PROFILE

1. Name of the Faculty : **BISWADEV BISHAYI**
2. Designation: Professor
3. Academic qualification: Ph.D.(Science) from Jadavpore University, West Bengal (W.B.)
4. Date and Place of Birth: 23.09.1970, Vill and P.O.-Goaltore, Dist-Midnapore (West), WB.
5. SC/ST/OBC: SC
6. Research Interest**:**
   - i. Cytokine induced Immuno modulation in primary macrophages.
   - ii. Cell surface cytokine receptor cross-talk and signal transduction in macrophages.
   - iii. Bacterial infection induced animal models of Inflammatory diseases,
   - iv. Molecular mechanism of host-pathogen interaction.
   - v. Heavy metal toxicity and immune functions.
   - vi. Neuro- endocrine- immune interaction and cognitive responses.
   - vii. Diet induced obesity, metabolic syndrome and inflammation.

7. Address for Communication: Department of Physiology, Immunology laboratory, University of Calcutta, 92 A.P.C Road, Calcutta-700009, West Bengal
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10. E-mail: biswadevbishayi4@gmail.com, biswa_dev2@yahoo.com;
    University of Calcutta -E-mail: bbphys@caluniv.ac.in
11. Chronological description of different positions held right from first employment in the substantive post

Designation	Name of Employer	Duration		Reason of Leaving
		Joining	Leaving	
Lecturer	West Bengal College Service Commission	22.03.1997	11.11.1997	To Join at University of Calcutta
Lecturer	University of Calcutta	12.11.1997 - 21.03.2001	Does not arise	Not applicable
Lecturer in Senior Scale	University of Calcutta	22.03.2001- 21.03.2006	Does not arise	Not applicable

Reader	University of Calcutta	22.03.2006- 21.03.2009	Does not arise	Not Applicable
Associate Professor	University of Calcutta	22.03.2009- 21.03.2012	Does not arise	Not Applicable
Professor	University of Calcutta	**22.03.2012-continuing**	Not Applicable	Not Applicable

12. **Membership in scientific bodies**:

    Indian Immunology Society, Physiological Society of India, Indian Science Congress association, Indian association of biomedical scientists (Life Member), Society of Biological chemists (Life member)

Title of the ph. D. thesis: Identification and characterization of interleukin-8 receptor in human peripheral monocytes.

Detailed list of Publications

1. B Bishayi & A. K. Samanta. Identification and characterization of specific receptor for Interleukin-8 from the surface of human monocytes. *Scand. J. Immunol*. 1996; 43(5): 531-536.
2. B Bishayi & I Sinha. Alteration in phagocytic and chemotactic activities of murine splenic macrophages upon treatment (*in vivo*) of sodium arsenite. *Ind. J. Physiol. Allied Sci. 1*999; 53(3):130-140.
3. B Bishayi. Sodium arsenite induced alteration in the functional activity of murine peritoneal macrophages. *Ind. J. Pharmacol*. 2000; 32: 192-197.
4. B Bishayi, A. A.Sarkar & M Sengupta. Cold stress induced functional alteration in splenic macrophages including antibody production. *Biomedicine*; 2000; 20(2): 149-157.
5. B Bishayi & S Datta. Stress induced alteration in the functions of murine peritoneal macrophages. *Ind. J. Physiol. Allied Sci*. 2001; 55 (2):90-96.
6. B. Bishayi, S. Ghosh & P. Bhanja. Effect of Adrenalectomy on Rat Peritoneal Macrophage function. *Annals of Neuro-sciences*. 2001; 8: 119-126.
7. M. Sengupta & B Bishayi. Effect of lead and arsenic on murine macrophage response. *Drug and Chemical Toxicology*. 2002; 25(4): 459-472.
8. B Bishayi & A. K. Samanta. . Modulation of Interleukin-8 receptor expression by Lipopolysaccharide and phorbol myristate acetate (PMA) in human peripheral monocytes- a preliminary study. *Ind. J. Physiol. Pharmacol*. 2002; 46(3): 1-16.
9. Bishayi B, Roychowdhury S, Ghosh S and Sengupta M. Hepatoprotective and immunomodulatory properties of *Tinosporia cordifolia* in CCl_4 intoxicated mature albino rats. *J Toxicol Sci*. 2002; 27(3): 139-146.
10. B. Bishayi & M. Sengupta. Intracellular survival of *Staphylococcus aureus* due to alteration of cellular activities in arsenic & Lead intoxicated mature Swiss albino mice. *Toxicology.* 2003; 184: 31-39.

11. B. Bishayi & S Ghosh. Metabolic and immunological responses associated with *in vivo* glucocorticoid depletion by adrenalectomy in mature Swiss albino rats. *Life Sciences*. 2003; 73: 3159-3174.

12. Bishayi B, Ghosh S & Bhanja P. Effect of adrenalectomy on rat peritoneal macrophage response. *Acta Biologica Hungarica*. 2003; 54: 335-336

13. Bishayi B, Sengupta M & Ghosh S. Lead induced modulation of splenic macrophage responses on humoral and cell mediated immunity. *Acta Microbiol. et Immunol.Hungarica* 2004; 51: 31-45.

14. Bhattacharya N, Bishayi B & Bal M. Antibacterial and immunomodulatory activity of aqueous extract of *Adhatoda vasica nees* leaf. *Ind. J. Physiol. Allied. Sci*.2005; 59: 69-75.

15. Bishayi B & Sengupta M. Synergism in immunotoxicological effects due to repeated combined administration of arsenic and lead in mice. *International Immuno-pharmacology*. 2006; 6:454-464.

16. Madan M, Bishayi B, Hoge M, Messas E & Amar S. Doxycycline affects diet and bacteria induced atherosclerosis in an ApoE heterozygote murine model: Cytokine profiling implications. *Atherosclerosis* 2007; 190: 62-72

17. Bishayi, B. and Ghosh S. Immunobiological changes of in vivo glucocorticoid depleted male Swiss albino rats. *Immunobiology*; 2007; 212: 19-27.

18. Madan M, Bishayi B, Hoge M & Amar S. Atheroprotective role of interleukin-6 in diet- and/or pathogen-associated atherosclerosis using an ApoE heterozygote murine model. *Atherosclerosis* 2008; 197: 504-514.

19. Mukhopadhyay R & Bishayi B. Effects of soluble antigen-induced immune cell activation on steroidogenesis in murine lymphoid organ. *Indian Journal of Biochemistry and Biophysics* 2008; 45: 250-255

20. Das D, Saha SS & Bishayi B. Intracellular survival of Staphylococcus aureus: Corelating production of catalase and superoxide dismutase with levels of inflammatory cytokines. *Inflammation Research* 2008; 57: 340-349

21. Khatun A, Das D, Nandi D, Mukhopadhyay R, Majumdar S & Bishayi B. Protein deficiency in the diet caused immune impairment after *Staphylococcus aureus* infection in mice. *Ind J Biol Sci* 2008; 14:56-61.

22. Mukhopadhyay R, Mishra MK, Basu A & Bishayi B. Modulation of steroidogenic enzymes in murine lymphoid organs after immune activation. *Immunological Investigation* 2009; 38: 14-30.

23. Kallol Dutta and Biswadev Bishayi. *Escherichia coli* lipopolysaccharide administration alters antioxidant profile during hypercholesterolemia. *Indian journal of clinical biochemistry*, 2009; 24 (2) 179-183

24. Kallol Dutta, Debolina Nandi, and Biswadev Bishayi. Repeated systemic *Escherichia coli* infection enhances anti-oxidant response in hypercholesterolemic mice inducing cardiovascular inflammation. *Inflammation,* Vol. 32, No. 2, April 2009; 89-98

25. Das D & Bishayi B. Staphylococcal catalase protects intracellularly survived bacteria by destroying H_2O_2 produced by the murine peritoneal macrophages. *Microbial Pathogenesis* 2009; 47: 57-67

26. Mukhopadhyay R & Bishayi B. Particulate antigen induced immune activation influences steroidogenesis in murine lymphoid organs with parallel increase in circulating IL-6. *Ind J Exp Biol*. 2009; 47: 699-705.

27. Riti Sen, Debaditya das and Biswadev Bishayi. *Staphylococcal* catalase regulates its virulence and induces arthritis in catalase deficient mice. *Indian j physiol pharmacol* 2009; 53 (4) : 307–317.

28. Rupanjan Mukhopadhyay, Manoj K. Mishra , Anirban Basu & Biswadev Bishayi. Effect of particulate antigenic stimulation or in vivo administration of interleukin-6 on the level of steroidogenic enzymes in adrenal glands and lymphoid tissues of mice with parallel alteration in endogenous inflammatory cytokine level. *Cellular Immunology* 261 (2010) 23–28.

29. Swarnadeep Ray, Protik Chowdhury, Nirmalendu Das, and Biswadev Bishayi. Development of an efficient and simple method for conjugation of laccase to immunoglobulin and its characterization by enzyme immunoassay. *Journal of immunoassay and immunochemistry*, 31:217–232, 2010

30. Debolina Nandi, Manoj Kumar Mishra, Anirban Basu & Biswadev Bishayi. Protective effects of interleukin-6 in lipopolysaccharide (LPS)-induced experimental endotoxemia are linked to alteration in hepatic anti-oxidant enzymes and endogenous cytokines. *Immunobiology* 215 (2010) 443–451.

31. Debaditya Das and Biswadev Bishayi. Contribution of catalase and superoxide dismutase to the intracellular survival of clinical isolates of *Staphylococcus aureus* in murine macrophages. *Indian J Microbiol* (Oct–Dec 2010) 50(4):375–384

32. Sayantani Majumdar, Kallol Dutta, Sunil K. Manna, Anirban Basu, and Biswadev Bishayi . Possible protective role of chloramphenicol in TSST-1 and coagulase-positive *Staphylococcus aureus*-induced septic arthritis with altered levels of inflammatory mediators. *Inflammation*, Vol. 34, No. 4, August 2011 269-282

33. P. Mal, S. Dutta, D. Bandyopadhyay, K. Dutta, A. Basu & B. Bishayi. Gentamicin in combination with ascorbic acid regulates the severity of *Staphylococcus aureus* infection–induced septic arthritis in mice. *Scandinavian Journal of Immunology*, 2012, 76, 528–540

34. Pinky Mal, Deboshree Ghosh, Debasish Bandyopadhyay Kallol Dutta & Biswadev Bishayi. Ampicillin alone and in combination with riboflavin modulates *Staphylococcus aureus* infection induced septic arthritis in mice *Ind J Exp Biol* 2012, 50: 677-689

35. Pinky Mal, Kallol Dutta, Debasish Bandyopadhyay , Anirban Basu, Rajni Khan and Biswadev Bishayi. Azithromycin in combination with Riboflavin decreases the severity of *Staphylococcus aureus* infection induced septic arthritis by modulating the production of free radicals and endogenous cytokines. *Inflammation Research,* 2013, 62: 259-273

36. Sayantika Mahanti, Arnab Majhi Sharmalika Chongdar, Kiran Kundu, Kallol Dutta, Anirban Basu, and Biswadev Bishayi. Increased resistance of immobilized stressed mice to infection: correlation with behavior alteration. *Brain Behavior and Immunity*, 2013, 28: 115-127

37. Arnab Majhi, Kiran Kundu, Rana Adhikary, Madhubanti Banerjee, Sayantika Mahanti, Anirban Basu and Biswadev Bishayi. Combination therapy with ampicillin and azithromycin in an experimental pneumococcal pneumonia is bactericidal and effective in down regulating inflammation in mice. doi:10.1186/1476-9255-11-5 *Journal of Inflammation* 2014 11:5

38. Biswadev Bishayi, Debasish Bandyopadhyay, Arnab Majhi and Rana Adhikary. Possible role of Toll like receptor-2 (TLR-2) in the intracellular survival of *Staphylococcus aureus* in murine peritoneal macrophages: Involvement of cytokines and anti-oxidant enzymes. *Scandinavian Journal of Immunology*, 2014, 80, 127–143

39. Arnab Majhi, Rana Adhikary, Aritra Bhattacharyya, Sayantika Mahanti, and Biswadev Bishayi. Levofloxacin and ceftriaxone in combination attenuates lung inflammation in a mouse model of bacteremic pneumonia by multi-drug resistant *Streptococcus pneumoniae* via inhibition of cytolytic activities of pneumolysin and autolysin. *Antimicrobial agents and Chemotherapy* 2014, 58 (9) 5164–5180.

40. Rana Adhikarya, Arnab Majhia, Sayantika Mahantia and Biswadev Bishayi Immunomodulatory and anti-oxidant properties of methanolic extract of *Adhatoda vasica* Nees leaf after particulate antigen stimulation in mice. *Journal of Pharmacy Research 2014,8(10),1520-1537*

41. Biswadev Bishayi, Debasish Bandyopadhyay, Arnab Majhia & Rana Adhikary. Effect of exogenous MCP-1 on TLR-2 neutralized murine macrophages and possible mechanisms of CCR-2/TLR-2 and MCP-1 signalling during *Staphylococcus aureus* infection. *Immunobiology* 220 (2015) 350–362.

42. Chandrayee Ghosh & Biswadev Bishayi. Toll-like receptor 2 and 6 interdependency in the erosive stage of *Staphylococcus aureus* induced septic arthritis mediated by IFN- _ andIL-6 – A possible involvement of IL-17 in the progression of the disease. *Immunobiology* 220 (2015) 910–923.

43. Chandrayee Ghosh and Biswadev Bishayi. Characterization of Toll-Like Receptor-4 (TLR-4) in the spleen and thymus of Swiss Albino mice and its modulation in experimental endotoxemia. *Journal of Immunology Research*. Volume 2015, Article ID 137981, 13 pages. http://dx.doi.org/10.1155/2015/137981.

44. Somrita Dey and Biswadev Bishayi Killing of *Staphylococcus aureus* in murine macrophages by chloroquine used alone and in combination with ciprofloxacin or azithromycin. *Journal of Inflammation Research* 2015:8 29–47

45. Chandrayee Ghosh, Nune Ravi Prakash, Sunil Kumar Manna and Biswadev Bishayi Presence of Toll like receptor-2 (TLR-2) in spleen, lymph node and thymus of Swiss albino mice and its modulation by *Staphylococcus aureus* and bacterial lipopolysaccharide (LPS). *Indian Journal of Experimental Biology* 2015; 53: 82-92

46. Biswadev Bishayi, Debasish Bandyopadhyay, Arnab Majhi, and Rana Adhikary. Expression of CXCR1 (Interleukin-8 Receptor) in murine macrophages after *Staphylococcus aureus* infection and its possible implication on intracellular survival correlating with cytokines and bacterial anti-oxidant enzymes. *Inflammation*, Vol. 38, No. 2, April 2015; 812-827.

47. Somrita Dey, Arnab Majhi, Sayantika Mahanti, Ipsita Dey, and Biswadev Bishayi. In vitro anti-inflammatory and immunomodulatory effects of Ciprofloxacin or Azithromycin in *Staphylococcus aureus*-stimulated murine macrophages are beneficial in the presence of Cytochalasin D. *Inflammation*, Vol. 38, No. 3, June 2015; 1050-1069.

48. Ajeya Nandi, Somrita Dey, Julie Biswas, Pooja Jaiswal, Shamreen Naaz, Tamima Yasmin, and Biswadev Bishayi. Differential induction of inflammatory cytokines and reactive oxygen species in murine peritoneal macrophages and resident fresh bone marrow cells by acute *Staphylococcus aureus* infection: Contribution of Toll-Like Receptor 2 (TLR2). *Inflammation*, Vol. 38, No. 1, February 2015; 224-244.

49. Sayantika Mahanti , Arnab Majhi , Kiran Kundu , Anirban Basu & Biswadev Bishayi. Systemic *Staphylococcus aureus* infection in restraint stressed mice modulates impaired immune response resulting in improved behavioral activities. *Journal of Neuroimmunology* 288 (2015) 102–113

50. Arnab Majhi, Ajeya Nandi, Rana Adhikary, Sayantika Mahanti & Biswadev Bishayi. In vitro susceptibility of a penicillin-resistant and tolerable isolate of *Streptococcus pneumoniae* to combination therapy. *J Infect Dev Countries* 2015; 9(7):702-709.

51. Sulagna Dutta and Biswadev Bishayi. Effects of Ciprofloxacin in combination with either Aminoguanidine or Meclofenamic Acid in modulating *S. aureus* induced septic arthritis in mice. *Int J pharmacy Pharmeceutical Sci* 2015; 7: 355-361

52. Sulagna Dutta and Biswadev Bishayi. Combination treatments using vancomycin with immunomodulators to modulate *staphylococcal* arthritis. *Asian J Pharm Clin Res*, vol 9, issue 2, 2016, 1-10

53. Ajeya Nandi & Biswadev Bishayi. Intracellularly survived *Staphylococcus aureus* after phagocytosis are more virulent in inducing cytotoxicity in fresh murine peritoneal macrophages utilizing TLR-2 as a possible target. *Microbial Pathogenesis* 97 (2016) 131-147

54. Ajeya Nandi and Biswadev Bishayi Murine macrophage response from peritoneal cavity requires signals mediated by chemokine receptor CCR-2 during *Staphylococcus aureus* infection. *Immunol Res*. 2016; 64: 213-232

55. Sultana S, Adhikary R, Nandi A & Bishayi B, Neutralization of MMP-2 protects *Staphylococcus aureus* infection induced septic arthritis in mice and regulates the levels of cytokines, *Microbial Pathogenesis* (2016); 99: 148-161

56. Biswadev Bishayi, Rana Adhikary, Ajeya Nandi, and Sahin Sultana. Beneficial effects of exogenous melatonin in acute *Staphylococcus aureus* and *Escherichia coli* infection-induced inflammation and associated behavioral response in mice after exposure to short photoperiod. *Inflammation* (2016) 39: 2072-2093.

57. Somrita Dey and Biswadev Bishayi. Riboflavin along with antibiotics balances reactive oxygen species and inflammatory cytokines and controls *Staphylococcus aureus* infection by boosting murine macrophage function and regulates inflammation. *Journal of Inflammation* (2016) 13:36 DOI 10.1186/s12950-016-0145-0

58. Rana Adhikary, Arnab Majhi, Sayantika Mahanti & Biswadev Bishayi. Protective effects of methanolic extract of *Adhatoda vasica* Nees leaf in collagen-induced arthritis by modulation of synovial toll-like receptor-2 expression and release of pro-inflammatory mediators. *Journal of Nutrition and Intermediary Metabolism* 3 (2016) 1-11

59. Somrita Dey & Biswadev Bishayi. Effect of iNOS inhibitor LNMMA along with antibiotics Chloramphenicol or Ofloxacin in murine peritoneal macrophages regulates *S. aureus* infection as well as inflammation: An in vitro study. *Microbial Pathogenesis* 105 (2017) 307-320

60. Ajeya Nandi and Biswadev Bishayi. CCR-2 neutralization augments murine fresh BMC activation by *Staphylococcus aureus* via two distinct mechanisms: at the level of ROS production and cytokine response. *Innate Immunity* 2017; 23: 345-372.

61. Biswadev Bishayi, Ajeya Nandi, Rajen Dey & Rana Adhikary. Expression of CXCR1 (IL-8 receptor A) in splenic, peritoneal macrophages and resident bone marrow cells

after acute live or heat killed *Staphylococcus aureus* stimulation in mice. *Microbial Pathogenesis* 109 (2017) 131-150

62. Sahin Sultana, Rana Adhikary, and Biswadev Bishayi. Neutralization of MMP-2 and TNFR1 regulates the severity of *S. aureus*-induced septic arthritis by differential alteration of local and systemic proinflammatory cytokines in mice. *Inflammation*, 2017; 40: 1028-1050.

63. Ajeya Nandi & Biswadev Bishayi. A novel CCR-2/TLR-2 triggered signaling in murine peritoneal macrophages intensifies bacterial (*Staphylococcus aureus*) killing by reactive oxygen species through TNF-R1. *Immunology Letters* 190 (2017) 93–107

64. Ipsita Dey & Biswadev Bishayi. Role of Th17 and Treg cells in septic arthritis and the impact of the Th17/Treg -derived cytokines in the pathogenesis of *S. aureus* induced septic arthritis in mice. *Microbial Pathogenesis* 113 (2017) 248–264.

65. Biswadev Bishayi, Rana Adhikary, Sahin Sultana, Rajen Dey & Ajeya Nandi. Altered expression of CXCR1 (IL-8R) in macrophages utilizing cell surface TNFR1 and IL-1 receptor during *Staphylococcus aureus* infection. *Microbial Pathogenesis* 113 (2017) 460–471

66. Rana Adhikary, Sahin Sultana & Biswadev Bishayi. *Clitoria ternatea* flower petals: Effect on TNFR1 neutralization via downregulation of synovial matrix metalloproteases *Journal of Ethnopharmacology* 210 (2018) 209–222.

67. Rajen Dey, Sahin Sultana & Biswadev Bishayi Combination treatment of celecoxib and ciprofloxacin attenuates live *S. aureus* induced oxidative damage and inflammation in murine microglia via regulation of cytokine balance. *Journal of Neuroimmunology* 316 (2018) 23–39

68. Sahin Sultana & Biswadev Bishayi, Neutralization of TNFR-1 and TNFR-2 modulates *S. aureus* induced septic arthritis by regulating the levels of pro inflammatory and anti inflammatory cytokines during the progression of the disease. *Immunology Letters* 196 (2018) 33–51

69. Sahin Sultana, Rajen Dey & Biswadev Bishayi. Dual neutralization of TNFR-2 and MMP-2 regulates the severity of *S. aureus* induced septic arthritis correlating alteration in the level of interferon gamma and interleukin-10 in terms of TNFR2 blocking. *Immunologic Research* (2018) 66:97–119.

70. Somrita Dey and Biswadev Bishayi. Killing of S. aureus in murine peritoneal macrophages by Ascorbic acid along with antibiotics Chloramphenicol or Ofloxacin: Correlation with inflammation. *Microbial Pathogenesis*. 2018; 115: 239-250

71. Sayantika Mahanti, Arnab Majhi, Koyel Mukherjee, and Biswadev Bishayi Reduced acetylcholinesterase activity down regulates peripheral and central inflammation during glucocorticoid resistance induced by chronic restraint stress and systemic

lipopolysaccharide challenge in male mice. *Indian Journal of experimental Biology*. (2018) 56: 859-874 [Impact Factor: 0.934]

72. Rana Adhikary, Ajeya Nandi, Sahin Sultana and Biswadev Bishayi. Tumor necrosis factor receptor 1 (TNFR1) neutralization ameliorated carrageenan-induced inflammation in mice supplemented with herbal antioxidants. *International Journal of Pharmaceutical Sciences and Research,* 2018. Vol. 9, Issue 7: 1000-1017

73. Sultana S, Dey R, Bishayi B. Role of plasminogen activator inhibitor – 1(PAI-1) in regulating the pathogenesis of S. aureus arthritis via plasminogen pathway. *Immunology Letters*. 2019; 209: 53-66.

74. Puja Dutta, Sahin Sultana, Rajen Dey and Biswadev Bishayi. Regulation of Staphylococcus aureus-induced CXCR1 expression via inhibition of receptor mobilization and receptor shedding during dual receptor (TNFR1 and IL-1R) neutralization. *Immunologic Research* 2019 https://doi.org/10.1007/s12026-019-09083-x

75. Dey R, Bishayi B. Dexamethasone exhibits its anti-inflammatory effects in S.aureus induced microglial inflammation via modulating TLR-2 and glucocorticoid receptor expression. *International Immunopharmacology*. 2019 Oct;75: 105806. doi:10.1016/j.intimp.2019.105806.

76. Rana Adhikary and Biswadev Bishayi. Anti-arthritic effects of *Adhatoda vasica*, *Emblica officinalis* and *Clitoria ternatea* via down regulation of synovial MMP-2 activity: a comparative study. *European Journal of Pharmaceutical and Medical Research*. *2019,6(5), 532-545*

77. Rana Adhikary and Biswadev Bishayi. Anti-inflammatory effects of *Adhatoda vasica*, *Emblica officinalis* and *Clitoria ternatea*: a comparative study. *World Journal of Pharmacy and Pharmaceutical Sciences*. Vol 8, Issue 5, 2019. 1577-1599.

78. Ipsita Dey, Biswadev Bishayi. Impact of simultaneous neutralization of IL-17A and treatment with recombinant IL-2 on Th17-Treg cell population in S.aureus induced septic arthritis. *Microbial Pathogenesis* 139 (**2020**) 103903.

79. Sahin Sultana, Biswadev Bishayi. Etoposide-mediated depletion of peripheral blood monocytes post s.aureus infection attenuates septic arthritis by modulating macrophage-derived factors responsible for inflammatory destruction. *Immunology Letters* 220 (**2020**) 51–62.

80. Sahin Sultana, Biswadev Bishayi. Potential anti-arthritic and anti-inflammatory effects of TNF-α processing inhibitor-1 (TAPI-1): A new approach to the treatment of *S. aureus* arthritis. *Immunobiology* 225 (**2020**) 151887

81. Rajen Dey, Biswadev Bishayi. Dexamethasone along with ciprofloxacin modulates *S. aureus* induced microglial inflammation via glucocorticoid (GC)-GC receptor-mediated Pathway. *Microbial Pathogenesis* 145 (**2020**) 104227.

82. Rajen Dey, Biswadev Bishayi. TLR-2 neutralization potentiates microglial M1 to M2 switching by the combinatorial treatment of ciprofloxacin and dexamethasone during *S. aureus* infection. *Journal of Neuroimmunology* 344 (**2020**) 577262

83. Ipsita Dey, Biswadev Bishayi. Role of different Th17 and Treg downstream signalling pathways in the pathogenesis of Staphylococcus aureus infection induced septic arthritis in mice. *Experimental and Molecular Pathology* 116 (**2020**) 104485

84. Puja Dutta & Biswadev Bishayi (**2020**): Neutralization of TNF-alpha and IL-1beta Regulates CXCL8 Production through CXCL8/CXCR1 Axis in Macrophages during *Staphylococcus aureus* Infection, *Immunological Investigations*, DOI: 10.1080/08820139.2020.1787436

Seminars and conferences attended

1. Delivered an oral presentation entitled "Role of inflammation in bacterial or dietary induced Atherosclerosis" in 32nd Annual conference of Indian Immunology Society (IMMCON 2005), Chandiagarh, India during November 24-27, 2005
2. Delivered an oral presentation entitled "Involvement of toll like receptor 2 (TLR-2) in the survival of *Staphylococcus aureus* in murine peritoneal macrophages" in the 40th annual conference of the Indian Immunology, (IMMUNOCON 2013) 15th -17th November, 2013, at Department of Biochemistry, University College of Medical Sciences and GTB Hospital, New Delhi
3. Delivered an invited talk entitled "Combined antibiotic therapy attenuates lung inflammation in *Streptococcus pneumonia* infection via inhibition of cytolytic activities of pneumolysin and autolysin" in the 42nd annual conference the Indian Immunology (IMMUNOCON 2015), 09-11th October, 2015 at RMRIMS (ICMR), Patna
4. Delivered an invited talk entitled " Molecular mechanisms of intracellular survival of *Staphylococcus aureus* inside the macrophages: at the level of cell surface and cell interior at the 43rd Indian immunology society conference (IMMUNOCON 2016) held at GITAM University, Visakhapatnam, India during 16-18th February 2017
5. Delivered an invited talk entitled " Dual neutralization of TNFR1/TNFR2 and MMP-2 modulates *S. aureus* induced septic arthritis by regulating the level of cytokines during the progression of the disease" at the 44th Annual Conference of the Indian

Immunology Society (IMMUNOCON-2017) during 14th to 16th December 2017 at Nirma University, Ahmedabad, Gujarat

6. Delivered **G.P.Talwar Mid-Carrier Scientist Oration Award -2018** on the talk entitled "Role of pattern recognition receptor (TLR-2) and Chemokine Receptors (CCR2 and CXCR1) in the killing of *Staphylococcus aureus* by the macrophages" in the 45th Indian Immunology Society conference (IMMUNOCON- 2018) held at THSTI, Faridabad, during 01-03rd November, 2018.

Seminars /workshops organized

1. Short term course for the senior faculty on the thrust area "Current perspectives in Life Sciences" organized by Dept. of Physiology, CU and Academic Staff college, CU, during 13-19th March, 2012 [as Head, Dept of Physiology, University of Calcutta].
2. Jointly Organized by Dept of Physiology, University of Calcutta and Indian Science Congress Association (ISCA) Kolkata Chapter-World Environment Day on 2nd July 2012 on the topic "The contribution of Rathel Carson in creating environmental awareness, the speaker was Prof. Naresh Chnadra Dutta, ex Prof. Dept of Zoology, Kolkata [as Head, Dept of Physiology, University of Calcutta].
3. Jointly Organized Dept of Physiology, University of Calcutta and Indian Science Congress Association (ISCA) Kolkata Chapter-Doctor's Day on 05th June, 2012 on the topic "Prevention of HIV/AIDS: dreams and reality, the speaker was Dr Shekar Chakraborty, NICED, Kolkata [as Head, Dept of Physiology, University of Calcutta].
4. A scientific seminar organized by the Dept of Physiology, University of Calcutta on 08th March, 2013 on "CPCSEA guidelines-Rules and regulations, the speaker was Prof. P.K. Samanta, CPCSEA Nominee [as Head, Dept of Physiology, University of Calcutta].
5. A scientific seminar organized by the Dept of Physiology, University of Calcutta on 16th April 2013 on "Transcriptional regulation of microglial function , the speaker was Dr Anirban Basu, NBRC [as Head, Dept of Physiology, University of Calcutta].

Research grants completed during the last five years

Sl. No.	Year	Details
1	2013-2014 Completed	Involvement of macrophage cell surface receptors (Like TLR-2, IL-8 and MCP-1 receptors) in the survival of *Staphylococcus aureus* in

		Macrophages: indicating a novel bacterial strategy against host innate immunity, DST SERB
2	2013-2015 Completed	Antibiotic and anti-oxidant combined treatment in the killing of *Staphylococcus aureus* in macrophages: In search of synergistic interactions towards treatment of infectious diseases, DBT, Govt. of West Bengal G.O. No:785/(Sanc.)-BT (Estt.)/RD-4/13 dated: 30.10.2013
3	2013-2015 Completed	Studies on the anti-inflammatory, anti-oxidant, immunomodulatory, anti-microbial, and anti-arthritic properties of some common indigenous Indian Medicinal plants, DST Govt. of West Bengal, No: 117 (Sanc)/ST/P&T/9G-8/2012 dated 25.04.2013
4	2015-2018 Completed	Studies on the role of Th17 and Treg cells in septic arthritis and the impact of the different Th17/Treg -derived cytokines in the pathogenesis of arthritis [37 (1645)/15/EMR-II dated 02.06.2015] from CSIR 2015-2018]

Projects sanctioned in 2020

Effects of endogenous neutralization of TGF-β along with IL-6 plus IL-23/IL-21 on Th17 /Treg cell ratio in the pathogenesis of *S.aureus* infection induced septic arthritis [vide project file number:2019/000007/PRGIA] technically approved by ICMR

Name of the candidates and their title of thesis who have been awarded Ph.D. degree from University of Calcutta

1. **Soumya Ghosh**: Thesis entitled "Immunomodulatory studies in adrenal hormone insufficiency" Ph.D. awarded awarded in the year 2006.
2. **Mahuya Sengupta**: Thesis entitled "Immunobiological studies in mice after exposure to arsenic and lead and its relation to immunosuppression" Ph.D. awarded in the year 2006.
3. **Kallol Dutta:** Thesis entitled "Effect of repeated *Escherichia coli* infection and high fat diet on development of inflammatory response in mice: its possible role in induction of atherosclerosis" Ph.D. awarded in the year 2009**.**
4. **Debaditya Das:** Thesis entitled "Studies on cellular events and intracellular survival of *Staphylococcus aureus* during infection of murine macrophages" Ph.D. awarded in the year 2009**.**
5. **Rupanjan Mukhopadhyay:** entitled a thesis "Studies on the effects of antigen and cytokine induced immune activation on the alteration of steroidogenesis in murine lymphoid organs" Ph.D. awarded in the year 2010.
6. **Debolina Nandi:** entitled a thesis " Immunobiological studies of Dexamethasone, artificial nucleosides and cytokines (IL-18, IL-10, TNF-α, IL-1β and IL-6) on lipopolysaccharide induced endotoxic shock in murine model" Ph.D. awarded in the year 2010**.**
7. **Swarnadeep Ray:** entitled a thesis "Development of an efficient and simple method for conjugation of laccase to immunoglobulin and its characterization by enzyme immunoassay" awarded Ph.D.in the year 2014.

8. **Pinky Mal**: "Role of coagulase and TSST positive *Staphylococcus aureus* in the pathogenesis of *staphylococcal* infection induced arthritis and its possible remediation through antioxidant-antibiotic co-therapeutic approach in mice" awarded Ph.D. in the year 2016
9. **Arnab Majhi:** "Immunobiological studies on *Streptococcus pneumoniae* infection in mice" awarded Ph.D. in the year 2016.
10. **Chandrayee Ghosh**: Identification and characterization of Toll like receptors (TLR-2, 4, 6) in thymic, splenic and lymph node lymphocytes and macrophages of Swiss albino mice and their role on *Staphylococcus aureus* infection and Lipopolysaccharide administration: awarded Ph.D. in the year 2016.
11. **Sayantika Mahanti**: "Studies on neuro-endocrine-immune interactions in response to bacterial infections in mice" awarded Ph.D. in the year 2016.
12. **Sulagna Dutta:** "Effects of antibiotics, inhibition of endogenous nitric oxide and prostaglandin production on *Staphylococcus. aureus* infection induced septic arthritis in mice" awarded Ph.D. in the year 2016.
13. **Ajeya Nandi:** Studies the involvement of Toll Like Receptor-2(TLR-2) and Monocyte Chemotactic Protein-1 Receptor (MCP-lR) in the intracellular survival of *Staphylococcus aureus* in the murine peritoneal and resident bone marrow macrophages awarded Ph.D. in the year 2016.
14. **Somrita Dey:** Studies on the intracellular killing of *Staphylococcus aureus* in murine peritoneal macrophages by the combined treatment of antibiotic, antioxidant and inhibitor and their possible therapeutic role in *s.aureus* infection" awarded Ph. D. (Science) degree in Microbiology of University of Calcutta in the year 2018.
15. **Rana Adhikary: "**Studies on the anti-inflammatory, anti-oxidant and immunomodulatory properties of some common indigenous Indian medicinal plants: its possible implication on the protection against rheumatoid arthritis" awarded Ph.D. in the year 2019.
16. **Ipsita Dey**: "studies on the role of Th17 and Treg cells in septic arthritis and the impact of different Th17/Treg derived cytokines in the pathogenesis of arthritis awarded in the year 2021.

Number of students registered for Ph D. degree from University of Calcutta

1. **Sahin Sultana**: "Studies on the effects of neutralization of matrix metalloproteinase-2 (MMP2) and Tumor necrosis factor receptors (TNFRs) on *Staphylococcus aureus* infection induced septic arthritis [vide registration number:08274/Ph.D. (SC.)Proceed/2017 dated 29th December, 2017
2. **Rajen Dey**: Studies on *Staphylococcus aureus* induced microglial inflammatory responses and its regulation: possible involvement of TLR-2 and Glucocorticoid Receptors. [vide registration number: 08276/Ph.D.(Sc.)Proceed/2017 dated 29th December, 2017]
3. **Puja Dutta**: Studies on regulation of (IL-8R) CXCR1 signalling in macrophages via TNF-α or IL-1β utilizing cell surface TNFR1 and IL-1R cross-talk during *S.aureus*

infection and its implication in the pathogenesis of *S.aureus* infection [Vide registration number: 01646/Ph.D.(Sc.) Proceed/2018 dated 16th March, 2018]

Number of Awards and details

1. Qualified in the joint CSIR – UGC (National Eligibility Test) Examination both for Research Fellowships and Lectureship on December 1992- from Council of Scientific and Industrial Research (CSIR), Govt. of India
2. After being awarded the Biotechnology Overseas Associateship (short term) for the year 2002- 2003 from the Dept of Biotechnology, Govt. of India Post Doctoral Research had been carried out in the Center for Advanced Biomedical Research, under Boston University Medical School, Boston, USA in the Dept of Periodontology and oral biology (22nd March-18th September) in the field of periodontal implication in atherosclerosis in ApoE+/-IL-6-/- mice.
3. Nominated by Federation of Indian Physiological Societies (FIPS) to present a poster entitled "Immunobiological changes of in vivo glucocorticoid depleted male Swiss albino rats", in the 6th Congress of the Federation of Asian and Oceanian Physiological Societies (FAOPS) held at Seoul, Korea, from 15th to 18th October 2006.
4. Delivered an invited talk entitled "Neuro-endocrine-immune interactions in response to bacterial infection in mice" at 2nd World Congress on Neuroimmunology 2016 held at Atlanta, USA during December 01-03, 2016 [International]: Travel grant received from CSIR and UGC.
5. Fellow of the Indian association of biomedical scientists (FABMS)
6. Recipient of the G.P.Talwar Mid-Carrier Scientist Oration award in the 45th Indian Immunology Society conference (IMMUNOCON- 2018) held at THSTI, Faridabad during 01-03rd November, 2018 awarded by the Indian Immunology Society.

Overseas Visits

Sl No	From	To	Institute and the Country of Visit	Purpose of visit
1	22.03.2004	18.09.2004	Boston University, USA	As a recipient of Biotechnology Overseas Associateship from DBT
2	15.10.2006	18.10.2006	Seoul, South Korea	To attend the FAOPS conference
3	01.2.2016	03.12.2016	Atlanta, USA	Delivered an invited talk entitled "Neuro endocrine-immune interactions in response to bacterial infection in mice" at 2nd World Congress on Neuroimmunology 2016 held at Atlanta, USA

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