PROFESSIONAL EXPERIENCE

Positions and Employment

2014- Contd **Associate Professor, Department of Environmental Toxicology, Southern University and A&M College, Baton Rouge, Louisiana 70813.**
2012- 2014 Assistant Professor, Department of Pathobiological Sciences, Louisiana State University, Baton Rouge, Louisiana 70803.
2006-2011 Training Positions (Enlisted below).
2001- 2006 **Biochemist (Senior Grade)/In-charge, Dept. of Biochemistry,KSCH/LHMC, New Delhi, India.**
1993- 2000 **Biochemist (Junior Grade)/In-charge, Dept. of Biochemistry, Kalawati Saran Children's Hospital (KSCH)/Lady Hardinge Medical College (LHMC), New Delhi, India.**

Training & Positions

Senior Research Associate/ Senior Post Doctoral Researcher : 01/2009-12/2011
Department of Pathobiological Sciences, Louisiana State University, Baton Rouge, LA
FIELD OF STUDY: Inflammation and Infection in the lungs

- Design and perform experiments to elucidate molecular mechanisms associated with host defense during Gram-negative bacterial infection of lungs.
- Review grants and manuscripts.
- Training graduate students.

Post Doctoral Research Associate : 08/2007- 12/31/2008
Department of Pharmaceutical Sciences, Texas Tech University, Amarillo, TX
FIELD OF STUDY: Cancer & Inflammation and Chemoprevention

- Design and perform experiments to study *in vivo* and *in vitro* effect of benzyl-isothiocyanate in pancreatic cancer
- Review grants and manuscripts.
- Training graduate student.

Post Doctoral Researcher : 05/2006 – 07/2007
Davis Heart & Lung Research Institute, The Ohio State University, Columbus, Ohio, USA
FIELD OF STUDY: Cancer & Inflammation and Chemoprevention

Design and perform experiments to determine the interaction of Heat shock protein 27 (Hsp27) with caspase-3 and its role in apoptosis.

- Write manuscripts;
- Supervising and training graduate students.

Visiting Scientist (Post Doctoral Researcher) : 01/2002 – 01/2004
Department of Molecular & cellular Biochemitry and Davis Heart & Lung Research Institute, The Ohio State University, Columbus, Ohio, USA
FIELD OF STUDY: Cancer & Inflammation and Chemoprevention

- Design and perform experiments to determine the interaction of Heat shock protein 27 (Hsp27) with caspase-3 and its role in apoptosis.
- Write manuscripts.
- Supervising and training graduate students.

Biochemist (Jr./Sr. Grades/Incharge) **in position/employment** **: 02/ 1993 – 05/2006**
Department of Biochemistry, Kalawati Saran Children's Hospital, New Delhi, India

- Member-selection committees
- Member-purchase committees
- Administrative responsibilities (24/7 Biochemistry Department for routine & special Investigations)
- Conduct special investigations
- Train staff members in various routine and special techniques
- Calibrate and conduct Quality control at International Clinical Standards for various investigations
- Plan, guide and conduct research in collaboration with Clinician colleagues
- Arrange seminars and conferences
- Member-selection and planning committees for Indian Council of Medical Research
- Write and review manuscripts.

Junior/ Senior Research Fellow (Ph.D.) **: 06/1987 – 01/1993**
Department of Biochemistry, Central Drug Research Institute (CDRI), Lucknow, India
FIELD OF STUDY: Role and Metabolism of oxygen in helminth parasites and their hosts

- Design and perform experiments to determine the role oxygen metabolism and study the effect of CDRI based compounds during filarial infection.
- Write manuscripts

PROFESSIONAL AND SCHOLARLY ORGANIZATION

Memberships

2014	Full Member, Society of Toxicology (APPLIED)
2009 – Present	Member of American Thoracic Society
2009 - 2013	Society of Microbiolgy, Southern Branch
2007 – 2009	Member of American Association of Cancer Research.
1999 – Present	Member, National Accreditation Board for Testing and Calibration Laboratories of India.
1997 - 2001	Member, Association of Clinical Microbiologists of India **(Delhi Chapter)**
1999 - 2001	STATE REPRESENTATIVE, Delhi Chapter, Association of Clinical Biochemists of India
1998- Present	Member, Association of Clinical Biochemists of India **(Life Member)**

Professional Activities

2014- Present	*Adhoc Reviewer*, Veterinary Microbiology
2013- Present	*Adhoc Reviewer*, Journal of Microbial & Biochemical Technology
2013- Present	*Editorial Board Member*, World journal of Respirology
2012 - Present	*Adhoc Reviewer*, British Journal of Medicine and Medical Research
2010 - Present	*Adhoc Reviewer*, International Journal of Biomedical Science
2010 - Present	*Adhoc Reviewer*, Journal of Cancer Research and Clinical Oncology
2010 - Present	*Editorial Board Member*, ISRN Vascular Medicine
2006 - Present	*Adhoc Reviewer*, The Journal of Postgraduate Medicine (Biochemistry)

Honors and Other Experience

2015	Rising Star Award from Southern University System, Shreveport, Louisiana
2014	Invited Speaker at '**The 2014 Innate Immunity Summit**' London, UK.
2014	Invited Speaker at Department of Anesthesiology, University of Alabama, Birmingham, Alabama.
2014	**Invited Speaker** at **Southern University and A&M College**, Baton Rouge, LA.
2014	**Member-Grant Review Panel**-AIBS (FAMRI), Washington DC.
2013	**Highlighted Speaker** at IDeA Meeting, Little Rock, AR.
2012	**Young Investigator Award** and **Highlightrd presentation** at IDeA Meeting, Washington DC.
2007	**Oral Presentation Winner** at The Ohio State University, Columbus, Ohio.
2000	Silver Medal at 37th National Conference of Pediatrics, Hyderabad, India.
1999	**Bursary Award** for contribution in Clinical Biochemistry at XVII IFCC- World Lab, Firenze, Italy.
1998	**Regional Service Award** for contribution in the field of Clinical Biochemistry during 1997-1998, 8th Asian Pacific Congress of Clinical Biochemistry, Kuala Lumpur, Malaysia.
1990 – 1993	Senior Research Fellowship, Council of Scientific and Industrial Research, New Delhi, India.
1988 – 1990	Junior Research Fellowship, Indian Council of Medical Research, New Delhi, India.

LIST OF PUBLICATIONS

Publications from my work conducted in United States (2006-Contd)

1. Panday, A., Sahoo, M.K., Osorio, D. and **Batra, S.** (2014). NF-κB in disease: not all roads have been discovered yet. ***International Reviews in Immunology***. **In Revision.**
2. Panday, A., Sahoo, M.K., Osorio, D. and **Batra, S.** (2015). NADPH oxidase: an overview- from structure to pathogenesis. ***Cellular & Molecular Immunology***. 12, 5-23.
3. Liliang, J., **Batra, S.,** and Jeyaseelan S. (2015). NLRP3 Does not Regulate Neutrophil Recruitment but Modulates Neutrophil Function in Peritoneum during Polymicrobial Sepsis. ***Blood.*** (In preparation).
4. Cai, S., **Batra, S.**, Wakamatsu, N. and Jeyaseelan S. (2015). NLRP12 modulates host defense through IL-17A–CXCL1 axis. ***Mucosal Immunology.*** September 9, 2015; doi:10.1038/mi.2015.80
5. Cai, S., **Batra, S.**, Langohr, I., Iwakura, Y. and Jeyaseelan S. (2015). IFN-γ induction by neutrophil-derived IL-17A homodimer augments pulmonary antibacterial defense. ***Mucosal Immunology.*** September 9, 2015; doi:10.1038/mi.2015.95
6. Liliang, J., **Batra, S.**, and Jeyaseelan S. (2014). Deletion of CXCL1 attenuates neutrophil recruitment and function in mouse Polymicrobial Sepsis. ***Journal of Immunology.*** 193 (7): 3549-3558.
7. Baral, P., **Batra, S.,** Zemans, R.L., Downey, D.P., and Jeyaseelan S. (2014). Divergent functions of Toll-Like Receptors during bacterial lung infections. ***American Journal of Respiratory and Critical Care Medicine.*** 190(7): 722-732.
8. Cai, S.*, **Batra, S.*,** Wakamatsu, N. and Jeyaseelan S. (2012). NLRC4-mediated production of IL-1β modulates mucosal immunity in the lung against Gram-negative bacterial infection. ***Journal of Immunology.*** 188(11):5623-5635. **[*Shared First Authorship]**
9. **Batra, S.,** Cai, S., Balamayooran, G., Kolls, J. K. and Jeyaseelan S. (2012). Intrapulmonary administration of leukotriene B4 augments neutrophil accumulation and responses in the lung to *Klebsiella* Infection in CXCL1 Knockout Mice. ***Journal of Immunology.*** 188(7):3458-3568.
10. Balamayooran, G., **Batra, S.,** Cai, S., Penn, A. and Jeyaseelan S. (2012). Role of CXCL5 in leukocyte recruitment to the lungs during secondhand smoke exposure. ***American Journal of Respiratory Cell and Molecular Biology.*** 47(1): 104-111.
11. Balamayooran, G., **Batra, S**., Balamayooran, T., Cai, S. and Jeyaseelan S. (2012). Intrapulmonary G-CSF reverses neutrophil recruitment to the lung and neutrophil release to blood to Gram-negative bacterial infection in MCP-1$^{-/-}$ mice. ***Journal of Immunology.*** 189(12):5849-5859.

12. **Batra, S.[#],** Balamayooran, G., Sahoo M.K. (2011). Nuclear Factor- κB; a key regulator during health & disease of lungs. ***Archivum Immunologiae et Therapiae Experimentalis.*** 189(12):5849-5459. **[# Corresponding Author][Listed in Top 20 articles published in this domain since its publication: Report by BIOMEDLIB].**
13. Balamayooran, T., **Batra, S.,** Balamayooran, G., Cai, S., Kobayashi, K.S., Flavell, R.A. and Jeyaseelan S. (2011) Receptor-interacting protein 2 controls pulmonary host defense to *Escherichia coli* infection via the regulation of interleukin-17A. ***Infection and Immunity.*** 79(11): 4588-4599. **[SPOT LIGHT IN Infection & Immunity, (IAI5641-11)] . doi:10.1128/IAI.05641-11**
14. Balamayooran, G., **Batra, S.,** Balamayooran, T., Cai, S. and Jeyaseelan S. (2010). Mice lacking MCP-1 show impaired neutrophil-mediated host defense in the lung against *E. coli*. ***Infection and Immunity.*** 79(7): 2567-77.
15. Cai , S., **Batra, S.**, Sergio A. Lira, Jay K. Kolls and Jeyaseelan S. (2010). CXCL1 induced by IL-17 regulates NF-κB, MAP Kinases, CXCL2 and CXCL5 in the lungs during *Klebsiella* pneumonia. ***Journal of Immunology.*** 185(10): 6214-6225
16. **Batra, S.,** Ravi P. S., Khandala, P.K. and Srivastava, S.K. (2010). Benzyl isothiocyanate –mediated inhibition of histone deacetylase leads to NF-κB turnoff in human pancreatic carcinoma cells. ***Molecular Cancer Therapeutics.*** 9(6): 1535-7163. **[Featured IN NUTRITION FRONTIERS, Volume 1, Issue 4, An NSRG, NCI, NIH Publication.]**
17. Ravi P.S., **Batra, S.,** Brown T.L. and Srivastava, S.K. (2010)**.** The role of K-Ras gene mutation in TRAIL-induced apoptosis in pancreatic and lung cancer cell lines. ***Cancer Chemotherapy and Pharmacology.*** 67(2):481-487.
18. Wood, K.L., Nunley, D.R., Bruce, S.M., Harman,A.P., Huang, Q., Shamo, E.N., Philips, G.S., Baran, C., **Batra, S.**, Marsh, C.B. and Doseff, A.I. (2010). The Role of heat shock protein 27 in bronchiolitis obliterans syndrome after lung transplantation. ***Journal of Heart and Lung Transplantation.*** 29(7): 786-791.
19. Wood, K.L., Voss, O.H., Huang, Q., Parihar, A., Mehta, N., **Batra, S.**, Porcu, P. and Doseff, A.I. (2010). The small heat shock protein 27 is a key regulator of CD8+CD57+ lymphocyte survival. ***Journal of Immunology***. 184(10). 5582-5588. **[Featured IN THIS ISSUE of *Journal of Immunology* , 184, 5421-5422].**
20. Balamayooran, G., **Batra, S.**, Fessler, M.B., Happel, K.H. and Jeeyaseelan, S. (2010). Mechanisms of neutrophil accumulation in the lungs against bacteria. (Translational Review). ***American Journal of Respiratory Cell and Molecular Biology.***.43(1): 5-16.
21. Ravi P.S., **Batra, S.**, and Srivastava, S.K. (2009). Activation of ATM/Chk1 by curcumin causes cell cycle arrest and apoptosis in human pancreatic cancer cells. ***British Journal of Cancer.*** 100(9), 1425-1433.
22. Ravi P.S., Zhang, R., **Batra, S.**, Shi, Y and Srivastava, S.K. (2009). Benzyl isothiocyanate mediated generation of reactive oxygen species causes cell cycle arrest and induces apoptosis via activation of MAPK in human pancreatic cancer cells ***Carcinogenesis.*** 30(10): 1744-1753.
23. Cai , S., **Batra, S.**, Shen, L., Wakamatsu, N., and Jeyaseelan S. (2009). Both TRIF-dependent and independent signaling contribute to survival and bacterial clearance in pulmonary *Klebsiella* infection. ***Journal of Immunology***. 183(10): 6629-6638.
24. Nicholas, C.*, **Batra, S.** *, Vargo, M.A. *, Voss, O.H., Gavrilin, M.A., Wewers, M.D., Guttridge, D., Grotewold, E., and Doseff, A.I. (2007). Apigenin blocks lipopolysaccharide-induced lethality in vivo and proinflammatory cytokines expression by inactivating NF-κB through the suppression of p65 phosphorylation . ***Journal of Immunology.*** 179 (10), 7121-7127. **[*Contributed equally]**

25. Voss, O.H. *, **Batra, S**. *, Kolattukudy, S.J., and Doseff, A.I. (2007). Binding of caspase-3 prodomain to heat shock protein 27 regulates monocyte apoptosis by inhibiting caspase-3 proteolytic activation. ***Journal of Biological Chemistry.*** 282 (34), 25088-25099. **[*Contributed equally]**

Publications from my work conducted in United States as a Visiting Scientist (2002-2003)

26. Huang, W., **Batra, S**., Korrapati, S., Mishra, V., and Mehta, K.D. (2006). Selective repression of low-density lipoprotein receptor expression by SP600125: coupling of histone H3-ser10 phosphorylation and Sp1 occupancy**.** ***Molecular and Cellular Biology***. 26(4): 1307-1317.
27. Huang, W., **Batra, S.**, Atkins, B.A., Mishra, V., and Mehta, K.D. (2005). Increases in intracellular calcium dephosphorylate histone H3 at Serine 10 in human hepatoma cells: potential role of protein phosphatase 2A-protein kinase CII complex. ***Journal of Cellular Physiology***. 205(1): 37-46.
28. Huang, W., Mishra, V., **Batra, S.**, Dillon I., and Mehta, K.D. (2005). Phorbol ester promotes histone H3-Ser10 phosphorylation at low density lipoprotein receptor promoter in a protein kinase C-dependent manner in human hepatoma HepG2 cells. ***Journal of Lipid Research.*** **45:** 1519-1527.

Publications from my work conducted in India as Incharge-Dept. of Biochem., KSCH (1993-2006)

29. Chandra, J., Jain, V., Narayan, S., Sharma, S., Singh, V., **Batra, S**. and Dutta, A.K. (2006). Tremors and thrombocytosis during treatment of megaloblastic anaemia. ***Annals of Tropical Pediatrics.*** 26(2), 101-105.
30. Ojha, R.K., Singh, S.K., **Batra, S.**, Sreenivas, V. and Puliyel, J.M. (2006). Lactate: creatinine ratio in babies with thin meconium staining of amniotic fluid. ***BMC Pediatrics.*** 6(13), 1-9.
31. Arora, P., Kumar, V., **Batra, S.** (2002). Vitamin A status in children with asthma. ***Pediatric Allergy and Immunology.*** **13:** 223-226.
32. Chandra, J., Jain, V., Narayan, S., Sharma, S., Singh, V., Kapoor, A.K., **Batra, S.** (2002). Folate and cobalamin deficiency in megaloblastic anemia in children. ***Indian Pediatrics.*** **39:** 453-457.
33. Dubey, N.K., Dey, P.K., Saxena, S., **Batra, S.**, Khapekar, P., Gupta, A**.** (2001). Serum nitrite and urinary nitrite excretion in nephrotic syndrome. ***Indian Pediatrics.*** **38(9):** 1025-1029.
34. **Batra, S[#].**, Kumar, R., Seema, A.K., Kapoor, A.K., Ray, G.N. (2000). Alterations in antioxidant status during neonatal sepsis. ***Annals of Tropical Pediatrics.*** **20:** 27-33. **[[#] Corresponding Author]**
35. Ray, G.N., Aneja, S., Jain, M., **Batra, S[#].** (2000). Status of free radicals in childhood meningitis ***Annals of Tropical Pediatrics.*** **20:** 115-120. **[[#] Corresponding Author]**
36. Ray, G.N., **Batra, S.**, Shukla, N.K., Deo, S., Raina, V., Ashok, S., Husain, S.A. (2000). Lipid peroxidation, free radical production and antioxidant status in Breast Cancer. ***Breast Cancer Research and Treatment.*** **1586**: 1-10.
37. Dubey, N.K., Yadav, P., Dutta, A.K., Kumar,V., Ray, G.N., **Batra, S.** (2000). Free oxygen radicals in acute renal failure. ***Indian Pediatrics.*** **37:** 153-158.
38. Dutta, A.K., Aggarwal, A., Kapoor, A.K., Ray, G.N., **Batra, S.** (2000). Seroepidemiology of Hepatitis A in children in Delhi. ***Indian Journal of Pediatrics.*** **67(2):** 77-79.
39. Jain, M., Aneja, S., Mehta, G., Ray, G.N., **Batra, S.**, Randhava, V.S. (2000). CSF interleukin-1 beta, tumor necrosis factor alpha and free radical's production in relation to clinical outcome in acute bacterial meningitis. ***Indian Pediatrics.*** 37(6): 608-614.

40. Seema, Kumar, R., Mandal, R.N., Tandon, A., Randhawa, V.S., Mehta, G., **Batra, S.**, Ray, G.N., Kapoor, A.K. (1999). Serum TNF-alpha and free radical scavengers in neonatal septicemia. ***Indian Journal of Pediatrics.*** **66(4):** 511-516.
41. Singh, S.K., Dua, T., Tandon, A., Kumari, S., Ray, G.N., **Batra, S.** (1999). Status of lipid peroxidation and antioxidant enzymes in Hypoxic- Ischemic Encephalopathy. ***Indian Pediatrics.*** **36:** 561-566.
42. Ray, G.N., **Batra, S.**, Kumar, A., Husain, S.A. (1999). Free radical production and antioxidant status in Breast Cancer. ***Toxicology and Environmental Health.*** 231-237.
43. Ray, G.N., Kumar, V., Kapoor, A.K., Dutta, A.K., **Batra, S.** (1999). Status of antioxidants and other biochemical abnormalities in children with Dengue fever. ***Journal of Tropical Pediatrics.*** **45:** 4-7.
44. **Batra, S#.**, Ray, G.N., Singh, S.K., Kumari, S., Ravi, R.N.M., Tandon, A. (1998). Respiratory diseases in children are associated in serum free radical scavenging activity. ***Medical Science Research.*** **26(5):** 357- 359. **[#Corresponding Author]**
45. **Batra, S#.**, Ray G.N., Dutta, A.K. (1998). Free radical production during perinatal birth asphyxia. ***Medical Science Research.*** **26(5):** 323- 325. **[#Corresponding Author]**
46. Ray, G.N., Husain, S.A., Dutta, A.K., **Batra, S.** (1998). Lipid peroxidation and antioxidant status in asphyxiated neonates. ***Medical Science Research.*** **26(3):** 2001-2002. **[# Corresponding Author]**
47. Nangia, S., Saili, A., Dutta, A.K., **Batra, S.**, Ray, G.N. (1998). Free oxygen radical as predictors of neonatal outcome following perinatal asphyxia. ***Indian Journal of Pediatrics.*** **65:** 419-427.
48. Singh, S.K., Tandon, A., Kumari, .S. Ravi, R.N.M., Ray, G.N., **Batra, S.** (1998). Changes in antioxidant enzymes and lipid peroxidation in hyaline membrane disease. ***Indian Journal of Pediatrics.*** **65:** 609-615.

Publications from my work conducted in India as a Research Fellow for my Ph.D. (1987-1993)

49. **Batra, S.**, Singh, S.P., Fatma, N., Sharma, S., Chatterjee, R.K., Srivastava, V.M.L. (1994). Effect of 2,2'-dicarbomethoxylamino-5,5'-dibenzimidazolyl ketone on antioxidant defences of A*canthocheilonema viteae* and its laboratory host *Mastomys natalensis* : (Pt) Effect of C.D.R.I. based compounds. Proceedings of CSIR Golden Jubliee Symposium on Tropical Diseases. ***Molecular Biology and Control Strategies.*** 29-33.
50. **Batra, S.**, Srivastava, J.K., Gupta, S., Katiyar, J.C., Srivastava, V.M.L**.** (1993). Role of reactive oxygen intermediates in expulsion of *Nippostrongylus brasiliensis* from rat. ***Parasitology.*** **106:** 185-192
51. **Batra, S.**, Singh, S.P., Fatma, N., Chatterjee, R.K., Srivastava, V.M.L. (1992). Effect of 2, 2'-dicarbomethoxylamino-5, 5'- dibenzimidazolyl Ketone on antioxidant defences of *Acanthocheilonema viteae* and its laboratory host *Mastomys natalensis* . ***Biochemical Pharmacology.*** **44:** 727-731.
52. **Batra, S.**, Chatterjee, R.K., Srivastava, V.M.L. (1992). Antioxidant system of *Litomosoides carinii* and *Setaria cervi:* effect of a microfilaricidal agent. ***Veterinary Parasitology.*** **143:** 93-103.
53. Singh, S.P., **Batra, S.**, Gupta, S., Katiyar, J.C., Srivastava, V.M.L**.** (1992). Effect of *Ancylostoma ceylanicum* infection on antioxidant system in hamster tissues. ***Medical Science Research.*** **20:** 605-608.
54. Srivastava, J.K., **Batra, S.**, Gupta, S., Katiyar, J.C., Srivastava, V.M.L. (1992). Effect of anthelmentics on the antioxidant system of *Nippostrongylus brasiliensis.* ***Biochemical Pharmacology.*** **43(2):** 289-293.

55. **Batra, S.**, Chatterjee, R.K., Srivastava, V.M.L. (1990). Antioxidant enzymes in *Acanthocheilonema viteae* and effect of antifilarial agents. ***Biochemical Pharmacology.*** **40(10):** 2363-2369.
56. **Batra, S.**, Singh, S.P., Gupta, S., Katiyar, J.C., Srivastava, V.M.L. (1990). Reactive oxygen intermediates metabolizing enzymes in *Ancylostoma ceylanicum* and *Nippostrongylus brasiliensis* . ***Free Radical Biology and Medicine.*** **8:** 271-274.
57. Jain, M.K., **Batra, S.**, Gupta, S., Katiyar, J.C., Srivastava, V.M.L. (1989). Impact of *Cysticercus fasciolaris* infection on reactive oxygen intermediates metabolizing enzymes in rat liver. ***Medical Science Research.*** **17:** 1051-1053.
58. Singh, S.P., **Batra, S.**, Gupta, S., Katiyar, J.C., Srivastava, V.M.L. (1989). Effect of *Ancylostoma ceylanicum* infection in hamsters on enzymes that metabolize reactive oxygen intermediates. ***Medical Science Research.*** **17:** 493-495.
59. **Batra, S.**, Singh, S.P., Srivastava, V.M.L., Chatterjee, R.K. (1989). Xanthine oxidase, superoxide dismutase, catalase and lipid peroxidation in *Mastomys natalensis*: Effect of *Dipetalonema viteae* infection. ***Indian Journal of Experimental Biology.*** **27:** 1067-1070.
60. Singh, S.P., **Batra, S.**, Gupta, S., Katiyar, J.C., Srivastava, V.M.L. (1989). Leucine amino peptidase in host tissues during *Ancylostoma ceylanicum* and *Dipetalonema viteae* infection. ***Indian Journal of Parasitology.*** **13(2):** 187-190.