

Biodata

Name: Dr. Anuj Kumar
Designation: Scientist C and Nodal Officer NTTL
Division/Department: Molecular Biology Group
Educational Qualification: M.Sc., PhD (Life Sciences)



Details of Educational Qualification

Degree	Institution	Field(s)	Year
B. Sc.	University of Delhi	Biochemistry	2004
M. Sc.	IIT Bombay, Mumbai	Biotechnology	2006
PhD	Jawaharlal Nehru University, Delhi	Life Sciences	2012

Work Experience:

Duration	Institution	Particulars of work done
2018-present	ICMR-National Institute of Cancer Prevention and Research (ICMR-NICPR), Noida	Cancer research mainly related to oral cancer due to smokeless tobacco (SLT), Nodal Officer National Tobacco Testing Laboratory (NTTL) COVID 19 diagnosis at High-Throughput Lab (HTL), Research on tobacco cessation protocols, Hepatitis and Hepatocellular carcinoma (HCC)
2016-2018	ICMR-NIV Pune	Bacteriology, Molecular diagnosis

2015-2016	Lupin Pharma, Pune	Research and Development in monoclonal antibodies (mAbs)
2014-2015	Shriram Institute for Industrial Research, Delhi	Research work for the project " Molecular modeling of cancer/testis antigens: potential cancer therapeutic targets "Start-Up Research Grant (Young Scientists)"; Molecular testing of food and farm products
2011-2013	International centre for genetic engineering and Biotechnology	Research work in the field of malaria biology and structure biology

Research Interests:

Cancer Biology, Infectious Diseases, Structure Biology, Molecular Biology, Virology

Membership of Professional Societies:

Life member of Indian Science Congress

Life member of Indian Association of Cancer Research

Scientific Advisory committee (Biobanking International Symposium), ILBS, Delhi

Fellowships/Awards/Patents (academic/national/internationally)

DBT fellowship M.Sc in IIT Bombay

Junior and Senior Research Fellowship (JRF & SRF)

Corona Warriors Award

Publications: (in Vancouver style only with latest impact factor):

1. Gill J, Kumar A, Sharma A. Structural comparisons reveal diverse binding modes between nucleosome assembly proteins and histones. *Epigenetics Chromatin*. 2022 Dec 24;15(1):20.
2. Mandhan P, Sharma M, Pandey S, Chandel N, Chourasia N, Moun A, et al. A Regional Pooling Intervention in a High-Throughput COVID-19 Diagnostic Laboratory to Enhance Throughput, Save Resources and Time Over a Period of 6 Months. *Front Microbiol* [Internet]. 2022;13:858555. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/35756046>
3. Kumar P, Rani A, Singh S, Kumar A. Recent advances on <scp>DNA</scp> and omics-based technology in Food testing and authentication: A review. *J Food Saf* [Internet]. 2022 Aug 13;42(4). Available from: <https://onlinelibrary.wiley.com/doi/10.1111/jfs.12986>
4. Kumar P, Dhingra A, Sharma D, Kumar A, Singh S. Microbiome and Development of Ovarian Cancer. *Endocr Metab Immune Disord Drug Targets* [Internet]. 2022 May 8; Available from: <http://www.ncbi.nlm.nih.gov/pubmed/35532247>
5. Kumar A, Singh S, Singh P. An essay on Smokeless Tobacco. (manuscript accepted). 2022.
6. Singh PK, Jain P, Pandey V, Saxena S, Tripathi S, Kumar A, et al. Smokeless tobacco quitting during COVID-19: A mixed-methods pilot study among participants screened for a cessation trial in India. *Clin Epidemiol Glob Health* [Internet]. 2021 Oct 25;12:100902. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/34695790>
7. Sajid M, Srivastava S, Kumar A, Kumar A, Singh H, Bharadwaj M. Bacteriome of Moist Smokeless Tobacco Products Consumed in India With Emphasis on the Predictive Functional Potential. *Front Microbiol* [Internet]. 2021 Dec 24;12. Available from: <https://www.frontiersin.org/articles/10.3389/fmicb.2021.784841/full>
8. Deoshatwar A, Salve D, Gopalkrishna V, Kumar A, Barve U, Joshi M, et al. Evidence-Based Health Behavior Interventions for Cholera: Lessons from an Outbreak Investigation

- in India. *Am J Trop Med Hyg* [Internet]. 2021 Oct 25;106(1):229–32. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/34695790>
9. Gill J, Kumar A, Yogavel M, Belrhali H, Jain SK, Rug M, et al. Structure, localization and histone binding properties of nuclear-associated nucleosome assembly protein from *Plasmodium falciparum*. *Malar J* [Internet]. 2010 Apr 8;9(1):90. Available from: <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=2873526&tool=pmcentrez&rendertype=abstract>
 10. Kumar A, Kashyap M, Bhavesh NS, Yogavel M, Sharma A. Structural delineation of histone post-translation modifications in histone-nucleosome assembly protein complex. *J Struct Biol* [Internet]. 2012 Oct;180(1):1–9. Available from: <http://linkinghub.elsevier.com/retrieve/pii/S104784771200192X>
 11. Gill J, Yogavel M, Kumar A, Belrhali H, Jain SK, Rug M, et al. Crystal structure of malaria parasite nucleosome assembly protein: Distinct modes of protein localization and histone recognition. *Journal of Biological Chemistry* [Internet]. 2009 Apr 10 [cited 2012 Jun 14];284(15):10076–87. Available from: <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=2665062&tool=pmcentrez&rendertype=abstract>
 12. Roesch C, Popovici J, Bin S, Run V, Kim S, Ramboarina S, et al. Genetic diversity in two *Plasmodium vivax* protein ligands for reticulocyte invasion. Dinglasan RR, editor. *PLoS Negl Trop Dis* [Internet]. 2018 Oct 22;12(10):e0006555. Available from: <https://www.biorxiv.org/content/early/2018/05/22/328757>
 13. Gopalkrishna V, Joshi M, Viswanathan R, Malu G, Ganorkar N, Chavan N, et al. Cholera outbreak in Aurangabad, Maharashtra, western India. *Indian Journal of Medical Research* [Internet]. 2019 Dec;150(6):640. Available from: <http://www.ijmr.org.in/text.asp?2019/150/6/640/277417>
 14. Mishra PC, Kumar A, Sharma A. Analysis of small nucleolar RNAs reveals unique genetic features in malaria parasites. *BMC Genomics* [Internet]. 2009 Jan [cited 2012 Sep 24];10(1):68. Available from: <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=2656528&tool=pmcentrez&rendertype=abstract>

15. Siddiqui F, Croucher R, Ahmad F, Ahmed Z, Babu R, Bauld L, et al. Smokeless Tobacco Initiation, Use, and Cessation in South Asia: A Qualitative Assessment. *Nicotine Tob Res* [Internet]. 2021 Apr 29;23(10):1801–4. Available from: <https://academic.oup.com/ntr/advance-article/doi/10.1093/ntr/ntab065/6222133>
16. Kumar A, Sharma D, Aggarwal ML, Chacko KM, Bhatt TK. Cancer/testis antigens as molecular drug targets using network pharmacology. *Tumor Biology* [Internet]. 2016 Dec 5;37(12):15697–705. Available from: <http://dx.doi.org/10.1007/s13277-016-5333-2>
17. Kumar A, Barve U, V G, V TB, Katendra S, Joshi; MS, et al. Outbreak of cholera in a remote village in western India. *Indian Journal of Medical Research*. 2021;(manuscript accepted).
18. Ashok Tiwari, Anuj Kumar, Rachana R. Peptide inhibition of the mTORC1 signaling: A trend in Cancer Therapeutics. *Research Square* (preprint). 2022;
19. Anuj Kumar. Establishment of Automated Biobanking systems: Technical Considerations. manuscript submitted.
20. Anuj Kumar. RT-PCR tests national and international standards. manuscript submitted (preprint). 2021;
21. SM AK. Human proteins associated with cancer - a bioinformatic approach. manuscript submitted (preprint). 2021;
22. Anuj Kumar. Establishment of a nationalized automated biobank: challenges and opportunities . 2020.
23. Anuj Kumar, Prashant K Singh. An essay on Smokeless Tobacco. In: Book Chapter.

Popular articles/op-ed/media-coverage: (latest first and provide title and link):

None

Presentations/Talks/Lectures: (latest first, title of the presentation, organized by and date)

1. Lecture in “ICMR-AUS-RTC Workshop” 2nd-6th September, 2019
2. On-line lecture on “Tobacco product cause cancer” 4th of Feb on Cancer Days at Bhaskar Acharya college of Delhi University.

3. Invited lecture on “Establishing Automated Biobanking: Technical Considerations” in conference organized by International Society for Biological and Environmental Repositories (ISBER), 2022
4. Lecture on “associated with inflammatory factors, renal function, and other hormones and nutritional biomarkers in older adults” ICMR-NICPR 2022
5. Invited talk on “Past and Present activities in molecular biology” ICMR-NICPR 2022

Projects:

- **Ongoing**

Projects: as Principal-Investigator

1. Identification of oral microbial genes as potential molecular diagnostic markers of tobacco exposure
Funding: Intramural funding
2. Hepatitis and Hepatocellular Carcinoma
Funding: Intramural funding

Projects: as co-investigator

3. Seroepidemiology, maternal immune status and missed diagnosis of pertussis among young infants in India - a multicentric study
Funding Agency: DBT Wellcome India Alliance Intermediate Career Fellowship
4. Strengthening biochemical research, policy, capacity building and cessation support to advance smokeless tobacco control in India
Funding Agency: ICMR
5. Addressing Smokeless Tobacco and building Research Capacity in South Asia (ASTRA) co-investigator in one arm of the project i.e. A Feasibility Trial for Smokeless Tobacco Cessation
Funding Agency: National Institute of Health Research, UK (NIHR)

Others

6. Nodal officer National Tobacco Testing Laboratories (NTTLs) are Tobacco Research and Testing Laboratories

Funding: Ministry of Health and Family Welfare (MoHFW)

7. Team member of Biobank team for Establishment of automated integrated Biobank long-term storage system as a turnkey project with all necessary scientific laboratory equipment and works

Funding: ICMR

8. Team member of High-Throughput Lab for COVID-19 testing

Funding: ICMR

- **Completed**

1. Molecular modeling of cancer/testis antigens: potential cancer therapeutic targets

Funding: SERB

Role: PI

Duration: 3 years

2. Establishment of Molecular Diagnostic Laboratory in Bacteriology Group of National Institute of Virology (ICMR-NIV), Pune

Role: Lab member

Duration: 1 year

Brief Biosketch (not more than 100 words):

Dr Anuj Kumar did his graduation from University of Delhi (Shivaji Collage) and post-graduation in Biotechnology from IIT Bombay. He completed his PhD from ICGEB affiliated from JNU, Delhi on the topic “Functional studies on histone chaperones – histone complexes in

Dr Anuj Kumar, Scientist C, ICMR-NICPR

Plasmodium falciparum” mainly addressing the biochemical and structural aspects of biology. Completed post-doc in malaria biology group with Dr Chetan Chitnis on malaria vaccine. Dr Anuj also worked at scientist position in Shriram Institute for Industrial Research, Delhi, Lupin Pharma Ltd. and National Institute of Virology before joining National Institute of Cancer Prevention and Research, NOIDA. He is Nodal-Officer of National Tobacco Testing Lab of ministry of health and family welfare.

Dr Anuj has gained experience of 15 years in research and published 25 research articles in national and international peer reviewed journals. He has been awarded “Corona Warrior Award” for his service in the institute.

My research interest revolves around understanding the role of proteins in context to developing novel drugs, vaccines and other therapeutic/diagnostic targets. Protein networks and macromolecular complexes are the backbone of cellular processes that need be analyzed for their therapeutic/diagnostic potential.

At ICMR-NICPR, I am working to understand the effect of smokeless tobacco products (SLTs) at molecular level. I am part of team involved in COVID19 diagnosis. I also have interest factors affecting studying the chromatin assembly. The use molecular, computational, structural and systems biology approach to pursue the biological questions.

Contact me at:

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