastava, **S. Bhattacharya** and J. Paul (2005) Species- and strain-specific probes derived from repetitive DNA for distinguishing *Entamoeba histolytica* and *Entamoeba dispar*. **Exp. Parasitol.** 110, 303-308.
65. **D. Vats, R. A. Vishwakarma, S. Bhattacharya, and A. Bhattacharya** (2005) Reduction of Cell Surface Glycosylphosphatidylinositol Conjugates in *Entamoeba histolytica* by Antisense Blocking of *E. histolytica* GlcNAc-Phosphatidylinositol Deacetylase Expression: Effect on Cell Proliferation, Endocytosis, and Adhesion to Target Cells. **Infect. Immun.** 73, 8381-8392.
66. P. K. Mandal, K. Rawal, R. Ramaswamy, A. Bhattacharya, and **S. Bhattacharya** (2006) Identification of insertion hot spots for non-LTR retrotransposons: computational and biochemical application to *Entamoeba histolytica*. **Nucl. Acids Res.** 34, 5752-5763.
67. R. Rani, R. S. Murthy, **S. Bhattacharya**, V. Ahuja, M. A. Rizvi and J. Paul (2006) Changes in bacterial profile during amebiasis: demonstration of anaerobic bacteria in ALA pus samples. **Am. J. Trop. Med. Hyg.** 75, 880-885.
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74. R. Jain, S. Kumar, S. Gourinath, **S. Bhattacharya** and A. Bhattacharya (2009) N- and C-terminal domains of the calcium binding protein EhCaBP1 of the parasite *Entamoeba histolytica* display distinct functions. **PLoS ONE.** 4(4):e5269. Epub 2009 Apr 22.

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88. Devinder Kaur, Abhishek Kumar Gupta, Vandana Kumari, Rahul Sharma, Alok Bhattacharya and **Sudha Bhattacharya** (2012) Computational prediction and

validation of C/D, H/ACA and Eh_U3 snoRNAs of *Entamoeba histolytica*. **BMC Genomics**. 13, 390

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