

Employee No. \_\_20458



1. Name : (first name) **PAWAN** (middle name) **KUMAR** (surname) **DUBEY**
2. Designation: ASSISTANT PROFESSOR
3. Academic Qualifications: PhD

Sr.	Degree	Institution	Year
	B.Sc	VBS Purvanchal University, India	2002
	M.Sc.	VBS Purvanchal University, India	2005
	Ph.D.	MJP Rohilkhand University/ Indian Veterinary Research Institute, Bareilly, India	2012

#### **BRIEF RESUME**

Pawan K. Dubey completed his master's degree in Biotechnology from VBS Purvanchal University, Jaunpur in 2005. He joined as a PhD student at the MJP Rohilkhand University, Bareilly in collaboration with Indian Veterinary Research Institute, Bareilly, studying reproductive physiology of large domestic animal viz. Buffalo. After completed his PhD in 2011, he got DBT Research Associateship grant for two years and continued at Indian Veterinary Research Institute, Bareilly. He is a recipient of internationally reputed Fulbright-Nehru Post-Doctoral Fellowship to carry out research work at University of Maryland, MD, USA. He has published over 30 research papers, 2 book chapters and 1 book in refereed journal.

4. Area of Specialization: (brief writeup, 200 words)

#### **Research Interest:**

The objective of my research is to develop stem cell based therapy for neuro and muscular degenerative diseases using mesenchymal stem cells. Efforts are also being made to develop a pre-implantation diagnostic method to diagnose genetic disorders in early stage embryo and their therapeutic intervention.

5. Contact Information:  
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[pkdubey@bhu.ac.in](mailto:pkdubey@bhu.ac.in)

6. **Projects Undertaken as PI/ Co PI:**

S.No.	Name of the project	Duration	Source of Funding	Amount of Funding (Rs.)
1.	Generation of germ cell deficient male mice/goat ( <i>Capra hircus</i> ) using CRISPR/Cas-9 for biomedical and agricultural applications <b>Role: PI</b>	2016-19	SERB	2250000.00
2.	Transdifferentiation of human umbilical cord tissue derived mesenchymal stem cells into neurogenic cell lineages: Therapeutic implications for hypoxic-ischemic brain damage <b>Role: PI</b>	2016-18	UGC	1000000.00

7. **Awards/ Recognitions if any:**

- ✚ **Venus International Young Faculty Award-2016 (VIFA-2016)**
- ✚ **Fulbright-Nehru Post-Doctoral Fellowship, University of Maryland, USA (2013-14)**
- ✚ **DST-Fast Track Young Scientist Award** by Department of Science & Technology, Govt. of India, New Delhi (2015).
- ✚ **DBT-Research Associateship Award** in life sciences & Biotechnology by Department of Biotechnology, Govt. of India (2011).
- ✚ **International Travel Award** by DST& DBT, Govt. of India (2015).
- ✚ **J. N. Pandey Memorial award** for best paper presentation in an International Conference, organized by SAPI, 11-13 Nov. 2010 held at IVRI, Izatnagar, Bareilly.
- ✚ **SLTB Best Poster Presentation Award** in International Conference on 'Low Temperature Science and Biotechnological Advances' held at New Delhi from 27th-30th April, 2015.
- ✚ **Best poster presentation award** in an International Conference on Reproductive Health, organized by ISSRF, 8-10 Feb. 2010 held at University of Rajasthan, Jaipur.
- ✚ **Best poster presentation award** in an International Conference, organized by SAPI, 11-13 Nov. 2010 held at IVRI, Izatnagar, Bareilly.

**Professional training:**

1. **Hands on Training** on **“Maternal and Newborn care: Issues and Challeges”** from March 1, to March 7, 2017 organized by Institute of Science, BHU, Varanasi.
2. **Hands on Training** on **“Upstream Physiological Techniques”** from January 16, 2015 to January 29, 2015 organized by CAFT Physiology & Climatology Division IVRI, Izatnagar.
3. **National training** on **“Advances in Stem Cell Therapy in Livestock and Pets and its Business Potential”** organized by NAIP-ICAR New Delhi at IVRI, Izatnagar, from July 16-29, 2013.
4. **National Workshop** on **“Stem Cell Research & Therapeutics: Current Status & Future Strategies”** organized by ISSRF at IVRI, from September 28-29, 2012.
5. **One week training** on **‘Faculty Development Program in Entrepreneurship’** sponsored by Department of Science & Technology, Govt. of India from 22<sup>nd</sup> March-2<sup>nd</sup> April, 2010.
6. **Short term course** on **“Recent Advances in Stem Cell Research”** at Physiology & Climatology Division IVRI, Izatnagar from 15 Feb.-07 March, 2010.
7. **Short term course** on **“Therapeutic Application of Stem cells in Livestock”** at Physiology & Climatology Division IVRI, Izatnagar from 25 Aug.-14 Sept, 2011.
8. **Two days workshop** on **“Management of IPR in Biotechnology”** sponsored by

Department of Biotechnology, Govt. of India from 15-16<sup>th</sup> March, 2007 at Lucknow.

## 8. List of 10 major Publications:

1. Pratheesh M.D., Nitin E. Gade, Amar Nath, **Pawan K. Dubey**, T. B. Sivanarayanan, D. N. Madhu, T. R. Sreekumar, S. Amarpal, G. Saikumar, G. Taru Sharma. (2017). Evaluation of persistence and distribution of intra-dermally administered PKH26 labelled goat bone marrow derived mesenchymal stem cells in cutaneous wound healing model. **Cytotechnology** *DOI 10.1007/s10616-017-0097-0*.
2. Pratheesh M.D, **Pawan K. Dubey**, Nitin E. Gade, Amar Nath, T.B. Sivanarayanan, D.N. Madhu, Anjali Somal, Indu Baiju, T.R. Sreekumar, V.L. Gleeja, Irfan A. Bhatt, Vikash Chandra, Amarpal, Bhaskar Sharma, G. Saikumar, G. Taru Sharma. (2017). Comparative study on characterization and wound healing potential of goat (*Capra hircus*) mesenchymal stem cells derived from fetal origin amniotic fluid and adult bone marrow. **Research in Veterinary Science** 112: 81–88.
3. **Pawan K. Dubey**, Amar Nath, Vikash Chandra, G. Saikumar, G. Taru Sharma (2015). Expression of mRNA encoding IGF-I, IGF-II, type-I and II IGF-receptors and IGF-binding proteins-1-4 during ovarian follicular development in buffalo (*Bubalus bubalis*). **Animal Biotechnology** 26: 81–91.
4. RP Singh, KVH Sastry, **Pawan K. Dubey**, R Agrawal, R Singh, NK Pandey, J Mohan. (2013). Norfloxacin drug induces reproductive toxicity and alters androgen receptor gene expression in testes and cloacal gland of male Japanese quail (*coturnix japonica*). **Environmental Toxicology and Chemistry** 32 (9); 1-5.
5. Manjinder Sharma, **Pawan K. Dubey**, Rajesh Kumar, Amar Nath, G. Sai Kumar and G. Taru Sharma (2013). Developmental competence of buffalo (*Bubalus bubalis*) pluripotent embryonic stem cells over different homologous feeder layers and the comparative evaluation with various extracellular matrices. **International Journal of Stem Cells** Vol. 6, No. 1; 78-86.
6. G. Taru Sharma, **Pawan K. Dubey**, Om Prakash Verma, Amar Nath and G. Sai Kumar (2012). Collagen-IV supported embryoid bodies formation and differentiation from buffalo (*Bubalus bubalis*) embryonic stem cells **Biochemical Biophysical Research Communication** 424, 378-384.
7. **Pawan K. Dubey**, Vrajesh Tripathi, Ram Pratap Singh and G. Taru Sharma (2012). Expression of nitric oxide synthase isoforms in different stages of buffalo (*Bubalus bubalis*) ovarian follicles: effect of nitric oxide on in vitro development of preantral follicle. **Theriogenology** 77, 280-291.
8. **Pawan K. Dubey**, Vrajesh Tripathi, Ram Pratap Singh and G. Taru Sharma (2011). Influence of nitric oxide on in vitro growth, survival, steroidogenesis and apoptosis of FSH stimulated buffalo (*Bubalus bubalis*) preantral follicles. **Journal of Veterinary Science** 12 (3), 257-265.
9. G. Taru Sharma, **Pawan K. Dubey** and G. Sai Kumar (2010). Effects of IGF-1, TGF- $\alpha$  plus TGF- $\beta$ 1 and bFGF on in vitro survival, growth and apoptosis in FSH-stimulated buffalo (*Bubalus bubalis*) preantral follicles. **Growth Hormone and IGF Research** 20, 319-325.
10. G. Taru Sharma, **Pawan K. Dubey** and Vikash Chandra (2010). Morphological changes, DNA damage and embryonic developmental competence of in vitro matured, vitrified-thawed buffalo (*Bubalus bubalis*) oocytes: A comparative study of two cryoprotectants and two cryodevices. **Cryobiology** 60, 315-321.

## 9. Full List of Publications:

1. Pratheesh M.D., Nitin E. Gade, Amar Nath, **Pawan K. Dubey**, T. B. Sivanarayanan, D. N. Madhu, T. R. Sreekumar, S. Amarpal, G. Saikumar, G. Taru Sharma. (2017). Evaluation of persistence and distribution of intra-dermally administered PKH26 labelled goat bone marrow derived mesenchymal stem cells in cutaneous wound healing model. **Cytotechnology** DOI [10.1007/s10616-017-0097-0](https://doi.org/10.1007/s10616-017-0097-0).
2. Pratheesh M.D, **Pawan K. Dubey**, Nitin E. Gade, Amar Nath, T.B. Sivanarayanan, D.N. Madhu, Anjali Somal, Indu Baiju, T.R. Sreekumar, V.L. Gleeja, Irfan A. Bhatt, Vikash Chandra, Amarpal, Bhaskar Sharma, G. Saikumar, G. Taru Sharma. (2017). Comparative study on characterization and wound healing potential of goat (*Capra hircus*) mesenchymal stem cells derived from fetal origin amniotic fluid and adult bone marrow. **Research in Veterinary Science** 112: 81–88.
3. **Pawan K. Dubey and G. Taru Sharma** (2016). Nitric oxide and Ovarian folliculogenesis: a possible role in follicular atresia. **Asian-Australasian Journal of Animal Sciences (In Press)**: DOI: <http://dx.doi.org/10.5713/ajas.15.0831> )
4. **Pawan K. Dubey**, Amar Nath, Vikash Chandra, G. Saikumar, G. Taru Sharma (2015). Expression of mRNA encoding IGF-I, IGF-II, type-I and II IGF-receptors and IGF-binding proteins-1-4 during ovarian follicular development in buffalo (*Bubalus bubalis*). **Animal Biotechnology** 26: 81–91.
5. Pratheesh M. D., Nitin E. Gade, **Pawan K. Dubey**, Amar Nath, T. B. Sivanarayanan, D. N. Madhu, Bhaskar Sharma, Amarpal G. Saikumar & G. Taru Sharma (2014). Molecular characterization and xenogenic application of wharton’s jelly derived caprine mesenchymal stem cells. **Vet Res Commun** 38:139–148.
6. Mohd Matin Ansari, Sreekumar TR, Vikash Chandra, **Pawan K Dubey**, G Sai Kumar, Amarpal and G Taru Sharma. (2013). Therapeutic Potential of Canine Bone Marrow Derived Mesenchymal Stem Cells and its Conditioned Media in Diabetic Rat Wound Healing. **J. Stem Cell Research & Therapy** 3; 141-146.
7. RP Singh, KVH Sastry, **Pawan K. Dubey**, R Agrawal, R Singh, NK Pandey, J Mohan. (2013). Norfloxacin drug induces reproductive toxicity and alters androgen receptor gene expression in testes and cloacal gland of male Japanese quail (*coturnix japonica*). **Environmental Toxicology and Chemistry** 32 (9); 1-5.
8. Manjinder Sharma, **Pawan K. Dubey**, Rajesh Kumar, Amar Nath, G. Sai Kumar and G. Taru Sharma (2013). Developmental competence of buffalo (*Bubalus bubalis*) pluripotent embryonic stem cells over different homologous feeder layers and the comparative evaluation with various extracellular matrices. **International Journal of Stem Cells** Vol. 6, No. 1; 78-86.
9. Pratheesh M.D., Nitin E Gade, Amar Nath, **Pawan K Dubey**, AmarPal, G. Saikumar, Bhaskar Sharma and G. Taru Sharma (2013). Isolation and characterization of caprine mesenchymal stem cells derived from amniotic fluid. **Research in Veterinary Science** 94; 313–319.

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10. NE Gade, MD Pratheesh, A. Nath, **Pawan K. Dubey**, Amarpal, B Sharma, G Saikumar and G Taru Sharma (2013). Molecular and Cellular Characterization of Buffalo Bone Marrow-Derived Mesenchymal Stem Cells. **Reproduction in Domestic Animal** 48; 358-367.
  11. Amar Nath, Veena Sharma, **Pawan K. Dubey**, Pratheesh M. D., Nitin E. Gade, G. Saikumar & G. Taru Sharma (2013). Impact of gonadotropin supplementation on the expression of germ cell marker genes (MATER, ZAR1, GDF9, and BMP15) during in vitro maturation of buffalo (*Bubalus bubalis*) oocyte. **In Vitro Cellular & Developmental Biology** 49, 34-41.
  12. G. Tamilmani, V. P. Varshney, **Pawan K. Dubey** and G.Taru Sharma (2013). Impact of FSH on the profile of steroid hormones and DNA synthesis in buffalo preantral follicles cultured in vitro. **Animal Reproduction** 10; 32-40.
  13. G. Taru Sharma, **Pawan K. Dubey**, Om Prakash Verma, Amar Nath and G. Sai Kumar (2012). Collagen-IV supported embryoid bodies formation and differentiation from buffalo (*Bubalus bubalis*) embryonic stem cells **Biochemical Biophysical Research Communication** 424, 378-384.
  14. **Pawan K. Dubey**, Vrajesh Tripathi, Ram Pratap Singh and G. Taru Sharma (2012). Expression of nitric oxide synthase isoforms in different stages of buffalo (*Bubalus bubalis*) ovarian follicles: effect of nitric oxide on in vitro development of preantral follicle. **Theriogenology** 77, 280-291.
  15. Om Prakash Verma, Rajesh Kumar, Amar Nath, Manjinder Sharma, **Pawan Kumar Dubey**, G. Sai Kumar, G. Taru Sharma (2012). In vivo differentiation potential of buffalo embryonic stem cell (*Bubalus bubalis*). **In Vitro Cellular and Developmental Biology-Animal** 48, 349-358.
  16. Manjinder Sharma, Rajesh Kumar, **Pawan K Dubey**, Om Prakash Verma, Amar Nath, G Saikumar and G Taru Sharma (2012). Expression and quantification of Oct-4 gene in blastocyst and embryonic stem cells derived from in vitro produced buffalo embryos. **In Vitro Cellular and Developmental Biology-Animal** 48, 229-235.
  17. G. Taru Sharma, **Pawan K. Dubey**, Rajesh Kumar, Manjinder Sharma, Amarnath Katiyar and G. Sai Kumar (2012). In vitro culture of buffalo preantral follicles with antral follicles: A comparative study of survival, growth, hormonal regulation and synthesis of DNA. **Zygote** (Accepted and In Press, P 1-9, DOI:10.1017/S0967199411000700).
  18. G. Taru Sharma, Shiv Prasad, Amar Nath, Sumit Singhal, Nandita Singh, Nitin E. Gade, **Pawan K. Dubey** and G. Saikumar (2012). Expression and characterization of constitutive heat shock protein 70.1 (*hspa-1a*) gene in in-vitro produced and in-vivo derived buffalo (*bubalus bubalis*) embryos. **Reproduction in Domestic Animals** 47, 975-983.
  19. **Pawan K. Dubey**, Vrajesh Tripathi, Ram Pratap Singh and G. Taru Sharma (2011). Influence of nitric oxide on in vitro growth, survival, steroidogenesis and apoptosis of FSH stimulated buffalo (*Bubalus bubalis*) preantral follicles. **Journal of Veterinary Science** 12 (3), 257-265.
  20. **Pawan K. Dubey**, Vrajesh Tripathi, Ram Pratap Singh and G. Taru Sharma (2011). Influence of nitric oxide on steroid synthesis, growth and apoptosis of buffalo (*Bubalus bubalis*) granulosa cells in vitro. **Asian Australasian Journal of Animal Science** 24 (9), 1204-1210.

21. G. Taru Sharma, **Pawan K. Dubey** and G. Sai Kumar (2011). Localization and expression of follicle-stimulating hormone receptor in buffalo preantral follicles. **Reproduction in Domestic Animal** 46, 114-120.
22. G. Taru Sharma, **Pawan K. Dubey** and G. Sai Kumar (2010). Effects of IGF-1, TGF- $\alpha$  plus TGF- $\beta$ 1 and bFGF on in vitro survival, growth and apoptosis in FSH-stimulated buffalo (*Bubalis bubalis*) preantral follicles. **Growth Hormone and IGF Research** 20, 319-325.
23. G. Taru Sharma, **Pawan K. Dubey** and Vikash Chandra (2010). Morphological changes, DNA damage and embryonic developmental competence of in vitro matured, vitrified-thawed buffalo (*Bubalus bubalis*) oocytes: A comparative study of two cryoprotectants and two cryodevices. **Cryobiology** 60, 315-321.
24. Rajib Rajhans, G. Sai Kumar, **Pawan K. Dubey** and G. Taru Sharma (2010). Effect of timing of development on total cell number and expression profile of HSP 70.1 and GLUT1 in buffalo (*Bubalus bubalis*) preimplantation embryos produced in vitro. **Cell Biology International** 34, 463-468.
25. G. Taru Sharma, **Pawan K. Dubey** and S. K. Meur (2009). Survival and developmental competence of buffalo preantral follicles using three dimensional collagen gel culture system. **Animal Reproduction Science** 114, 115-124.
26. Shail K. Chaube, **Pawan K. Dubey**, Surabhi K. Mishra and Tulsidas G. Shrivastav (2007). Verapamil Reversibly Inhibits Spontaneous Parthenogenetic Activation in Aged Rat Eggs Cultured In Vitro. **Cloning and Stem Cells**, Volume 9, Number 4, 615-624.
27. Nitin E. Gade, Amar Nath, Pratheesh M.D., **Pawan K. Dubey**, Amarpal, G. Sai Kumar and G. Taru Sharma (2012). Stem cell therapy in animal sciences-an overview. **Agricultural Review** 33 (2); 150-158.
28. Amar Nath, Veena Sharma, Nitin E Gade, Pratheesh MD, Rohit Kumar and **Pawan K. Dubey**. (2012). Temporal expression of marker transcripts: Key to successful maturation and development of mammalian oocytes. **Veterinary World**, Vol.5 (2); 121-127
29. Pratheesh MD, **Pawan K. Dubey**, Amar Nath, Nitin E Gade, Rajesh Sharma and G. Taru Sharma. (2011). Mesenchymal stem cells and its characterization. **Veterinary World**, vol. 4 (12): 571-574.
30. Nitin E. Gade, Pratheesh M.D., Amar Nath, **Pawan K. Dubey**, Amar Pal and G. Taru Sharma (2012). Therapeutic potential of stem cells in veterinary practice. **Veterinary World**, Vol.5 (8).
31. G. Taru Sharma, **Pawan K. Dubey**, Amar Nath and G. Sai Kumar (2011). Localization and expression of proliferating cell nuclear antigen (PCNA) and cyclin B1 in buffalo (*Bubalus bubalis*) ovary during different stages of follicular development. **Indian Journal of Animal Science** 81 (3), 231-234.
32. **Pawan K. Dubey**, Vrajesh Tripathi, Ram Pratap Singh and G. Taru Sharma (2010). Expression of neuronal nitric oxide synthase in buffalo (*Bubalus bubalis*) ovarian antral follicles. **Biochemical cellular Archives** Vol. 10, No. 2. Pp. 231-235.

**Book: 1.**

1. **Pawan K. Dubey, Anima Tripathi, G. Taru Sharma.** Nitric oxide and Ovarian Folliculogenesis. Lambert Academic Publishing Group, Germany, ISSN No. 978-3-659-33318-7

**Book Chapter: 2.**

1. **Pawan K. Dubey,** Ram Pratap Singh. Stem cells and drug discovery: novel approaches in human and veterinary therapeutics. RECENT DEVELOPMENTS IN BIOTECHNOLOGY. Vol. 12. Studium Press, LLC, New Delhi.
2. **Pawan K. Dubey,** A. Ali and Anima Tripathi. Assisted Reproductive Techniques in Infertility Treatment: Opportunities And Challenges. SpringerVerlag, 69121, Heidelberg, Germany, Publication group. **ISSN No. 978-3-319-39328-5**

**Conference proceeding: 1**

1. **Pawan K. Dubey** and Anima Tripathi. CRISPR/Cas-9 mediated Gene editing: New opportunities for treatment of Genetic disorders. A Publication of the Indian Society for the Study of Reproduction and Fertility Issue 19 | September, 2016.

**10. CONFERENCE PROCEEDINGS/ABSTRACTSPUBLISHED IN JOURNALS:**

*Papers presented in National/International Seminars/Conferences: 27*

Pawan K. Dubey

Date: 11/07/2017

Signature

Place: Varanasi