

**Dr. Aklank Jain, PhD**  
 Associate Professor  
 Head of Department  
 Department of Zoology  
 Central University of Punjab, Bathinda  
 Email : [aklankjain@gmail.com](mailto:aklankjain@gmail.com) [aklank.jain@cup.edu.in](mailto:aklank.jain@cup.edu.in)  
 Phone-+91-981-642-7691

**Research experience** : More than Thirteen Years

**Current area of Research** : Identification of non-coding RNA based biomarkers for cancers and Investigation of DNA repair mechanisms in cancer cells

**Previous Employment:**

<b>Designation</b>	<b>Name of Employer</b>	<b>Date of joining</b>	<b>Date of Leaving</b>
Associate Prof.	Department of Zoology (formaly Deptt. of Animal Sciences) Central University of Punjab, Bathinda	Dec.2015	Till Now
Assistant Prof.	Department of Biochemistry and Microbial Sciences, Central University of Punjab, Bathinda	July 2015	Dec 2015
Associate Prof.	Jaypee University of Information Technology, Solan, Himachal Pradesh	August 2012	June 2015
Postdoc	The University of Texas at Austin, Texas, USA	March 2011	June 2012
Postdoc	MD Anderson Cancer Center, Houston, Texas, USA	June 2007	Feb. 2011
Postdoc	Oncology Institute of Southern Switzerland, Switzerland	Feb. 2005	March 2007
PhD	Jamia Millia Islamia and All India Institute of Medical Sciences, New Delhi	Aug 1999	Feb 2005

### Ongoing Research Projects:

S. No	Title of Project	Funding Agency
1.	Noncoding RNA and Cancer	Ramanujan fellowship, Department of Science and Technology, India
2.	Elucidating the role of potential miRNAs in the pathogenesis of Head and Neck Cancer.	Department of Biotechnology, India
3.	Identification of circulating microRNAs as novel noninvasive biomarkers for early detection of lung cancer	ICMR, India
4.	Indo-Russia Project	DST, India

### List of recent Publications:

1. Aggarwal V, Kashyap D, Sak K, Tuli HS, **Jain A**, Chaudhary A, Garg VK, Sethi G, Yerer MB. Molecular Mechanisms of Action of Tocotrienols in Cancer: Recent Trends and Advancements. **Int J Mol Sci.** 2019 Feb 2;20(3). pii: E656.
2. Malhotra A, Sharma U, Puhan S, Chandra Bandari N, Kharb A, Arifa PP, Thakur L, Prakash H, Vasquez KM, **Jain A**. Stabilization of miRNAs in esophageal cancer contributes to radioresistance and limits efficacy of therapy. **Biochimie.** 2018 Oct 13;156:148-157.
3. Malhotra A, Jain M., Prakash H, Vasquez KM, and **Jain A**. The regulatory roles of long non-coding RNAs in the development of chemoresistance in breast cancer. **Oncotarget.** 2017; 8:110671-110684.
4. Thakur L, Singh KK, Shanker V, Negi A, **Jain A**, Matlashewski G, Jain M. Atypical leishmaniasis: A global perspective with emphasis on the Indian subcontinent. **PLoS Negl Trop Dis.** 2018 Sep 27;12(9):e0006659. doi: 10.1371/journal.pntd.0006659. eCollection 2018 Sep.
5. Nadella V, Singh S, Jain M, Vasquez KM, **Jain A**, Prakash H. Low dose irradiation (LDR) confers angiostatic potential in macrophages against tumorigenic endothelium. **Mol Carcinog.** 2018 Nov;57(11):1664-1671.

6. Saluja R, Kumar A, Jain M, Goel SK, **Jain A**. Role of Sphingosine-1-Phosphate in Mast Cell Functions and Asthma and Its Regulation by Non-Coding RNA. **Front Immunol**. 2017 May 22;8:587. doi: 10.3389/fimmu.2017.00587.
7. Khandelwal A, Malhotra A, Jain M, Vasquez KM, **Jain A**. The emerging role of long non-coding RNA in gallbladder cancer pathogenesis. **Biochimie**. 2017 Jan;132:152-160. doi: 10.1016/j.biochi.2016.11.007.
8. Khandelwal A., Bacolla A., Karen Vasquez KM and **Jain A**. Long Non-Coding RNA: A New Paradigm for Lung Cancer. **Mol Carcinog**. 2015 Nov;54(11):1235-51.
9. Bacolla A, Temiz NA, Yi M, Ivanic J, Cer RZ, Donohue DE, Ball EV, Mudunuri US, Wang G, Jain A, Volfovsky N, Luke BT, Stephens RM, Cooper DN, Collins JR, Vasquez KM. Guanine holes represent prominent targets for mutation in cancer and inherited disease. **PLoS Genetics**, 2013 Sep;9(9):e1003816.
10. Jain A, Bacolla A, Del Mundo IM, Zhao J, Wang G, Vasquez KM. DHX9 helicase involved in maintaining genomic stability in human cells. **Nucleic Acid Research**, 2013 Sep 17; 1-13.
11. Bacolla A, Wang G, **Jain A**, Chuzhanova NA, Cer RZ, Collins JR, Cooper DN, Bohr VA, Vasquez KM. Non-B DNA forming sequences and WRN deficiency independently increase the frequency of spontaneous base substitution in human cells. **J Biol Chem**. 2011 Mar 25; 286(12):10017-26.
12. **Jain A**., Bacolla A, Chakraborty P, Grosse, F., Vasquez KM. Human DHX9 helicase unwinds triplex DNA structure. **Biochemistry**. 2010 Aug. 24; 49(3):6992-9.
13. **Jain A**., Magistri, M., Napoli, S., Carbone GM and Catapano CV. Mechanisms of triplex-DNA mediated inhibition of transcription in cells. **Biochimie**. 2010 Mar; 92(3):317-20.
14. Zhao J., Wang G., **Jain A**., Vasquez KM. DNA repair proteins influence DNA structured – induced genomic instability. **Env. & Mol. Mut.** 2010; 51(7), 721-721.
15. Zhao J., **Jain A**., Iyer RR., Modrich PL., Vasquez KM. Mismatch repair and nucleotide excision repair proteins cooperate in the recognition of DNA interstrand crosslinks. **Nucleic Acid Research**, 2009 Jul; 37(13):4420-9.
16. **Jain A**, Wang G, Vasquez KM. DNA Triple helices: biological consequences and therapeutic potential. **Biochimie**. 2008 Aug; 90(8):1117-30.
17. Cangemi R, Mensah A, Albertini V, **Jain A**, Mello-Grand M, Chiorino G, Catapano CV, Carbone GM. Reduced expression and tumor suppressor function of the ETS transcription factor ESE-3 in prostate cancer. **Oncogene**. 2008 May 1; 27(20):2877-85.

18. Albertini V, **Jain A.**, Vignati S, Napoli S, Rinaldi A, Kwee I, Nur-e-Alam M, Bergant J, Bertoni F, Carbone GM, Rohr J, Catapano CV. Novel GC-rich DNA-binding compound produced by a genetically engineered mutant of the mithramycin producer *Streptomyces argillaceus* exhibits improved transcriptional repressor activity : implication for cancer therapy. **Nucleic Acids Res.** 2006 Mar 29; 34(6):1721-34.
19. **Jain A**, Akanchha S, Rajeswari MR. Stabilization of purine motif DNA triplex by a tetrapeptide from the binding domain of HMGB1 protein. **Biochimie.** 2005 Aug;87(8):781-90. Epub 2005 Apr 13.
20. Rajeswari MR, Jain A, Sharma A, Singh D, Jagannathan NR, Sharma U, Degaonkar MN. Evaluation of skin tumors by magnetic resonance imaging. **Lab Invest.** 2003 Sep;83(9):1279-83.
21. **Jain A**, Ahmad F, Rajeswari MR. Structural studies on DNA triple helix formed by intronic GAA triplet repeat expansion in Friedreich's ataxia. **Nucleotides Nucleic Acids.** 2003 May-Aug;22(5-8):1517-9.
22. Sharma S, Kaur P, **Jain A**, Rajeswari MR, Gupta MN. A smart bioconjugate of chymotrypsin. **Biomacromolecules.** 2003 Mar-Apr;4(2):330-6.
23. **Jain A**, Rajeswari MR. Preferential binding of quinolones to DNA with alternating G, C / A, T sequences: a spectroscopic study. **J Biomol Struct Dyn.** 2002 Oct;20(2):291-9.
24. **Jain A**, Rajeswari MR, Ahmed F. Formation and thermodynamic stability of intermolecular (R\*R\*Y) DNA triplex in GAA/TTC repeats associated with Friedreich's ataxia. **J Biomol Struct Dyn.** 2002 Feb;19(4):691-9.