

## Mirza S Baig

Professor, Department of Biosciences and  
Biomedical Engineering (BSBE), Indian  
Institute of Technology Indore (IITI), Simrol-  
453552, Indore, India Phone: 890-579-6680  
Email: msb.iit@iiti.ac.in

### RESEARCH INTEREST

Innate Immunity, Inflammation, Cancer, Drug Discovery

### POSITIONS HELD

Professor at Department Biosciences & Biomedical Engineering, Indian Institute of Technology Indore (IITI), Simrol-453552, Indore, *2023-present*

Associate Professor at Department Biosciences & Biomedical Engineering, Indian Institute of Technology Indore (IITI), Simrol-453552, Indore, *2018-2023*.

Assistant Professor at Department Biosciences & Biomedical Engineering, Indian Institute of Technology Indore (IITI), Simrol-453552, Indore, *2016-2018*.

Ramalingaswami Fellow at Department Biosciences & Biomedical Engineering, Indian Institute of Technology Indore (IITI), Simrol-453552, Indore, *2015-2016*.

### EDUCATION

Postdoctoral Fellow at Division of Gastroenterology and Hepatology, Department of Internal Medicine, Mayo Clinic, Rochester-55905, USA, *2014-2015*.

Postdoctoral Fellow at Department of Pharmacology, The University of Illinois at Chicago-60607, USA, *2010-2014*.

Postdoctoral Fellow at Department of Environmental Toxicology, Indian Institute of Toxicology Research (IITR), Lucknow-226001, *2008-2010*.

Doctor of Philosophy (Ph.D.) in Life Sciences, Department of Biochemistry, CSIR-Central Drug Research Institute, Lucknow-226021, *2002-2008*.

Master of Science (MS) in Biotechnology, Interdisciplinary Biotechnology Unit, Aligarh Muslim University Aligarh– *202002, 2000-2002*.

Bachelor of Science (BS) in Biology, Department of Biology, University of Rajasthan (RU), Jaipur– *302004, 1997-2000*.

**AWARDS & HONORS**

1. Elected as Fellow (2024) by the resolution of the council of Royal Society of Biology (RSB).
2. Sakura Invitational Program (2023) from Japan Science and Technology Agency (JST) to visit the Biomedical Engineering Cancer Research Center, Tohoku University, Japan.
3. Cambridge-Hamied Visiting Professorship (2023) to visit the University of Cambridge to establish new academic/scientific collaborations.
4. DBT-Research Travel Grant from Department of Biotechnology, New Delhi, India for 3rd RESOLUTION DAYS, The resolution of inflammation, opportunities for innovative therapeutics? 2023, Besançon - FRANCE.
5. Springer (CMBE) Editors' Choice Award (2022) from Springer (CMBE) for the study done Structure-Based Design of Novel Peptidomimetics Targeting the SARS-CoV-2 Spike Protein. Biomedical Engineering Society Annual Meeting at San Antonio, Texas. The USA.
6. International Collaborative Research Award (2022) from Osaka University for mentoring the research project at Osaka University, Japan.
7. IUBMB Mid-Career Research Fellowship (2021) from The International Union of Biochemistry and Molecular Biology (IUBMB) to visit the University of Illinois at Chicago, USA (Collaborative Research).
8. International Collaborative Research Award (2021) from the Japan Agency for Medical Research and Development (AMED), Japan, and the New York Academy of Sciences (NYAS), the USA for international collaborative research work.
9. ASM-IUSSTF Indo-US Professorship (2021) from The American Society for Microbiology (ASM) to visit the University of California, USA (Collaborative Research).
10. Technical University Munich (TUM) Visiting Professorship (2019) from Technical University Munich (TUM) (Collaborative Research).
11. Cambridge Visiting Professorship (2019) to visit the University of Cambridge as a visiting professor.
12. SAKURA International Fellowship (2019) from Japan Science and Technology Agency (JST) to visit the Institute of Microbial Chemistry (IMC), Tokyo, Japan (Collaborative Research).
13. TUBITAK International Research Award (2018) from The Scientific and Technological Research Council of Turkey to visit Middle East Technical University, Ankara, Turkey (Collaborative Research).

14. INSA-International Bilateral Exchange Fellowship (2018) jointly from INSA-TUBA to visit KoC University, Turkey (Collaborative Research).
15. Elsevier Travel Grant from IUBMB to participate Miami Winter Symposium 2018 (MWS 2018), Miami, Florida, USA.
16. Travel Grant from Indian Council of Medical Research (ICMR), New Delhi, India for the 19th International Conference on Inflammation 2017 (ICI 2017), Amsterdam, The Netherlands.
17. Early Career Research Award (2016) from the Department of Science and Technology, Government of India, New Delhi, India.
18. Outstanding Scientist Award (2016) from the Centre for Advanced Research and Design-CARD of Venus International Foundation, Chennai, India for the contribution in the field of Immunology.
19. CICS Travel Grant from Department of Biotechnology, New Delhi, India for 4th International Conference and Exhibition on Immunology 2015, Houston, Texas, USA.
20. Ramanujan Fellowship Award (2015) from the Department of Science and Technology (DST), India.
21. Ramalingaswami Fellowship Award (2015) from Department of Biotechnology (DBT), New Delhi, India.
22. Wellcome Trust/DBT Indian Alliance Travel Award for EMBO Meeting 2015, Birmingham, UK.
23. DBT-Research Travel Grant from Department of Biotechnology, New Delhi, India for 4th International Conference and Exhibition on Immunology 2015, Houston, Texas, USA.
24. Mirus Research Award (2012) from Mirus Bio LLC, USA in recognition of the excellent research in Immunology.
25. DBT-RA Research Award (2009) from the Department of Biotechnology (DBT), New Delhi.
26. Research Bursary Award to present research work in Bioinformatics and Systems Biology Summer School 2007, University of Nottingham, Nottingham, U.K.
27. FEBS Pre-doctoral Bursary Award to present research work in Advanced Lecture Course “New Developments in Quantitative Molecular Bioscience” 2007, Spetses Island, Greece.

28. eCheminfo Travel Award to present research work in eCheminfo InterAction Meeting 2006 “Latest Advances in Drug Discovery and Development” Bryn Mawr College, Pennsylvania, USA.
29. EMBL International Ph.D. Fellow Travel Award in 9th International EMBL Ph.D. Student Symposium, European Molecular Biology Laboratory (EMBL) 2006, Heidelberg, Germany.
30. Senior Research Fellowship (2004) from the Council of Scientific and Industrial Research (CSIR), India
31. National Eligibility Test (NET) (2002) for Junior Research Fellowship (JRF) from the Council of Scientific and Industrial Research (CSIR), India
32. Graduate Aptitude Test in Engineering (GATE) (2001) from Indian Institute of Science (IISc), India
33. Post-Graduate Fellowship from the Department of Biotechnology (DBT) (2000), New Delhi, India.

## **PUBLICATIONS**

1. P Patidar, N Hirani, S Bharti, MS Baig. Key regulators of hepatic stellate cell activation in alcohol liver Disease: A comprehensive review. *International Immunopharmacology*, 2024; 141, 112938
2. Shubhi Raizada, Alexander G. Obukhov, Shreya Bharti, Khandu Wadhonkar, Mirza S. Baig. Pharmacological targeting of adaptor proteins in chronic inflammation. *Inflammation Research*, 2024; 10.1007/s00011-024-01921-5.
3. Atre R, Sharma S, Obukhov AG, Saqib S, Umar S, Darwhekar GN, Baig MS. An improved mouse model of sepsis based on intraperitoneal injections the enriched culture of cecum slurry. *Life Sciences*. 2024; 345:122584. <https://doi.org/10.1016/j.lfs.2024.122584>
4. Aurelia Rughetti, Shreya Bharti, Rajkumar Savai, Spyridoula Barmpoutsis, Andreas Weigert, Rajat Atre, Faaiza Siddiqi, Rahul Sharma, Rakhi Khabiya, Nik Hirani, Mirza S Baig. Imperative Role of Adaptor Proteins in Macrophage Toll-like Receptor Signaling Pathways. *Future Science OA*. 2024
5. Baig MS, Barmpoutsis S, Bharti S, Weigert A, Hirani N, Atre R, Khabiya R, Sharma R, Sarup S, Prof Savai. Adaptor Molecule Mediated Negative Regulation of Macrophage Inflammatory Pathways: A Closer Look. *Frontiers in Immunology* 15, 1355012.

### *Curriculum Vitae of Mirza S*

6. Hussain S., Sabiruddin K., Patidar P., Solanki K., Baig M.S., 2024. In vitro bioactivity and biocompatibility behaviour of atmosphere plasma sprayed Indian clam seashell derived hydroxyapatite coating on Ti-alloy. *J. Alloys Compd.* 976, 173132. <https://doi.org/10.1016/j.jallcom.2023.173132>
7. Solanki K., Bezsonov E., Orekhov A., Parihar S.P., Vaja S., White F.A., Obukhov A.G., Baig M.S., 2024. Effect of reactive oxygen, nitrogen, and sulfur species on signaling pathways in atherosclerosis. *Vascul. Pharmacol.* 107282. <https://doi.org/10.1016/j.vph.2024.107282>
8. Saqib U., Demaree I.S., Obukhov A.G., Baig M.S., Ariel A., Hajela K., 2024a. The fate of drug discovery in academia; dumping in the publication landfill? *Oncotarget* 15, 31–34. <https://doi.org/10.18632/oncotarget.28552>
9. Saqib U., Demaree I.S., Obukhov A.G., Baig M.S., Khan M.S., Altwaijry N., Nasution M.A.F., Mizuguchi K., Hajela K., 2024b. Structural and accessibility studies highlight the differential binding of clemizole to TRPC5 and TRPC6. *J. Biomol. Struct. Dyn.* 1-14. <https://doi.org/10.1080/07391102.2024.2306198>
10. Hussain S, Sabiruddin K, Patidar P, Solanki K, Baig MS. In vitro bioactivity and biocompatibility behaviour of atmospheric plasma sprayed Indian clam seashell derived hydroxyapatite coating on Ti-alloy. *Journal of Alloys and Compounds* 2023; <https://doi.org/10.1016/j.jallcom.2023.173132>.
11. Solanki K, Kumar A, Khan MS, Karthikeyan S, Atre R, Zhang YJ, Bezsonov E, Obukhov AG, Baig MS. Novel peptide inhibitors targeting CD40 and CD40L interaction: A potential for atherosclerosis therapy. *Current Research in Structural Biology*. 2023; <https://doi.org/10.1016/j.crstbi.2023.100110>.
12. Baig MS, Thurston T, Sharma R, Atre R, Saqib U, Khabiya R, Bharti S and Poh CL. Targeting Signalling Pathways in Inflammatory Diseases. *Frontiers Immunology*. 2023; 10.3389/fimmu.2023.1241440.
13. J Li, Y Wang, S Rajpoot, M Lavrijsen, Q Pan, P Li, MS Baig. Investigating theobromine as a potential anti-human coronaviral agent. *Microbiology and Immunology*. 2023; 10.1111/1348-0421.13086.
14. Singh H, Khadanga S, Goel SK, Majumder S, Baig MS, Bhatia V, Chaudhary N, Saluja R. Evaluation of interleukin-33 & sST2 levels in type-2 diabetic mellitus patients with or without metabolic syndrome. *Indian Journal of Medical Research*. 2023; 157,5,470-476.

15. Rajpoot S, Kumar A, Gaponenko V, Thurston TL, Mehta D, Faisal SM, Zhang KY, Jha HC, Darwhekar GN, Baig MS. Dorzolamide suppresses PKC $\delta$  - TIRAP-p38 MAPK signaling axis to dampen the inflammatory response. *Future Med Chem.* 2023 Apr 27.
16. Solanki K, Atre R, Sharma R, Bezsonov E. Small Molecule Inhibitors Targeting Endothelial IL-1 $\beta$  Receptor (IL-1R1): A Novel Approach to Atherosclerosis Therapy. *Austin J Pharmacol Ther.* 11 (1),1170-1176
17. Atre R, Sharma R, Vadim G, Solanki K, Wadhonkar K, Singh N, Patidar P, Khabiya R, Samaur H, Banerjee S, Baig MS. The indispensability of macrophage adaptor proteins in chronic inflammatory diseases. *Int Immunopharmacol.* 2023 Apr 25;119:110176.
18. Saqib U, Munjuluri S, Sarkar S, Biswas S, Mukherjee O, Satsangi H, Baig MS, Obukhov AG, Hajela K. Transient Receptor Potential Canonical 6 (TRPC6) Channel in the Pathogenesis of Diseases: A Jack of Many Trades. *Inflammation.* 2023 Apr 18.
19. Bezsonov E, Baig MS, Bukrinsky M, Myasoedova V, Ravani A, Sukhorukov V, Zhang D, Khotina V, Orekhov A. Editorial: Lipids and inflammation in health and disease, volume II. *Front Cardiovasc Med.* 2023; 10:1174902.
20. K Wadhonkar, N Singh, FM Heralde III, SP Parihar, N Hirani, MS Baig. Exosome-derived miRNAs regulate macrophage-colorectal cancer cell cross-talk during aggressive tumor development. *Colorectal Cancer*, 2023,12(1), CRC40.
21. R Atre, R Sharma, A Obukhov, U Saqib, S Umar, GN Darwhekar, MS Baig. An improved mouse model of sepsis based on intraperitoneal injections of the enriched culture of cecum slurry. *bioRxiv*, 2023.04.06.535817
22. Li J, Wang Y, Solanki K, Atre R, Lavrijsen M, Pan Q, Baig MS, Li P. Nirmatrelvir exerts distinct antiviral potency against different human coronaviruses. *Antiviral Res.* 2023 Mar;211:105555.
23. Baig MS, Rajpoot S, Ohishi T, Savai R, Seidel S, Kamennaya NA, Bezsonov EE, Orekhov AN, Mahajan P, Solanki K, Saqib U. Anti-lung cancer properties of cyanobacterial bioactive compounds. *Arch Microbiol.* 2022 Sep 5;204(10):603.
24. VA Khotina, M Bagheri Ekta, MS Baig, WK Wu, AV Grechko, Vasily N. Sukhorukov. Challenges of mitochondrial DNA editing in mammalian cells: focus on the treatment of cardiovascular disease. 2022. *Vessel Plus* 6, 65

25. Baig MS, Rajpoot S, Ohishi T, Savai R, Seidel S, Kamennaya NA, Bezsonov EE, Orekhov AN, Mahajan P, Solanki K, Saqib U. Anti-lung cancer properties of cyanobacterial bioactive compounds. *Arch Microbiol.* 2022 Sep 5;204(10):603.
26. Solanki K, Rajpoot S, Kumar A, J Zhang KY, Ohishi T, Hirani N, Wadhonkar K, Patidar P, Pan Q, Baig MS. Structural analysis of spike proteins from SARS-CoV-2 variants of concern highlighting their functional alterations. *Future Virol.* 2022 Jul.
27. Ohishi T, Hishiki T, Baig MS, Rajpoot S, Saqib U, Takasaki T, Hara Y. Epigallocatechin gallate (EGCG) attenuates severe acute respiratory coronavirus disease 2 (SARS-CoV-2) infection by blocking the interaction of SARS-CoV-2 spike protein receptor-binding domain to human angiotensin-converting enzyme 2. *PLoS One.* 2022;17(7): e0271112.
28. Solanki K, Rajpoot S, Bezsonov EE, Orekhov AN, Saluja R, Wary A, Axen C, Wary K, Baig MS. The expanding roles of neuronal nitric oxide synthase (NOS1). *PeerJ.* 2022;10: e13651.
29. Wang Y, Rajpoot S, Li P, Lavrijsen M, Ma Z, Hirani N, Saqib U, Pan Q, Baig MS. Repurposing dyphylline as a pan-coronavirus antiviral therapy. *Future Med Chem.* 2022 May;14(10):685-699.
30. Rajpoot S, Kumar A, Zhang KYJ, Gan SH, Baig MS. TIRAP-mediated activation of p38 MAPK in inflammatory signaling. *Sci Rep.* 2022 Apr;12(1):5601.
31. Wang Y, Li P, Lavrijsen M, Li Y, Ma Z, Peppelenbosch MP, Baig MS, Pan Q. Differing pan-coronavirus antiviral potency of boceprevir and GC376 in vitro despite discordant molecular docking predictions. *Arch Virol.* 2022 Apr;167(4):1125-1130.
32. Rajpoot S, Srivastava G, Siddiqi MI, Saqib U, Parihar SP, Hirani N, Baig MS. Identification of novel inhibitors targeting TIRAP interactions with BTK and PKC $\delta$  in inflammation through an in silico approach. *SAR QSAR Environ Res.* 2022 Mar;33(3):141-166.
33. Rajpoot S, Solanki K, Kumar A, Zhang KYJ, Pullamsetti SS, Savai R, Faisal SM, Pan Q, Baig MS. In-Silico Design of a Novel Tridecapeptide Targeting Spike Protein of SARS-CoV-2 Variants of Concern. *Int J Pept Res Ther.* 2022;28(1):28.
34. Wang Y, Li P, Rajpoot S, Saqib U, Yu P, Li Y, Li Y, Ma Z, Baig MS, Pan Q. Comparative assessment of favipiravir and remdesivir against human coronavirus NL63 in molecular docking and cell culture models. *Sci Rep.* 2021 Dec 6;11(1):23465.

35. Wang Y, Li P, Solanki K, Li Y, Ma Z, Peppelenbosch P, Baig MS, Pan Q. Viral polymerase binding and broad-spectrum antiviral activity of molnupiravir against human seasonal coronaviruses. *Virology*. 2021 Dec; 564:33-38.
36. Rajpoot S, Ohishi T, Kumar A, Pan Q, Banerjee S, Zhang KYJ, Baig MS. A Novel Therapeutic Peptide Blocks SARS-CoV-2 Spike Protein Binding with Host Cell ACE2 Receptor. *Drugs R D*. 2021 Sep;21(3):273-283.
37. Rajpoot S, Wary KK, Ibbott R, Liu D, Saqib U, Thurston TLM, Baig MS. TIRAP in the Mechanism of Inflammation. *Front Immunol*. 2021; 12:697588.
38. Vakhtangadze T, Singh Tak R, Singh U, Baig MS, Bezsonov E. Gender Differences in Atherosclerotic Vascular Disease: From Lipids to Clinical Outcomes. *Front Cardiovasc Med*. 2021; 8:707889.
39. Dabravolski SA, Bezsonov EE, Baig MS, Popkova TV, Orekhov AN. Mitochondrial Lipid Homeostasis at the Crossroads of Liver and Heart Diseases. *Int J Mol Sci*. 2021 Jun 28;22(13).
40. Dabravolski SA, Orekhova VA, Baig MS, Bezsonov EE, Starodubova AV, Popkova TV, Orekhov AN. The Role of Mitochondrial Mutations and Chronic Inflammation in Diabetes. *Int J Mol Sci*. 2021 Jun 23;22(13).
41. Roy A, Saqib U, Baig MS. NOS1-mediated macrophage and endothelial cell interaction in the progression of atherosclerosis. *Cell Biol Int*. 2021 Jun;45(6):1191-1201.
42. Mezentsev A, Bezsonov E, Kashirskikh D, Baig MS, Eid AH, Orekhov A. Proatherogenic Sialidases and Desialylated Lipoproteins: 35 Years of Research and Current State from Bench to Bedside. *Biomedicines*. 2021 May 25;9(6).
43. Dabravolski SA, Bezsonov EE, Baig MS, Popkova TV, Nedosugova LV, Starodubova AV, Orekhov AN. Mitochondrial Mutations and Genetic Factors Determining NAFLD Risk. *Int J Mol Sci*. 2021 Apr 24;22(9).
44. Alagumuthu M, Rajpoot S, Baig MS. Structure-Based Design of Novel Peptidomimetics Targeting the SARS-CoV-2 Spike Protein. *Cell Mol Bioeng*. 2021 Apr;14(2):177-185.
45. Saqib U, Khan MA, Alagumuthu M, Parihar SP, Baig MS. Natural compounds as antiatherogenic agents. *Cell Mol Biol (Noisy-le-grand)*. 2021 Jan 31;67(1):177-188.



### *Curriculum Vitae of Mirza S*

46. Rajpoot S, Alagumuthu M, Baig MS. Dual targeting of 3CL<sup>pro</sup> and PL<sup>pro</sup> of SARS-CoV-2: A novel structure-based design approach to treat COVID- 19. *Curr Res Struct Biol*. 2021;3:9-18.
47. Baig MS, Alagumuthu M, Rajpoot S, Saqib U. Identification of a Potential Peptide Inhibitor of SARS-CoV-2 Targeting its Entry into the Host Cells. *Drugs R D*. 2020 Sep;20(3):161-169.
48. Ohishi T, Abe H, Sakashita C, Saqib U, Baig MS, Ohba SI, Inoue H, Watanabe T, Shibasaki M, Kawada M. Inhibition of mitochondria ATP synthase suppresses prostate cancer growth through reduced insulin-like growth factor-1 secretion by prostate stromal cells. *Int J Cancer*. 2020 Jun 15;146(12):3474-3484.
49. Roy A, Saqib U, Wary K, Baig MS. Macrophage neuronal nitric oxide synthase (NOS1) controls the inflammatory response and foam cell formation in atherosclerosis. *Int Immunopharmacol*. 2020 Jun; 83:106382.
50. Baig MS, Roy A, Rajpoot S, Liu D, Savai R, Banerjee S, Kawada M, Faisal SM, Saluja R, Saqib U, Ohishi T, Wary KK. Tumor-derived exosomes in the regulation of macrophage polarization. *Inflamm Res*. 2020 May;69(5):435-451.
51. Naim A, Baig MS. Matrix metalloproteinase-8 (MMP-8) regulates the activation of hepatic stellate cells (HSCs) through the ERK-mediated pathway. *Mol Cell Biochem*. 2020 Apr;467(1-2):107-116.
52. Roy A, Banerjee S, Saqib U, Baig MS. NOS1-derived nitric oxide facilitates macrophage uptake of low-density lipoprotein. *J Cell Biochem*. 2019 Jul;120(7):11593-11603.
53. Srivastava M, Saqib U, Banerjee S, Wary K, Kizil B, Muthu K, Baig MS. Inhibition of the TIRAP-c-Jun interaction as a therapeutic strategy for AP1-mediated inflammatory responses. *Int Immunopharmacol*. 2019 Jun; 71:188-197.
54. Saqib U, Baig MS. Scaffolding role of TcpB in disrupting TLR4-Mal interactions: Three to tango. *J Cell Biochem*. 2019 Mar;120(3):3455-3458.
55. Saqib U, Savai R, Liu D, Banerjee S, Baig MS. Drug repositioning as an effective therapy for protease-activated receptor 2 inhibition. *J Cell Biochem*. 2019 Feb;120(2):1522-1526.
56. Saqib U, Faisal SM, Saluja R, Baig MS. Structural insights of resveratrol with its binding partners in the toll-like receptor 4 pathway. *J Cell Biochem*. 2019 Jan;120(1):452-460.

57. Saqib U, Kelley TT, Panguluri SK, Liu D, Savai R, Baig MS, Schürer SC. Poly pharmacology or Promiscuity? Structural Interactions of Resveratrol With Its Bandwagon of Targets. *Front Pharmacol.* 2018;9:1201.
58. Huang Y, Chen Z, Jang JH, Baig MS, Bertolet G, Schroeder C, Huang S, Hu Q, Zhao Y, Lewis DE, Qin L, Zhu MX, Liu D. PD-1 blocks lytic granule polarization with concomitant impairment of integrin outside-in signaling in the natural killer cellimmunological synapse. *J Allergy Clin Immunol.* 2018 Oct;142(4):1311-1321.e8.
59. Baig MS, Roy A, Saqib U, Rajpoot S, Srivastava M, Naim A, Liu D, Saluja R, FaisalSM, Pan Q, Turkowski K, Darwhekar GN, Savai R. Repurposing Thioridazine (TDZ) as an anti-inflammatory agent. *Sci Rep.* 2018 Aug20;8(1):12471.
60. Thangam EB, Jemima EA, Singh H, Baig MS, Khan M, Mathias CB, Church MK, Saluja R. The Role of Histamine and Histamine Receptors in Mast Cell-Mediated Allergy and Inflammation: The Hunt for New Therapeutic Targets. *Front Immunol.* 2018; 9:1873.
61. Srivastava M, Baig MS. NOS1 mediates AP1 nuclear translocation and inflammatory response. *Biomed Pharmacother.* 2018 Jun; 102:839-847.
62. Saqib U, Sarkar S, Suk K, Mohammad O, Baig MS, Savai R. Phytochemicals as modulators of M1-M2 macrophages in inflammation. *Oncotarget.* 2018Apr 3;9(25):17937-17950.
63. Saqib U, Baig MS. Identifying the inhibition of TIR proteins involved in TLR signaling as an anti-inflammatory strategy. *SAR QSAR Environ Res.* 2018 Apr;29(4):295-318.
64. Naim A, Pan Q, Baig MS. Matrix Metalloproteinases (MMPs) in Liver Diseases. *J Clin Exp Hepatol.* 2017 Dec;7(4):367-372.
65. Baig MS, Liu D, Muthu K, Roy A, Saqib U, Naim A, Faisal SM, Srivastava M, Saluja R. Heterotrimeric complex of p38 MAPK, PKC $\delta$ , and TIRAP is required for AP1 mediated inflammatory response. *Int Immunopharmacol.* 2017 Jul; 48:211-218.
66. Saqib U, Sarkar S, Baig MS. Inflammation and its Disease Consequences. *Journal of Immune Research.* 2017 April; 4(1):1027.
67. Srivastava M, Saqib U, Naim A, Roy A, Liu D, Bhatnagar D, Ravinder R, Baig MS. The TLR4-NOS1-AP1 signaling axis regulates macrophage polarization. *InflammRes.* 2017 Apr;66(4):323-334.

68. Faisal SM, Varma VP, Subathra M, Azam S, Sunkara AK, Akif M, Baig MS, Chang YF. Leptospira surface adhesin (Lsa21) induces Toll like receptor 2 and 4 mediated inflammatory responses in macrophages. *Sci Rep*. 2016 Dec 20; 6:39530.
69. Roy A, Srivastava M, Saqib U, Liu D, Faisal SM, Sugathan S, Bishnoi S, Baig MS. Potential therapeutic targets for inflammation in toll-like receptor 4 (TLR4)-mediated signaling pathways. *Int Immunopharmacol*. 2016 Nov;40:79-89.
70. Saqib U, Baig MS. Inhibitors of Toll-Like Receptor 4 (TLR4) – Homodimerization: Nipping in the Bud. *Int. J. Drug Dev. & Res*. 2016 August; 8:20-23.
71. Baig MS, Yaqoob U, Cao S, Saqib U, Shah VH. Non-canonical role of matrix metalloprotease (MMP) in activation and migration of hepatic stellate cells (HSCs). *Life Sci*. 2016 Jun 15; 155:155-60.
72. Saqib U, Baig MS. Simultaneous targeting of MyD88 and Nur77 as an effective approach for the treatment of inflammatory diseases. *Drug Des Devel Ther*. 2016;10: 1557-72.
73. Baig MS, Zaichick SV, Mao M, de Abreu AL, Bakhshi FR, Hart PC, Saqib U, Deng J, Chatterjee S, Block ML, Vogel SM, Malik AB, Consolaro ME, Christman JW, Minshall RD, Gantner BN, Bonini MG. NOS1-derived nitric oxide promotes NF- $\kappa$ B transcriptional activity through inhibition of suppressor of cytokine signaling-1. *J Exp Med*. 2015 Sep 21;212(10):1725-38.
74. Saqib U, Baig MS. Probing PARP1-inhibitor complexes for the development of novel inhibitors. *Cell Mol Biol (Noisy-le-grand)*. 2014 Oct25;60(3):43-52.
75. Gangwar S, Baig MS, Shah P, Biswas S, Batra S, Siddiqi MI, Goyal N. Identification of novel inhibitors of dipeptidyl carboxypeptidase of *Leishmania donovani* via ligand-based virtual screening and biological evaluation. *Chem Biol Drug Des*. 2012 Feb;79(2):149-56.
76. Baig MS, Gangwar S, Goyal N. Biochemical characterization of dipeptidyl carboxypeptidase of *Leishmania donovani*. *Cell Mol Biol (Noisy-le-grand)*. 2011 Feb 12;57(1):56-61.
77. Araki H, Baluchamy S, Petro B, Baig MS, Suhangul M, Quigley JG, Mahmud N. Valproic acid results in maintenance but not expansion of transplantable hematopoietic stem cells from human umbilical cord blood. *Blood*. 2010. 116 (21), 827-830.

### *Curriculum Vitae of Mirza S*

78. Suphangul M, Petro B, Mukhtar L, Baig MS, Villano J, Mahmud N. The role of chromatin modifying agents in restoring behavior of human brain tumor cells. *Neurooncology NEURO-ONCOLOGY* 12, 98-99.
79. Baig MS, Kumar A, Siddiqi MI, Goyal N. Characterization of dipeptidyl carboxypeptidase of *Leishmania donovani*: a molecular model for structure-based design of antileishmanials. *J Comput Aided Mol Des.* 2010 Jan;24(1):77-87.
80. Baig MS, Manickam N. Homology modeling and docking studies of *Comamonas testosteroni* B-356 biphenyl-2,3-dioxygenase involved in degradation of polychlorinated biphenyls. *Int J Biol Macromol.* 2010 Jan;46(1):47-53.
81. Goyal N, Duncan R, Selvapandiyan A, Debrabant A, Baig MS, Nakhasi HL. Cloning and characterization of angiotensin converting enzyme related dipeptidyl carboxypeptidase from *Leishmania donovani*. *Mol Biochem Parasitol.* 2006 Feb;145(2):147-57.

### **RESEARCH TALK:**

#### ***2020-present***

1. Kings College London, London, UK
2. Cambridge University, Cambridge, UK
3. BITS, Dubai, UAE
4. Tohoku University-2024, Japan.
5. Sapienza University-2023, Rome, Italy
6. 3rd RESOLUTION DAYS, The resolution of inflammation, opportunities for innovative therapeutics? 2023, Besançon - FRANCE.
7. Japan Agency for Medical Research and Development (AMED) and The New York Academy of Sciences (NYAS), Interstellar Alumni Symposium-2023, New York, USA
8. National Institutes of Biomedical Innovation, Health and Nutrition-2022, Osaka, Japan
9. Osaka University-2022, Osaka, Japan
10. University of Illinois of Chicago (UIC)-2022, Chicago, USA
11. University of California San Francisco (UCSF)-2022, San Francisco, USA

#### ***2015-2020***

1. Technical University of Munich (TUM)-2019, Munich, Germany.
2. Cambridge University-2018, Cambridge, UK.
3. Oxford University 2018, Oxford, U.K.
4. Koc University-2018, Istanbul, Turkey.
5. NGBT-2018: Drug Discovery Conference-2018, Jaipur, India.
6. Middle East Technical University (METU)-2018, Ankara, Turkey.
7. Bilkent University-2018, Ankara, Turkey.
8. MWS-2018: 51st Miami Winter Symposium Stem Cells-2018, Miami, USA.

### *Curriculum Vitae of Mirza S*

9. Erasmus MC-2018, University Medical Center, Rotterdam, The Netherland.
10. The ICI 2017: 19th International Conference on Inflammation-2017, Amsterdam, The Netherland.
11. Birla Institute of Technology & Science (BITS)- 2017, Goa, India.
12. World Biotechnology Congress (WBC)-2017, New Delhi, India.
13. Miami Winter Symposium-2017, Miami, USA.
14. The Life Spectrum of Asthma, AAAI Meeting-2016, Chicago, USA.

### **2011-2015**

1. Immunology-2015 (OMICS), Houston, USA.
2. American Society for Pharmacology and Experimental Therapeutics (ASPET)-2012, San Diego, USA.

### **2006-2010**

1. Bioinformatics And Systems Biology Summer School-2009, University of Nottingham, Nottingham, U.K.
2. FEBS Advanced Lecture Course (New Developments in Quantitative Molecular Bioscience)-2008, Spetses Island, Greece.
3. eCheminformatics Interaction Meeting-2007, Pennsylvania, USA.
4. III Symposium-Current Advances in Molecular Biochemistry: Applications in Health, Environment, and Agriculture-2007, Lucknow University, Lucknow, India.
5. International European Molecular Biology Laboratory (EMBL) Ph.D. Student Symposium-2007, Heidelberg, Germany.
6. 74<sup>th</sup> Annual Meeting Society of Biological Chemists-2006, Central Drug Research Institute, Lucknow, India.

### **GRANTS**

1. DBT-RLF; PI: Dr. Mirza S Baig; 2015-2020; Department of Biotechnology (DBT), New Delhi, India; Title: Neuronal nitric oxide synthase (NOS1) driven macrophage phenotypic polarization.
2. DST-ECR; PI: Dr. Mirza S. Baig; 2016-2019; Department of Science and Technology (DST), New Delhi, India; Role of neuronal nitric oxide synthase (NOS1) in the TLR4-triggered inflammatory response via the SOCS1-p38-API1 signaling axis.
3. CSIR-EMR; PI: Dr. Mirza S Baig; 2016-2019; CSIR, New Delhi, India; Title: Role of Macrophages in Alcoholic Liver Disease (ALD).
4. The Interstellar Initiative; PI: Dr. Mirza S. Baig; 2021-2022; Japan Agency for Medical Research and Development (AMED) and the New York Academy of Sciences (NYAS); Identification of novel molecular mechanism underlying macrophage phenotypic change during colorectal cancer progression.
5. DBT-NNP (National Network Project) of CSIR-Central Drug Research Institute,

## **PROFESSIONAL MEMBERSHIPS**

The Science Advisory Board, Arlington, VA (SAB)  
American Society for Microbiology (ASM)  
The Indian Science Congress Association (ISCA)  
New York Academy of Science (NYAS)  
American Society for Pharmacology and Experimental Therapeutics (ASPET)  
American Heart Association (AHA)  
The World Academy of Science, Engineering and Technology  
British Society for Cell Biology (BSCB)  
OMICS International, USA  
Indian Society of Cell Biology (ISCB) Indian Immunology Society (IIS)  
The British Society for Antimicrobial Chemotherapy

## **EDITORIAL BOARD**

Frontiers in Genetics  
Frontiers in  
Immunology  
Frontiers in Cardiovascular  
Medicine  
American Journal of Life Sciences  
International Journal of Vaccines and Technologies  
Austin Liver  
Journal of Biology and today's  
worldMOJ-Immunology  
Scientific Reports  
Discover Medicine

## **ADMINISTRATIVE POSITION**

Associate Dean Planning, IIT Indore (2016-2019)  
Member of Academic & Research Advisory Committee for International Relations, IIT  
Indore (2023-present)  
Coordinator for the Training and Placement, The Department of Biosciences and  
Biomedical Engineering, IITI (2022-present)  
Convener- DPGC, The Department of Biosciences and Biomedical Engineering, IITI  
(2020-2021)  
Convener- Institute Safety and Security Committee, IITI (2019-2020)

**Prof. (Dr.) Mirza S Baig**