Dr Rajesh Kumar

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Educational Qualifications	• 2013 – Ph.D. (Veterinary/Animal Physiology), Lala Lajpat Rai University of Veterinary & Animal Sciences (LUVAS), Hisar • 2009 – M.V.Sc. (Veterinary Physiology), CCS Haryana Agricultural University (CCS HAU), Hisar • 2007-B.V.Sc. & A.H., Sher-e-Kashmir University of Agricultural Sciences & Technology of Kashmir (SKUAST-K), Srinagar
Ph.D. Research	• Thesis: "Genetic Polymorphism of HSP70, LHR, LEPR Gene and Selective Mineral Status in Post-Partum Anestrous Buffaloes." • Guide: Dr. Meenakshi Gupta • Institute: LUVAS, Hisar • Year of award: 2013
Employment Details	• Scientist,, Department of Veterinary Physiology & Biochemistry, LUVAS, Hisar – 14.08.2019 to present • Assistant Professor, Department of Veterinary Physiology & Biochemistry, KVASU, Kerala – 19.03.2015 to13.08.2019
Research Interests	• Environmental and stress physiology • Omics in hysiology
Students Guided / Academic Work	• one (Major), Twenty(minor/supportive)

Research Publications	• Research articles: 38
	• Review articles:12
	• Popular articles: 08
	  • Book chapters: 20
	  • Patent: 04
	  • Book edited: 01

Selected Publications (10)	1. Kumar, A.Y.N., Chowdhury, A., Kumar, R., Maurya, V.K., Batabyal, S. and Ghosh, M. (2025). Impact of microwave processing on phytochemicals, antioxidant status, anti-nutritional factors and metabolite profile of maize flour. *Appl. Food Res.* 5(1): 100712. 2. Durga, M.T., Chowdhury, A., Kumar, R., Suvetha, S., Mamatha, D., Trivedi, A., Maurya, K., Yadav, P.K. and Ghosh, M. (2025). Assessing the impact of microwave treatment on the nutritional quality and metabolomic profile of barley flour. *J. Agric. Food Res.* 22: 102011. 3. Kumar, R., Chowdhury, A., Kumar, A.Y.N., Durga, M.T., Mamatha, D., Trivedi, A., Maurya, K., Maurya, V.K. and Batabyal, S. (2025). Optimized microwave processing improves the nutritive quality and metabolite profile of defatted soybean meal. *Applied Food ResearchDOI.* *10.1016/j.afres.2026.102733*.

	4. Saini, A.K., Lakhani, P., Neeraj, Ghosh, M. and Kumar, R. (2025). Effect of monochromatic LED lights on physiobiochemical and behavioural performance of broiler chicken. *Pak. J. Zool.* (In press). 5. Chowdhury, A., Kumar, A.Y.N., Kumar, R., Ghosh, M. et al. (2024). Optimization of microwave parameters to enhance phytochemicals, antioxidants and metabolite profile of de-oiled rice bran. *Sci. Rep.* 14: 23959. 6. Sarangi, A., Ghosh, M., Sangwan, S., Kumar, R., Balhara, S., Phulia, S.K., Sharma, R.K., Sahu, S., Kumar, S., Mohanty, A.K. and Balhara, A.K. (2022). Exploration of urinary metabolite dynamicity for early detection of pregnancy in water buffaloes. *Sci. Rep.* 12(1): 16295. 7. Manuel, R., Deepa, P.M., Ashok, R.U., Kumar, R., Vijayakumar, K., Karthiayini, K. and Janus, A. (2022). Galactosylgalactosylxylosyl protein 3-beta-glucuronosyltransferase—a potent biomarker for the diagnosis of tuberculosis in elephants. *Eur. J. Wildl. Res.* 68: 49. 8. Minakshi, P., Ghosh, M., Kumar, R., Brar, B. et al. (2020). An insight into nanomedicinal approaches to combat viral zoonoses. *Curr. Top. Med. Chem.* 20: 1-48. 9. Sharma, G., Pandey, A.K., Jangra, H., Kumar, S., Saini, P., Kumar, R. and Choudhary, D. (2026). Gamete co-incubation duration modulates blastocyst developmental competence in buffalo through regulation of growth factors, steroidogenesis and oxidative stress pathways. *Mol. Biol. Rep.* **53**: 1246 10. Solanki, A., Pandey, A.K., Jangra, H., Saini, P., Kumar, S., Kaushik, R., Joshi, V.G., Kumar, R. and Kognole, S. **(2026).** In vivo use of melatonin improves oocyte developmental competence and blastocyst development rate in indigenous donor cow during summer. *Trop. Anim. Health Prod.* **58**(5): 349
Books / Chapters / Popular Articles	1. Prasad, M., Kumar, R., Ghosh, M., Syed, S.M. and Chakravarti, S. (2024). *Nanotechnology Theranostics in Livestock Diseases and Management*. Springer Singapore, Singapore. 2. Minakshi, P. et al. (Kumar, R.) (2021). Proteomics and metabolomics in cancer diagnosis and therapy. In: *Handbook of Oxidative Stress in Cancer: Mechanistic Aspects* (Chakraborti, S., Ray, B.K. and Roychoudhury, S., Eds.), Springer Singapore, Singapore. 3. Minakshi, P. et al. (Kumar, R.) (2021). Application of proteomics and metabolomics in disease diagnosis. In: *Advances in Animal Disease Diagnosis* (1st Edn.), CRC Press. 4. Minakshi, P. et al. (Kumar, R.) (2021). Imaging techniques in veterinary disease diagnosis. In: *Advances in Animal Disease Diagnosis* (1st Edn.), CRC Press. 5. Minakshi, P. et al. (Kumar, R.) (2019). Single-cell proteomics: technology and applications. In: *Single Cell Omics*, Elsevier. 6. Minakshi, P. et al. (Kumar, R.) (2019). Single cell metabolomics: technology and applications. In: *Single Cell Omics*, Elsevier. 7. Minakshi, P. et al. (Kumar, R.) (2019). Separation techniques with nanomaterials. In: *Handbook of Nanomaterials in Analytical Chemistry*, Elsevier. 8. Prasad, M., Kumar, R., Ghosh, M., Syed, S.M. and Chakravarti, S. (Eds.) (2024). *Nanotechnology Theranostics in Livestock Diseases and Management* (1st Edn.), Springer Nature Singapore, Singapore, pp. 788. [1, 2]

Awards / Fellowships / Recognition	1. Gold Medal in Anaesthesiology Session Award (2024) – Awarded by the Indian Society for Veterinary Surgery for work on "Oxidative stress in buffaloes by inhalant versus total intravenous anaesthesia". 2. Best Oral Paper Award (2023) – Awarded by the Society of Animal Physiologists of India (Society of Animal Physiology). 3. J.N. Pandey Memorial Best Poster Presentation Award (2022) – Awarded by the Society of Animal Physiologists of India (Society of Animal Physiology). 4. Cited in IUPAC Technology of the Year (2021) – Recognized by the International Union of Pure and Applied Chemistry (IUPAC) for research on single-cell metabolomics. 5. Team Award for Contribution in Buffalo Research and Development (2021) – Awarded by the Indian Society for Buffalo Development. 6. Patent Applied, Published & Commercialized (2020) – "Urine-based pregnancy detection method for ruminant livestock animals" (Application No. TEMP/E1/14163/2020-DEL; Patent No. 202011013074), Government of India. 7. Patent Granted (2019) – "An in-vitro method for detection of postpartum anestrus condition in buffaloes" (Patent No. 306848), Government of India. 8. Best Young Faculty Award – 2015 (2016) – Awarded by the College of Veterinary and Animal Sciences (COVAS), Kerala Veterinary and Animal Sciences University (KVASU). 9. Best Paper Award (2016) – Awarded by the Society of Veterinary Biochemists and Biotechnologists of India. 10. Senior Research Fellow (SRF) (2013) – Awarded by ICAR–Central Institute for Research on Buffaloes (CIRB), Government of India. 11. INSPIRE – JRF (P) Fellowship (2011) – Awarded by the Department of Science and Technology (DST), Ministry of Science and Technology, Government of India.
Professional Experience / Other Details	• External Funded Project Handled as pi and co-pi (Five) • Internal funded project handled as Pi or Co-Pi(Eight) • Technology developed (Six) • Patent commercialized (1) • H-Index (18)