



Pooja Arora

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Zoology Department, Hansraj College, University of Delhi, New Delhi, India

Education:

PhD (Immunology)	National Institute of Immunology, JNU	2005-2011
Masters (Zoology)	Hansraj College, University of Delhi	2003-2005
Bachelors (Zoology)	Hansraj College, University of Delhi	2000-2003

Core Competencies:

Teaching | Leadership | Administration | Scientific Research | Students Advisory | Bioinformatics

Professional Experience:

Assistant Professor, Zoology Department, Hansraj College, University of Delhi (21/07/ 2011 - present)

- **Teaching:** Teaching Genetics, Molecular Biotechnology and Cell growth and regulation to under-graduate students.
- **Research and Data Analysis:** Actively involved in data mining-based projects. Currently working on the project i.e., Biomolecule identification via efficient feature selection and machine learning classifiers.
- **Add-on Courses organized:** Worked as a Course Coordinator for the add-on certificate course titled "Innovation, IPR, Start-up and Entrepreneurship (CIISE) and "Introduction to Machine Learning" for life science and Physical science students and "Python Programming for Biology".
- **FDPs Organized:** Worked as a Convener for one-week online Faculty Development Programme on "Intellectual Property Rights" and "Introduction to Python Programming".
- **IQAC-Related assignments:** Working actively in submission of AQARs (since 2017), IQA, SSR and DVV for cycle II, preparing documents for academic audit and data compilation for ranking in different platforms.
- **Resource Person:**

Worked as Resource Person for the several workshops related to *Development of Audio/Video resources based on laboratory manual in Biology at Higher Secondary Stage (Class XII)* organized by Department of Education in Science & Mathematics, National Council of Educational Research & Training (NCERT) New Delhi.

Worked as a resource person in workshop *Python for Biology* in 6th international Indian Network for Soil Contamination Research (INSCR) 2021 on “Microbes in Sustainable Development”.

Worked as **Resource Person** in 3rd workshop on *Hands-on Training workshop on Python for Biology & its practical approaches* held from 9th January to 13th January 2023 at CIIDRET premises in association with Hansraj College.

Worked as a resource person in add on course *Python Programming for Biology* held from 20th January 2023 to 18th March 2023.

- **Associate Editor in HansShodhSudha:** An online interdisciplinary research journal published by Hansraj College.
- **Project Assistant in UGC Paramarsh Scheme from 2019-2021.**
- **Convenor, Hansraj College Grievance Committee (2023-24)**
- **Coordinator, Student Learning Centre Hansraj College (2023-24)**

Research Publications:

- Kaur B.*, Sharma P., **Arora P.**, Sood V*. QUFIND: tool for comparative prediction and mining of G4 quadruplexes overlapping with CpG islands Front Genet 2023 Oct 25;14:1265808. *Corresponding author
- **Arora P***, Periwal N., Goyal Y., Sood V and Kaur B*. iIL13Pred: Improved prediction of IL-13 inducing peptides using popular machine learning classifiers. BMC Bioinformatics 2023 Apr 11;24(1):141. *Corresponding author
- Periwal N., Bhardwaj U., Sarma S., **Arora P** and Sood V*. In-silico analysis of SARS-CoV-2 genomes: Insights from SARS encoded non-coding RNAs.. Front Cell Infect Microbiol. 2022 Nov 28;12:966870.
- Rajput R., Periwal N., Mukherjee C., Verma P., Sharma J., Kaur B., **Arora P.**, and Sood V*. Valuable insights into host response to Japanese Encephalitis Virus infection: Reanalysis of public transcriptome and microRNAome datasets. Virus Res. 2022 Aug 8;320:198887.
- Periwal N., Rathod S.B., Sarma S., Singh G., Jain A., Barnwal R.P., Srivastava K.R., Kaur B., **Arora P.** and Sood V*. Time series analysis of SARS-CoV-2 genomes and correlations among highly prevalent mutations. Microbiology Spectrum 2022 Sept. 7:e0121922.
- Periwal N., Sharma P., **Arora P.**, Pandey S., Kaur B and Sood V*. A novel binary *k*-mer approach for classification of coding and non-coding RNAs across diverse species. Biochimie 2022 Apr 25;199:112-22.
- Lata S., Mishra R., Ravi A., **Arora P.**, Lahon A., Banerjea AC and Sood V*. Where All the Roads Meet? A Cross Over Perspective on Host Factors Regulating SARS-CoV-2 infection. J Mol Biol. Biology 2021 Dec 13;434(5):167403.

- Sharma J., Rajput R., Bhatia M., **Arora P** and Sood V (2021). Clinical Predictors of COVID-19 Severity and Mortality: A Perspective. *Front. Cell. Infect. Microbiol.* Oct 25;11:674277.
- **S Sarma** , A Singh , P Arora Potential Therapeutics against COVID-19 **HansShodhSudha** 2021 October; 2:5-17
- Periwal N., Rathod SB., Pal R., Sharma P., Nebhnani L., Barnwal RP., **Arora P.**, Srivastava KR and Sood V*. In silico characterization of mutations circulating in SARS-CoV-2 structural proteins. *Journal of Biomolecular Structure and Dynamics* 2021 April 2:1-16.
- Rajput R., Sharma J., Nair M.T., Khanna M, **Arora P**. and Sood V*. Regulation of host innate immunity by non-coding RNAs during Dengue virus infection. *Front. Cell. Infect. Microbiol.* 2020 10:588168. doi: 10.3389/fcimb.2020.588168.
- **R Madan**, P Arora. Unmasking Host Cell Responses in Severe Dengue Pathogenesis. **HansShodhSudha** 2020 September; 1:100-109.
- **Arora P.**, Malik M., Sachdeva R., Sharma L., Das J., Ramachandran V.G. and Pal R. Innate and humoral recognition of the products of cell death: Differential antigenicity and immunogenicity in lupus. **Clinical and Experimental Immunology**.2017 Mar;187(3):353-368. PMID 27783388.
- Malik M., **Arora P.**, Sachdeva R., Sharma L., Ramachandran V.G. and Pal R. Elucidation of the potential disease-promoting influence of IgM apoptotic cell-reactive antibodies in lupus. **Lupus** (9th Jan 2016) 25, 684-698 PMID: 26743320
- Das J., **Arora P.**, Gracias D., Praveen A., Raj B.P., Martin E, Pal R. Endogenous humoral autoreactive immune responses to apoptotic cells: Effects on phagocytic uptake, chemotactic migration and antigenic spread. **European Journal of Immunology**, **38**: 3561-3574, 2008 PMID: 19016523.

Book Chapter

- Written chapters on “**T-cell development**” and “**T-cell Activation**” for E-Pathshala for Post Graduate Courses - An MHRD Project under its National Mission on Education through ICT (NME-ICT), Govt. of India.
- G P Talwar, Hemant Kumar Vyas, Rafi Shiraz Kabeer, Rita Singh, Rahul Pal, Ram A Vishwakarma, Shilpi Purswani, **Pooja Arora**, Prem Chopra, Lalit Kumar, Ritu Gupta. Targeted therapy of β -hCG expressing cancers. **Treatment of Advance Stage Cancer: Current Status and Emerging Frontiers**. Edited by Talwar GP, Sood OP. Published by Narosa Publishing House, New Delhi, 2009, pp 90-95.

Book Published

- Co-authored a book “Biology Programme for S5” for upper higher secondary schools. **Khosla Publishing House**, New Delhi, 2016.
- Able Hutten and Pooja Arora. **Concise Ecology**. Khosla Publishing House, New Delhi, 2014

Complete list of publications

<https://scholar.google.com/citations?user=HI19ZNUAAAAJ&hl=en>

My future plan:

My future plan is to continually evolve as an educator so that I can help my students to be quisitive and have panoramic view for any topic assigned to them. I want to continue with my *Chalk and Talk* style of teaching as I believe that this might be more effective to interact with students. I also want to integrate the classroom knowledge and information in real scenario of the life.

The world is changing very fast and we need to keep pace with this for a successful career. Thus, I have learned and started machine learning based research to find the pattern in the complex biological data that is freely available in public database. I want to extend this knowledge to the students so that they are aware of the tools and techniques to analyze big data in biology.