Dr. Yusuf Akhter
Assistant Professor

Contact Details:

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Academic Qualification:

- **Doctor of Philosophy (Ph.D.),** 2010 (*Submitted 2009), Biochemistry, **Work carried out at:** European Molecular Biology Laboratory, Hamburg Germany/Center for DNA Fingerprinting & Diagnostics, Hyderabad, India, **Thesis submitted to**: University of Hyderabad, Hyderabad, India, **Title of the thesis:** Studies on cAMP Receptor protein from mycobacteria, **Supervisors:** Prof Seyed E. Hasnain, University of Hyderabad, Hyderabad, India/Dr. Matthias Wilmanns, EMBL, Hamburg.
- **Master of Science (M.Sc),** 2004, Department of Biotechnology, Jamia Hamdard (Hamdard University), New Delhi, India, **Specialization:** Biotechnology, First Division with 79.40% Marks, Second rank in the University
- **Bachelor of Science (B.Sc),** 2002, University of Lucknow, Lucknow, India, **Subjects:** Botany, Zoology and Chemistry, First Division with 67.83% Marks, First rank in the college

Positions Held:

1. **Assistant Professor** (Nov., 2017 to present date) in Department of Biotechnology at Babasaheb Bhimrao Ambedkar University, Lucknow, Uttar Pradesh, India.
2. **Assistant Professor** (Nov., 2012 to Nov., 2017) in School of Life Sciences at Central University of Himachal Pradesh, Dharamshala, Himachal Pradesh, India.
2. **EMBO long-term Fellow** (January, 2011-Nov, 2012) at European Molecular Biology Laboratory, Hamburg, Germany.
3. **Post-Doctoral Fellow** (February, 2010 to December, 2010) at European Molecular Biology Laboratory, Hamburg, Germany.
4. **DAAD-Research Fellow** (June, 2007 to October, 2009) worked on "Structure-function studies on cAMP receptor proteins from *Mycobacterium tuberculosis*" at European Molecular Biology Laboratory, Hamburg, Germany.
5. **CSIR-Research Fellow** (July, 2004 to May, 2007) worked on "Characterization of therapeutically important genes from *Mycobacterium tuberculosis*" at Laboratory of Molecular and Cellular Biology, Centre for DNA Fingerprinting and

Diagnostics, Hyderabad.

6. **Project Intern** (July, 2003 to May, 2004) entitled "In vitro salt tolerance in *Psoralea corylifolia* their characterization and randomly amplified polymorphic DNA analysis" at Plant Tissue Culture Laboratory, Dept. of Biotechnology, Hamdard University, New Delhi.
7. **Summer Intern** (April, 2003 to July, 2003) entitled "Isolation of opioid receptors, their characterization and synthesis of chimeric peptide ligands" at Institute of Genomics and Integrative Biology, New Delhi, India.

Specialisation:

-Protein Structures

-Drug discovery against bacterial and protozoan pathogens

Research and Teaching Interest:

Research Interest

Tuberculosis (Tb), caused by *Mycobacterium tuberculosis* (Mtb), is one of the oldest infectious diseases known to the mankind. Even today, it is the biggest killers among the infectious diseases despite of the worldwide use of live attenuated BCG vaccine and regime of several antibiotics. Discovery of new antibiotics continues to falter while resistance to drugs in clinical use continues to spread, society's medicine chest will soon lack effective treatments for many infections. In principle, the novel therapeutic inventions against Tb must target the proteins/pathways, which should be narrowly specific to Mtb, but should lack homology to the human and native gut flora. Our interest is to identify unique targets utilizing available homology based sequence analysis tools and further we want to characterize each target structurally. We are using docking techniques to study possible ligands to the targets and also prediction of interacting partners which may form active protein-protein and protein-DNA complexes; finally we characterize these targets using different biophysical and biochemical techniques in the lab. Recently, we have started working on drug and vaccine discovery against protozoan pathogens also. We are actively collaborating with other research groups sharing similar research interests and specialized in other technical skills than us.

Teaching Interest

I have had the opportunity to work and study in many diverse academic and research organizations including the world-class institutions like European Molecular Biology Laboratory (Germany), Centre for DNA-fingerprinting and Diagnostics, University of Hyderabad (both at Hyderabad) etc., during the course of my studies and research. I have learnt to develop my own teaching style, with these major objectives: (1) to ignite a passion for the scope of the subject, (2) to internalize the

fundamental concepts and make the students thirsty to look for more excitement and knowledge by themselves, and (3) to make students appreciate the essential professional standards one should follow in order to become a productive professional. Therefore, constant evaluation of the conversation in the classroom is of paramount importance to me. Few simple but vital set of strategies I shall adopt to grow the demand for my courses. First, I take a considerable amount of time to make the big picture, the opportunities, and the purpose of the subject clear to the students. For instance, before teaching complex biochemical mechanisms within tiny living forms, I shall explain its importance by giving the analogies from our day-to-day human life. A good passion for the subject and an appreciation of the goals of studying a particular subject has always leaded to a healthy conversation between the students and me. Second, I shall explain all the fundamental concepts of subject by explaining the classical experiments performed by one who has reported the concept first.

Simplicity is the beauty of classical experiments and that's why studying them makes it very easy for young students to understand the fundamentals of the subject. For example, to explain the concept of protein folding and how the primary sequence dictates the tertiary structure of polypeptide chains, I always teach the classical Anfinsen's experiment.

The other important thing is to use modern computer aided methods for better presentation e.g. use of media-audio-visual material and animations to illustrate complex biological models in simpler ways. Third, I try to stimulate student's imagination, habit of reading, investigating and discovering things on their own. I do this by giving them, questions and practical design that require them to think and read to address the current scientific problems in the field. Fourth, I shall prefer to invite the senior professors of the institute to sit in my classes and give feedback from time to time. It will not only improve subtle areas of my teaching strategy, but also help me to improve the demand for my students. And the last but not least, I would like to include the feedback from students after finishing each course. For frank opinion, I would like to have anonymous feedback from them.

Course development and teaching

Course code. & Title	**Level (UG/PG)**
CBB 402 Modern Biology	PG

CBB 417 Structural Biology	PG
CBB 418 Biomolecules	PG
CBB 431 Bioanalytical Techniques	PG
CBB 504 Genomics and Proteomics	PG
CBB 516 Molecular Evolution	PG
CBB 525 Enzyme Kinetics	PG
FHM01 Public Health and Infections	PG
At BBAU, Lucknow	
MBT- 401, Genetic Engineering	PG
MBT-202, Microbial Technology	PG
MBT-204b, Molecular Diagnostics	PG

Publications:

<u>In peer reviewed indexed international journals:</u>

1. Madhulika Kushwaha, Virender Kumar, Rishi Mahajan, Tek Chand Bhalla, Subhankar Chatterjee, **Yusuf Akhter*** (2018)
   Molecular insights into activity and mechanism of cyanide hydratase enzyme associated with cyanide biodegradation by Serratia marcescens
   Springer
   ***Archives of Microbiology*.** DOI: 10.1007/s00203-018-1524-0
   Impact factor=1.8
2. Dhandapani G, Sikha T, Rana A, Brahma R, **Yusuf Akhter,** Gopalakrishnan Madanan M (2018).
   Comparative proteome analysis reveals pathogen specific outer membrane proteins of Leptospira.
   Wiley
   Proteins. doi: 10.1002/prot.25505.
   Thomson Reuter Impact factor=2.5
3. Sharma S, Ahmed M, **Yusuf Akhter*** (2018)**.**
   The revelation of selective sphingolipid pathway inhibition mechanism on fumonisin toxin binding to ceramide synthases in susceptible organisms and survival mechanism in

resistant species.
Elsevier
Biochimie.doi: 10.1016/j.biochi.2018.03.014.
Thomson Reuter Impact factor=3.2

4. Jamwal G, Singh G, Dar MS, Singh P, Bano N, Syed SH, Sandhu P, **Yusuf Akhter**, Monga SP, Dar MJ (2018).
Identification of a unique loss-of-function mutation in IGF1R and a crosstalk between IGF1R and Wnt/β-catenin signaling pathways.
Elsevier
Biochim Biophys Acta. doi: 10.1016/j.bbamcr.2018.03.013.
Thomson Reuter Impact factor=5.5

5. Azad I, Nasibullah M, Khan T, Hassan F, **Yusuf Akhter** (2018)**.**
Exploring the novel heterocyclic derivatives as lead molecules for design and development of potent anticancer agents.
Elsevier
J Mol Graph Model. 2018 May;81:211-228. doi: 10.1016/j.jmgm.2018.02.013.
Thomson Reuter Impact factor= 1.8

6. Arun Parvati Sai PV, SK Miryala, A Rana, S Kurukuti, **Yusuf Akhter,** S Yellaboina (2018).
System-wide coordinates of higher order functions in host-pathogen environment upon Mycobacterium tuberculosis infection.
Nature publishing group
Sci Rep. 2018 Mar 22;8(1):5079. doi: 10.1038/s41598-018-22884-8.
Thomson Reuter Impact factor= 5

7. M Kashif, S Tabrez, Husein A, Arish M, Kalaiarasan P, Manna PP, Subbarao N, **Yusuf Akhter***, A Rub* (2017).
Identification of novel inhibitors against UDP-galactopyranose mutase to combat leishmaniasis.
Wiley
J Cell Biochem. DOI: 10.1002/jcb.26433.
Thomson Reuter Impact factor= 3.1

8. Razak Hussain, Indu Kumari, Shikha Sharma, M Ahmed, TA Khan, **Yusuf Akhter** * (2017).
Catalytic diversity and homotropic allostery of two Cytochrome P450 monooxygenase like proteins from *Trichoderma brevicompactum.*
Springer
J Biol Inorg Chem. DOI: 10.1007/s00775-017-1496-6.
Thomson Reuter Impact factor= 2.9

9. Indu Kumari, Mushtaq Ahmed, **Yusuf Akhter** *(2017).
Evolution of catalytic microenvironment governs substrate and product diversity in trichodiene synthase and other terpene fold enzymes.
Elsevier
Biochimie. DOI: 10.1016/j.biochi.2017.10.003.
Thomson Reuter Impact factor= 3.2

10. Shweta, **Yusuf Akhter,** Jawaid A Khan (2017).
Genome wide identification of cotton (Gossypium hirsutum)-encoded microRNA targets against Cotton leaf curl Burewala virus.
Elsevier
Gene. DOI: 10.1016/j.gene.2017.09.061.

Thomson Reuter Impact factor= 2.4

11. Padmani Sandhu, **Yusuf Akhter** * (2017).
Evolution of structural fitness and multifunctional aspects of mycobacterial RND family transporters.
Springer
Arch Microbiol. DOI: 10.1007/s00203-017-1434-6.
Thomson Reuter Impact factor= 1.8

12. **Yusuf Akhter** *, Shweta Thakur (2017).
Targets of ubiquitin like system in mycobacteria and related actinobacterial species.
Elsevier
Microbiol Res. DOI: 10.1016/j.micres.2017.07.002.
Thomson Reuter Impact factor= 3.1

13. M Arish, M Alaidarous, R Ali, **Yusuf Akhter,** A Rub (2017).
Implication of sphingosine-1-phosphate signaling in diseases: molecular mechanism and therapeutic strategies.
Taylor & Francis
J Recept Signal Transduct Res. DOI: 10.1080/10799893.2017.1358282.
Thomson Reuter Impact factor= 1.6

14. R Ghosh, MC Das, A Sarkar, A Das, P Sandhu, B Dinda, **Yusuf Akhter**, S Bhattacharjee, UC De (2017).
Wiley
Chem Biodivers. DOI: 10.1002/cbdv.201700165.
Thomson Reuter Impact factor= 1.5

15. A Das, JJ Jawed, MC Das, P Sandhu, UC De, B Dinda, **Yusuf Akhter,** Surajit Bhattacharjee (2017).
Antileishmanial and immunomodulatory activities of lupeol, a triterpene compound isolated from Sterculia villosa.
Elsevier
Int J Antimicrob Agents. DOI: 10.1016/j.ijantimicag.2017.04.022.
Thomson Reuter Impact factor= 4.3

16. S Sharma, I Kumari, R Hussain, M Ahmed, **Yusuf Akhter** * (2017)
Species specific substrates and products choices of 4-O-acetyltransferase from Trichoderma brevicompactum.
Elsevier
Enzyme Microb Technol. DOI: 10.1016/j.enzmictec.2017.05.009.
Thomson Reuter Impact factor= 2.5

17. Indu Kumari, Padmani Sandhu, Mushtaq Ahmed, **Yusuf Akhter** * (2017)
Molecular Dynamics Simulations, Challenges and Opportunities: A Biologist's Prospective.
Bentham Science
Curr Protein Pept Sci. DOI: 10.2174/1389203718666170622074741.
Thomson Reuter Impact factor= 2.5

18. Priya Gupta, A Sarkar, P Sandhu, A Daware, MC Das, **Yusuf Akhter,** Surajit Bhattacharjee (2017).
Potentiation of Antibiotic against Psedomonas aeruginosa biofilm: A study with

Plumbagin and Gentamicin.
Wiley
J Appl Microbiol. DOI: 10.1111/jam.13476.
Thomson Reuter Impact factor= 2.1

19. Padmani Sandhu, **Yusuf Akhter*** (2017).
Siderophore transport by MmpL5-MmpS5 protein complex in Mycobacterium tuberculosis.
Elsevier
J Inorg Biochem. DOI: 10.1016/j.jinorgbio.2017.02.013.
Thomson Reuter Impact factor= 3.34

20. S K Verma, A Sharma, P Sandhu, N Choudhary, S Sharma, V Acharya, **Yusuf Akhter*** (2017).
Proteome scale identification, classification and structural analysis of iron-binding proteins in bread wheat.
Elsevier
J Inorg Biochem. DOI: 10.1016/j.jinorgbio.2017.02.012.
Thomson Reuter Impact factor= 3.34

21. Mohammad Kashif, PP Manna, **Yusuf Akhter**, M Alaidarous, A Rub (2017).
Screening of Novel Inhibitors Against *Leishmania donovani* Calcium ion Channel to Fight Leishmaniasis.
Bentham Science
Infect Disord Drug Targets. DOI: 10.2174/1871526516666161230124513.
Thomson Reuter Impact factor= 1.42

22. Antu Das, Manash C. Das, Padmani Sandhu, Niranjan Das, Prosun Tribedi, Utpal C. De, **Yusuf Akhter,** Surajit Bhattacharjee (2016)
Antibiofilm activity of Parkia javanica against Pseudomonas aeruginosa: a study with fruit extract.
Royal Society of Chemistry
RSC Advances. DOI: 10.1039/C6RA24603F
Thomson Reuter Impact factor= 3.1

23. Aarti Rana, Shweta Thakur, N Bhardwaj, D Kumar, **Yusuf Akhter*** (2016)
Excavating the surface-associated and secretory proteome of Mycobacterium leprae for identifying vaccines and diagnostic markers relevant immunodominant epitopes.
Oxford University Press
Pathog Dis. DOI: 10.1093/femspd/ftw110.
Thomson Reuter Impact factor= 2.5

24. Padmani Sandhu , Monika Kumari, Kamal Naini, **Yusuf Akhter*** (2016)
Genome scale identification, structural analysis and classification of periplasmic binding proteins from *Mycobacterium tuberculosis*
Springer
Current Genetics, DOI: 10.1007/s00294-016-0664-5
Thomson Reuter Impact factor= 3.4

25. Ahutosh Prince, Padmani Sandhu , Pankaj Ror , Eva Dash , Shingarika Sharma , Manoranjan Arakha , Suman Jha , **Yusuf Akhter*,** Mohammed Saleem* (2016)
Lipid-II Independent Antimicrobial Mechanism of Nisin Depends On Its Crowding And Degree Of Oligomerization

Nature Publishing Group
Scientific Reports (Accepted)
Thomson Reuter Impact factor= 5.2

26. Nitika Chaudhary, Padmani Sandhu, Mushtaq Ahmed, **Yusuf Akhter***(2016)
Structural basis of transport function in major facilitator superfamily protein from *Trichoderma harzianum*
Elsevier
International Journal of Biological Macromolecules, DOI: 10.1016/j.ijbiomac.2016.10.099
Thomson Reuter Impact factor= 3.2

27. Indu Kumari, Mushtaq Ahmed, **Yusuf Akhter*** (2016)
Deciphering the protein translation inhibition and coping mechanism of trichothecene toxin in resistant fungi
Elsevier
The International Journal of Biochemistry & Cell Biology, DOI: 10.1016/j.biocel.2016.08.002
Thomson Reuter Impact factor= 3.9

28. Mohd Saleem Dar , Paramjeet Singh , Gurjinder Singh , Gayatri Jamwal , Sajad Syed , Aarti Rana , **Yusuf Akhter**, S Paul Monga, Mohd Jamal Dar (2016)
Terminal regions of |3-catenin are critical for regulating its adhesion and transcription functions.
Elsevier
BBA Molecular Cell Research, DOI: 10.1016/j.bbamcr.2016.06.010
Thomson Reuter Impact factor= 5.2

29. Indu Kumari, Mushtaq Ahmed and **Yusuf Akhter***(2016)
Multifaceted impact of trichothecene metabolites on plant-microbe interactions and human health
Springer
Applied Microbiology and Biotechnology, DOI: 10.1007/s00253-016-7599-0
Thomson Reuter Impact factor= 3.34

30. Nitika Chaudhary, Indu Kumari, Padmani Sandhu, Mushtaq Ahmed and **Yusuf Akhter*** (2016)
Proteome scale census of major facilitator superfamily transporters in Trichoderma reesei using protein sequence and structure based classification enhanced ranking
Elsevier
Gene, DOI: 10.1016/j.gene.2016.03.043
Thomson Reuter Impact factor= 2.14

31. Manash C. Das, Padmani Sandhu, Priya Gupta, Prasenjit Rudrapaul, Utpal C. De, Prosun Tribedi, **Yusuf Akhter** and Surajit Bhattacharjee (2016)
Attenuation of *Pseudomonas aeruginosa* biofilm formation by Vitexin: A combinatorial study with azithromycin and gentamicin
Nature publishing group
Scientific Reports, DOI: 10.1038/srep23347
Thomson Reuter Impact factor= 5.58

32. Padmani Sandhu and **Yusuf Akhter*** (2016)
The drug binding sites and transport mechanism of the RND pumps from Mycobacterium

tuberculosis: insights from Molecular Dynamics simulations.
Elsevier
Archives of Biochemistry and Biophysics DOI: doi:10.1016/j.abb.2016.01.007 (*In press*)
Thomson Reuter Impact factor= 3.01

33. Aarti Rana and **Yusuf Akhter*** (2015).
A multi-subunit based, thermodynamically stable model vaccine using combined immunoinformatics and protein structure based approach.
Elsevier
Immunobiology DOI: 10.1016/j.imbio.2015.12.004 (*In press*)
Thomson Reuter Impact factor= 3.04

34. Mohd Arish, Atahar Husein, Mohammad Kashif, Mohammed Saleem, **Yusuf Akhter** and Abdur Rub (2015).
Sphingosine-1-Phosphate Signaling: unraveling its role as a drug target against infectious diseases.
Elsevier
Drug Discovery Today DOI:10.1016/j.drudis.2015.09.013 · 6.69 (*In press*)
Thomson Reuter Impact factor= 6.69

35. Indu Kumari, Nitika Chaudhary, Padmani Sandhu, Mushtaq Ahmed and **Yusuf Akhter*** (2015).
Structural and mechanistic analysis of engineered trichodiene synthase enzymes from *Trichoderma harzianum*: towards higher catalytic activities empowering sustainable agriculture.
Taylor & Francis
***Journal of Biomolecular Structure and Dynamics*.**
DOI: 10.1080/07391102.2015.1073632.
Thomson Reuter Impact factor= 2.91

36. Aarti Rana, Mushtaq Ahmed, Abdur Rub and **Yusuf Akhter*** (2015).
A tug-of-war between the host and the pathogen generates strategic hotspots for the development of novel therapeutic interventions against infectious diseases.
Taylor & Francis
Virulence, DOI:10.1080/21505594.2015.1062211 (*In press*).
Thomson Reuter Impact factor= 4.3

37. Aarti Rana, Devender Kumar, Abdur Rub and **Yusuf Akhter*** (2015).
Proteome-scale identification and characterization of mitochondria targeting proteins of *Mycobacterium avium* subspecies *paratuberculosis*: potential virulence factors modulating host mitochondrial function.
***Mitochondrion*,** DOI: 10.1016/j.mito.2015.05.005.
Thomson Reuter Impact factor= 3.2

38. Mohd Arish, Atahar Husein, Mohammad Kashif, Padmani Sandhu, Seyed E Hasnain, **Yusuf Akhter** and Abdur Rub (2015).
Orchestration of membrane receptor signaling by membrane lipids.
Elsevier
Biochimie, DOI: 10.1016/j.biochi.2015.04.005
Thomson Reuter Impact factor = 2.9

39. Padmani Sandhu and **Yusuf Akhter*** (2015).
The internal gene duplication and interrupted coding sequences in the MmpL genes of

Mycobacterium tuberculosis: towards understanding the multidrug transport in an evolutionary perspective.
Elsevier
International Journal of Medical Microbiology, DOI: 10.1016/j.ijmm.2015.03.005
Thomson Reuter Impact factor = 3.6

40. Aarti Rana, Abdur Rub and **Yusuf Akhter*** (2014)
Proteome-wide B & T cell epitope repertoire in Outer Membrane Proteins of *Mycobacterium avium* subsp. *paratuberculosis*: a holistic approach.
Willey Online Library
***Journal of Molecular Recognition*, 28(8):506-20.**
Thomson Reuter Impact factor = 2.15

41. Aarti Rana, Abdur Rub and **Yusuf Akhter***(2014).
Proteome-scale identification of outer membrane proteins in *Mycobacterium avium* subspecies *paratuberculosis* using a structure based combined hierarchical approach.
Royal Society of Chemistry
***Molecular BioSystems*, 10 (9), 2329-2337.**
Thomson Reuter Impact factor = 3.2

42. Qingjun Ma, **Yusuf Akhter**, Matthias Wilmanns, Matthias T Ehebauer (2014).
Active site conformational changes upon reaction intermediate biotinyl-5'-AMP binding in biotin protein ligase from *Mycobacterium tuberculosis*.
Wiley Online Library
***Protein Science,* 23(7):932-9.**
Thomson Reuter Impact factor = 2.9

43. Abdur Rub, Mohammed Arish, Syed A Husain, Ahmed N, **Yusuf Akhter** (2013).
Host-lipidome as a potential target of protozoan parasites.
Elsevier
***Microbes Infection*. 15(10-11):649-60.**
Thomson Reuter Impact factor = 2.9

44. **Yusuf Akhter***, Matthias T. Ehebauer, Sangita Mukhopadhyaya and Seyed E Hasnain* (2012). The PE/PPE multigene family codes for virulence factors and are a possible source of mycobacterial antigenic variation: Perhaps more?
Elsevier
***Biochimie* 94:110–116.**
Thomson Reuter Impact factor=2.9

45. **Yusuf Akhter#**, Christian Poulsen#, Amy Jeon, Gerold Schmitt-Ulms, Helmut E. Meyer, Anja Stefanski, Kai Stühler, Matthias Wilmanns, Young-Hwa Song (2010)
Proteome-wide identification of mycobacterial pupylation targets. #Joint first authors
Nature publishing group
***Molecular Systems Biology* 6:386**.
Thomson Reuter Impact factor = 10.80

46. Pramod Kumar, Dhananjay C. Joshi, Mohd Akif, **Yusuf Akhter**, Seyed E. Hasnain and Shekhar C. Mande. (2010).
Mapping Conformational Transitions in the Cyclic AMP Receptor Protein: Crystal structure and Normal Mode Analysis of *M. tuberculosis* apo-cAMP Receptor Protein.
Cell press
***Biophysical Journal,* 98:305-14.**
Thomson Reuter Impact factor = 3.90

47. **Yusuf Akhter**, Sailu Yellaboina, Aisha Farhana, Akash Ranjan, Niyaz Ahmed and Seyed E Hasnain (2008).
Genome scale portrait of cAMP Receptor Protein-Regulons in Mycobacteria points to their role in pathogenesis.
Elsevier
***Gene* 407, 148-58.**
Thomson Reuter Impact factor =2.416

48. **Yusuf Akhter**, Smanla Tundup and Seyed E. Hasnain (2007).
Novel Biochemical Properties of a CRP/FNR Family Transcription Factor from *Mycobacterium tuberculosis*.
Elsevier
***International Journal of Medical Microbiology* 297, 451–457.**
Thomson Reuter Impact factor = 3.6

49. **Yusuf Akhter**, Irshad Ahmed, S. Manju Devi and Niyaz Ahmed (2007).
The co-evolved *Helicobacter pylori* and gastric cancer: Trinity of bacterial virulence, host susceptibility and lifestyle.
Biomed Central
***Infect Agent Cancer*, 4, 2:2. (Highly Accessed Article)**
Thomson Reuter Impact factor = 2.07

50. S Manjulata Devi, Irshad Ahmed, Paolo Francalacci, M Abid Hussain, **Yusuf Akhter**, Ayesha Alvi, Leonardo A Sechi, Francis Megraud and and Niyaz Ahmed (2007).
Ancestral European roots of Helicobacter pylori in India.
Biomed Central
***BMC Genomics*, 8:184.**
Thomson Reuter Impact factor = 3.9

51. Mohd. Akif, **Yusuf Akhter**, Seyed E. Husnain and Shekhar C. Mande. (2006).
Crystallization and preliminary X-ray crystallographic studies of *Mycobacterium tuberculosis* CRP/FNR family transcriptional regulator.
International Union of Crystallography
***Acta Crystallography F,* 62(Pt 9): 873-5.**
Thomson Reuter Impact factor = 0.60

52. Smanla Tundup, **Yusuf Akhter**, D Thiagarajan, and Seyed E. Hasnain. (2006).
Clusters of PE and PPE genes of *Mycobacterium tuberculosis* are organized in operons: evidence that PE Rv2431c is co-transcribed with PPE Rv2430c and their gene products interact with each other.
Elsevier
***FEBS Lett*. 580: 1285-93.**
Thomson Reuter Impact factor = 3.1

53. For updated complete list of publications please logon to :
http://www.ncbi.nlm.nih.gov/pubmed/?term=yusuf+akhter

Books and book chapters:

54. Yusuf Akhter (2013).
cAMP Receptor Proteins from Mycobacteria : Potential drug target against tuberculosis.
Saarbrücken, Germany: AV Akademikerverlag GmbH & Co. KG.
ISBN 978-3-639-51177-2.

Footnote: *Corresponding /senior author

Research Projects Completed/Ongoing:

1. Title: A project proposal on targeting novel prokaryotic ubiquitin like post-translational modification pathway for therapeutic interventions against *Mycobacterium tuberculosis*.
Sanction No: MRP-MAJOR-MICR-2013-26840
Budget : 17,15,500 Rs. sanctioned
Agency: University Grant Commission
Present Status: On going
Role: Principal Investigator

2. Title: Genome-wide screening of outer membrane proteins in *Mycobacterium avium* subsp. *paratuberculosis* (MAP) K-10: a repertoire of candidate immunogens for translational medicine.
Sanction No: SERB/LS-400/2014
Total Cost: 26,00,000 Rs. sanctioned
Agency: SERB (DST, Govt. of India)
Present Status: Ongoing
Role: Principal Investigator

3. Title: Identification of outer membrane proteins in *Mycobacterium leprae* and subsequent selection and analysis of epitopes to target immunogenic candidate proteins.
Sanction No: BIC/12 (04) 2014- Submission ID: 2014-0810
Total Cost: 49,28,000 Rs. (proposed), Budgeting is under progress
Agency: Indian Council of Medical Research
Present Status: Recommended for funding
Role: Principal Investigator

4. Title: Genome wide identification of metal binding proteins in bread wheat (BT/PR13692/BID/7/2015)
Agency: Department of Biotechnology (DBT), Govt. of India
Budget: Rs. 25 lakhs (Sanctioned)
Present status: Recommended for funding
Role: Co-Principle Investigator

MPhil/PhD Supervised/Supervising:

Under the RD program of Central University of Himachal Pradesh, following PhD students have finished their research in our group

1. Dr. Aarti Rana (Currently working as ICMR–Research Associate)
2. Dr. Padmani Sandhu (Currently Postdoc at IIT-Bombay)

I have also Co-supervised following PhD students

1. Dr. Indu Kumari (Currently working as Assistant Professor at affiliated college of GNDU, Amritsar)
2. Ms. Nitika Chaudhary (Currently working as Assistant Professor at affiliated college of HPU)

Participation in Seminars/Conferences:

Presentation made at Conference/Symposium:

1. **Yusuf Akhter.** Selected and presented the research work at Young Investigator Meet 2015 (Organized by India Biosciences in collaboration with EMBO, University of Kashmir and Welcome Trust-DBT Alliance) held at The Khyber Himalayan Spa and Resort at Gulmarg, Srinagar, Jammu & Kashmir (28 March-01 April, 2015).
2. Selected to attend and present the research work at Young Investigator Meet 2014 (Organized by India Biosciences in collaboration with EMBO and Welcome Trust-DBT Alliance) held at Ramoji film city, Hyderabad (9-13 February, 2014) (Not attended).
3. **Yusuf Akhter.** "Deciphering the 'Pup code' on its substrates" Poster presentation made at: at "EMBO Conference :Tuberculosis 2012" Institute Pasteur, Paris, France, (11-15 September, 2012)
4. **Yusuf Akhter**, Elke Noens, Micheal Zimmermann, Uwe Sauer and Matthias Wilmanns. "Deciphering the 'Pup code' on its substrates". Highlight talk presented at: Second Annual Meeting of European System TB consortium and Workshop on Hypoxia, at: Hotel "La Palma" Stresa, Italy (4 - 7 March 2012).
5. **Yusuf Akhter**, Elke Noens, Micheal Zimmermann, Uwe Sauer and Matthias Wilmanns. "Towards deciphering the 'Pup code' on its substrates". Poster presentation made at: Ubiquitin and Uboquitin like Modifiers: From Functional Module to Systems Biology, EMBO Conference series, Hotel Croatia, Cavtat, Croatia (21-25 September, 2011)
6. **Yusuf Akhter**, Delphine Chesnel, Elke Noens and Matthias Wilmanns. "Pupylation: The New 'Old' Protein Modification Pathway". Poster session presented at: the Keystone Symposia "Mycobacteria: Physiology, Metabolism and Pathogenesis" held at Vancouver, British Columbia, Canada (15-20, January, 2011).
7. **Yusuf Akhter**, Delphine Chesnel, Elke Noens and Matthias Wilmanns. "Pupylation: The New 'Old' Protein Modification Pathway". Poster session presented at: EMBO-meeting, 2010, Barcelona, Spain. (4-7, September 2010).
8. **Yusuf Akhter**, Delphine Chesnel, Elke Noens and Matthias Wilmanns. "Pupylation: The New 'Old' Protein Modification Pathway". Poster session presented at: First Annual Meeting of European System TB consortium and Workshop on TB Biology and Modeling, Château Liblice, Czech Republic (21 - 24 March 2011).
9. **Yusuf Akhter**, Simon J. Holton, Helmy Rachman, Jörg Schreiber, Seyed E. Hasnain, Stefan H.E. Kaufmann and Matthias Wilmanns. "Structure-based identification of physiological response motifs in *Mycobacterium tuberculosis* transcription factors". Poster session presented at: the Keystone Symposia "Tuberculosis: Biology, Pathology and Therapy", Keystone Resort, Keystone, Colorado, USA (Jan 25 -Jan 30, 2009).
10. **Yusuf Akhter** and Seyed E. Hasnain. "Cloning, expression and characterization cAMP receptor protein from *Mycobacterium tuberculosis*". Poster session presented at: New Frontiers in Tuberculosis Research", International Centre for Genetic Engineering & Biotechnology, New Delhi, India (4-6 December, 2006).

Invited Lectures:

1. Delivered an invited lecture entitled "The Chemistry of Living Things" at Department of Chemistry, Integral University, Lucknow on 01 February, 2018.
2. Delivered an invited lecture entitled "Mechanistic studies on Drug resistance in Tuberculosis: computational efforts" in Symposium on Accelerating Biology 2018: Digitizing Life (January 9-11, 2018) at Centre for Development of Advanced Computing (C-DAC), Pune.
3. Delivered an invited lecture entitled "Tackling the drug resistance in Tuberculosis: where we are?" in National Symposium cum Workshop on Bioinformatics for Medical Research at Post Graduate Institute of Medical Sciences (PGIMS), Chandigarh. January 20 - 21, 2017.

4. Delivered an invited talk and conducted hands-on session in a DBT (Govt. of India) sponsored workshop entitled "Protein structure prediction and molecular docking" from 27-31st October 2014 at Himachal Pradesh University, Shimla.
5. Invited talk entitled "Fighting Drug-Resistance: Will it be possible to eradicate Tuberculosis?" at: Department of Chemistry, Indian Institute of Technology-Delhi, New Delhi, India (26th Nov., 2013).
6. Scientific disclosure by invited visiting scientist entitled "Molecular and structural studies on protein targets from *Mycobacterium tuberculosis*" at: Senat Hall, Universiti Technologi Malaysia, Johor, Malaysia (9th February, 2011).
7. Invited visiting lecture entitled "Molecular and structural studies on protein targets from *Mycobacterium tuberculosis*" at: Seminar Hall, Institute of Biological Science, University of Malaya, Kuala lumpur, Malaysia (14th February, 2011).
8. Invited talk by visiting scientist entitled "Molecular and structural studies on protein targets from *Mycobacterium tuberculosis*" at: Central Drug Research Institute-CSIR, Lucknow, India. (25th August 2011).
9. Highlight talk in EMBL Postdoc Retreat 2010 entitled "Pupylation: The New „Old" Protein Modification Pathway" at: Mövenpick Hotel, Lübeck, Germany (8-10 November, 2010).

Membership of Learned Societies/ Professional Bodies/Editorial Boards:

1. Associate Editor, ***Frontiers in Genetics*** (Bioinformatics and Computational Biology) published by Frontiers Media, Switzerland (since 2018)
2. Associate Editor, ***BMC Genomics*** published by BioMed Central, United Kingdom (since 2018)
3. Associate Editor, ***BMC Microbiology*** published by BioMed Central, United Kingdom (since 2016)
4. Member, Editorial Board, ***Archives of Microbiology*** published by Springer (since 2016)
5. Member, Editorial Board, ***Cogent Biology*** published by Taylor & Francis (since 2016)
6. Member, Editorial Board, ***Protein and Peptide Letters*** published by Bentham Science Publishers (since 2016)
7. Review Editor in the Editorial Board of ***Frontiers in Microbiology, Frontiers in Medicine*** and ***Frontiers in Public Health*** (since 2016)
8. Life Member, Society of Biological Chemists, India, (since 2013)
9. Member, Federation of European Biochemical Societies (FEBS) (2010-2012)
10. Member, International Union of Biochemistry and Molecular Biology (IUBMB) (2010-2012)
11. Member, Gesellschaft für Biochemie und Molekularbiologie (German Society for Biochemistry and Molecular Biology) (2010-2012)
12. Member, TB structural genomics consortium, University of California, LA, USA (since 2004)

Awards & Honours Received:

1. ***Publons Peer Review Award 2017*** from Publons for the contribution as **top one percent** contributing scientists world-wide in the role of peer-reviewer and editorial board member of various international journals in the field of ***Molecular Biology, Genetics and Biochemistry.***

2. ***Publons Peer Review Award 2017*** from Publons for the contribution as **top one percent** contributing scientists world-wide in the role of peer-reviewer and editorial board member of various international journals in the field of ***Medicine*.**
3. ***Sentinel of Science Award 2016*** from ***Publons*** for the contribution as top ten percent contributing scientists world-wide as peer-reviewer and editorial board member of various international journals in the field of **Biochemistry, Genetics and Molecular Biology.**
4. European Molecular Biology Organization (EMBO) long-term research fellowship (Jan, 2011-Nov., 2012).
5. Appointed as Visiting Lecturer at Faculty of Biosciences and Bioengineering, Universiti Technologi Malaysia (UTM), Johor Bahru, Johor, Malaysia (2011).
6. The Bill and Melinda Gates Foundation Global Health Travel Award to attend the Keystone Symposia "Mycobacteria: Physiology, Metabolism and Pathogenesis" to be held at Vancouver, British Columbia, Canada (15-20, January, 2011).
7. Poster of the Day title awarded for presentation made at the EMBO-meeting, 2010 (4-7, September), Barcelona, Spain.
8. The Bill and Melinda Gates Foundation Global Health Travel Award to attend the Keystone Symposia "Tuberculosis: Biology, Pathology and Therapy", held at Keystone Resort, Keystone, Colorado, USA on Jan 25 - Jan 30, 2009. (One among 55 awardees worldwide for year 2009)
9. DAAD (German Academic Exchange Service) long-term Doctoral Fellowship to work at European Molecular biology Laboratory, Hamburg, Germany, 2007–2009. (One among 22 awardees from India in 2007)
10. Selected in worldwide competition and attended " The MEETING OF NOBEL LAUREATES (Physiology & Medicine) and Young researchers at Lindau, Germany during 1-6 July 2007" (One among 23 awardees from India for 2007 meeting)
11. Department of Science and technology (Govt. of India) travel award to attend Lindau Meeting of Nobel laureates and Young researchers 2007, Germany.
12. ISBC travels grant winner to attend "International School of Biological Crystallization 2009 at Granada, Spain (18-22 May 2009)".
13. Qualified National Eligibility Test (NET) and received funding in the form of Junior Research Fellowship for Graduate level research from Council for Scientific and Industrial Research (Govt. of India), June. 2004 (stood in top 20% qualified researchers).
14. Qualified GATE 2004 (Graduate Aptitude Test for Engineering) conducted by IIT Delhi, New Delhi India with 91.43 percentile.
15. Recipient of "Certificate of Merit" by Central Board for Secondary Examination, New Delhi for securing 0.1 Percent top ranker position in CHEMISTRY (97%) at 10+2 level, 1998.
16. Recipient of Tasmia Merit Scholarship for best academic performance at Masters level university exams in Jamia Hamdard (2003-2004).

Others:

- Serves in several international scientific journals/publications such as Nature publishing group, PLoS journals, Biomed central, Taylor & Francis, Springer, Elsevier etc. and acted as editorial reviewer for more than fifty manuscripts so far.
- Have won several prizes in sports and debate competitions at college and university levels.