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 and Animal Biotechnology to under-graduate students.

- **Research and Data Analysis:** Actively involved in data mining-based projects. Currently working on two projects on anti-microbial peptide and IL13 inducing peptide prediction via machine learning approaches.

- **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), IIQA, 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.**

Research Publications:

- **Arora P***., Periwal N., Goyal Y., Sood V and Kaur B*. iIL13Pred: Improved prediction of IL-13 inducing peptides using popular machine learning classifiers. Manuscript accepted BMC Bioinformatics. *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 antigenecity and immunogenecity 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*, <u>38</u>: 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.

<u>Book Published</u>

- Co-authored a book "Biology Programme for S5" for upper higher secondary schools. **Khosla Publishing House**, New Delhi, 2016.

- Able Huten and Pooja Arora**. Concise Ecology.** Khosla Publishing House**,** New Delhi, 2014

<u>Complete list of publications</u>

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

<u>Research Interest:</u>

My research involves around dissecting biological pathways/big data using machine learning based approaches. I have basic understanding of core Python and data analysis using NumPy and Pandas that I am using in the current projects.