

**Dr. Poonam Singh**

Professor In charge

Zoology Section

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| S.No. | Degree | Institution | Year |
|-------|--------|-------------|------|
| 1.    | B.Sc.  | BHU         | 1979 |
| 2.    | M.Sc.  | BHU         | 1981 |
| 3.    | Ph.D.  | BHU         | 1988 |

**Area of Research Specialization:**

Area of research centres around fertility control and fertility regulation in males by studying the impacts of certain therapeutic drugs and metal on the reproduction. The ameliorating properties of some medicinal plants on such drugs- and metal –induced fertility impairment have been studied. The study on the reproduction of a seasonal breeder, *Mus terricolor*, has also been carried out. At present, efficacy of a medicinal plant, *Tribulus terrestris* and some other medicinal plants on experimentally-induced Polycystic ovarian Syndrome and depression, respectively, is being studied. Reproductive impairment induced by an endocrine disruptor used in cosmetics is also being carried out in male and female laboratory mice.

Beside that, the protective effects of *Bacopa monieri* on PBDE-induced impairment in learning and memory have been studied in collaboration.

**Full Length Research Papers:**

1. Mrinalini Kumari and Poonam Singh (2018): *Tribulus terrestris* improves metronidazole-induced impaired fertility in the male mice. *African Health Sciences*, Vol. 8,(3),

2. Mrinalini Kumari and Poonam Singh (2018): Testicular Oxidative Stress and Inducible Nitric Oxide Synthase expression following metronidazole administration in the laboratory mouse. *Free Radicals and Antioxidant*, 8 (1): 32-39.
3. Praveen Kumar and Poonam Singh (2018): Delayed response of epididymal sperm characteristics and testicular oxidative stress following EGME exposure: Ameliorating potential of *Withania somnifera* root extract. *J. Appl. Pharm. Sc.*, 8 (01), 122-128.
4. Shobha Raj and Poonam Singh (2018): Evaluation of Triclosan-induced testicular alterations and fertility in male mouse. *J. Exp. Zool.*, (India), 21, (2), 1011-1016
5. Sweta Arora, Poonam Singh and Chandana Haldar (2016): Guccorticoid-induced alterations in the reproductive functions of male *Mus terricolor*, the Indian Pygmy Field Mouse. *J. Endocr. & Reprod.* Vol. 20 (2), 83-91.
6. Praveen Kumar and Poonam Singh (2016): *Tribulus terrestris* ameliorates aluminium chloride-induced alteration in the oxidative status and functional markers in the liver, kidney, brain and testis of the laboratory mouse. *Indian J. Biochem. and Biophysics* , 53, 179-186.
7. Priya Verma, Rajneesh Gupta, B.S. Gandhi and Poonam Singh (2015): CDRI-08 attenuates REST/NRSF-mediated expression of NMDAR1 gene in PBDE-209-exposed mice brain. *E-CAM*. Article ID 403840, 10 pages <http://dx.dio.org/10.1155/2015/403840>
8. Sweta Arora, Priyoneel Basu, Poonam Singh and Chandana Haldar (2015): Reproductive seasonality in the Indian Pygmy field mouse, *Mus terricolor*. *Biological Rhythm Research* 46, 1,13-32.
9. Mrinalini Kumari and Poonam Singh (2015): *Tribulus terrestris* ameliorates metronidazole-induced spermatogenic inhibition and testicular oxidative stress in the laboratory mouse. *Indian J. Pharmacol.*, 47, (3), 304-310.
10. Praveen Kumar and Poonam Singh (2015): Protective role of *Tribulus terrestris* on aluminium chloride-induced reproductive toxicity in the the male laboratory mouse. *International J. Pharma. Sci. and Res.* 6,(6), 2395-2405
11. Mrinalini Kumari, Praveen Kumar and Poonam Singh (2015): Safety evaluation of *Tribulus terrestris* on the male reproductive health of the laboratory mouse. *International J. Pharm. Phyt. Res.* 4,(5), 281-287.
12. Mrinalini Kumari and Poonam Singh (2015): Effects of metronidazole on sperm morphology and fertility of the laboratory mouse. *J. Sc. Res.*, 59, 71-80
13. Parikha and Poonam Singh (2015): Letrozole-induced animal model for polycystic ovary syndrome in mice. *J. Sc. Res.* 59, 81-88
14. Sweta Arora, Poonam Singh, Priyoneel Basu and Chandana Haldar (2014): Effect of exogenous gonadal steroids on reproductive functions of the Indian Pygmy field mouse, *Mus terricolor*. *J. Endocrinol and Reprod* ,18, 29:29-36

15. Mrinalini Kumari and Poonam Singh (2014): Ameliorating potentiality of *Tribulus terrestris* against metronidazole-induced epididymal alterations. *International J. Rec. Sc. Res.* 5, (7), 1286-1292
16. PriyaVerma, Poonam Singh and B.S.Gandhi (2014):Sex selective alterations in oxidative status and spatial memory growth spurt period. *J. Sci. Res.*, 58, 59-73.
17. PriyaVerma, Poonam Singh and B.S. Gandhi (2014): The neuromodulatory role of *Bacopa monnieri* on oxidative stress induced by postnatal exposure of decabromodiphenylether (PBDE-209) in neonate and young female mice. *Iranian J. Basic Med. Sci.*,17: 307-311. IF-1.228
18. Mrinalini Kumari and Poonam Singh (2013) : Study on the reproductive organs and fertility of the male mice following administration of metronidazole. *International J. Fertil. Steril.*, 7 (3), 225-238 . IF- 0.471
19. Priya Verma, Poonam Singh and B.S. Gandhi (2013): Prophylactic efficacy of *Bacopa monnieri* on decabromodiphenyl ether (PBDE-209)-induced alterations in oxidative stress and spatial memory in mice. *Asian J. Pharm.Clin. Res.*, 6 (3): 242-247
20. Sweta Arora, Poonam Singh and Chandana Haldar (2013): Melatonin in modulation of reproductive functions in the female Indian pygmy field mouse, *Mus terricolor*. *J. Scientific. Res.*, 57, 27-41
21. Sweta Arora, Poonam Singh and Chandana Haldar (2012): Influence of glucocorticoid induced stress on reproductive function in female *Mus terricolor* during reproductively active phase. *J. Endocrinol. Reprod.*, 16, (2), 47-56
22. Poonam Singh and M. Kumari (2011): An evaluation of the effects of unilateral cryptorchidism on the testis, epididymis and seminal vesicle of the contralateral side in the laboratory mouse. *The Asian J. Animal. Sci.*, 6, (2), 128-132
23. Poonam Singh (2010): Changes in the epididymis of the laboratory mouse following treatment with toluidamine . *J. Exp. Zool. (India)* 13, (1), 269-272
24. Poonam Singh (2010): Disposal of spermatozoa and quantitative study of their dissolution in the epididymal tract of prepuberally vasectomized laboratory mouse. *Biochem.Cell. Archives.* 10, (1), 129-132
25. Poonam Singh (2008): Tolnidamine-induced changes in the testis, sperm count, fertility and accessory sex glands of the laboratory mouse. *International J. Fertil.Steril.*,1, (4), 159-164
26. Poonam Singh (2008): Effects of 1,2,3Trihydroxypropane on the male reproductive organs of the laboratory mouse. *National J. Life Sc.* 5, (1), 85-90.
27. K.R.C. Reddy and Poonam Singh (2008): Different modes of water pollution. *Indian J. Environ. Protection*, 28 (5), 420-421.

28. Poonam Singh and C.J. Dominic (1990): Effects of vasectomy on the testis, epididymis and seminal vesicle of the laboratory mouse. *Eur. Arch. Biol.* (Bruxelles)101: 345-358
- 29 Poonam Singh and C.J. Dominic (1990): Effects of prepuberal vasectomy on the testis, epididymis and seminal vesicle of the laboratory mouse. *Adv. Biosc.* 9 (II), 15-23.
30. Poonam Singh and C.J.Dominic (1990): Effects of vasectomy on the morphology, motility and concentration of epididymal spermatozoa in the laboratory mouse. *J. Adv. Zool.* 11 (2): 66-71.
31. Poonam Singh (1992): Fertility control in the male. In: Seminar Proceedings of 12<sup>th</sup> Orientation Course, ASC, BHU.
32. Poonam Singh and C.J. Dominic ((1989): Response of cryptorchid and scrotal testes of the laboratory mouse to cadmium chloride. *J.Adv.Zool.*, 10 (2): 80-87.
33. Poonam Singh and C.J. Dominic (1989): Effects of flutamide, a nonsteroidal antiandrogen, on the testis, epididymis and seminal vesicles of the laboratory mouse. *J. Reprod. Biol. Comp. Endocrinol.*, 1 (1): 37-47.
34. Poonam Singh and Shio Kumar Singh (1983): Effect of ligation of cauda epididymidis on the testis and epididymis of the laboratory rat. *Life Sci. Adv.* 2 (1), 5-9.

#### **Book Chapters:**

- 1.Praveen Kumar, Mrinalini Kumari and Poonam Singh (2016): *Tribulus terrestris* in the in treatment of male infertility, In: Updation on Integrative Physiology and Comparative Endocrinology, Vol. I, 198-222 (Editors: Chandana Haldar, Sameer Gupta, Soumik Goswami, Banaras Hindu University, Varanasi.
2. Poonam Singh and C.J.Dominic (1990): Changes in the testis, epididymis and seminalvesicle induced by artificial cryptorchidism in the laboratory mouse. *Environ. Concern and Tissue Injury*, 1-30.
3. Poonam Singh (1988): Effects of cyproterone acetate on the reproductive organs of the male laboratory mouse. In: Hormone Antagonists for Fertility Regulation. Edited by: C.P. Puri and Paul F.A. Van Look. Published by the Indian Society for the Study of Reproduction and Fertility, pp 231-240.

**Laboratory Manual** for B.Sc. (Hons.) Zoology Student (2014) prepared under STAR-DBT College Scheme by Dr. Swarn Lata, Dr. Poonam Singh, Dr. Sunita Singh and Dr. Gautam Geeta J.

**Contribution of a Protocol entitled** “Study of Estrous Cycle in Rat”. page no. 67 **In:** Life Science Protocol Manual (2018) under DBT Star College Scheme. Published by Dept. of Biotechnology, Block 2, 6<sup>th</sup> Floor, CGO Complex, Lodhi Road, New Delhi.

## **Additional Informations:**

**I. Ph.D. produced:** 04 ; **Ph.D. supervising:** 03

## **II. Invited talk :**

1. Annual.Convention of Laboratory Animal Sciences Association of India (LASAI) & Alternatives in Life Science Research (NSAALR), February, 16-18, 2014
2. International Symposium on Integrative Physiology and Comparative Endocrinology (ICIPCE-2016), February , 12-14, 2016.

## **III. Session Chaired :**

1. National Seminar and Workshop on Metabolic Networks and Drug Designing. Held in Mahila Mahavidyalaya, BHU, November, 28-30, 2008
2. National Symposium on Recent Palaestra in Photosciences. Held in Dept. of Zoology, BHU September, 3-4, 2012

- IV. Workshops attended:**
- 1."Academic Administrators" from October 07 to October 09, 2013,  
Academic Staff College, BHU
  - 2." Application of Research Techniques in Reproductive Biomedicine"  
NIHFW, New Delhi, from October 29 to November,09, 2012
  3. "Advanced Techniques in Reproductive Endocrinology and Fertility  
Management" held at Dept. of Zoology, BHU, Varanasi, from  
December, 06 to 29, 2003
  4. PC and Internet Awareness, Computer Centre, BHU, Varanasi, August  
19-September 04, 2002

## **V.Membership of the Scientific Bodies:**

1. Indian Science Congress Association, Calcutta
2. Indian Society for the Study of Reproduction and Fertility,  
Mumbai
3. Society for Reproductive Biology and Comparative  
Endocrinology, Taramani
4. Laboratory Animal Science Association of India



