

## *CURRICULUM VITAE*

**Name:** Vinod Kumar

**Father's name:** (Late) Shri Guru Prasad Dubey

**BORN:** 14 January 1956, Pratapgarh (U.P.)

**EDUCATION:** M. Sc. (Zoology); Ph. D. (Zoology, Banaras Hindu University; 1981)

### **CURRENT POSITION AND ADDRESS:**

**Professor, Department of Zoology; University of Delhi; Delhi 110 007, India**

Cell: 0981875429; 09415532754; Email: [drvkumar11@yahoo.com](mailto:drvkumar11@yahoo.com), [drvkumar11@gmail.com](mailto:drvkumar11@gmail.com),

### **ACADEMIC POSITIONS HELD:**

**Jan. 1983 - Dec. 1995:** Lecturer in Zoology

**Jan. 1996 - Dec. 1999:** Reader in Zoology

**Jan 2000 – Contd.:** Professor of Zoology

### **SUBJECT SPECIALIZATION:**

**Zoology** (Sub-area: Chronobiology; Animal Behaviour; Physiology and Behavioural Neuroscience;)

### **AREA OF RESEARCH:**

Chronobiology; Mechanism of Circadian and Seasonal Behaviour and Physiology of Songbirds

### **TEACHING AND RESEARCH EXPERIENCE:**

Post-doctoral research experience: >37 years

Teaching experience: >36 years (since 01 Jan 1983)

**As Professor >19 years** (since 01 January 2000)

### **TEACHING AND RESEARCH EXPERIENCE: ABROAD**

Approx. 7 years (5 years research; 1.6 years (20 mo) teaching and research; short visits of 2-10 wks)

**2018 Visiting PI under IndoUS** at Salk Institute for Biological Studies, USA

**2015 Visiting PI under IndoUS** at Salk Institute for Biological Studies, USA

**2007 JSPS Senior Visiting Fellow**, Nagoya University, Japan

**2003 Jan - 2004 Aug: Visiting Professor**, Dept. of Biology, Texas A & M University, USA.

**2002 May - June: Visiting Fellow**. MaxPlanck Inst. for Ornithology, Germany.

**2001 June - August: Visiting Fellow**. MaxPlanck Inst. for Ornithology, Germany.

**2000 May - August: Visiting Fellow**. MaxPlanck Inst. for Ornithology, Germany

**1999 May - August: Visiting Fellow**. MaxPlanck Inst. for Ornithology, Germany.

**1997 March - 1998 February: Postdoctoral Fellow**. Max Planck Institute for Ornithology, Germany.

**1995 March - 1996 March: CIDA-NSERC Associate**. Dalhousie University, Halifax, Canada.

**1992 March - 1993 March: European Community Postdoctoral Fellow**, Edinburgh, U.K.

**1991 Feb - December: INSA - The Royal Society UK Exchange Fellow**. Bristol, UK.

## **PUBLICATIONS : ~ 175**

### **BOOKS AUTHORED/ EDITED (includes special journal volume)**

- 2017** Biological Timekeeping: Clocks, Rhythms and Behavior, edited (Springer)
- 2017** Special issue on Rhythms, Calendar & Biological Processes. Biological Rhythm Research, 2017
- 2014** Special volume on Chronobiology, Indian J. Experimental Biology. May 2014.
- 2002** Biological Rhythms, edited (Narosa Publishing House, New Delhi/ Springer-Verlag, Germany).
- 1996** Animal Behaviour (Himalaya Publishing House, Bombay).

### **RESEARCH SUPERVISION**

15 Ph. D. & 14 M. Phil. students obtained degrees. 08 Ph. D. students are working in the lab.

### **ADMINISTRATIVE EXPERIENCE**

- Chairman**, Governing Body, Shaheed Bhagat Singh College, Univ. of Delhi (one-and-half term)
- Member**, Governing Body, Shaheed Bhagat Singh College, University of Delhi (2 terms)
- Member**, Governing Body, Ramjas College, University of Delhi (3 terms)
- Member and Treasurer**, ARSD College, University of Delhi (1 term)
- Member**, Governing Body, Deen Dayal Upadhyay College, University of Delhi (2 terms)
- Member**, Governing Body, Shaheed Sukhdev College of Buss. Studies, University of Delhi (1 term)
- Member**, Governing Body, International Student House, University of Delhi (Since 2009)
- Member**, Committees constituted by University of Delhi for inquiry, purchases etc.
- Assistant Provost**, Hostel, University of Lucknow
- Nodal PI**: IndoUS Center for Biological Timing, University of Delhi
- Convener**: IRHPA Center for Excellence in Biological Rhythm Research
- Chairman**, SERB Avian Biology School, Dept. of Science and Technology, New Delhi
- Director**, SERC/ SERB Schools in Chronobiology, Dept. of Science and Technology, New Delhi
- Member**, Uttar Pradesh Wildlife and Biodiversity board (1 term)
- Member**, Scientific Committee of the International Ornithological Congress, Hamburg.

### **AWARDS and HONOURS:**

- 2019 Editorial board member**, Journal of Neuroendocrinology, from Wiley
- 2019 Member**, International Committee, V World Congress in Chronobiology, Suzhou, China
- 2018 Member**, Program Committee for Asian Chronobiology Forum meeting, Sapporo, Japan
- 2018 Convener**, Symp. on Avian clocks and calendars, Int. Ornithological Congr., Vancouver,
- 2017 Review editor**, Frontiers in Physiology (Avian Physiology)
- 2017 Co-chair and Invited speaker** at Asia Chronobiology Forum
- 2017 Convener** International Symposium on Biological Timing
- 2017 Section Editor**, Current Science, Bangalore
- 2017 President**; Indian Society for Chronobiology (4 year period from 1 April 2017)
- 2016 Chair and invited speaker**, International conference on Chronobiology, China
- 2016 Fellowship** of Indian Society of Chronomedicine
- 2015 Invited speaker** at the Cold Spring Harbor Symposium on Biological Rhythms, China
- 2015 Chair**, Comparative Clocks, EBRS/ WCC Chronobiology, Manchester, UK.

**2014-18 Nodal Principal Investigator**, IndoUS Center for Biological Timing.  
**2012 Co-chair**, Session on Photoperiodism, 10<sup>th</sup> ISAE, Gifu, Japan, June.  
**2010-2015 Associate member**, Integrative and Comparative Biology, USA.  
**2010 Corresponding member**, German Ornithological Society  
**2010 Member**, Indian representative, International Ornithologist's Union  
**2010 Member**, Board of International Society for Chronobiology  
**2010 Platinum Jubilee Lecture Award**, ISCA, SRM University, Chennai  
**2010 Co-chair**, Symposium on Biological Clocks in Birds, IOC, Brazil, August 2010.  
**2008 Vijay - Usha Sodha Scientific Research Prize**, University of Lucknow.  
**2008 Chair**, Session on Biological Clocks and Seasonal Reproduction 4<sup>th</sup> ICPB, Kenya  
**2008 Faculty**, Multinational School in Chronobiology, Raipur, India  
**2008 Co-chair**, Session on Biorhythms, 9<sup>th</sup> ISAE, Leuven, Belgium.  
**2007 Member, Editorial Board**, General and Comparative Endocrinology (USA/UK)  
**2007-14 Member and Faculty** SERC School in Neuroscience  
**2007-11 Member and Faculty** SERC School of Herpetology  
**2006 P. Govindarajulu Gold medal** from the Soc. of Reprod. Biology and Comp. Endo.,  
 India.  
**2006 Chair**, Plenary lecture 24<sup>th</sup> Int. ornithological Congress, Hamburg, Germany  
**2006-2013 Principal Investigator, IRHPA** Center for Excellence in Biological Rhythm  
 Research  
**2005 Visitor**, Max Planck Institute for Ornithology, Andechs, Germany.  
**2004-12 Member**, Program Advisory Committee, Animal Sciences, DST, N. Delhi  
**2004-12 Member**, Executive Committee, Intl Society of Avian Endocrinology.  
**2004 Co-Chair**, session on Melatonin, clock genes and seasonality, Int. Avian Endoc.  
 Arizona.  
**2002-14 Faculty**, SERC/ SRRB Schools of Chronobiology II: Clocks, Rhythms and  
 Behaviour  
**2001 Fellowship** in Reproduction and Endocrinology (FRE).  
**2000** Young Investigator Award, Gordon Research Conference in Pineal Cell Biology  
 (Oxford, UK).  
**1999 Lecturer**, Erasmus School of Chronobiology, Ferrara, Italy.  
**1986** Young Scientist Award from Indian Science Congress Association.  
**1985** Fellow, Zoological Society of India

#### **MEMBERSHIP OF ACADEMIC BODIES AND SCIENTIFIC SOCIETIES HELD:**

**Member**, Academic Council, University of Lucknow (2002-2009)  
**Member**, University Court, University of Delhi (2010.. contd)  
**Member**, Special Committee, JNU, New Delhi (one term of 3 years)  
**Member**, Departmental Research Committee, University of Delhi (2 terms)  
**Member**, Research Degree Committee at the University of Lucknow (1994 – 2009)  
**Member**, Research Degree Committee at CCS University, Meerut  
**Member**, Research Degree Committee at Amity University  
**Member**, Board of Studies, Kurukshetra University  
**Member**, Board of studies in different Universities  
**Member**, Board of International Society of Chronobiology  
**Member**, Society for Research in Biological Rhythms (SRBR), USA  
**Life member**, Indian Society for Chronobiology  
**Life member**, Indian Society for General and Comparative Endocrinology  
**Life member**, Society for Reproductive Biology and Comparative Endocrinology  
**Life member**, The Ethological Society of India  
**Life member**, Zoological Society of India

**Life member**, Indian Science Congress Association

**LECTURES DELIVERED:**

**ABROAD**

- 2019 V World congress in Chronobiology, Suzhou, China  
2019 JBR-SAGE symposium on Chronobiology, Suzhou, China  
2018 27<sup>th</sup> International Ornithological Congress, Vancouver, Canada  
2018 3<sup>rd</sup> Asian Chronobiology Forum and Sapporo symposium, Sapporo, Japan  
2018 The Society for Integrative and Comparative Biology symposium, San Francisco  
(attended)  
2017 2<sup>nd</sup> Asian Chronobiology Forum, Hohhot, China  
2017 International Symposium on Biological Timing and Human Health, India  
2016 International conference on Chronobiology, China  
2015 Cold Spring Harbor Asia Symposium on Biological Rhythms, China  
2015 EBRS/ WCC Chronobiology conference, Manchester, UK  
2015 Neuropeptides & Neurotransmitters: Role of Physiology & Pathophysiol., Bhubaneswar  
2014 International Congress on Ornithology, Japan  
2014 International Congress on Chronobiology, Romania  
2012 International Symposium on Avian Endocrinology, Japan  
2010 The John Hopkins University, USA  
2010 University of Kentucky, Kentucky, USA  
2010 Alabama State University, Alabama, USA  
2008 IV Intl. Conference in Africa for Comparative Physiology & Biochemistry, Kenya  
2007 Nogyo University, Japan  
2007 Waseda University, Japan  
2007 Tokyo University, Japan  
2006 International Ornithological Congress, Hamburg, Germany  
2005 Max Planck Institute for Ornithology, Andechs, Germany March.  
2005 Dept. of Func. Genomics & Bioregulation, Inst. Animal Sci. Mar., Neustadt, Germany.  
2005 Conference on Optimality in Bird Migration, Wilhelmshaven, Germany.  
2004 International Symposium of Avian Endocrinology, Arizona, USA, June.  
2004 Texas A& M University (USA), Department of Biology, Seminar series.  
2000 Gordon Research Conference on Pineal Cell Biology, Oxford (UK).  
1992 V<sup>th</sup> International Symposium on Avian Endocrinology; Edinburgh (UK).  
1992 Intl. Symp. on Melatonin and Pineal Gland from Basic Sci. to Clinical Appl.; Paris.

**INDIA**

- 2019 ICSE conference, Nagpur  
2019 SRBCE conference, Baroda  
2019 Two lectures in IISER, Mohali  
2018 Ethological Society of India meeting and symposium, Calicut  
2018 Association of bird biologists in India symposium, Aizawl  
2017 Indian Academy of Neuroscience conference, Cuttack  
2017 Ethological Society of India meeting and symposium, Bhub  
2017 SRBCE conference, Hyderabad  
2016 XXVI meeting and National Symposium on Chronobiology, June 2016; Mysuru  
2016 Indian Science Congress Association, January 2016; Mysuru  
2015 XXV meeting and National Symposium on Chronobiology, Raipur  
2014 Society for Comparative Endocrinology and Reproductive Biology, Trichi.  
2013 International conference on Comparative Endocrinology, Nagpur

- 2011** 4th National Conference on Nanomaterials and Nanotechnology, Lucknow  
**2011** International Congress of Indian Ornithology, SACON, Coimbatore  
**2011** 35<sup>th</sup> annual conference of Ethological Society of India  
**2008** Indian Society for Chronobiology, Raipur  
**2008** Thematic workshop in Avian Biology  
**2008** Public lecture at IISER, Mohali.  
**2008** Lectures, Wild Life Institute, Dehradun.  
**2008** Invited lecture at Department of Zoology, Pune University.  
**2007** Lecture in SERC School in Herpetology, North-Orissa University, Baripada  
**2007** PAC lecture at Delhi University  
**2006** Trends and techniques in Molecular Endocrinology  
**2006** Lecture in seminar and workshop in University of Delhi  
**2006** Invited lecture in Symposium of Indian Society for Chronobiology, Shillong.  
**2006** Recent Advance in Appl. Zoology, CCS University, Meerut, (Plenary lecture).  
**2006** Gold medal oration, SRBCE meeting, IIT Roorkee, February.  
**2006** Refresher Course in Zoology, University of Delhi, Delhi, January.  
**2006** 93<sup>rd</sup> session of ISCA (Animal, Veterinary and Fishery Science), Hyderabad, January.  
**2005** Refresher Course in Zoology, University of Delhi, Delhi; December.  
**2005** National Symposium on Chronobiology; Varanasi.  
**2005** National Sym. on Comp. Endo. and Rep. Physiol.; Retrospect and prospect; Delhi,  
**2005** Critical appraisal & hands-on training on adv. tech. in endocrine research, Aligarh).  
**2005** XXII National Symposium of the SEBCE; Santiniketan.  
**2004** National Symposium on Chronobiology; Chidambaram.  
**2002** Innovations and Prospects in Life Sciences, Raipur.  
**2002** Natl Sem. on Environmental Biology and Fish Biology, Vishwa Bharti, Santiniketan.  
**2002** XX National Symposium of SRBCE; Tiruchirappalli.  
**2002** Refresher course in Zoology, Gorakhpur University.  
**2001** Refresher course in Zoology, Allahabad University.  
**2001** Refresher course in Zoology, Lucknow University.  
**2001** Refresher course in Zoology, Jiwaji University, Gwalior.  
**2000** XIX Natl. Symposium of Soc. for Reprod. Biology and Comp. Endocrinology; Baroda.  
**2000** National Symposium on Chronobiology; Gulbarga.  
**1999** National Symposium on Recent Advances in Pineal Research; Raipur.  
**1994** National Symposium on Ethology; Lucknow.  
**1994** National Symposium on Chronobiology; Lucknow.  
**1993** International Symposium on Recent Trends in Life Sciences; Hyderabad (India).  
**1990** International Symposium on Current Status of Chronobiology; Raipur (India).  
**1990** Seminar on Wildlife and Biotechnology; Ambah (M. P.).  
**1985** Second National Convention of Young Scientists; Meerut.

#### **PARTICIPATION IN RESEARCH AND EDUCATIONAL TRAINING**

- 2002-15** Faculty, SERB Schools in Chronobiology/ Herpetology/ Neuroscience/ Avian Biology.  
**2000** 37<sup>th</sup> Natl Workshop on Radiochemistry and Appl. of Radioisotopes; Pantnagar.  
**1995** UGC Refresher Course in Zoology; Ch. Charan Singh University, Meerut.  
**1990** Academic Staff Orientation Program; Aligarh Muslim University, Aligarh  
**1989** UGC Refresher Course in Zoology; Kashmir University, Srinagar.  
**1989** 2-week Intl workshop on Methods and Concepts in Chronobiology; Madurai  
**1985** Two--week training on Chronobiological techniques; M K University, Madurai.

## RESEARCH PROJECTS

### *Current projects*

**2016-2019** Mechanism of food-induced effects on reproduction and metabolism: A study on Zebra finches; funded by **SERB, New Delhi**

### *Completed projects*

**2013-2019** Anticipation in genes: Molecular, physiological and behavioral correlates of response of circa-annual clocks to seasons in night-migratory songbirds – funded by Department of Biotechnology, Govt. of India.

**2014 – 2018** Indo-US Center for Biological Timing, funded by IUSSTF, New Delhi  
**2007-2014** Avian circadian seasonal systems: from behaviour to molecules – funded under IRHPA scheme by the Department of Science and Technology (DST), India.

**2011-2014** Circadian brain photoreceptors in birds I: Localization and functional evaluation- funded by Council of Scientific & Industrial Research, India

**2011-2014** Neurobiology and Understanding the Circadian System Linkage of Cognitive Performance in an Avian Model System- funded under DST-CSI program

**2012 – 2014** Mechanism of adaptation to seasonal changes in vertebrates – funded by Department of Science and Technology, India

**2007-2010** Immunohistochemical study of seasonal system in birds - funded by the Council of Scientific & Industrial Research, India.

**2005-2009** Role of food in regulation of circadian and seasonal responses in birds- funded by the Department of Science and Technology, India, (Co-PI).

**2002 – 2005** An immunohistochemical study of the photoperiodic transduction in birds- funded by the Council of Scientific & Industrial Research, India.

**2000 – 2002** DST- DAAD International Collaboration project with Max-Planck Institute of Biological Rhythm Research, Andechs, Germany.

**1999 – 2002** Role of melatonin in avian circadian system - funded by the Department of Science and Technology, India.

**1999 – 2002** Sensitivity of circadian entrainment pathway in the bunting (*Emberiza sp.*) – funded by the Council of Scientific & Industrial Research, India.

**1996 – 1999** Spectral sensitivity of photoreceptors mediating photoperiodic entrainment and induction in the blackheaded bunting - funded by CSIR, India.

**1992 – 1995** Light relations of circadian rhythms in the migratory blackheaded bunting, *Emberiza melanocephala* - funded by CSIR, India.

**1989 – 1992** Strategies of endogenous programming in palaeartic-Indian migratory birds – funded by the University Grants Commission of India.

**1988 – 1991** Properties of biological clocks underlying photoperiodic phenomena in birds – funded by the Department of Science and Technology, India.

**1989-1990** Photoperiodic control of timing of gonadal regression (refractoriness) in birds - funded by the University Grants Commission of India.

## RESEARCH COLLABORATION (last 5 years)

- Salk Institute for Biological Studies, San Diego, USA (Dr. Satchidananda Panda)
- University of California, San Diego, USA (Prof. Michael Gorman)
- University of Lucknow, India (Prof. Sangeeta Rani, Dr. Shalie Malik)
- National Institute of Science Education and Research, India (Dr. Praful Singru)
- North-Eastern Hill University, Shillong (Prof. A. S. Dixit)
- CCS University, Meerut, India (Prof. S. K. Bhardwaj)
- University of Mangalore, India (Dr. Monika Sadananda)

**TEACHING:** Both undergraduate and post-graduate teaching since 1983. Have taught many courses in 5 different Indian universities, and in a US university (Texas A&M University, courses marked by an asterisk). Animal Behaviour; Animal Physiology; Biology of Reproduction; Biostatistics; Chronobiology; Comparative Endocrinology\*; Endocrine Physiology; Environmental Biology; Neuroendocrinology, Human Anatomy and Physiology\*; Regulatory and Behavioral Neuroscience\*; General Zoology (Vertebrates and Invertebrates)

### **SERVICE TO PROFESSION**

Advisory member to Special Assistance Program of UGC in various universities; Member of Board of Studies of different Universities; Member of Research Degree committee of different Universities; Member of various University committees.

**Peer review of research proposals:** Department of Science and Technology; Council of Scientific and Industrial Research; Department of Biotechnology; National Science Foundation (USA); Rufford Sann Grant (UK); Israel Science Foundation (Israel), Polish Science Academy

**Peer review of scientific journals:** Cell and Tissue Research, Journal of Comparative Physiology, Naturwissenschaften; Hormones and Behaviour; Journal of Circadian Rhythms, Comparative Biochemistry and physiology; General and Comparative Endocrinology, Physiology and Biochemical Zoology; PLoS One, Journal of Experimental Biology, Journal of Ornithology, Photochemistry and Photobiology; Comparative Biochemistry and Physiology; Chronobiology International; Theriogenology; Current Science; Indian J. Experimental Biology

### **Scientific activity organized**

- 2019** Workshop on Time, Brain and Behaviour (closely involved)
- 2017** International Symposium on Biological Timing and Human Health
- 2012** International Congress on Chronobiology
- 2011** Meeting of Bird Biology core group.
- 2010** Ninth SERC School in Chronobiology
- 2002** First SERC School in Chronobiology.
- 1994** National Symposium of Indian Society for Chronobiology.

## DETAILS OF PUBLICATIONS

### ORIGINAL RESEARCH ARTICLES

#### 2019

1. A. Sharma, S. Das and **V. Kumar** (2019) Transcriptome-wide changes in testes reveal molecular differences in photoperiod-induced seasonal reproductive life-history states in migratory songbirds. *Molecular Reproduction and Development*, DOI: 10.1002/mrd.23155 **IF: 3.1**
2. A. K. Trivedi, S. Sur, A. Sharma, S. K. T. Taufique, N. J. Gupta and **V. Kumar** (2019) Temperature alters the hypothalamic transcription of photoperiod responsive genes in induction of seasonal response in migratory redheaded buntings. *Molecular and Cellular Endocrinology* **IF: 3.6**
3. A. K. Trivedi, I. Mishra and **V. Kumar** (2019) Temporal expression of genes coding for aryl-alkamine-N-acetyltransferase and melatonin receptors in circadian clock tissues: Circadian rhythm dependent role of melatonin in seasonal responses. *Physiology and Behavior*, doi.org/1-1016/j.physbeh.2019.05.009. **IF: 2.5**
4. I. Mishra and **V. Kumar** (2019) The quantity-quality trade-off: Differential effects of daily food times on reproductive performance and offspring quality in diurnal zebra finches. *Journal of Experimental Biology*. doi: 10.1242/jeb.196667. **IF: 3.3**

#### 2018

5. D. Singh, V. Swarup. Hiep Le and **V. Kumar** (2018) Transcriptional signatures in liver reveal metabolic adaptations to seasons in migratory blackheaded buntings. *Frontiers in Physiology*, doi: 10.3389/fphys.2018.01568. **IF: 4.1**
6. S. K. T. Taufique, A. Prabhat and **V. Kumar** (2018) Illuminated night alters hippocampal gene expressions and induces depressive-like response in diurnal corvids. *European J. Neuroscience*. doi: 10.1111/ejn.14157. **IF: 2.9**
7. S. K. T. Taufique, A. Prabhat and **V. Kumar**. Light at night affects hippocampal and nidopallial cytoarchitecture: Implication for an impairment of brain function in diurnal corvids. *J. Experimental Zoology A* doi: 10.1002/jez.2238. **IF: 1.3**
8. A. Sharma, D. Singh, S. Malik, N. J. Gupta, S. Rani and **V. Kumar** (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. Proc. R. Soc. B* 285: 20181531. doi: 10.1098/rspb.2018.1531. **IF: 4.8**
9. I. Mishra, N. Agarwal, S. Rani and **V. Kumar** (2018) Scotostimulation of reproductive neural pathways and gonadal maturation are not correlated with hypothalamic expression of deiodinases in subtropical spotted munia. *Journal of Neuroendocrinology*. doi: 10.1111/jne.12627. **IF: 3.4**

10. A. Sharma, D. Singh, S. Das and **V. Kumar** (2018) Hypothalamic and liver transcriptome from two critical life-history stages in a migratory songbird. *Experimental Physiology*. doi: 10.1113/EP086831. **IF: 2.9**
11. I. Mishra, D. Singh and **V. Kumar** (2018) Temporal expression of c-fos and genes coding for neuropeptides and enzymes of amino acid and amine neurotransmitter biosynthesis in retina, pineal and hypothalamus of a migratory songbird: Evidence for circadian rhythm dependent seasonal responses. *Neuroscience* 371:309-324. **IF: 3.1**
12. S. K. T. Taufique, A. Prabhat and **V. Kumar** (2018) Constant light environment suppresses maturation and reduces complexity of new born neuron processes in the hippocampus and caudal nidopallium of a diurnal corvid: Implication for impairment of the learning and cognitive performance. *Neurobiology of Learning and Memory* 147: 120-127. **IF: 3.3**
13. N. Agarwal, I. Mishra, S. Rani and **V. Kumar** (2018) Temporal expression of clock genes in central and peripheral tissues of spotted munia under varying light conditions: evidence for circadian regulation of daily physiology in a non-photoperiodic circannual songbird species. *Chronobiology International* 35: 617-632. **IF: 2.7**

#### 2017

14. N. Agarwal, I. Mishra, R. Komal, S. Rani and **V. Kumar** (2017) Circannual testis and moult cycles persist under photoperiods that disrupt circadian activity and clock gene cycles in spotted munia. *Journal of Experimental Biology* 220: 4162-4168. **IF: 2.9**
15. N. A. Jha and **V. Kumar** (2017) Effect of no-night light environment on behaviour, learning performance and personality in zebra finches. *Animal Behaviour* 132: 29-47. **IF: 3.1**
16. I. Mishra, D. Singh and **V. Kumar** (2017) Seasonal alterations in the daily rhythms in hypothalamic expression of genes involved in the photoperiodic transduction and neurosteroid-dependent processes in migratory blackheaded buntings. *Journal of Neuroendocrinology* 29:1- 10. **IF: 3.4**
17. N. J. Gupta, **V. Kumar** and S. Panda (2017). A camera-phone based study reveals erratic eating pattern and disrupted daily eating-fasting cycle among adults in India. *PLoS One* 12(3): e0172852. doi: 10.1371/journal.pone. 0172852 **IF: 2.7**
18. D. Singh and **V. Kumar** (2017) Extra-hypothalamic brain clocks in songbirds: Photoperiodic state dependent clock gene oscillations in night-migratory blackheaded buntings, *Emberiza melanocephala*. *Journal of Photochemistry and Photobiology B* 169: 13-20. **IF: 3.2**
19. N. A. Jha and **V. Kumar** (2017) Female conspecifics restore rhythmic singing behaviour in arrhythmic zebra finches. *Journal of Biosciences* 42: 139-147. **IF: 1.5**
20. I. Mishra, S. K. Bhardwaj, S. Malik and **V. Kumar** (2017) Concurrent hypothalamic gene expression under acute and chronic long days: Implications for initiation and maintenance of photoperiodic response in migratory songbirds. *Molecular and Cellular Endocrinology* 439: 81-94. **IF: 3.6**

## 2016

21. S. K. T. Taufique and **V. Kumar** (2016) Differential activation and tyrosine hydroxylase distribution in the hippocampal, pallial and midbrain brain regions in response to cognitive performance in Indian house crows exposed to abrupt light environment. *Behavioural Brain Research* 314: 21-29. **IF: 3.3**
22. N. A. Jha and **V. Kumar** (2016) Protein rich food does not affect singing behavior and song quality in adult zebra finches, *Taeniopygia guttata*. *Current Science* 111: 1693-1696. **IF: 0.9**
23. D . Singh, N. Trivedi, S. Malik, S. Rani and **V. Kumar** (2016) Timed food availability affects circadian behavior but not the neuropeptide Y expression in Indian weaverbirds exposed to atypical light environment. *Physiology and Behavior* 161: 81-89. **IF: 2.5**
24. Surbhi, A. Rastogi, S. Malik, S. Rani and **V. Kumar** (2016) Seasonal neuronal plasticity in song-control and auditory forebrain areas in subtropical non-migratory and Palearctic-Indian migratory male songbirds. *Journal of Comparative Neurology* doi: 10.1002/cne. 24000. **IF: 3.4**
25. O. P. Singh, S. Kumar, U. Singh, **V. Kumar**, R. Lechan and P. Singru, Praful, Cocaine- and amphetamine regulated transcript peptide (CART) in the brain of zebra finch, *Taeniopygia guttata*: Organization, interaction with neuropeptide Y, and response to changes in energy status. *Journal of Comparative Neurology* 524: 2914-2929. **IF: 3.4**
26. Surbhi, A. Rastogi, S. Malik, S. Rani and **V. Kumar** (2016) Changes in brain peptides associated with reproduction and energy homeostasis in photosensitive and photorefractory migratory redheaded buntings. *General and Comparative Endocrinology* 230-231: 67-75. **IF: 2.7**
27. I. Mishra, D. Singh and **V. Kumar** (2016) Daily expression of genes coding for neurotransmitters in central and peripheral tissues of redheaded bunting: implication for circadian regulation of physiology in songbirds. *Chronobiology International* 33: 280-292. **IF: 2.7**
28. A. K. Trivedi, J. Kumar, S. Rani, **V. Kumar** (2016) Pinealectomy abolishes circadian behavior and interferes with circadian clock gene oscillations in brain and liver but not retina in a migratory songbird. *Physiology and Behavior* 156: 156-163. **IF: 2.5**
29. A. Rastogi, Surbhi, S. Malik, S. Rani and **V. Kumar** (2016) Annual life-history dependent differences in the seasonal change in neural activity of the olfactory system between non-migratory and migratory songbirds. *Behavioural Brain Research* 296:233-239. **IF: 3.3**
30. S. K. T. Taufique, N. A. Jha and **V. Kumar** (2016) Circadian rhythm determines the timing of activity, and ingestive and grooming behaviours in Indian house crows, *Corvus splendens*. *Current Science* 110: 897-901. **IF: 0.9**

## 2015

31. D. Singh, A. K. Trivedi, S. Rani, S. Panda and **V. Kumar** (2015) Circadian timing in central and peripheral tissues in a migratory songbird: Dependence on annual life-history states. *The FASEB Journal* 29: 4248-4255. **IF: 5.6**
  32. G. Majumdar, G. Yadav, S. Rani and **V. Kumar** (2015) Bird eyes distinguish summer from winter: Retinal response to acute photoperiod change in the night-migratory redheaded bunting. *Journal of Chemical Neuroanatomy* 68: 55-60. **IF: 2.2**
  33. G. Majumdar, S. Rani and **V. Kumar** (2015) Hypothalamic gene switches control transitions between seasonal life history states in a night-migratory photoperiodic songbird. *Molecular and Cellular Endocrinology* 399: 110-121. **IF: 3.6**
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