




## Shivaji College Faculty Details

Title	Dr.	First Name	JITENDRA	Last Name	CHAUDHARY	Photograph
<b>Designation</b>		Assistant Professor				
<b>Address</b>	Jia Sarai, Hauz Khas, New Delhi PIN: 110016					
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<b>Email</b>	<a href="mailto:jnujitendra@gmail.com">jnujitendra@gmail.com</a> ; <a href="mailto:jitendra@shivaji.du.ac.in">jitendra@shivaji.du.ac.in</a>					
<b>Web-Page</b>	Web Link: <a href="https://www.shivajicollege.ac.in/academics/departments/faculty.php?department=zoology">https://www.shivajicollege.ac.in/academics/departments/faculty.php?department=zoology</a> Google Scholar Link: <a href="https://scholar.google.com/citations?user=vE-QCoQAAAAJ&amp;hl=en">https://scholar.google.com/citations?user=vE-QCoQAAAAJ&amp;hl=en</a> Research gate Link: <a href="https://www.researchgate.net/profile/Jitendra-Chaudhary-3/research">https://www.researchgate.net/profile/Jitendra-Chaudhary-3/research</a>					
<b>Educational Qualifications</b>	<b>M.Sc.; M. Phil./Ph.D.</b>					
<b>Degree</b>	<b>University/Institute</b>				<b>Year</b>	
<b>Ph.D. (Stem Cells/Regenerative Medicine)</b>	Jawaharlal Nehru University (JNU), New Delhi				2014 (Awarded)	
<b>M.Phil./M.Tech.</b>	Jawaharlal Nehru University (JNU), New Delhi				2007-08 (FIRST)	
<b>PG (Zoology)</b>	University of Allahabad (UoA)				2006 (FIRST)	
<b>UG (Zoology, Botany, Chemistry)</b>	V. B. S. Purvanchal University (PU)				2004 (FIRST)	
<b>Any Other Qualification</b>	Special Courses/Diplomas on Biostatistics, Research Methodology, and English language at JNU				2007-2013	
	Multiple courses and workshops				2008-till date	

## Career Profile

### [A] Teaching experiences: ~12 years (January 2013 - till present)

- Assistant Professor (Permanent): since December 19, 2023 onward at Department of Zoology, Shivaji College, University of Delhi.
- Assistant Professor (Ad-hoc), Department of Zoology, Shivaji College, University of Delhi (Since 24th July 2013 till 18 December 2023).
- Assistant Professor (Guest Lecturer), Department of Zoology, Maitreyi College, University of Delhi (15th March 2013 to 15th April 2013).
- Assistant Professor (Guest Lecturer) in the Zoology Department, Sri Venkateswara College, University of Delhi (January 2013 to April 2013).

### [B] Fellowships/Awards

- Qualified **ICMR-JRF** conducted by Indian Council of Medical Research (ICMR), New Delhi, India, 2007.
- Qualified **CSIR-JRF for SPMF (Ranked among top 10% at National Level)** conducted by Council of Scientific & Industrial Research (CSIR), India, 2007 (June).
- Qualified **CSIR-JRF** conducted by Council of Scientific & Industrial Research, India in the year 2007 (June).
- Qualified **CSIR-UGC-NET** conducted by the Council of Scientific & Industrial Research, India in the academic year 2006 (December).
- Qualified All India Entrance Examination for M.Phil/Ph.D. conducted by Jawaharlal Nehru University (JNU), New Delhi, India (2007) and stood among the top 10.
- Qualified Life Science Graduate Aptitude (**GATE**) Test in Engineering conducted by IIT Kanpur (Life Sciences) with All India Rank 846 in 2007.
- Qualified for many other National-Fellowship Competitive Examinations conducted by Premier Institutions of the India.

## Administrative Assignments

- Member College Research and Innovative Committee, Shivaji College, DU: 2024-2025
- Member Environment and Sustainability Committee, Shivaji College, DU: 2024-2025
- Member Udmodhya Entrepreneurship Development Cell, Shivaji College, DU: 2024-2025
- Member Cultural Committee, Shivaji College, DU: 2023-2024
- Member Garden Committee, Shivaji College, DU: 2023-2024
- Member TEDx Committee, Shivaji College, DU: 2023-2024
- Member Cultural Committee, Shivaji College, DU: 2022-2024
- Co-convener: DBT-STAR College Scheme, DU: 2021-2023
- Member of Eco-Club, Shivaji College, DU: 2021-2022
- Have worked in several departmental committees like the Instrumentation supervisory committee and Result Analysis Committee, Shivaji College, University of Delhi.
- Have worked as a member of the Discipline committee-2018-2019, Shivaji College, University of Delhi.
- Have worked as a member of Placement Cell-2018-2019, Shivaji College, University of Delhi.
- Have worked on the OBC admission committee, Shivaji College, Delhi University

### Areas of Interest/Specialisation

Stem Cell, Molecular Biology, Genetics, Immunology, and Cancer Biology

### Subjects/Papers Taught

Molecular Biology, Cell Biology, Biochemistry, Animal/Human Physiology & Developmental Biology, Genetics, Biostatistics, Immunology, Invertebrate and Vertebrate Biology, Ecology and Environmental Sciences & Management, Biotechnology, Research Methodology, Forensic Chemistry, Food Nutrition and Health

### Innovation Project/Research Projects (Major Grants/Research Collaboration)

- **Minor Research Grant** (2023-2024): Developing insights into stem cell therapeutic potential for hematological disorders based on analysis of the National Institute of Health (NIH)'s clinical trials repertoire [File Number: MRP/2022-2023/0006]
- **Minor Research Grant** (2020-2021): "Genomic, structural and mutational analysis of SARS-CoV-2 using *in silico* approach" [File Number: MRP/2021/0008]
- **DBT-STAR Scheme** (2019-2022): Developing quantitative approach to Biological understanding. [<https://dbtindia.gov.in/>]

### Publications Profile (*Research Papers/Books*)

#### [A] Research/Review Articles, Newsletter, and Conference Proceedings

- **Chaudhary JK** and Rath PC (2024). Chemokines and Aging: Mechanisms of Ageing and Development (Under review) (*Impact Factor = 5.3*)
- **Chaudhary JK** and Rath PC (2024). Relationship between Stem Cells and Aging. Aging Research Review (Under Review). (*Impact Factor = 14.608*)
- **Chaudhary JK** et al. (2024). Multiple Myeloma: Insights into underlying mechanisms, and advances in diagnostic and therapeutic modalities: *Cancer Treatment Reviews* (Under Review). (*Impact Factor = 13.608*)
- **Chaudhary, J.K.**, Ahamad, N. & Rath, P.C. (2024) Mesenchymal stem cells (MSCs) from the mouse bone marrow show differential expression of interferon regulatory factors IRF-1 and IRF-2. *Mol Biol Rep (MOLE)* **51**, 97 (2024). PMID: 38194130 <https://doi.org/10.1007/s11033-023-09025-9> (*Impact Factor = 2.80*)
- Dua, A., Roshan, R., Nigam, A., Yadav, D., **Chaudhary, J.K** (2023). Evaluation of Knowledge, Attitude, and Practice towards the Coronavirus Disease 19 Pandemic: A Cross-Sectional Study in Delhi-NCR Regions of India. *Microsphere*. 2023;2(1):159-169. DOI: [10.59118/XLOK1140](https://doi.org/10.59118/XLOK1140); ISSN: 2583-5327
- **Chaudhary JK**, Saini D, Chaudhary PK, Maurya A, Verma GK, Gupta AK, Roshan R, Vats TK, Garg N, Yadav D, Kant N. Exploring the Immunomodulatory Aspect of Mesenchymal Stem Cells for Treatment of Severe Coronavirus Disease 19. *Cells*. 2022 Jan;11(14):2175.

- <https://doi.org/10.3390/cells11142175>; PMID: 35883618; PMCID: PMC9322532. (*Impact Factor* = 7.70)
- Kant, N., Samanta, S., Panchal, I., Pandey, A., Ghatak, L., Rout, A., & **Chaudhary, J. K.** (2022). Genome-wide mutation/SNP analysis, biological characteristics, and Pan-India prevalence of SARS-CoV-2 Variants of Concern. *Chemical Biology Letters*, 9(2), 331. <https://pubs.thesciencein.org/journal/index.php/cbl/article/view/331> (SCOPUS CiteScore 9.222) ISSN 2347–9825
  - **Chaudhary JK**, Yadav R, Chaudhary PK, Maurya A, Kant N, Rugaie OA, Haokip HR, Yadav D, Roshan R, Prasad R, Chatrath A, Singh D, Jain N, Dhamija P. Insights into COVID-19 Vaccine Development Based on Immunogenic Structural Proteins of SARS-CoV-2, Host Immune Responses, and Herd Immunity. *Cells*. 2021; 10(11):2949. <https://doi.org/10.3390/cells10112949>. PMID: 34831172; PMCID: PMC8616290 (*Impact Factor* = 7.70)
  - **Chaudhary JK**, Yadav R, Chaudhary PK, Maurya A, Roshan R, Azam F, Mehta J, Handu S, Prasad R, Jain N, Pandey AK, Dhamija P. Host Cell and SARS-CoV-2-Associated Molecular Structures and Factors as Potential Therapeutic Targets. *Cells*. 2021; 10(9):2427. <https://doi.org/10.3390/cells10092427>. PMID: 34572076; PMCID: PMC 8467010 (*Impact Factor* = 7.70)
  - Yadav R, Hasan S, Mahato S, Celik I, Mary YS, Kumar A, Dhamija P, Sharma A, Choudhary N, Chaudhary PK, Kushwaha AS, **Chaudhary JK** 2021. Molecular docking, DFT analysis, and dynamics simulation of natural bioactive compounds targeting ACE2 and TMPRSS2 dual binding sites of spike protein of SARS CoV-2. *J Mol Liq*. 2021 Jul 9:342;116942. [doi: 10.1016/j.molliq.2021.116942](https://doi.org/10.1016/j.molliq.2021.116942). PMID: 34305216; PMCID: PMC8267125. ISSN: 0167-7322. (*Impact Factor* = 6.633)
  - Yadav R, **Chaudhary J.K**, Jain N, Chaudhary P.K, Khanra S, Dhamija P, Sharma A, Kumar A, Handu S, 2021. Role of Structural and Non-Structural Proteins and Therapeutic Targets of SARS-CoV-2 for COVID-19. *Cells*, 10, 821. (equal authorship). ISSN: 2073-4409. <https://doi.org/10.3390/cells10040821> (*Impact Factor* = 7.70).
  - **Chaudhary JK** and Rath PC, 2017. Microgrooved-surface topography enhances cellular division and proliferation of mouse bone marrow-derived mesenchymal stem cells. *PLoS ONE*. 12(8): e0182128. (eISSN-1932-6203) <https://doi.org/10.1371/journal.pone.0182128>
  - PMID: 28846679; PMCID: PMC5573154 (*Impact Factor* = 4.092)
  - **Chaudhary JK** and Rath PC 2017. A simple method for isolation, propagation, characterization and differentiation of adult mouse bone marrow-derived multipotent mesenchymal stem cells. *J Cell Sci Ther* 8:261. DOI: [10.4172/2157-7013.1000261](https://doi.org/10.4172/2157-7013.1000261); ISSN: 2157-7013 (*Impact Factor* =1.37)
  - Mishra RR, **Chaudhary JK**, Bajaj GD, Rath PC, 2011. A Novel Human TPIP Splice-Variant (TPIP-C2) mRNA, Expressed in Human and Mouse Tissues, Strongly Inhibits Cell Growth in HeLa Cells. *PLoS ONE* 6 (12): e28433. (eISSN-1932-6203). DOI: [10.1371/journal.pone.0028433](https://doi.org/10.1371/journal.pone.0028433); PMID: 22164291; PMCID: PMC3229583 (*Impact Factor* = 4.092)

- Mishra RR, Chaudhary JK and Rath, PC. 2012. Cell Cycle Arrest and Apoptosis by Expression of a Novel TPIP (TPIP-C2) cDNA encoding a C2-Domain in HEK-293 cells. *Molecular Biology Reports (MBR)* 39; 7389-7402. eISSN: 1573-4978 DOI: [10.1007/s11033-012-1571-6](https://doi.org/10.1007/s11033-012-1571-6); PMID: 22311048 (*Impact Factor* = 2.506).
- **Chaudhary JK**, Rath PC 2017. Stem Cells, Aging, Challenges and the Way Forward. *Ann Pharmacol Pharm.* 2(2): 1017. ISSN 2573-6051. <https://www.remedypublications.com/open-access/stem-cells-aging-challenges-and-the-way-forward-920.pdf> (*Impact Factor* = 0.710)
- **Chaudhary JK** 2017 Digital distraction in educational institutions and workplaces: challenges and the way forward *Shivraj: Shivaji College's Annual Magazine*; 7 April 2017; page 9-10.
- **Chaudhary JK** 2017. Integrating quantitative approach in classroom study to develop better understanding about biological concepts, processes and phenomena. *Research and Review: Journal of zoological sciences.* Vol 5, Issue 1, pp 70-72. (UGC S.N. 42580) <https://www.rroij.com/open-access/integrating-quantitative-approach-in-class-room-study-to-develop-better-understanding-about-biological-concepts-processes-and-phenom-.pdf> (e-ISSN: 2321-6190 p-ISSN: 2347-2294)
- **Chaudhary JK** 2016. Critical analysis of multidimensional health and non-health issues and challenges faced by women in India: putting the best foot forward. International Conference on Public Health: Issues, challenges, opportunities, prevention, awareness (Public Health: 2016). *Conference Proceedings: vol 2, pages 191-195, January 2016*; [https://www.researchgate.net/publication/353324833\\_Critical\\_analysis\\_of\\_Multidimensional\\_Health\\_and\\_Nonhealth\\_Issues\\_and\\_Challenges\\_Faced\\_by\\_Women\\_in\\_India\\_Putting\\_the\\_Best\\_Foot\\_Forward](https://www.researchgate.net/publication/353324833_Critical_analysis_of_Multidimensional_Health_and_Nonhealth_Issues_and_Challenges_Faced_by_Women_in_India_Putting_the_Best_Foot_Forward). ISBN: 978-93-85822-10-0.
- Chaudhary Pankaj Kumar, Mishra Kamlesh Kumar, **Chaudhary JK** 2016. Stem Cells: Spatio-temporal Diversity and Therapeutic Applications. *International Journal of Life Sciences*, 2016; 4(1), 151-158; ISSN: 2320-7817. (*SJIF Impact Factor 2018: 6.713*) (UGC S.N. 48951)
- **Chaudhary JK** 2016. Crucial issues concerning India's academic and educational institutions: challenges and way forward. *Shivraj: Shivaji College's Annual Magazine*; 7 April 2016; pages 1-5.
- **Chaudhary PK** and Chaudhary JK 2016. Generation of Induced Pluripotent Stem Cells (iPSCs) through Cellular Reprogramming. *International Journal of Life Sciences.* 2016; 4(2), 289-292; ISSN: 2320-7817. (*SJIF Impact Factor 2018: 6.713*) <https://oaji.net/articles/2016/736-1471178483.pdf> (UGC S.N. 48951)
- **Chaudhary JK** and Rath PC 2016 (Abstract). Role of Stem Cells in Geriatrics. *Journal of the Indian Academy of Geriatrics* (Conference Issue). Page 94, Vol.12, No.3, Sept 2016; ISSN 0974-3405.
- **Chaudhary JK** 2015. Harnessing stem cell potential for regenerative medicine and cell-based therapy. *Journal of Studies in Dynamics and Change (JSDC)*: vol 2, issue-1, page 339-343, January 2015; ISSN: 2348-7038.

[https://econpapers.repec.org/article/sdcjournal/v\\_3a2\\_3ay\\_3a2014\\_3ai\\_3a1\\_3ap\\_3a339-343.htm](https://econpapers.repec.org/article/sdcjournal/v_3a2_3ay_3a2014_3ai_3a1_3ap_3a339-343.htm) OR <https://jsdconline.com/journal/jsdc/index.php/home/article/view/59/33>

- **Jitendra K. Chaudhary** and Pramod C. Rath 2014. Stem Cells and Regenerative Medicine: Mesenchymal Stem Cells from the Bone Marrow. *Proceedings of the National Symposium on Frontiers in Modern Biology*. Page 13-14. March 24 - 25, 2014 Department of Zoology, School of Biological Sciences, Dr. H. S. Gour Central University, Sagar (MP) (Proceeding/Abstract).
- **Chaudhary JK 2014**. Ph.D. and Research: Treading a difficult path. *Journal of Studies in Dynamics and Change (JSDC)*: vol-1, issue-5, page 221-223, November 2014; ISSN: 2348-7038.
- **Chaudhary JK** and Rath PC. 2014. Stem Cells and Regenerative Medicine: Mesenchymal Stem Cells from the Bone Marrow. In: *Proceedings of the National Symposium on Frontiers in Modern Biology (March 24 - 25, 2014)*. The Indian Science Congress Association - Sagar Chapter; Page 13-14 (*Proceedings*)
- **Chaudhary JK** and Rath PC. 2013. Mesenchymal stem cells and regenerative medicine. *Stem cells and reproductive health (ISSRF Newsletter)*, September 2013; Issue 13; pp 14-15; ISSN 2395-2806 (*National Publication*).
- **Chaudhary JK** 2013. Research scenario: crucial issues and challenges from a researcher's perspective, *Society of Biological Chemist (SBC) Newsletter*. Vol. 103, Page 7; July 2013. (*National publication*).
- **Chaudhary JK** and Rath PC 2013. Stem cells: promising therapeutic avenues for neurodegenerative diseases. *BHU-IBRO* (Conference/workshop proceeding/Abstract book); page 7-11; 19-23 Oct. 2013.
- **Chaudhary JK** 2012. Experience at the 10th Annual Meeting of International Society for Stem Cell Research (ISSCR), Pacifico Yokohama, Japan. **Achievers league**, USA. Enriching Scientific Minds. *Newsletter*, Volume 1; Issue 1; pp 2-3: Fall-2012 (*International Publication*).

#### [B] Chapters in Books

- **Chaudhary JK** and Maurya Anurag (2024). Book Chapter on "Electron Transport Chain and Oxidative Phosphorylation". *Springer nature*.
- **Chaudhary JK** and Maurya Anurag (2024). Book chapter on "The Citric Acid Cycle". *Springer nature*.
- **Chaudhary JK** and Maurya Anurag (2024). Book chapter on "The photosynthesis". *Springer nature*.
- Kant N and **Chaudhary JK** (2024). Probabilistic modeling of sex ratio in human population based on the differential distribution of sex-chromosomes (X and Y). DBT manual book
- **Chaudhary JK** and Rath PC (2020). Stem cells and ageing. Book Title- Models, Molecules and Mechanisms in Biogerontology, ISBN: 78-981-13-3585-3. Publisher-*Springer Nature Singapore* (Editor-Pramod C. Rath). pp-213-234. [https://doi.org/10.1007/978-981-32-9005-1\\_12](https://doi.org/10.1007/978-981-32-9005-1_12)
- **Chaudhary JK** and Rath PC (2014). Geriatrics and stem cell research; Invited book chapter (*National Publication*) in "*Text Book of Geriatric Medicine*" published by Indian Academy of Geriatrics (National Publication: Paras Medical Publisher, New Delhi): Chapter 155, page 778-785. 1st Edition, *Editor-in-Chief-Pratap Sanchetee*, DM. ISBN: 978-81-8191.  
<http://indianacademyofgeriatrics.org/publications/>

#### [C] Books published

- National question book for Life Sciences; 2022; Prestige Publisher, New Delhi (ISBN:978-81-949428-9-4); Authors: Chaudhary JK, Chaudhary PK, Maurya A. Published: July 2022
- Practical Immunology (Under Publication)
- Biochemical calculations (Under publication)

**[D] Journal Reviewer/Convenor**

- Convenor: *Insights- Scientific Magazine*, published by Dept. of Zoology, Shivaji College
- Journal of Applied Biology & Biotechnology (JABB) (ISSN: 2455-7005)
- Microbiological Research (ISSN: 0944-5013): Elsevier

**Conference/Seminar/Faculty Development Programme/Workshop**

**[A] Scientific Presentation (Lecture delivered)**

- Attended “two week interdisciplinary (online) faculty development programme (FDP) on NEP orientation and sensitization” from February 16-29, 2024.
- Chaudhary JK (2020); Invited Online lecture entitled "Structural and molecular details of SARS-CoV-2: Cellular replication, aetiology, diagnosis and prospective treatment" during internship program for research in academics, on 7<sup>th</sup> July 2020 at Sri Venkateshwara College, DU.
- Nikhil, Sana Wahid, Chanchal, Dr. Jitender Kumar Chaudhary (2019). “Phage therapy: latest and effective makeover” National Seminar On “Recent Trends in Biological Research and Career Prospects” organized by Department of Zoology, Shivaji College under aegis of DBT Star college Scheme on 27/09/ 2019.
- Nikhil, Sana Wahid, Chanchal, Dr. Jitender Kumar Chaudhary (2019). “Therapeutic applications of rudraksh (elaecarpus ganitrus)” National Seminar On “Recent Trends in Biological Research and Career Prospects” organized by Department of Zoology, Shivaji College under aegis of DBT Star college Scheme on 27/09/ 2019.
- Jitendra K. Chaudhary, Naseem Ahamad, and Pramod C. Rath (2017). Aging and Stem Cell Research.
- Chaudhary J.K. and Rath P.C. (9-11 November 2016) “Role of Stem Cells in Geriatrics” during “Indian Aging Congress” held (9 Nov-11 Nov. 2016) at AIIMS, New Delhi.
- Chaudhary J.K. and Rath P.C. (October 2013) “Stem Cells and Regenerative Medicine: Mesenchymal Stem Cells from the Bone Marrow” March 24-25, 2014 in National Symposium on Frontiers in Modern Biology organised by Dept. Of Zoology, School of Life Sciences, Dr. Hari Singh Gaur University, Sagar, M.P. India.
- Chaudhary J.K. and Rath P.C. (October 2013) “Stem cells: promising therapeutic avenues for neurodegenerative diseases” from October 19- 23, 2013 (International brain research organization), Emerging Trends in Neuroscience: Molecular and Cellular Approaches at BHU.
- Chaudhary J.K. and Rath P.C. (July 2013). “Stem cell research and ethical concern” in “National Convention of Ethical Research and Concern on Human Subject” on July 30-31, 2013 at Convention Centre, Jawaharlal Nehru University, New Delhi, India.
- Chaudhary J.K. and Rath P.C. (15-16 Feb, 2013). “Isolation, culture and characterization of bone marrow-derived mesenchymal stem cells and their role in promoting bone marrow regeneration in radiation-induced bone marrow-damage mouse model” in Biospark-2013 at School of Life Sciences, Jawaharlal Nehru University-Delhi, India.
- Chaudhary J.K. and Rath P.C. (2012). “Bone marrow mesenchymal stem cells: culture, differentiation and gene expression” in the National Workshop on Stem Cell Research and

Therapeutics: Current Status and future strategies (as Young Investigator), organized by the Indian Society for the Study of reproduction and Fertility held on 28-29 Sept. 2012 at IVRI, Izatnagar, India.

**[B] Conference attended/Poster presentation (Offline)**

- Actively participated in the National conference on “RNA-Based Therapeutics: Discovery to clinic”, organized by the Department of Biochemistry, Shivaji College, University of Delhi, April 25-26, 2024.
- Attended National Seminar on Artificial Intelligence in Biological Sciences, convened by Bionomie from February 27 to 28, 2024, at ARSD, DU, Delhi. Also during this, Our students of the minor research project presented poster titled “Assessment of NIH’s clinical trials repository with respect to stem cell therapeutic potential for treating hematological disorders”.
- Attended International conference on *Resurgent Bharat on the Global canvas*, organized by Shaikshik Foundation in collaboration with NCPSL and Shivaji College, DU from 25-26 February 2024 at Dr. BhimRao Ambedkar International Centre (DAIC), New Delhi.
- Attended VISTAS IN LIFE SCIENCES 2024, An International Conference on Frontiers of Life Sciences-From Molecules, Organisms and Diseases, 21-24 January, 2024. An International Conference Celebrating the Golden Jubilee of the School of Life Sciences, JNU.
- Nimita Kant, Jitendra Chaudhary, Akansha, Priya Roy, Priya Talwar, Lakshay Bhardwaj, Supriya Bhardwaj (2023). Evaluating stem cell therapeutic potential for hematological disorders based on analysis of NIH’s clinical trials repository. International conference hosted by Cell Press and Beijing Municipal Science and Technology Commission, Administrative Commission of Zhongguancun Science Park. “Cellular and gene therapy: Promises and challenges”, on December 07, 2023. (*Poster presentation online; International conference*)
- Chaudhary JK (2016). “Regenerative potential of bone marrow and bone marrow-derived mesenchymal stem cells in a radiation-induced bone marrow-damage animal model”. International Conference on Public Health: Issues, challenges, opportunities, prevention, awareness (Public Health: 2016) held at Daulat Ram College (organized by Daulat Ram College, DU and Krishi Sanskriti, New Delhi) University of Delhi, New Delhi, India, on 15th and 16th January 2016 (*Poster presentation; International conference*). (ISBN:978-93-85822-11-7)
- Chaudhary JK and Rath PC (2013). “Isolation, propagation, characterization of the mesenchymal stem cells (MSCs) from the bone marrow of mouse and their potential in bone marrow regeneration” during SCIENCE FESTIVAL (National Science Day) on 28th Feb 2013 in JNU auditorium complex with the support of DST-PURSE grant. (*Poster presentation; National conference*)
- Chaudhary JK and Rath PC (2013). “Isolation, culture and characterization of bone marrow-derived mesenchymal stem cells and their potential to regenerate bone marrow in a radiation-induced bone marrow-damage mouse model” in National Conference on emerging trends and challenges in Basic and translational research in Biochemistry, February 4-5, 2013 at Department of Zoology, Banaras Hindu University, Varanasi, India. (*Poster presentation; National conference*)



- Chaudhary JK and Rath PC (2013). “Biology and application of mesenchymal stem cells from bone marrow” in national conference on emerging trends and challenges in basic and translational research in biochemistry, February 4-5, 2013 at Department of Zoology, Banaras Hindu University, Varanasi, India. (*Oral talk; National conference*)
- Chaudhary JK and Rath PC (2012). “Expression and localization analysis of Interferon Regulatory Factors (IRFs)-1 and 2 in mouse bone marrow-derived multipotent mesenchymal stem cells” in “3<sup>rd</sup> International Conference on Stem Cells and Cancer (ICSCC-2012): Proliferation, Differentiation, and Apoptosis”; 27-30 October 2012 at PGIMER Auditorium, Dr. Ram Manohar Lohia Hospital, New Delhi, India. (*Poster; International Conference*).
- Kakar R, Chaudhary JK, Kakar P, Smith E and Walia V (2012). “Interactive Online Tool to Enhance Scientific Writing Skills” in “3<sup>rd</sup> International Conference on Stem Cells and Cancer (ICSCC-2012): Proliferation, Differentiation, and Apoptosis”; 27-30 October 2012 at PGIMER Auditorium, Dr. Ram Manohar Lohia Hospital, New Delhi, India. (*Poster; International Conference*).
- Chaudhary JK and Rath P.C. (2012). “Bone marrow mesenchymal stem cells: culture, differentiation and gene expression” in the National Workshop on Stem Cell Research and Therapeutics: Current status and future strategies (as Young Investigator); 28-29 Sept. 2012 at IVRI, Izatnagar, India. (*Oral/Podium talk; National Conference*).
- Chaudhary JK and Rath P.C. (2012). “A modified method for isolation and propagation of mouse bone marrow-derived mesenchymal stem cells” in 10<sup>th</sup> Annual Meeting of International Society for Stem Cell Research (ISSCR), 13 to 16 June 2012 at Pacifico Yokohama, Yokohama, Japan. (*Poster; International Conference*).
- Chaudhary JK and Rath, PC. (2010) ‘Isolation, culture, propagation, characterization and differentiation of bone marrow derived multipotent mesenchymal stem cells (MSCs) from mouse’, “International Conference on Stem Cells and Cancer (ICSCC)”, 11 to 14 December 2010 at International Institute of Information Technology (I<sup>2</sup>IT), Pune, India. (*Poster; International Conference*).

#### [C] Workshops and orientation program

- Workshop: Electron Microscopy (SEM and TEM and their modified versions) and its applications at Advanced Instrumentation Research Facility (AIRF), Jawaharlal Nehru University, New Delhi held on 28-29 February 2012, India.
- Attended Orientation program on Ethics in research on human subjects organized by Institutional Ethics Review Board-Jawaharlal Nehru University (IERB-JNU) on 18<sup>th</sup> February 2012, at SLL & CS, Jawaharlal Nehru University (JNU), New Delhi, India.
- Attended in the ‘International Symposium on Molecular Pathology’ held on January 28 to 29, 2012 at Manekshaw Centre, New Delhi, India.
- Attended Abcam seminar covering introduction to ChIP optimization techniques for Immunoprecipitation and Optimization techniques for Immunohistochemistry, held on 16 Nov 2011, at School of Life Sciences (SLS), Jawaharlal Nehru University (JNU), New Delhi, India.
- Workshop: Basic wet laboratory training on FACScalibur and its applications in cell immunophenotyping, cell cycle analysis, intracellular protein localization and analysis and other biological research fields from 10<sup>th</sup> to 12<sup>th</sup> March, 2008 at BD Biosciences Flow Cytometry Training Centre, Gurgaon, Haryana, India.

- Attended/participated in the symposium on Molecular Approaches in Cytogenetics, held under the auspices of the Department of Zoology, University of Allahabad from October 20-22, 2005, India.

#### [D] WEBINAR/Online Workshops/ Certificate Courses

- Academic Research Security Webinar Series hosted by Sandia National Laboratories (SNL) based at Albuquerque, New Mexico; USA, and sponsored by the U.S Department of State from May 2, 2024-June 27, 2024.
- Attended/participated in the XV-workshop on “Capacity Building of Hospital Infection Control to detect and prevent antimicrobial resistance in India”, organised by All India Institute of Medical Sciences (AIIMS), New Delhi, in collaborating with the Centers for Disease Control and Prevention (CDC) and the Indian Council of Medical Research (ICMR), on 18th and 19th April 2024.
- Nature Masterclasses’s online course on “Focus on Peer Review” Springer Nature, 10<sup>th</sup> sApril 2022. (<https://masterclasses.nature.com/online-course-on-peer-review/16507836>)
- Organized 3<sup>rd</sup> NBRCOM as coordinator from 6-10 December 2021, AIIMS Rishikesh
- Attended an International conference/webinar on “*Infections and Immunity*” held from 8th-10th October 2021 by the Department of Zoology, Daulat Ram College, University of Delhi.
- Attended “*Online Workshop on CRISPR-Mediated Plant Genome Editing*” organized by the Department of Botany, Shivaji College, University of Delhi, and The Global Plant Council, in collaboration with ICAR-National Rice Research Institute, Cuttack and SGT University, Gurgaon, under the aegis of DBT Star College Scheme from September 27 to October 1, 2021.
- Attended/participated in a webinar entitled, “Genetically Engineered Vaccines: From Clone to Clinical Trials” on 16 August 2021, Organized by the Department of Zoology, Shivaji College under the aegis of DBT Star College Scheme.
- **Resource Person** for “Tools and Techniques in Biological Research” held from 28th June- 11th July 2022 by the Department of Zoology, Shivaji College under the aegis of DBT Star College Scheme, wherein I delivered a lecture on “descriptive statistics and data representation” on 8<sup>th</sup> and 11 July 2022.
- **Resource Person** for Online Summer Training Internship on “Current Diagnostics and Therapeutic Modalities for COVID-19” held from 28th June 2021-10th July 2021 by the Department of Zoology, Shivaji College under the aegis of DBT Star College Scheme, wherein I delivered 3 lectures whose titles, time and date of delivery are mentioned below;
- *Genomic databases for COVID-19 and their implications* (10-12, 26/06/2021)
- *Monoclonal antibody and nanobody as therapeutic molecules for COVID-19* (10-11:30 am, 03/07/2021)
- *Mesenchymal Stem Cells (MSCs) therapy for COVID-19* (10-12, 08/07/2021)
- Attended/participated in a webinar entitled, “COVID-19: Impact on Environment-Myth or Reality” on 14<sup>th</sup> July 2020, Organized by the Department of Zoology, SMMT PG College, Ballia, UP.
- Attended/participated in a webinar entitled, “Importance of IPR in Pandemic Situation: Special Focus on Expedite Patent Processing” on 11<sup>th</sup> July 2020, Organized by the Department of Zoology, Shivaji College under the aegis of DBT Star College Scheme.
- Attended webinar entitled, “Epidemiology, Detection, Treatment and Comparative Genomics of SARS-CoV-2 and Managing Personal and Professional Life During COVID-19 Pandemic and Lockdown” on 9th July 2020, Organized by Department of Zoology, Shivaji College under the aegis of DBT Star College Scheme.

- Attended International Webinar on ‘Surviving the Pandemic Crisis: Stress and Lifestyle Management’ organised by NSS Unit, Shivaji College, University of Delhi held on June 27, 2020.
- **Resource Person** for Module first (15 June 2020-19) and delivered talk on various aspects of “Biology of COVID-19” as a part of Online Summer Training Internship on “COVID-19: Epidemiology and Impacts” held from 15<sup>th</sup> June 2020-25<sup>th</sup> July 2020 by Department of Zoology, Shivaji College under the aegis of DBT Star College Scheme.
- Attended webinar on “Covid-19: Challenges and road ahead” organised by Mahatma Hansraj Faculty Development Centre Hansraj College, University of Delhi from 7<sup>th</sup> to 9<sup>th</sup> May 2020 (3 pm) (SN. SW08034).
- Attended in National Webinar on “Cyber Crime, Law and Security” organized by NSS Unit, Shivaji College, University of Delhi held on May 12, 2020.
- Participated in the webinar on the “Zebrafish Model System” organized by the Department of Biochemistry, Shivaji College, University of Delhi under the aegis of DBT sponsored Star College Scheme held on May 8, 2020.

#### [E] Short-duration courses/Diplomas

- Successfully completed A Special Intensive Course “English for Academic Writing: From Synopsis to Thesis Writing”, held from May 27<sup>th</sup> to June 14<sup>th</sup>, 2013 (3 weeks duration) at Linguistic Empowerment Cell, Jawaharlal Nehru University (JNU), New Delhi. This workshop was sponsored by the Ministry of Human and Resource Development (MHRD), Government of India.
- Successfully completed a four-month duration-University Grant Commission-sponsored linguistic course on English communication, Writing, and soft skill development at Jawaharlal Nehru University (JNU), New Delhi.
- Successfully completed (Score 98.58%, A<sup>+</sup> (1183/1200) two months duration “Advanced International Scientific Writing, Course/Workshop, Summer-2012” organized by Achievers League, USA (summer 2012, June 19 to 26th August 2012).
- Successfully completed Capacity Building Programme for the students of the Jawaharlal Nehru University (Training/Workshop duration 29<sup>th</sup> March to 10<sup>th</sup> May 2012), sponsored by University Grant Commission (UGC) on Research and Data analysis (methodology, Experimental designing and writing project report and applications of various statistical tools, including SPSS, Sigma, Microsoft XL to analyze various kind of data) imparted by Sambodhi Research and Management Institute at Centre for Study of Law and Governance (CSLG), Jawaharlal Nehru University, India.

#### [F] Symposia/conference organized/Hands-on-training

- Actively contributed as a member of Organising Committee for the “Expert Talk” and “Poster Competition” organised under the aegis of “SHIVRAJ 350” for celebrating the 350th Anniversary of Coronation of Chhatrapati Shivaji Maharaj on 10th April, 2024.
- Actively contributed as a member of Organising Committee during the annual cultural festival vibrations’ 24 held on March 7-8, 2024.
- Organized a talk on Chhatrapati Shivaji Maharaj and Good Governance, on the auspicious occasion of the completion of 350 years of the coronation of Chhatrapati Shivaji Maharaj on February 3, 2024.
- Worked as an organizing member for a one-day talk on *Stem Cells and Regenerative medicine* held on 29 September 2023, Department of Zoology, Shivaji College, DU.

- Served as an organizing member for AZURA: The Life Sciences Fest, organized on 18<sup>th</sup> April 2023, by the Department of Life Sciences, Shivaji College, DU.
- Faculty Coordinator (SPOC) from **Shivaji College, University of Delhi**, providing support and guiding force during the 3-month-long (Feb.2023-April 2023) **Blue Nudge - DRIIV - DEEPC fellowship**. (Certificate No:- 23-24/BPES/BN/FC/017; issued on 18th July 2023)
- Worked as **co-convener/Resource person** in a summer training program on 'Assessment of physical and mental wellness: clinical relevance and remedial measures' under the DBT STAR College scheme, held from June 27 through July 7, 2023, at the Department of Zoology, Shivaji College, DU. Title of module: *Measurement of depression & anxiety using Hamilton rating scale*.
- Organizing committee member: AZURA, The Life Sciences Festival, organized on 18<sup>th</sup> April 2023, Department of Life Sciences, Shivaji College, DU.
- Successfully completed a two-day Faculty training program entitled hands-on techniques in developmental biology from 1<sup>st</sup> to 2<sup>nd</sup> April 2022, organized under the aegis of IQAC and DBT Star College Scheme by the Department of Zoology, Shivaji College, University of Delhi.
- **Resource person** and served as the **co-convener** in the faculty improvement program titled, "*Digitilization of laboratories and library data*" held on 21<sup>st</sup> June 2022, organized by the department of zoology, shivaji college, University of Delhi.
- **Resource person** in the Inter-College Laboratory Skill Training Program for Assistants/ Attendants in the Chemical and Life Sciences laboratories, organized by Shivaji College, DU, under the aegis of DBT Star College Scheme, April 19-25, 2022.
- **Coordinator in organizing the** "wild-life week" from 25<sup>th</sup> February to 3<sup>rd</sup> March 2022 under the aegis of OYSTER, The zoological society of Shivaji college.
- **Resource person** in the Inter-College Laboratory Skill Training Program for Assistants/ Attendants in the Chemical and Life Sciences laboratories, organized by Shivaji College, DU, under the aegis of DBT Star College Scheme, Sep 14-20, 2021.
- Organized "Meet the Speaker" seminar at the School of Life Sciences in 2011-2012.
- Worked as a volunteer in organizing several symposiums and seminars at JNU, New Delhi from 2008-2013.
- Worked as a **Resource person** and conducted hand-on-training on UV spectrophotometer-based DNA-Protein estimation to Students during Science Camp sponsored by DST-INSPIRE Workshop organized from 19-23 December 2015 at Shivaji College, University of Delhi.
- Worked as a **resource person** during the organization of "workshop for laboratory staff in chemical and life sciences", 31<sup>st</sup> May-3 June 2016 at Shivaji College, DU.
- Worked as a **resource person** during the organization of "Interdisciplinary workshops for science faculty", on 25 Sept. and 1st Oct. 2016 at Shivaji College, DU.
- Worked as a **Resource person** and conducted hand-on-training on the Measurement of Blood Pressure with Sphygmomanometer to Students during the 2<sup>nd</sup> Inspire Science Camp sponsored by DST-INSPIRE, organized from 14-18 December 2016 at Shivaji College, University of Delhi.
- Worked as a **Resource person** and conducted hand-on-training on ABO/Rh blood profiling to students during the 3<sup>rd</sup> Inspire Science Camp sponsored by DST-INSPIRE, organized from 16-20 July 2018 at Shivaji College, University of Delhi.
- Worked as a **resource person** (Talk on the Concept of solution: Percentage, Molarity, Molality, Normality, dilution, pH, and Buffer) in a Lab skill training program conducted for non-teaching staff of the Biochemistry, Botany, Chemistry, and Zoology Department under the DBT sponsored STAR COLLEGE SCHEME conducted on 22 May 2019 at Shivaji College, DU.

- Worked as an organizing member in the “National Seminar on Recent Trends in Biological Research and Career Prospects” held on 27<sup>th</sup> September 2019 at Shivaji College, University of Delhi.
- Worked as an organizing member in Inter College Laboratory Skill Training Programme for Assistant/Attendants in Chemical and Life Science Laboratories organized by Shivaji College, University of Delhi from 27<sup>th</sup> November-3<sup>rd</sup> December 2019.
- Worked as **Resource person** for “*Buffer preparation and applications*” in Inter College Laboratory Skill Training Programme for Assistant/ Attendants in Chemical and Life Science Laboratories organized by Shivaji College, University of Delhi from 27<sup>th</sup> November-3<sup>rd</sup> December 2019.
- Worked as a **Resource person** for “*Concept and Applications of serial dilution in Life Sciences Laboratory*” Intra College Laboratory Skill Training Programme for Assistants/Attendants in the Chemical and Life Science Laboratories (11th August 2021-17th August 2021) held under the aegis of DBT-STAR college Scheme.

#### [G] Specific Skills/ Expertise

- Stem Cells and Mammalian Cells: Isolation, culture, characterization and differentiation (Osteocytes identified by Alkaline Phosphatase, Adipocytes identified by oil red-O, Chondrocytes identified by Saffranin-O, Neurons identified by Nissil staining etc., *in vitro*) of mouse bone marrow-derived mesenchymal stem cells (MSCs), isolation and culture of spleen cells from rat, mouse etc. Isolation and culture of hippocampal and cortical neurons from rat brain, Culture and experiment on cell lines like HEK-293, HeLa, (transfection, apoptosis and proliferation assay on FACS by labeling them with FITC-Annexin V + PI/or PI, Caspase 3, Brdu, TUNEL, Cyclin B1, PCNA, Ki67, ELISA, MTT Assay for cell viability, growth, proliferation etc. in HEK-293, HeLa, Bone marrow cells, bone marrow-derived Mesenchymal Stem Cells (MSCs) etc. Colony forming Unit-Fibroblast (CFU-Fs) assay following crystal violet and giemsa staining to enumerate the number of stem cells in total population and colony formations as well as the effect of  $\gamma$ -radiation on colony forming potential of stem cells at large.
- Microscopy techniques: Bright/Phase light microscopies, ocular micrometre-based size measurement, Differential interference contrast (DIC), Stereomicroscopy, Immunofluorescence & Confocal/Live cell imaging, Electron Microscopy (SEM & TEM).
- Microbiology and Bacterial Cell Culture: Have experience in culturing bacterial cells, growth kinetic assay, White-blue colony selection on agar plate, expression of recombinant proteins in different bacterial strains as functions of time, temperature and stimuli, etc.
- Animal Breeding: Five years working experience in animal breeding, handling and maintenance of record/pedigree, at animal house, Jawaharlal Nehru University, new Delhi.
- Molecular Biology: Plasmid and genomic DNA isolation, RNA isolation from different types of cells and tissues, Quantitation of RNA, DNA and protein (Spectrophotometry based analysis), Plasmid retrieval and Plasmid verification, cDNA preparation, primer designing and PCR amplification, Restriction digestion, DNA gel extraction, Protein and DNA ladder/marker preparation, protein induction and expression in bacterial cells (XL-1 and BL21), Quantization by Bradford’s method, SDS-PAGE, Western blotting (ECL and DAB), CBB and silver staining, Affinity purifications of proteins, protein-protein interaction study by GST-Pull down assay, MALDI-TOF and LC-MS/MS, protein localization/co-localization study in mammalian cells by immunofluorescence, confocal and live cell imaging microscopy, FACS analysis of cells regarding intracellular and membrane bound proteins, cell cycle analysis, cell proliferation and viability assay, karyotype preparation and analysis, Microtomy and Histology.
- Animal Perfusion and dissection: Experience in animal perfusion (intra-cardiac perfusion), dissection of various tissues and organs for experimental purposes.

- Development of Animal Model: Generation and characterization of whole body irradiation-based animal model (mouse) and study with special emphasis on bone marrow and bone marrow-derived stromal cells/ stem cells. Measurement of absorbed gamma radiation dose by Fricke Dosimetry.
- Animal Transplantation experiment: Transplantation of Bone marrow Cells (BMCs) and bone marrow-derived mesenchymal stem cells (BMMSCs) in radiation based C75BL6/J mouse model. Mice were exposed (whole body exposure) to Co<sup>60</sup> based  $\gamma$ -radiation, followed by apoptosis and cell cycle perturbation studies by PI Staining and FACS. Nuclear disorganisation, disintegration and micro-nuclei formation were observed under fluorescence microscope following Hoechst staining. I have also performed double dye staining; AO/EtBr (Acridine Orange and Ethidium Bromide) to discriminate among live, necrotic and apoptotic cells. To assess the regeneration capability of BMCs and MSCs, Colony formation assay (CFU) was carried out following one and two weeks post transplantation of BMCs and BMMSCs.
- Software Skills: Working knowledge of MS-Office (Word, PowerPoint and Excel), Microsoft Office picture Manager, Alpha Imager, Adobe Photoshop, Microscopy related software which facilitate analysis of cell size, number and related physical parameters etc., Cell Quest, FACS-DIVA, ModFit (cell cycle analysis) for Flow Cytometry and basic data mining in bioinformatics tools (BLAST, Primer designing and post-design accuracy analysis, gene runner, phylip and other biological sciences related tools). Endnote software for referencing and indexing scientific documents apart from associated applications and retrieval of scientific information available online Working knowledge of Turnitin software tool to check the originality of written scientific and non-scientific documents. Canvas, ChemDraw, Mathematical Typing, Zoom, Google Meet, Making Google Form for various purpose, Autocrat-based certificate generation etc.
- Post-experimental statistical analysis of data. Mean, Median, Mode, Range, Quartile, Percentile, Mean deviation, Standard deviation, Standard error of mean, Variance/CV, Probability; Permutation and Combination, Chi-square, Validation of null hypothesis/Alternate hypothesis, Type I & Type II Error, Normal, Binomial and Poisson Distribution: Skewness & Kurtosis, Z-test (one-tailed & two-tailed), student's T-test (one-tailed & two-tailed), F and ANOVA, and thereby determining the significances/non-significance of the result by calculating P-Value.

#### **Research Guidance (*Supervision of Doctoral Thesis/Minor projects/Dissertations*)**

- Supervised five undergraduate students under the minor research project Minor/Research Grant (2022-2023): Developing insights into stem cell therapeutic potential for hematological disorders based on analysis of National Institute of Health (NIH)'s clinical trials repertoire [File Number: MRP/2022-2023/0006]
- Supervised five undergraduate students under the minor research project Minor/Research Grant (2020-2021): "Genomic, structural and mutational analysis of SARS-CoV-2 using *in silico* approach" [File Number: MRP/2021/0008]
- Have provided guidance to several B.Sc. and M.Sc. students during their dissertations and thesis writing.

#### **Awards and Distinctions**

- **Young Investigator Award** for best scientific research presentation entitled “Bone marrow mesenchymal stem cells: culture, differentiation and gene expression” in the “National Workshop on Stem Cell Research and Therapeutics: Current Status and Future Strategies” held from 28th -29th September, 2012 at Indian Veterinary Research Institute (IVRI), Izatnagar, under the aegis of Indian Society for the Study of Reproduction and Fertility (ISSRF).
- **Ranked 1st Position** (A+; 1183/1200; 98.58%) in “Advanced International Scientific Writing Course-2012” conducted by Achievers League, USA.
- Travel grant from DST-SERB (SR/ITS/0861/2012-2013) to present poster 10th Annual ISSCR Meeting at Pacifico Yokohama, Japan during June 13- 16, 2012.
- ICMR-SRF September 2010- August 2012
- ICMR-JRF August 2007-August 2010
- **Third Position** in M.Sc. Zoology Department, University of Allahabad-2006.
- **First Prize-** Annual Sports day 2015 at Shivaji College, University of Delhi
- **Second Best Poster Prize** during **International Conference** for presentation entitled “Regenerative potential of bone marrow and bone marrow-derived mesenchymal stem cells in a radiation-induced bone marrow-damage animal model”. International Conference on Public Health: Issues, challenges, opportunities, prevention, awareness (Public Health: 2016) held at Daulat Ram College, University of Delhi, New Delhi, India, on 15th and 16th January, 2016 (ISBN:978-93-85822-11-7)
- **Best Poster Presentation/ First Position** during National Seminar On “Recent Trends in Biological Research and Career Prospects” organized by Department of Zoology, Shivaji College under aegis of DBT Star college Scheme on 27/09/ 2019 for presentation entitled - Phage therapy: latest and effective makeover.

#### Memberships

- Associate member (young investigator) of International Society for Stem Cell Research (ISSCR, Member ID 30605) (Since February 2012)
- Student member of Molecular Pathology Association of India (MPAI) (Student Member MPAI/SM-0005)
- Life member of Society of Biological Chemists (SBC), India. (Life Membership no. 2716)
- Life member of The Cytometry Society-India (Life Membership no. L-1157)
- Delhi State President, The Society of Young Biomedical Scientists (SYBS) ([www.sybsindia.org](http://www.sybsindia.org))

#### Other Academic Activities

##### DBT-STAR College practicals:

- Modelling DNA using ball and stick.
- Effect of differential distribution of sex chromosome on gender ratio.
- Conducting training programmes for students, lab and teaching staff from time to time

#### Cultural/Extracurricular Activities

- Academic Tour to Sultanpur National Park & The Energy Research Institute-2014.
- Academic tour to Delhi Zoo-2013-2014.
- Student Visit to IGIB, New Delhi (2016-2017).
- Student Visit to RGB, Gurugram Delhi (2016-2017).
- Student visit to Department of anthropology, DU on 6th April 2017.
- Student visit to Okhla Bird Sanctuary, Delhi, on 8th October 2021.
- Student visit to Department of Geology, DU on April 2023

Reference:

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INDIA

June, 2024

Dr. Jitendra Kumar Chaudhary; Ph.D.  
**Signature of Faculty Member**