Curriculum Vitae

Aakansha Sharma
M.Sc., Ph.D.
Date of Birth: 08.03.1993
Contact Address: S235, Department of Zoology, University of Lucknow, Lucknow 226007

Current Position: Assistant Professor, Department of Zoology, University of Lucknow 226007

Education

Year	Exam/ Degree	School/College	Board/ University	Percentage/ Division
2008	X	The DVP School	CBSE	76.2- First
2010	XII	The DVP School	CBSE	87.4- First
2013	B.Sc. (H)	Miranda House	University of Delhi	79.8- First
2015	M.Sc.	Department of Zoology	University of Delhi	72.2- First
	NET-JRF		CSIR	AI-Rank 57
2021	Ph.D.	Department of Zoology	University of Delhi	
Thesis Title: ***Neural and metabolic plasticity underlying seasonal life history states in latitudinal songbird migrants***				

Research Experience: ~5 years PhD, ~2 year of post-doctoral

Teaching Experience: Assistant Professor (ad-hoc, 5 months), Kalindi College, University of Delhi; Guest Faculty 2 semesters in the Department of Zoology, University of Delhi

Awards/Honors

2021: Executive committee member Indian Society of Chronobiology
2021: Editor, SAMAY- Newsletter, Indian Society of Chronobiology
2019: Travel Grant Award by V World Congress of Chronobiology
2019: Silver Logo Award for designing a logo for V World Chronobiology Conference, China
2018: Travel Grant Award by Aschoff and Honma Memorial Foundation
2017: Senior Research Fellowship (CSIR)
2016: Indo-US exchange fellowship, Salk Institute for Biological Sciences, USA
2016: Third prize, International Society for Chronobiology, China
2015: Junior Research Fellowship (CSIR)
2015: Best student award, SERB School-Avian Biology, Haridwar
2015: GATE 2015- Ecology and Evolution (All India Rank- 52)
2013: University Post-Graduate Scholarship Award
2010: CBSE-Certificate of Merit

Field of research publications: Zoology (Physiology, Behavioural Neuroscience, Genomics)

Research Publications:

Original Research articles	14	h-index	5
Book Chapters	1	i-10 index	4
Review Articles	3	RG score	21.57
Total impact factor	50.62	Total citations	110
Average impact factor	3.16	Research interest	144.2

Publications

1. **Sharma A,** Das S, Singh D, Rani S, Kumar V. 2022 Differences in transcription regulation of diurnal metabolic support to contrasting seasonal states in migratory songbirds. ***Journal of Ornithology* 163, 199-212.** https://doi.org/10.1007/s10336-021-01926-5
2. Kumar V, **Sharma A**, Tripathi V. 2022 Physiological effects of restricted food availability times in higher vertebrates. ***Journal of Experimental Biology*** 225(3):jeb239004 (Review)
3. **Sharma A**, Tripathi V, Kumar V. 2022 Control and adaptability of seasonal changes in behaviour and physiology of latitudinal avian migrants: Insights from laboratory studies in Palaearctic-Indian migratory buntings. ***Journal of Experimental Zoology Part A*** doi:10.1002/jez.2631 (Review)
4. Sur S, **Sharma A**, Malik I, Bhardwaj SK, Kumar V. 2021 Daytime light spectrum affects photoperiodic induction of vernal response in obligate spring migrants. ***Comparative Biochemistry and Physiology A*** 259, 111017
5. **Sharma A**, Das S, Sur S, Tiwari J, Chaturvedi K, Agarwal N, Malik S, Rani S, and Kumar V. 2021 Photoperiodically driven transcriptome-wide changes in the hypothalamus reveal transcriptional differences between physiologically contrasting seasonal life-history states in migratory songbirds. ***Scientific Reports*** 11, 12823
6. **Sharma A**, Singh D**,** Gupta P, Bhardwaj SK, Kaur I, Kumar V. 2021 Molecular changes associated with migratory departure from wintering areas in obligate songbird migrants. ***Journal of Experimental Biology*** 224(11), 242153
7. **Sharma A**, Das S, Komal R, Malik S, Rani S and Kumar V. 2020 Seasonal reproductive state determines gene expression in the hypothalamus of a latitudinal migratory songbird during the spring and autumn migration. ***Molecular and Cellular Endocrinology*** 508, 110794
8. Sur S*, **Sharma A***, Bhardwaj SK and Kumar V. 2020 Involvement of steroid and antioxidant pathways in spleen mediated immunity on migratory birds. ***Comparative Biochemistry and Physiology, Part A*** 250: 110790
   (*Equal contribution)
9. Sur S, Chaturvedi K*, **Sharma A***, Malik S, Rani S and Kumar V. 2020 Ambient temperature affects multiple drivers of physiology and behaviour: adaptation for timely departure of obligate spring migrants. ***Journal of Experimental Biology*** 223 (24), jeb236109
   (*Equal contribution)
10. Mishra I*, **Sharma A***, Prabhat A, Batra T, Malik I, Kumar V. 2019 Changes in the expression of genes involved in DNA methylation and histone modification in response to daily food availability times in zebra finches: epigenetic implications. ***Journal of Experimental Biology*** 223(3): jeb217422 (*Equal contribution)
11. **Sharma A,** Kumar V. 2019 Metabolic plasticity mediates differential responses to spring and autumn migrations: Evidence from gene expression patterns in migratory buntings. ***Experimental Physiology*** 104: 1841-1857
12. Sur S, **Sharma A**, Trivedi AK, Bhardwaj SK, Kumar V. 2019 Temperature affects liver and muscle metabolism in photostimulated migratory redheaded buntings (*Emberiza bruniceps*). ***Journal of Comparative Physiology B*** 189(5): 623-635
13. Trivedi AK, Sur S*, **Sharma A***, Taufique SKT, Gupta NJ, Kumar V. 2019 Temperature alters the hypothalamic transcription of photoperiod responsive genes in induction of seasonal response in migratory redheaded buntings. ***Molecular and Cellular Endocrinology*** 493: 110454
    (*Equal contribution)

14. **Sharma A**, Das S, Kumar V. 2019 Transcriptome-wide changes in testes reveal molecular differences in photoperiod-induced seasonal reproductive life-history states in migratory songbirds. ***Molecular Reproduction and Development*** 86: 956-963
15. **Sharma A**, Singh D, Malik S, Gupta NJ, Rani S, Kumar V. 2018 Difference in control between spring and autumn migration in birds: insight from seasonal changes in hypothalamic gene expression in captive buntings. ***Proceedings of Royal Society B*** 285: 20181531
16. Kumar V, **Sharma A**. 2018 Common features of circadian timekeeping in diverse organisms. ***Current Opinion in Physiology*** 5: 58-67 (Review)
17. **Sharma A,** Singh D, Das S, Kumar V. 2018 Hypothalamic and liver transcriptome from two crucial life-history stages in a migratory songbird. ***Experimental Physiology*** 103(4): 559-569
18. Kumar V, **Sharma A** and Agarwal N. 2019 Circadian timing optimizes seasonal life-history states: Lessons from studies in migratory songbirds. In Biological Rhythms (eds. Kenichi Honma and Sato Honma), Hokkaido University Press (ISBN: 978-4-8329-0xxx-x) (Book Chapter)

Conference Presentations

- **2021, Dec:** Talk: Sharma **A**, Malik S, Rani S, Kumar V "Neural and metabolic plasticity in development of migratory phenotype in buntings" Annual Seasonality Symposium (Virtual Symposium)
- **2021, Mar:** Poster: Sharma **A,** Das S, Komal R, Malik S, Rani S, Kumar V "Role of testes in gene expression….migratory state" at International Colloquium on Regulatory Mechanisms underlying Behaviour, Physiology and Development, Dept. of Zoology, University of Delhi
- **2020, Oct:** Talk: Sharma A, Kumar V "Molecular correlates of seasonal migration in migratory buntings" Annual Seasonality Symposium 2020 (Virtual Symposium)
- **2019, Apr:** Talk: Sharma A**,** Kumar V "Molecular correlates of spring and autumn migration …… in migratory buntings" V World Chronobiology Conference, Suzhou, China
- **2019, Mar:** Talk: Sharma A**,** Bhardwaj SK, Kumar V. "Daily expression of genes involved in epigenetic modifications …… buntings" International Symposium on Biological rhythms, CCS University, Meerut, U.P. India
- **2019, Jan:** Talk: Sharma A, Das S and Kumar V. "Molecular mechanisms involved in seasonal testicular cycle: A gene expression study" at ICRED and 37th Meeting of SRBCE, Navrachna University, Vadodara, Gujarat, India
- **2018, Oct:** Talk: Sharma A, Das S and Kumar V. "RNA-Seq revealed molecular changes in the testes …… blackheaded buntings" at National Symposium on Avian Biology, Mizoram University, Aizawl, India.
- **2018, July:** Talk and Poster: Sharma A and Kumar V. "Seasonal transitions in gene expression in a latitudinal migrant: A study on migratory buntings" Asian Forum on Chronobiology (AFC), Sapporo, Japan
- **2017, Feb:** Poster: Sharma A, Singh D, Das S, Gupta N J, and Kumar V. "Expression of photoperiodic transduction …….. buntings" International symposium on biological timing and health issues in 21st century, University of Delhi, India
- **2016, Oct:** Talk: Mishra I, Sharma A, Kumar V. "Photoperiodic state dependent alterations in behavioral …… Palaearctic-Indian migrants" 29th Conference of International Society for Chronobiology (ISC)" held in Suzhou, China
- **2016, Jun:** Talk: Singh D, Sharma A, Kumar V. "Daily changes in clock gene oscillations in extra hypothalamic brain regions of night migratory black headed buntings" XXVI National symposium on Chronobiology, University of Mysore, Karnataka

Workshops and Schools

- 2019 Mar: Workshop **Time, Brain and Behaviour** at CCS University, Meerut, U.P.
- 2018 Oct: National Symposium **Avian Biology** at Mizoram University, Aizawl, India

- 2016 Oct: Workshop **Data acquisition and analysis** at Department of Zoology, University of Delhi,
- 2015 Mar: 2nd SERB School on **Avian Biology** at Haridwar, India
- 2014 Jul: National Symposium **Recent Advance in Immunology** at INSA, Delhi, India
- 2013 Jun: National symposium **Vector Biology and Vector Management** at Deshbandhu College, Kalkaji, New Delhi, India
- 2012 Jul: **Concepts of Immunology and its Applications**: A workshop for Science Students at DSKC Research and Innovation in Science Education, Miranda House, University of Delhi, Delhi, India

Extracurricular Activities

- 2020, Jan: Colloquium Talk at Miranda House, University of Delhi (Obese athletes: molecular mechanisms that aid metabolic flexibility in migratory buntings)
- 2010-2013: Student **Committee Member**, Synapse- Zoology society, Miranda House
- 2012-2013: **Member of Organizing committee** of Annual society festival, Impulse

Research Techniques/ Skills

- Handling of small animals (birds and rodents)
- Standard molecular techniques
- Immunohistochemistry
- RNA-Seq data handling
- Standard techniques used to study circadian biology (activity rhythms recording) and quantification of behaviors from video recordings.
- ELISA and biochemical assays
- Computer skills: Microsoft office, Basics of C++ and python.

Member of scientific societies

Executive committee member (Editor Newsletter) - Indian Society of Chronobiology
Life member, Indian Society of Chronobiology
Life member, Association of Avian Biologists in India (AABI)
British Society of Neuroendocrinology (BSN) (April 2019- March 2022)