

## **BIO-DATA**

**1. Name and Full Correspondence Address : Dr. Ravi Ranjan**

**2. Father`s Name:**

Er. Ajit Narayan

**3. Date of Birth :**

11/12/1979

**4. Designation:**

Scientist

**5. Present Address:**

Physiology and  
Reproduction Division



ICAR-Central Institute for Research on Goats,  
Makhdoom, Farah, Mathura, U.P-281122, India

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**6. Academic Qualifications:**

S. No	Degree	Year	Subjects	University/Institution	% of Marks
1	10th	1994	Hindi, English, Sanskrit, Math, Science, Soc. Science	Bihar School Examination Board, Patna, Bihar, India	76.68
2	12th	1996	Hindi, English, Biology, Physics, Chemistry	Bihar Intermediate Education Council, Patna, Bihar, India	68.34
3	B. V. Sc. & A. H.	2003	Veterinary & Animal Sciences	West Bengal University of Animal and Fisheries Sciences, Kolkata, W.B. India	64.81
4	M.V.Sc.	2005	Animal Physiology	ICAR-National Dairy Research Institute, Karnal, Haryana, India	73.00
5	Ph. D.	2013	Veterinary Physiology	ICAR-Indian Veterinary Research Institute, Izatnagar, Bareilly, U.P., India	84.12

**7. M.V.Sc. Thesis Title, Institution, Year of award:**

*Antioxidant Status in Liver, Kidney and Different Muscle Tissues of Buffalo.*

ICAR-National Dairy Research Institute, Karnal, Haryana, India; Year of Award: 2005.

**8. Ph.D. Thesis Title, Institution, Year of award:**

*Studies on Developmental Potency of Caprine Parthenogenetic Embryos.*

ICAR- Indian Veterinary Research Institute, Bareilly, U.P. India; Year of Award: 2013.

**9. Nature of work:**

Research, Teaching & Extension

**10. Specialized Research Area:**

Embryo Biotechnology, Embryo Transfer Technology, Parthenogenesis, Stem Cell Technology, Artificial Insemination, Frozen Semen Technology

**11. Professional recognition/award/prize/certificate/fellowship received:**

S. No.	Name of Award	Awarding Agency
1	Advisory member of Master and Ph.D. scholar Thesis Programme.	Ganeshi Lal Agrawal (GLA) University, Mathura, U.P.
2	RDC member	Ganeshi Lal Agrawal (GLA) University, Mathura, U.P.
3	External Examiner	BR Ambedkar University, Agra, U.P.
4	Organized International training programme to Mongolian scientists under ITEC programme from 26-11-2007 to 25-01-2008.	Ministry of External Affairs, Government of India
5	Editor of Institute Annual report.	ICAR-CIRG, Mathura, U.P.
6	Nodal officer of RFD of P&R Division	ICAR-CIRG, Mathura, U.P.
7	Member of Departmental Purchase Advisory Committee (DPAC) and Technical Specification Committee (TSC)	ICAR-CIRG, Mathura, U.P.
8	Coordinator of Internship Programme of B.V.Sc. & A.H. students	DUVASU, Mathura, U.P.
9	Rapporteur and Lead paper invitee: SAPI, ISSRF, ISSGPU	Society of Animal Physiologists of India (SAPI).
10	Life member of different International and National level professional society	ISSRF, SAPI, ISSGPU, MOBILISATION, VCI, BVC
11	Radio Talk and TV Talk	A.I.R , Mathura, DD Kishan
12	FOCARS training	ICAR-NAARM, Hyderabad
13	Assisted reproductive and management technologies for genetic improvement of livestock	ICAR-NDRI, Karnal, Haryana
14	Organized Workshop on Frozen Semen Technology	IMV Co. France & ICAR-CIRG, Mathura, U.P.
15	Recent advances in endocrine control of livestock production and reproduction.	ICAR-IVRI, Bareilly, U.P.
16	Livestock production and health under impeding climate change.	ICAR-IVRI, Bareilly, U.P.
17	Qualified ICAR-NET,UGC/CSIR J R F & NET	UGC/CSIR

## 12. Research Projects handled or worked/ working with:

1. ANSC CIRG SI 2014 010 00221: Flagship Programme on Artificial Insemination in goats. 2014-17. Institute Funded. As PI.
2. ANSC CIRG: Modulation of Immune Competence of Goat Spermatozoa for Augmentation of Fertility. 2016-18. Institute Funded. As PI.
3. ANSC CIRG COL 2013 027 00237: Development of partheno-genetic goat embryos from embryonic stem cells. 234 Lakhs. NASF, ICAR, New Delhi. 2013-2017. As Co-PI
4. Assessment of plastic based structures and shelters on goat production. AICRP on Plastic Engineering Technology. New Delhi. 110 Lakhs. 2014-2017. As Co-PI.
5. ANSC CIRG SI 2013 011 00222: Hormone profile during different reproductive stages in goats. 2013-17. Institute Funded. As Co-PI.
6. Improvement of feed resources and nutrient utilization in raising animal production. ICAR-AICRP, New Delhi. 42.2 lakhs 2009- 2014. As Co-PI.
7. ANSC CIRG SI 2012 009 00220: Improvement of post-thaw quality and fertility of frozen semen of different breeds of goats using various additives. 2012-14. Institute Funded. As Co-PI
8. XI/PRSM 1.01. Studies on refinement of frozen semen technology and strengthening of goat semen bank. 2007-12. Institute Funded. As Co-PI.
9. XI/GGB-1.09. Improvement of sire evaluation of Jamunapari goat for milk and meat production. ICAR-AICRP, New Delhi. 40 lakhs. 2008-2009. As Co-PI.

## 13. Publications:

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|---|-------------------------------------|
| 1. Research Articles – 34                   | 2. Review Articles/ Lead Papers – 6 |
| 3. Chapter in Books/ Books/ Monographs – 24 | 4. Abstracts – 60                   |

### Research Articles:

- 1) **Ranjan R**, Singh Renu, Kumar Kuldeep, Sarkar M, Das B C and Sadhan Bag. (2016). Insulin like growth factor 2 (Igf2) and its receptor gene (Igf2r) showed opposite expression in diploid parthenogenetic embryos in *Capra hircus*. Indian Journal of Animal Sciences 86 (01): 45–48.
- 2) A K Goel, S D Kharche, S K Jindal, S Kumar, **R Ranjan**, S P Singh and S Bhushan. (2016). Progesterone profile and ultrasonographic scanning of uterus during post-partum period in Jakhrana goats. Indian Journal of Animal Sciences 86 (9): 27–00
- 3) **Ranjan R**, Singh Renu, Kumar Kuldeep, Sarkar M, Das B C and Sadhan Bag. (2017). P57<sup>KIP2</sup>, Grb10, Xist and Dlk1 express perturbed in diploid parthenogenetic embryos in *Capra Hircus*. Indian Journal of Animal Sciences 87 (01):
- 4) N Ramachandran, N P Singh, **R Ranjan**\*, M K Singh and A K Shinde. (2017). Assessment of rearing systems and seasons on nutrient intake and semen freezability in Jamunapari bucks. Indian Journal of Animal Sciences 87 (01):
- 5) S D Kharche, S Agrawal, J Pathak, A K S Sikarwar, Chetna Gangawar, **Ravi Ranjan**, A K Goel, S K Jindal and S K Agarwal. (2016). Influence of cysteamine supplementation during in vitro culture of early stage caprine embryos on blastocyst production. Indian Journal of Animal Sciences 86 (3): 304–306
- 6) A.K.S. Sikarwar, **R. Ranjan**, N. Ramachandran and J.K. Agrawal. (2016). Comparative effects of different levels of cryoprotectants on freezability of buck semen. Indian Journal of Small Ruminants 22(1): 110-112.

- 7) **Ranjan R**, Goel A.K., Ramachandran N., Kharche S.D. and Jindal S.K. (2015). Effect of egg yolk levels and equilibration periods on freezability of Jamunapari buck semen. *The Indian Journal of Small Ruminants* 21(1): 32-36.
- 8) **Ranjan R**, Singh Renu, Kumar Kuldeep, Sarkar M, Das B C and Sadhan Bag. (2015). Expression profile of H19 and Peg1 among diploid parthenogenetic, female sexed IVF and in vivo derived embryos during pre-implantation development in goat. *Indian Journal of Animal Sciences* 85 (11): 1199–1201.
- 9) A K S Sikarwar, N. Ramachandran, **Ravi Ranjan**, Chetna Gangwar and Jitendra Kumar Agrawal. (2015). Effect of Different Levels of Glycerol and DMSO on Freezability of Buck Semen. *Livestock Research International* 3(3): 71-73.
- 10) N. Ramachandran, Sushma Yadav, A.K.S. Sikarwar, Sonia Saraswat, **Ravi Ranjan** and S.K. Jindal. (2015). Effect of equilibration periods on post-thaw semen quality of Jamunapari bucks. *The Indian Journal of Small Ruminants* 21(2): 234-237.
- 11) Gangwar C, Kharche S D, **Ranjan R**, Kumar Satish, Goel A K and Jindal S K. (2015). Effect of vitamin C supplementation on freezability of Barbari buck semen. *Small Ruminant Research* 129: 104–107.
- 12) **Ranjan R**, Goel A.K., Ramachandran N., Kharche S.D. Gangwar C and Jindal S.K. (2014). Comparison between normal and dual staining technique for evaluating acrosome status and viability in frozen thawed buck spermatozoa. *The Indian Journal of Small Ruminants* 20(2): 50-53.
- 13) **Ranjan R**, Singh Renu, Kumar Kuldeep, Sarkar M, Das B C and Sadhan Bag. (2014). Necdin and neuronatin genes expression among diploid parthenogenetic, IVF and in vivo derived female sexed embryos during preimplantation development in goat. *Indian Journal of Animal Sciences* 84(8): 842–845.
- 14) **R Ranjan**, B C Das and Sadhan Bag. (2014). Effect of cytochalasin B during oocyte maturation for parthenogenetic embryos generation in goat *Indian Journal of Animal Sciences* 84 (3): 271–274.
- 15) Gangwar C, **Ranjan R**, Kumar Satish, Kharche S D, Goel A K, Ramachandran N and Jindal S K. (2014). Use of chelating agent for optimum post thaw quality of buck semen. *Indian Journal of Animal Sciences* 84 (8) 839–841.
- 16) Kharche S D, Goel A K, Jindal S K, **Ranjan R**, Rout P K, Agarwal S K, Goel P, Saraswat S, Vijn R K, Malakar D, Sadhan Bag, Sarkhel B and Bhanja S K. (2014). Development of parthenote following in vivo transfer of embryos in *Capra hircus*. *In Vitro Cellular & Developmental Biology - Animal* 50 (10): 893-898.
- 17) Sonia Saraswat, S K Jindal, S D Kharche, P K Rout, **R Ranjan** and R Priyadharsini. (2014). Role of antioxidant additives in the protection of DNA integrity of buck spermatozoa with RAPD assay. *Indian Journal of Animal Sciences* 84 (3): 295–297.
- 18) **Ranjan R**. R. K. Singh, T. Yasotha, Manish Kumar, Gopal Puri, Kuldeep Kumar, Renu Singh, Sanjeev Bhure, D. Malakar, S. K. Bhanja, M. Sarkar, B. C. Das and Sadhan Bag. (2013). Effect of Actin Polymerization Inhibitor During Oocyte Maturation on Parthenogenetic Embryo Development and Ploidy in *Capra Hircus*. *Biochem Genet.* 51 (11-12), 944-953. DOI 10.1007/s10528-013-9619-4.

- 19) **Ravi Ranjan**, Rakesh Kumar Singh, Thirupathi Yasotha, Manish Kumar, Kuldeep Kumar, Renu Singh, Monzamal Houque, Vijay Prakash Mourya, Gyanendra Singh, Mihir Sarkar, Bikash Chandra Das and Sadhan Bag. (2013). Survivability of parthenogenetic embryos following in vivo transfer in naturally synchronized *Capra Hircus*. *In Vitro Cell.Dev.Biol.—Animal* (2013) 49:486–491. DOI 10.1007/s11626-013-9643-z.
- 20) **R. Ranjan**, B. C. Das and Sadhan. Bag. (2013). Molecular sexing of IVF and in vivo derived embryonic cell colony in goat. *Indian Journal of Animal Sciences* 83 (10): 1039–1041.
- 21) Kritaniya D, Singh R, Kumar K, **Ranjan R**, Kumar M, Yasotha T, Singh R and Bag S. (2013). Comparative expression analysis of oct-4 gene in 8-16 cell stage of Partheno-genetic and IVF derived embryos in caprine. *World Research Journal of Cell Biology* 1(1): 01-02.
- 22) Kuldeep Kumar, Renu Singh, **R Ranjan**, Yasotha T, R K Singh, Manish Kumar, S K Bhanja, B C Das, N H Mohan and Sadhan Bag. (2013). Use of extract egg for parthenogenetic embryos development in caprine. *Indian Journal of Animal Sciences* 83 (4): 377–378.
- 23) Naresh Kumar, Nilesh Bari, Renu Singh, Kuldeep Kumar, R K Singh, **R Ranjan**, Yasotha T, Manish Kumar, R P Panda, B C Das1, M Sarkar and Sadhan Bag. (2013). Isolation and characterization of neural stem cells from caprine. *Indian Journal of Animal Sciences* 83 (2): 146–149.
- 24) Nilesh Bari, Naresh Kumar, Renu Singh, Kuldeep Kumar, **R Ranjan**, R K Singh, Yasotha T, Manish Kumar, R P Panda, B C Das1, M Sarkar and Sadhan Bag. (2013). Effect of extract egg supplementation on expression of mushashi gene in caprine neural stem. *Indian Journal of Animal Sciences* 83 (5): 533–535.
- 25) Renu Singh, Kuldeep Kumar, Iram Khan, **R Ranjan**, Yasotha T, R K Singh, B C Das and Sadhan Bag. (2013). Comparative expression profile of developmental related genes in haploid and diploid parthenogenetic embryos in caprine. *Indian Journal of Animal Sciences* 83 (5): 502–505.
- 26) Manish Kumar, T. Yasotha, R. K. Singh, Renu Singh, Kuldeep Kumar, **R. Ranjan**, B. C. Das, Chetan D Meshram, M. Sarkar and Sadhan. Bag. (2013). Generation of transgenic mesenchymal stem cell expressing green florescent protein as reporter gene using no viral vector in caprine. *Indian Journal of Experimental Biology*, 51, 502-509.
- 27) Renu Singh, Kuldeep Kumar, **R. Ranjan**, Manish Kumar, T. Yasotha, R. K. Singh, B. C. Das, M. Sarkar and Sadhan. Bag. (2013). Comparative expression analysis of embryonic development related gene at different stages of parthenogenetic and in vitro fertilized embryos in caprine. *Zygote*, 11, DOI 10.1017/S096719941300049X.
- 28) R S Pankaj, K B Satisha, V Venkatesh, R Gupta, K Kumar, B C Das, A C Majumdar, S Bag and **R Ranjan**. (2012) Effect of different activation protocol on generation of parthenogenetic embryos in caprine. *Indian Journal of Animal Sciences* 82 (11): 1323–1326.
- 29) G. Puri, Kuldeep Kumar, Renu Singh, R. K. Singh, T. Yasotha, **R. Ranjan**, Manish Kumar, B. C. Das, G. Singh, M. Sarkar, Sadhan. Bag. (2012). Effects of Growth Factors on Establishment and Propagation of Embryonic Stem Cells from Very Early Stage IVF Embryos and Their Characterization in Buffalo. *International Journal of Stem Cells*,. 5(2), 96-103.

- 30) Ashok Kumar, Kuldeep Kumar, Renu Singh, Gopal Puri, **R. Ranjan**, T. Yasotha, R. K. Singh, M. Sarkar and Sadhan Bag (2012). Effect of mitotic inducers and retinoic acid blocker on expression of pluripotent genes in ES cells derived from early stage in vitro-produced embryos in buffalo. *In Vitro Cell.Dev.Biol.—Animal* 48:625–632 DOI 10.1007/s11626-012-9556-2.
- 31) **Ranjan R.**, Ramachandran N., Jindal S. K. and Sinha N. K (2009). Hypo osmotic swelling test in frozen thawed goat spermatozoa. *Indian Journal of Animal Science*. 79 (10):1022-1023.
- 32) **Ranjan R.**, Ramachandran N., Jindal S. K., Sinha N. K., Goel A. K., S. D. Kharche and Sikarwar A. K. S. (2009). Effect of egg yolk levels on keeping quality of Marawari buck semen at refrigeration temperature. *Indian Journal of Animal Science*. 79 (7):10-13.
- 33) **Ranjan R.** and Singh S.V. (2008). Antioxidants status in different body organs of female buffaloes. *Indian Journal of Animal Nutrition*. 25 (2): 159-161.
- 34) **Ranjan R.**, Singh S.V and R. C. Upadhyay. (2007). Status of antioxidant enzymes in different body organs of male buffaloes. *Italian Journal of Animal Science*. 6(2): 551-554.

#### **14. Books/Report/Chapter/General Articles etc.**

- 1) R. Ranjan, Kuldeep Kumar, Renu, R. K. Singh and Sadhan Bag. (2012). Protocol for parthenogenetic embryo generation in goat. *Livestock Production and Health under Impeding Climate Change*. pp164
- 2) Sadhan Bag, Gopal Puri, R Ranjan, Yasotha T and B C Das. (2011). Generation of embryonic stem cells in livestock. *Recent Advances in Endocrine Control of Livestock Production and Reproduction*. pp. 118
- 3) B C Das, Renu, Kuldeep Kumar, Iram Khan, R. Ranjan, Yasotha T and Sadhan Bag. (2011). Protocol for parthenogenetic embryo generation in goat. *Recent Advances in Endocrine Control of Livestock Production and Reproduction*. pp. 167
- 4) Sadhan Bag, Rajni Chetri, Renu, R. Ranjan, Yasotha T and B C Das. (2011). Generation of embryonic stem cell from IVF derived early stage embryos in buffalo/goat. *Recent Advances in Endocrine Control of Livestock Production and Reproduction*. pp. 168
- 5) Sadhan Bag, R. K. Singh, Manish Kumar, Yasotha. T, R. Ranjan. B. C. Das, and N. H. Mohan. (2011). Protocol for isolation, culture and characterization of mesenchymal stem cell. *Advances in Reproductive Technology to Augment Fertility in Farm Animals*. pp172
- 6) Sadhan Bag, B.C.Das, Gopal Puri, R Ranjan and R.K Singh. (2011). Derivation of embryonic stem from livestock. *Therapeutic Application of Stem Cell in Livestock*. pp 35
- 7) B.C.Das, Sadhan Bag and R Ranjan. (2011). Application of parthenogenetic stem cells in livestock. *Therapeutic Application of Stem Cell in Livestock*. pp 39.
- 8) B.C.Das, Sadhan Bag and R Ranjan, (2011). Neuronal stem cell in livestock. *Therapeutic Application of Stem Cell in Livestock*. pp145
- 9) Sadhan Bag, T. Yasotha, B. C. Das, R. K. Singh and R Ranjan. (2011). Recent advance of induce pluripotent stem cell. *Therapeutic Application of Stem Cell in Livestock*. pp149
- 10) Sadhan Bag, B. C. Das, Renu, Kuldeep Kumar, Iram Khan, R Ranjan and R. K. Singh. (2011). Parthenogenetic embryo generation in goat and buffalo. *Practical Manual on Therapeutic Application of Stem Cell in Livestock*. pp5

- 11) B. C. Das, Sadhan Bag and R Ranjan. (2011). Cryopreservation of stem cell. Practical Manual on Therapeutic Application of Stem Cell in Livestock. pp23
- 12) Sadhan Bag, T. Yasotha, B.C.Das, Renu, R Ranjan and R.K Singh. (2011). Generation of embryonic stem cell from ivf derived early stage embryos in buffalo/goat. Practical Manual on Therapeutic Application of Stem Cell in Livestock. pp25.
- 13) R Ranjan\_(2009). Prajanak bakaro ka chayan, khan-pan avam prabandh. Unnat Bakri Palan book. CIRG Publication. (In Hindi). P101-108.
- 14) R Ranjan\_and Sinha, N. K. (2009). Semen evaluation. Advances in Production and Reproduction in Goat. CIRG Publication. P155-163.
- 15) R Ranjan. (2009). Anatomy of male genital system. Advances in Production and Reproduction in Goat. CIRG Publication. P120-124.
- 16) Sinha, N. K. and R Ranjan. (2009). Bakrio me Prakritik avam Krithrim Garbadhan. Unnat Bakri Palan. book. CIRG Publication. (In Hindi). P109-113.
- 17) Ramachandran, N., R Ranjan. (2009). Method of semen collection and schedule. Advances in Production and Reproduction in Goat. CIRG Publication. P147-154.
- 18) Sinha, N. K and R Ranjan. (2009). Diluents and dilution rate of buck Semen. Advances in Production and Reproduction in Goat. CIRG Publication. P164-170.
- 19) Sinha, N. K and R Ranjan. (2009). Short term preservation of buck semen. Advances in Production and Reproduction in Goat. CIRG Publication. P171-175.
- 20) Sinha, N.K., Ramachandran, N. and R Ranjan. (2009). Nasal Sudar ke liye bakrio me krithrim garbadhan. In: Vivasayik Bakri Palan book, CIRG Publication. (In Hindi). P18-21.
- 21) Jindal, S. K. and R Ranjan. (2009). Bakri palan ke adhunik sidhant avam naye ayam. In: Vivasayik Bakri Palan book, CIRG Publication. (In Hindi). P 58-60.
- 22) Ramachandran, N., Dharm Singh., R Ranjan and Mishra, R.P. (2009). Managemental practice for commercial goat production. In Goat Enterprises. S. Kumar, M.C Sharma and A.K. Goel. (Ed), CIRG, Makhdoom. pp-117-30
- 23) Jindal, S. K., R Ranjan, Singh, A. K. and Ramachandran, N (2008). Aadhunik vaigyanik takniko dwara bakri vikas ki sambavnayae. Bakri Smarika book. CIRG Publication. (In Hindi). P18-21.
- 24) Sinha, N. K., Ramachandran, N. and R Ranjan. (2008). Bakrio me Krithrim Garbadhan. In: Chapter 6: Adhunik Bakri Palan book. CIRG Publication (In Hindi). P27-29.

#### **15. Book Authored:**

Semen Technology and Artificial Insemination in Goats. Published by: Director, CIRG, Makhdoom. Authored By- Dr. S.D. Kharche, Dr. N. Ramachandran, Dr. Ravi Ranjan, Dr. A. K. Goel, Dr. S. K. Jindal, Dr. N. K. Sinha and Dr. M. C Sharma

#### **16. Any other information:**

Successfully organized International training programme to Mongolian scientists under ITEC programme of Ministry of External Affairs, Government of India from 26-11-2007 to 25-01-2008.