CURRICULUM VITAE

Name : **Dr. Audesh Bhat**
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RESEARCH AREAS

My *research focuses on elucidating the genetic and molecular mechanisms underlying complex human diseases, with particular emphasis on* ***hypertension, infertility, chronic kidney disease, cancer genetics, and circadian biology****. My work integrates molecular genetics, genomics, bioinformatics, and cell biology to identify disease-associated genetic variants and characterize the signaling pathways involved in disease pathogenesis.*

A major area of my current research investigates the role of ***genetic factors*** *in susceptibility to primary hypertension. My studies have provided novel insights into the association of missense variants in these genes with hypertension risk in the Indian population, advancing our understanding of the genetic basis of cardiovascular disorders*

*Another major area of my current research is reproductive genetics and male infertility. My work has focused on identifying genetic variants associated with the major subtypes of male infertility, including teratozoospermia and asthenoteratozoospermia. My group has explored the contribution of genes involved in oxidative stress, DNA methylation, the renin–angiotensin system, and spermatogenesis, while employing next-generation sequencing approaches, including whole-exome seque*ncing, to identify novel candidate genes underlying impaired male fertility.

I am is also engaged in translational research aimed at understanding the molecular mechanisms of renal disorders. My group recently dentified Receptor-Interacting Serine/Threonine Kinase 2 (RIPK2) as a key mediator of oxidative stress and inflammatory signaling in renal epithelial cells, offering promising therapeutic targets for nephrolithiasis and kidney disease.

In addition, my research interests extend to ***DNA Damage Tolerance*** *(DDT) mechanism,* ***epigenetics, chromatin biology, transposable elements, and cancer genomics****, with a particular focus on the role* ***translesion synthesis*** *(TLS) poylmerases and histone acetyltransferases such as* ***MOF (KAT8)*** *and LINE-1 retrotransposons in genome regulation and disease.*

I have authored numerous research articles and review papers in peer-reviewed international journals and have contributed to several externally funded research projects. My research combines experimental approaches with computational analyses to bridge fundamental

discoveries and their clinical applications. Through his work, he aims to advance precision medicine by identifying novel biomarkers and therapeutic targets for complex human diseases while fostering collaborative and interdisciplinary research in genetics and genomics.

Postdoctoral Fellow: University of Saskatchewan, **Saskatoon, Canada**.

- Analyzed data collected from experiments and prepared reports of findings.
- Designed, developed, and tested new methods of analysis for laboratory procedures.
- Contributed to the development of research proposals, securing external funding.
- Assisted principal investigators with grant applications related to postdoctoral research initiatives.
- Managed multiple projects simultaneously while adhering to deadlines set by supervisors.
- Reviewed experimental results generated by graduate students working in the lab.
- Presented research at national conferences and seminars.
- Conducted extensive literature reviews to establish research foundation and identify gaps in current knowledge.
- Reviewed and synthesized existing research to inform study design and direction.
- Published findings in peer-reviewed journals, contributing to academic discourse.
- Managed research projects, overseeing timelines, budget, and resource allocation.

Postdoctoral Fellow: Washington University, **Saint Louis, USA**.

- Generated and analyzed data, collected from experiments, and prepared reports of findings.
- Performed data interpretation and hypothesis generation.
- Assisted in grant writing.
- Delivered seminars.
- Guided junior scholars

AWARDS/HONOURS/FELLOWSHIPS

- Guest Editor, ***Frontiers in Molecular Bioscienc (2024)*** *https://www.frontiersin.org/researc topics/62161/molecular-studies-and-therapeutic-approaches-on-brca-associated-cancers*
- ***Life member.*** Sigma Xi, The Scientific Resear Honor Society (2023)
- Guest Editor, ***Frontiers of Nutrition*** *(202 https://loop.frontiersin.org/people/1538155/edito l*
- Guest Editor, ***Frontier of Endocrinology*** *(2021) https://loop.frontiersin.org/people/1538155/edito l*
- *Guest Editor, Journal of Visual Experiments (Jo (2021)*
- *Letter of Appreciation, Central University Jammu (2021)*
- *Editorial Board Member, Current Pharmaceuti Biotechnology (2020-2022).*
- *Editorial Board Member, INNOSC Therapeutics and Pharmacological Science (Since 2019)*
- *Best publication award, Central University of Jammu, India. (2019)*
- *Life Member, Indian Science Congress, 2019 (L37440)*
- *Life Member, Indian Society of Human Genetics (2018)*
- *"Bharat Vikas Award 2018". Institute of Self Reliance, BHUBANESWAR, India.*
- *"Outstanding Faculty in Science" award, Venous International Faculty Award, 2018*
- *2nd Prize in poster competition, 43rd Annual Conference of Indian Society of Human Genetics. CCMB, Hyderabad, India. (2018)*
- *Best publication award, Central University of Jammu, India (2018)*
- *Appreciation award, Novartis Healthcare Pvt. Ltd., India (2016)*

- *Appreciation award, Novartis Healthcare Pvt. Lt India (2015)*
- *External reviewer: CSIR-SRF fellowship intervi at BITS Hyderabad (2015)*
- *SHRF Postdoctoral fellowship, Canada (2009)*
- *CSIR Senior Research Fellowship, India (2004)*
- *CSIR-UGC NET for JRF and Lectureship in Life Sciences, India (2002). Shama Prasad Mukherjee (SPM).*
- *CSIR-UGC NET (2001;) GATE (2001)*

RESEARCH PUBLICATIONS

https://orcid.org/0000-0002-2892-3910
https://scholar.google.com/scholar?hl=en&as_sdt=0%2C5&q=audesh+bhat&oq=Audesh

1. *Bhat MI, Pandita RK, Mushtaq A, Mir US, Saqib N, Sarkar PS, **Bhat A**, Ramos KS, Pandita TK, Altaf M. Impact of Transposable Elements on DNA Double-Strand Break Repair and Genomic Stability. Mol Cell Biol. 2026;46(2):187-208.*
2. *Lahane GP, **Bhat A**, Kulkarni O, Dhar A. Nesfatin-1 mitigates calcium oxalate nephropathy in mice through GPR12 receptor modulation and PKCα/NADPH oxidase pathway inhibition. Life Sci. 2026 Jun 23;402:124544.*
3. ***Bhat A**, Wang X, Stephen P. Editorial: Molecular studies and therapeutic approaches on BRCA-associated cancers. Front Mol Biosci. 2026 Mar 26;13:1821951.*
4. *Sharma B, Shah R, Shankarayan R, Bhat AA, Tanwar M, **Bhat A,** Wakhloo A, Kumar R. PARP Gene Variants and Male Infertility: A Genetic Prescriptive From a North-Indian Cohort. Urology. 2026 Jul;213:58-61.*
5. *Lahane GP, **Bhat A,** Dhar A. Nesfatin-1 attenuates renal interstitial fibrosis, oxidative stress, and inflammation through dual suppression of TGF-β1/Smad and NF-κB/GPR12 signaling. Biochem Pharmacol. 2026 Jul;249:117894.*
6. *Bhan S, Bhagat M, Sopori S, Sharma B, Kumar R, Dhar A, **Bhat A**. SOD1 and SOD2 gene variants are significantly correlated with male infertility in a North Indian population, suggesting a possible pleiotropic conflict. Reprod Fertil Dev. 2026 Feb 19;38(3):RD25112.*
7. *Kavinay Kavinay, Sonali Bhan, Shreya Sopori, Anupama Shah, Pankaj Sharma, Dharminder Kumar, Rakesh Kumar, Arti Dhar, **Audesh Bhat**. Selected ACE, AGT, and REN Gene Variants Increase Risk for Essential Hypertension in the North Indian Population of Jammu. **Journal of the Renin-Angiotensin-Aldosterone System, 2025***
8. *Bhan S, Bhagat M, Sopori S, Dhar A, Kumar R, **Bhat A**. Angiotensin-converting Enzyme Insertion/Deletion Polymorphism Distribution in the North Indian Population of Jammu and Kashmir and Its Positive Correlation with Male Infertility: A Case Control Study. J Hum Reprod Sci. 2025 Jul-Sep;18(3):166-173.*
9. *Lahane GP, Arondekar D, **Bhat A**, Dhar A. PKR inhibition reduces high glucose and H2O2-induced injury in rat renal epithelial cells by suppressing the sonic hedgehog pathway. Exp Cell Res. 2025 Jul 15;450(2):114652.*
10. *Sharma B, Jamwal RS, Chander G, Sharma M, Shah R, Shankarayan R, Bhan S, **Bhat A**, Bhat AA, Kumar R. Genetic insight into idiopathic male infertility in North India: Role of telomere maintenance genes. Eur J Obstet Gynecol Reprod Biol. 2025 Sep;313:114653.*
11. *Sharma M, Verma S, Bhagat V, Tufail Z, Jamwal RS, Sharma B, Chander G, Shah R, **Bhat A**, Dhar M, Singh S, Kumar R. Evaluation of a Novel MAGEC1 Variant and Susceptibility to Ovarian Cancer in the North Indian Population. Genet Test Mol Biomarkers. 2025 Jul;29(7):179-184.*
12. *Ganesh Panditrao Lahane, Arti Dhar, Audesh Bhat. Model Systems of Chronic Kidney Disease: A Detailed Overview and Recent Advances. **J Biochem Mol Toxicol. 2025** (Under revision)*
13. ***Audesh Bhat**, Sonali Bhan, Aindrila Kabiraj, Raj K. Pandita, Keneth Ramos, Sandhik Nandi, Shreya Sopori, Parthas S. Sarkar, Arti Dhar, Shruti Pandita, Rakesh Kumar, Chandrima Das, John A. Tainer and Tej K. Pandita. A predictive chromatin architecture nexus regulates transcription and DNA damage repair. **Journal of Biological Chemistry,2025;301(3):108300.***
14. *Shreya Sopori, Kavinay Kavinay, Sonali Bhan S, Shreya Saxena, Medha Medha, Rakesh Kumar, Arti Dhar, **Audesh Bhat**. CLOCK gene 3'UTR and exon 9 polymorphisms show a strong association with essential hypertension in a North Indian population. **BMC Med Genomics**. 2024 Dec 18;17(1):289.*
15. *Ganesh Panditrao Lahane, Arti Dhar, **Audesh Bhat**. Therapeutic approaches and novel antifibrotic agents in renal fibrosis: A comprehensive review**. J Biochem Mol Toxicol. 2024**;38(8):e23795.*
16. *Bhagi M, Kaur J, Dhar A, **Bhat A**. Insulin Analogs and the Mode of Insulin Delivery: Recent Advances and*

Challenges. Curr Pharm Biotechnol. 2025;26(7):1050-1068.

17. *Minerva Sharma, Sonali Verma, Shabab Lalit Angurana, Ziya Tufail, Vanshika Bhagat, Sonia Nagyal, Rajeshwer Singh Jamwal, Bhawani Sharma, Ruchi Shah,* ***Audesh Bhat,*** *Gresh Chander, Rakesh Kumar. Exome sequencing identifies ADGRG4 G-protein-coupled receptors gene as a novel cancer biomarker in ovarian cancer patients from North India.* ***J Biochem Mol Toxicol. 2024****;38(3):e23672.*
18. ***Audesh Bhat.*** *Nutritional guidelines for diabetic patients.* ***Front Nutr. 2024*** *3;11:1415419. (Editorial)*

19. *Jegadheeswari Venkadakrishnan, Ganesh Lahane, Arti Dhar, Krishna Moorthi Bhat, Wei Xiao, Tej K. Pandita, and* ***Audesh Bhat****. Implications of Translesion DNA Synthesis Polymerases on Genomic stability and Human Health.* ***Molecular and Cellular Biology 2023****, 13:1-25*

20. *Bei Zhou, Weiguang He, Jasmine Kaur, Qingxia Cai,* ***Audesh Bhat****, Qiang Liu. Meta-analysis of abbreviated MRI scanning reveals a high specificity and sensitivity in detecting breast cancer.* ***Clinical and Experimental Obstetrics & Gynecology****. 2023, 50(6), 115*

21. *Sonali Bhan, Sonali Verma, Gresh Chander, Rakesh Kumar,* ***Audesh Bhat****. Precision diagnosis and treatment of ovarian cancer: opportunities and challenges.* ***Indian Journal of Cancer****. (under review)*

22. *Arti Dhar, Jegadheeswari Venkadakrishnan, Utsa Roy, Sahithi Vedam, Nikita Lalwani,* ***Audesh Bhat****. A comprehensive review of the novel therapeutic targets for the treatment of diabetic cardiomyopathy.* ***Therapeutic Advances in Cardiovascular Disease.*** *2023;17*

23. **Audesh Bhat**, Arti Dhar, Kaushik Desai. Endocrine-related Cardiovascular Diseases: Recent Advances in Diagnosis and Treatment. ***Frontiers of Endocrinology, 2023*** (Editorial)

24. *Minerva,Amrita Bhat, Sonali Verma, Gresh Chander, Raj eshwer Singh Jamwal, Bhawani Sharma,* ***Audesh Bhat****, Taruna Katyal, Rakesh Kumar, Ruchi Shah. Cisplatin-based combination therapy for Cancer,* ***Journal of Cancer Research and Therapeutics****, 2023, 19(3):530-536*

25. *BollaReddy SriVarsha Reddy, Vandana Krishna, Jaspreet Kalra, Srashti Gopal Goyal, Arti Dhar,* ***Audesh Bhat.*** *Review of Contemporary Coronary Artery Stents and Future Developments.* ***Research Reports. 2022****;6: e1-22*

26. ***Audesh Bhat****, Trupti Ghatage, Sonali Bhan, Ganesh P. Lahane, Arti Dhar, Rakesh Kumar, Raj K. Pandita, Krishna M. Bhat, Kenneth S. Ramos, Tej K. Pandita. Role of Transposable Elements in Genome Stability: Implications for Health and Disease.* ***International Journal of Molecular Sciences****, 2022, 23, 7802*

27. *Rakesh Kumar, S Minerva, Ruchi Shah, Amrita Bhat, So nali Verma, Gresh Chander, GhRasool Bhat, Namrata T hapa,* ***Audesh Bhat****, Ajay Wakhloo, Ashraf Ganie. Role of genetic, environmental, and hormonal factors in the progression of PCOS: A review.* ***J Reprod Healthc Med., 2022****;3:3.*

28. *Deepika Dasari,* ***Audesh Bhat****, Sureshbabu Mangali, Trupti Ghatage, Ganesh Panditrao Lahane, Dharmarajan Sriram, and Arti Dhar. Canagliflozin and Dapagliflozin Attenuate Glucolipotoxicity-Induced Oxidative Stress and Apoptosis in Cardiomyocytes via Inhibition of Sodium-Glucose Cotransporter-1.* ***ACS Pharmacology & Translational Science. 2022****;5(4),216-225.*

29. *Sharma B, Angurana S, Shah R, Verma S, Bhat A, Bhat GR, Bakshi D, Jamwal RS, Tanwar M, Singh S,* ***Bhat A****, Vaishnavi S, Kumar R. Genetic association of ARID5B with the risk of colorectal cancer within Jammu and Kashmir, India.* ***Genes Genet Syst. 2021*** *Nov 19. doi: 10.1266/ggs.21-00010.*

30. *Mushtaq A, Mir U.S, Hunt, C.R, Pandita S, Tantray W.W,* ***Bhat, A****, Altaf M, Pandita T.K. Role of Histone Methylation in Maintenance of Genome Integrity.* ***Genes (Basel). 2021****;12(7):1000.*

31. *Ulfat Syed Mir,* ***Audesh Bhat****, Arjamand Mushtaq, Mohammad Altaf and Tej K. Pandita. Role of Histone acetyltransferases MOF and Tip60 in Genome Stability.* ***DNA Repair (Amst). 2021;****107:103205****.*

32. *Rajeshwer Singh Jamwal, Nikita Mahajan, Gh. Rasool Bhat, Amrita Bhat, Ruchi Shah,Sonali Verma, Minerva Sharma, Bhawani Sharma, Raies A. Qadri, Rakesh Kumar,* ***Audesh Bhat****. REV3L single nucleotide variants lead to increased susceptibility towards non-small cell lung cancer in the North Indian population of Jammu and Kashmir.* ***Cancer Epidemology. 2021;*** *75:102047.*

33. *Amrita Bhat, Gh Rasool Bhat, Sonali Verma, Ruchi Shah, Ashna Nagpal, Bhanu Sharma, Divya Bakshi, Jyotsna Suri, Supinder Singh, Mukesh Tanwar, Samantha Vaishnavi,* ***Audesh Bhat****, Rakesh Kumar. Polymorphism in the TP63 gene imparts a potential risk for leukemia in the North Indian population.* ***African Health Sciences. 2021;*** *21(3):1243-1249*

34. *Mary Priyanka Udumula, Sureshbabu Mangali, Jaspreet Kalra, Deepika Dasari, Srashti Goel, Vandana Krishna, Srivarsha Reddy Bollareddy, Dharamrajan Sriram, Arti Dhar,* ***Audesh Bhat****. High fructose and streptozotocin*

induced diabetic impairments are mitigated by Indirubin-3-hydrazone via downregulation of PKR pathway in Wistar rats. ***Scientific Reports 2021****;11, 12924.*

35. *Sureshbabu Mangali,* ***Audesh Bhat****, Dharmarajan Sriram, Arti Dhar. Inhibition of double stranded RNA dependent protein kinase (PKR) abrogates isoproterenol induced myocardial ischemia in vitro in cultured cardiomyocytes and in vivo in wistar rats.* ***European Journal of Pharmacology. 2021****; 906:174223.*

36. *Li L, Mangali S, Kour N, Dasari D, Sharma V, Dhar A,* ***Bhat A****. Syzygium cumini (Jamun) fruit extracted phytochemicals exert anti-proliferative effect on ovarian cancer cells.* ***Journal of Cancer Research and Therapeutics. 2021:****17:1547-1551.*

37. *Trupti Ghatage, Srashti Gopal Goyal, Arti Dhar,* ***Audesh Bhat****. Novel therapeutics for the treatment of hypertension and its associated complications: peptide- and nonpeptide-based strategies.* ***Hypertens Res. 2021****;44:740–755.*

38. *Archana Pandita,* ***Audesh Bhat*****, Anita Koul, Shashank k.Singh. BCG Vaccination Program mitigates COVID19 Related Mortality: A Reality check.* ***Curr Pharm Biotechnol****. 2021;2(12):1574-1583.*

39. *Sharma B, Shah R, Jamwal RS, Verma S, Bhat A, Bhat GR, Bakshi D, Singh S, Angurana S,* ***Bhat A****, Vaishnavi S, Kumar R. Evaluation of Newly Identified IKZF1 Loci in Colorectal Cancer.* ***Journal of Cancer Research and Therapeutics. 2021****;17(1):46-50****.***

40. *Kalra J,* ***Bhat A****, Jadhav KB, Dhar A. Up-regulation of PKR pathway contributes to L-NAME induced hypertension and renal damage.* ***Heliyon. 2020****;6(11):e05463****.***

41. *Verma S, Sharma I, Sharma V, Bhat A, Shah R, Bhat GR, Sharma B, Bakshi D, Nagpal A, Wakhloo A,* ***Bhat A****, Kumar R. MassArray analysis of genomic susceptibility variants in ovarian cancer.* ***Scientific Reports 2020****;10(1):21101.*

42. *Bhat G.R, Verma S, Bhat A, Shah R, Sethi I, Dar KA, Abrol D,* ***Bhat A****, Raina R, Kumar R. Genetic variant rs2494938 of LRNF2 gene is associated with non-small cell lung cancer risk in North-Indian population.* ***3 Biotech, 2020****;10(9):410.*

43. *Kalra J, Dasari D,* ***Bhat A****, Mangali S, Goyal SG, Jadhav K, Dhar A. PKR inhibitor imoxin prevents hypertension, endothelial dysfunction and cardiac and vascular remodelling in L-NAME-treated rats.* ***Life Sciences, 2020****;209:85-98.*

44. *Mangali S,* ***Bhat A****, Jadhav K, Kalra J, Sriram D, Venuganti V.V, Dhar A Upregulation of PKR Pathway Mediates Glucolipotoxicity Induced Diabetic Cardiomyopathy In vivo in Wistar Rats and In vitro in Cultured Cardiomyocytes.* ***Biochemical Pharmacology****, **2020**;177:113948.*

45. *Kalra J, Mangali S,* ***Bhat A****, Jadhav K, Dhar A. Selective inhibition of PKR improves vascular inflammation and remodelling in high fructose treated primary vascular smooth muscle cells.* ***Biochim Biophys Acta Mol Basis Dis****., **2020**; 1866:165606.*

46. *Verma S, Bakshi D, Sharma Va, Sharma I, Shah R, Bhat A, Bhat G, Sharma B, Wakhloo A, Kaul S, Heer V,* ***Bhat A****, Abrol Deepak, Verma Vijeshwar, and Kumar Rakesh. Genetic Polymorphism of DNAH11 and LRFN2 Genes and Their Association with Ovarian and Breast Cancer in the Populations of Jammu and Kashmir in India****. Int J Gynaecol Obstet.****, **2020**;148:118-122.*

47. *Bhat G.R, Bhat A, Verma S, Sethi I, Shah R, Sharma V, Minerva, Bakshi D, Sharma B, Koul B, Abrol D,* ***Bhat A****, Kumar R. Genetic variant rs10937405 of TP63 and susceptibility to Non- small cell lung cancer risk in North-Indian population.* ***Journal of Genetics****, **2019**;15:1270-1275.*

48. *Kalra J, Mangali SB, Dasari D,* ***Bhat A****, Goyal S, Dhar I, Sriram D, Dhar A. SGLT1 inhibition boon or bane for diabetesassociated cardiomyopathy.* ***Fundam Clin Pharmacol., 2019****; 34(2):173-188.*

49. *Verma S, Sharma V, Nagpal A, Bhat A, Bhat GR, Shah R, Wakhloo A, Suri J, Abrol, D, Kaul S,* ***Bhat*** *A, Verma V, Kumar R. DNA base excision repair genes variants rs25487 (X-ray repair cross-complementing 1) and rs1052133 (human 8-oxoguanine glycosylase 1) with susceptibility to ovarian cancer in the population of the Jammu region, India.* ***Journal of Cancer Research and Therapeutics****, **2019;** 15(6):1270-1275.*

50. *Udumula MP,* ***Bhat A****, Mangali S, Kalra J, Dhar I, Sriram D, Dhar A. Pharmacological evaluation of novel PKR inhibitor indirubin-3-hydrazone in-vitro in cardiac myocytes and in-vivo in wistar rats.* ***Life Sciences, 2018****; 209:85-96*

51. *Mangali, S;* ***Bhat, A****; Udumula, MP; Sriram D; Dhar, I; Dhar, A. Inhibition of protein kinase R protects against palmitic acid–induced inflammation, oxidative stress, and apoptosis through the JNK/NF-kB/NLRP3 pathway in cultured H9C2 cardiomyocytes.* ***Journal of Cellular Biochemistry, 2018****; 120(3):3651-3663.*

52. *Kalra J, Mangali SB,* ***Bhat A****, Dhar I, Udumula MP, Dhar A. Imoxin attenuates high fructose-induced oxidative stress and apoptosis in renal epithelial cells via downregulation of protein kinase R pathway.* ***Fundam Clin Pharmacol****. **2018**, 32(3):297-305.*

53. ***Bhat A****, Qin Z, Wang G, Chen W, Xiao W. Rev7, the accessory subunit of Polζ, undergoes UV-induced and Cul4-dependent degradation****. The FEBS Journal****. 2017,*

*284(12):1790-1803. (**Editor's Choice and cover page article**).*

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57. *Udumula MP, Medapi B, Dhar I, **Bhat A**, Desai K, Sriram D, Dhar A. The Small Molecule Indirubin-3'-Oxime Inhibits Protein Kinase R: Antiapoptotic and Antioxidant Effect in Rat Cardiac Myocytes. **Pharmacology. 2016**, 97(1-2):25-30.*

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63. ***Bhat A**, Gomis S, Potter A, Tikoo SK. Role of Hsp90 in CpG ODN mediated immunostimulation in avian macrophages. **Mol Immunol. 2010**;47(6):1337-46.*

64. *Gupta A, Yang Q, Pandita RK, Hunt CR, Xiang T, Misri S, Zeng S, Pagan J, Jeffery J, Puc J, Kumar R, Feng Z, Powell SN, **Bhat A**, Yaguchi T, Wadhwa R, Kaul SC, Parsons R, Khanna KK, Pandita TK. Cell cycle checkpoint defects contribute to genomic instability in PTEN deficient cells independent of DNA DSB repair. **Cell Cycle. 2009**;8(14):2198-210.*

65. *Sharma S, Rai E, Sharma P, Jena M, Singh S, Darvishi K, **Bhat AK**, Bhanwer AJ, Tiwari PK, Bamezai RN. The Indian origin of paternal haplogroup R1a1* substantiates the autochthonous origin of Brahmins and the caste system. **J Hum Genet. 2009**;54(1):47-55.*

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70. *Rai E, Sharma S, Koul A, **Bhat AK**, Bhanwer AJ, Bamezai RN. Interaction between the UCP2-866G/A, mtDNA 10398G/A and PGC1alpha p.Thr394Thr and p.Gly482Ser polymorphisms in type 2 diabetes susceptibility in North Indian population. **Human Genetics. 2007**;122(5):535-40.*

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two North Indian populations: a replicative study. ***Human Genetics****.* ***2007****;120(6):821-6.*

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- ***GeneBank Data submissions:*** *Accession numbers of mito HVRI and II sequences with Novel polymorphisms and whole mtDNA sequences submitted in NCBI: AY641993-AY641997, AY642034-AY642040, DQ143184-DQ143195 and DQ900742-DQ900749, EU872029-EU872049.*

COMPLETED/ON-GOING RESEARCH PROJECTS

1. *Roles of a mutagenic polymerase in mitosis and genomic instability. (2 years; 100,000 Candian Dollar; Saskatchewan Health Research Foundation, Canada;* ***Completed****).*
2. *Understanding the role of DNA polymerase zeta (Pol ζ) in cancer and onset of chemoresistance in most prevalent gastrointestinal cancers in Jammu and Kashmir region (2 years; 10 lakhs, UGC-Startup grant;* ***Completed****).*
3. *Characterization and profiling of gut microbiome in different gastrointestinal cancer types from J&K populations (2 years; 15Lakh INR; Seed money;* ***Ongoing****).*
4. *To restrain or regulate the reproductive health issues of humans from Jammu and Kashmir region. (5 Years; 102.8 lakhs; ICMR-Centre for Advanced Research;* ***Ongoing****).*
5. *Development and characterisation of TLS polymerase zeta subunit MAD2B/Rev7 targeted inhibitors as potential anticancer therapeutic agents using In-vitro and In-vivo approaches. (3 years, ICMR, 36 lakhs,* ***Ongoing****)*

RESEARCH SUPERVISION

1. **Ph.D**: Two completed under co-supervisor, one submitted and one ongoing. 2. **M.Sc**: Seven completed and five ongoing.

POSTERS/CONFERENCES/WORKSHOPS

1. **Audesh Bhat**, Sureshbabu Mangali, Arti Dhar. Glucolipotoxicity Induced Diabetic Cardiomyopathy is mediated by Protein Kinase R (PKR) pathway: Evidence from in vitro and in vivo DCM Model. 5th International Conference on Diabetes, Hypertension and Metabolic Syndrome, July 18-19, **2022** (**Invited talk** virtual mode).

2. One-day workshop on Digital PCR. Sponsored by ThermoFisher Scientific 3rd June, **2022**. New Delhi.

3. 9th CRAB-E-CON International conference: Decoding Cancer Genetics, 16th Oct 2021 (Invited Talk)

4. **Audesh Bhat**, Sureshbabu Mangali, Deepika Dasari, Vikas Sharma, Arti Dhar. Phytochemicals extracts from *Syzygium cumini* (Jamun) fruit exert an anti-proliferative effect on ovarian cancer cells. 14th International Symposium on Cancer Prevention and Therapeutics, Jawaharlal Nehru University 16th March **2021 (Poster**)

5. **Audesh Bhat**, Deepika Dasari, and Arti Dhar. Pharmacological Intervention Targeting SGLT1 Improves Cardiovascular Dysfunction In-Vitro in Diabetic Cardiomyopathy, Clinical Endocrinology 2020, 5th International Conference on Diabetes and Endocrinology, 16/10/**2020**, page 07 (**Plenary Talk**)

6. J. KALRA, D. Dasari, **A. Bhat**, A. Dhar, SUN-172 SELECTIVE INHIBITION OF PKR AMELIORATES HYPERTENSIVE NEPHROPATHY AND AORTIC REMODELLING IN L-NAME TREATED WISTAR RATS, Kidney International Reports, 2020;5(3), S271. **(Poster**)

7. **Audesh Bhat**, Arti Dhar, Wei Xiao. DNA Polymerase Zeta Maintains Genomic Stability in Human Cells Independent of Its TLS Function. International Conference on Cancer microenvironment and therapeutics. Jawaharlal Nehru University, New Delhi, 2019. **(Poster)**

8. **Audesh Bhat** and Wei Xiao. (2018), *Role of DNA Polymerase Zeta in the Maintenance of Genomic Stability in Human Cells.* 43rd Annual Conference of Indian Society of Human Genetics. Population and Medical Genomics, CCMB, Hyderabad (**Poster, 2nd prize**)

9. **Audesh Bhat** (2017). *A potential interplay between translesion synthesis and nucleotide excision repair pathways*.National Seminar of Recent Trends in Genomics and Metabolomics. Organised by the Department of Biotechnology, University of Jammu. (**Invited talk**)

10. **Audesh Bhat**, Zhoushuai Qin, Wangyang Chen, Wei Xiao(2017). *Rev7/Mad2B has a possible role in Nucleotide Excision Repair pathway.* National Conference on Science and Technology: Emerging trends and Innovations. Organised by the University of Jammu. (**Poster**)

11. **Audesh Bhat**, Parker Anderson, Wei Xiao (2012). *Loss of Rev3, the Polζ catalytic subunit causes fragile site expression in human cells.* International Conference on Maintenance of Genome Stability, **Nassau, Bahamas**. Organised by Abcam. (**Poster**)

12. **Audesh Bhat**, Parker Anderson, Wei Xiao (2011). *Loss of the Polζ catalytic subunit Rev3 causes genomic instability independently of its regulatory subunit rev7 in human cells.* International Conference on Eukaryotic DNA replication and Genome Maintenance, **CSHL, New York, USA.** (**Abstract**)

13. Indo-US workshop on Epigenetics regulation and Genome Control(2009),**CCMB, Hyderabad**, India.

14. Attended International Symposium on *Genetics of Human Evolution and Complex Diseases* (2005), **NCBS, Bangalore, India**.

15. **Audesh Bhat**, Anjana Saha, Swarker Sharma, RNK Bamezai (2004). *Tale Of Y-Chromosome Distribution In Populations Groups of Indo-European and Dravidian Linguistic Families From Six Indian Regions.*XXIX Annual conference of Indian Society of Human Genetics. **NIMHANS, Bangalore, India**. (**Poster**).

ADMINISTRATIVE RESPONSIBILITIES

- *Member, School Board, School of Lifescience, Central University of Jammu (2019 onwards)*
- *Departmental Coordinator, Centre for Molecular Biology, Central University of Jammu (2017-2020)*
- *Warden, Central University of Jammu (2018 – till date)*
- *Convener, Basket Ball team, Central University of Jammu (2017 onwards)*
- *Member Secretary, Biosafety Committee, Central University of Jammu (2018 onwards)*
- *Member, Departmental Research Committee, Central University of Jammu (2018 onwards)*
- *Member, Board of Studies, Centre for Molecular Biology, Central University of Jammu (2017 onwards)*
- *Member, Board of Studies, Department of Botany (2017 onwards)*
- *Member, Institutional Bioethics Committee, Central University of Jammu (2018 onwards)*
- *Member, Departmental Purchase Committee, Central University of Jammu (2017 onwards)*
- *Member, Screening Committee, Central University of Jammu (2017)*

TALKS

- *DNA Damage Tolerance and Human Health.Department of Genetics, Maharishi Dayanand University,* ***2022*** *(**Invited lecture**).*
- *A potential interplay between translesion synthesis and nucleotide excision repair pathways School of Biotechnology, University of Jammu, India,* ***2017***
- *Loss of the Polζ catalytic subunit Rev3 causes genomic instability independently of its regulatory subunit Rev7 in human cells. Dept. of Microbiology & Immunology, University of Saskatchewan,* ***2011***

- *Regulation of CpG-ODN immune-stimulation in chicken. VIDO, University of Saskatchewan, 2009*
- *Genetic diversity and human origin. College of Veterinary Medicine, University of Saskatchewan,* ***2008***
- *DNA methylation and telomere homeostasis in human cells. Dept. of Radiation Oncology, Washington University,* ***2007***

EXTRACURRICULAR ACTIVITIES

- *Organised National Science Day 2022 at the Central University of Jammu*
- *Member, Folk Dance Committee, UDAAN Cultural Festival, Central University of Jammu.*
- *Organised National Science Day 2018 at the Central University of Jammu*
- *Co-organised a National Conference on Materials for Sustainable Development and New Technology at the Central University of Jammu.*
- *Chaired a session and Co-coordinated the 2nd J&K Medical Congress, 2017.*
- *Organised National Science Day 2017 at Central University of Jammu.*
- *Volunteer, Saint Judes' Child Cancer Care Centre, Hyderabad (Sponsored by Novartis Healthcare)*
- *Volunteer, "Let's talk science" at Univ. of Saskatchewan, Canada.*
- *Volunteer, "Leukemia and Lymphoma Society" fundraising event, Canada.*
- *Volunteer, "Saskatoon regional science fair", Canada.*
- *Organising member of an international human health conference, New Delhi.*
- *Organised a diabetes detection camp at Jammu, India.*

EDUCATION

- ***Ph.D. (Molecular Genetics)**, University of Jammu, J&K/ School of Life Science, Jawaharlal Nehru University, New Delhi, India.*
- ***M.Phil. (Genetic Diversity)**, University of Jammu, J&K, India.*
- ***M.Sc. Zoology**, University of Kashmir, J&K, India.*
- ***SHRF - Canada***
- ***CSIR-NET-JRF (Top 20%)***
- ***GATE***
- ***CSIR-NET-LS***