

Publication and other relevant details



Dr. Bagath Madiajagan

Awards and Achievements

1. **Best Paper published Award** for the paper entitled “ “Effect of heat and nutritional stress on growth and testicular HSP70 expression in goats” authored by P.A. Abdul Niyas, V. Sejian, **M. Bagath**, S. Parthipan, S. Selvaraju, G. B. Manjunathareddy, E.K. Kurien, G. Varma and R. Bhatta published in the Journal of Agrometeorology (2017), Vol. 19(3): 189-194.
2. **Best Oral Presentation Award** for the paper entitled “Quantitative expression patterns of PBMC TLR 1-10 during heat stress exposure in indigenous Malabari goat” authored by **M. Bagath**, V. Sejian, G. Krishnan, G.D. Vandana, V.P. Rashamol and R. Bhatta (2018). In: XXVII annual conference of society of animal physiologists of India and national symposium on “Augmentation of animal productivity under changing socio-economic scenario”. Organized by Society of animal physiologists of India and ICAR- National Dairy Research Institute held at Karnal, Haryana, India on 27th and 28th November 2018, pp 40.
3. **Best oral presentation** for the poster entitled “Quantitative expression patterns of cytokines during exposure to different climate change related environmental stresses in Osmanabadi goats” under the theme Climate change, Stress Physiology and Bioenergetics authored by **M. Bagath**, V. Sejian and R. Bhatta (2017). In: 26th Annual conference of SAPI and National Symposium, held at KVAFSU, Bidar, India between 2th - 22nd December 2017.
4. **Best oral presentation** for the poster entitled “Impact of heat stress on the carcass traits, plasma leptin profile and skeletal muscle HSP70 expression pattern in Malabari goats.” under the theme Emerging viruses cross talk on (e) health of men and animals authored by P.R. Archana, V. Sejian, G. Krishnan, W. Ruban, G. B. Manjunathareddy, V. Beena, **M. Bagath**, P. Indira Devi

and R. Bhatta (2017). In: 9th Kerala veterinary science congress (KVSC 2017) held at Flora airport hotel, Trissur, Kerala, India between 11th-12th November 2017.

5. **Best oral presentation** for the poster entitled “Impact of heat stress on meat quality as indicated by the alterations in the physico-chemical.....in Malabari goats.” under the theme Food adequacy and climate change authored by P.R. Archana, V. Sejian, W. Ruban, G.B. Manjunathareddy, V. Beena, **M. Bagath**, G. Krishnan, P. Indira Devi and R. Bhatta (2017). In: Strategies for sustainable food production held at Kerala Veterinary and Animal Sciences University, Trissur, Kerala, India between 3rd-4th November 2017.
6. **Best Poster presentation** for the poster entitled “Endocrine responses of goats to heat stress challenges.” under the theme Food adequacy and climate change authored by Angel. P. Sunny, V. Sejian, **M. Bagath**, G. Krishnan, G.B. Indira Devi and R. Bhatta (2017). In: Strategies for sustainable food production held at Kerala Veterinary and Animal Sciences University, Trissur, Kerala, India between 3- 4 November 2017.
7. **Best Poster presentation** for the poster entitled “Assessing the physiological adaptability of Malabari goat when shifted from its Native tract to different Agro-Ecological zone.” under the theme Food adequacy and climate change authored by J. Aleena, V. Sejian, **M. Bagath**, G. Krishnan, G.B. Manjunathareddy, V. Beena, P. Indira Devi and R. Bhatta (2017). In: Strategies for sustainable food production held at Kerala Veterinary and Animal Sciences University, Trissur, Kerala, India between 3-4 November 2017.
8. **Young scientist award** for the paper entitled “Sexual influence on expression patterns of different toll like receptors in royal Bengal tigers” under the theme Innovative and emerging biochemical and biotechnological tools to augment animal health and production authored by authored by M.K. Vidya, V. Girish Kumar, **M. Bagath**, G. Krishnan, V. Sejian, H.J. Puneeth, H.S. Ramesh, N.R. Srikanth, R. Manjunath and J. Nirupama (2016). In: Second Annual Convention symposium of the held at Society of Veterinary Biochemists and Biotechnologists of India held at veterinary college, KVAFSU, Hebbal, Bengaluru.
9. **Best Oral Presentation Award** for the paper entitled “Effect of heat stress, nutritional stress and combined stresses (heat and nutritional stress) on growth performance of Osmanabadi bucks” under the theme Climate change and livestock, poultry and fisheries authored by P.A. Abdul Niyas, V. Sejian, **M. Bagath**, S. Selvaraju, E.K. Kurien, Girish Varma and R. Bhatta (2016). In: National Symposium on Climate driven food production systems: Agrometeorological interventions held at Tamil Nadu Agricultural University, Coimbatore, Tamil Nadu, India between 20-22 December 2016.
10. **Best Oral Award** for the paper entitled “Significance of metabolic response in livestock for adapting to heat stress challenges” under the theme Climate change and livestock, poultry and

fisheries authored by J. Aleena, P. Pragna, P.R. Archana, V. Sejian, **M. Bagath**, G. Krishnan, A. Manimaran, V. Beena, E.K. Kurien, G. Varma and R. Bhatta (2016). In: National Symposium on Climate driven food production systems: Agrometeorological interventions held at Tamil Nadu Agricultural University, Coimbatore, Tamil Nadu, India between 20-22 December 2016.

11. **Best Poster presentation** for the poster entitled “Heat stress and dairy cow: Impact on both milk yield and composition” under the theme Climate change and livestock, poultry and fisheries authored by P. Pragna, P.R. Archana, J. Aleena, V. Sejian, G. Krishnan, **M. Bagath**, A. Manimaran, V. Beena, E.K. Kurien, G. Varma and R. Bhatta (2016). In: National Symposium on Climate driven food production systems: Agrometeorological interventions held at Tamil Nadu Agricultural University, Coimbatore, Tamil Nadu, India between 20-22 December 2016
12. **Best oral presentation** for the theme “Climate change adaptation in agriculture and natural resource management” on harmonizing biodiversity and climate change: challenges and opportunity held at ICAR- CIARI, Port Blair, April, 2015.
13. **Best poster presentation** for the poster entitled ‘Supplementation of recombinant mixed cultures encoding feruloyl esterase gene on digestibility of paddy straw’s at IX Biennial Conference of ANA on ‘Eco responsive Feeding and Nutrition: Linking Livestock and Livelihood’, Veterinary College, Guwahati, 22-24 January, 2015,
14. **Best poster presentation** for the poster entitled in Glance- **Global Animal Nutrition Conference 2014 - VIV India 2014**, Taj Vivantha, Bangalore.
15. **Best oral presentation** in the 9th International conference on Functional Foods Components in Health and Disease, **University of San Diego, California, USA**, 2011.
16. **Best poster presentation** for the poster entitled “Morphological, molecular characterization of fungi from buffalos in **Indian society for buffalo development. 2010**.”
17. Recipient of Indian Veterinary Research Institute (IVRI) **Senior Research Fellow(SRF)**- 2007–Animal Biotechnology.
18. Recipient of ICAR-**National Eligibility test for lecturership/assistant professorship** in Animal Biotechnology–2007.
19. Recipient of Indian Council of Agricultural Research (ICAR) **Junior Research Fellow (JRF)**- 2003-Animal Biotechnology.

Scientific Publications in Peer Reviewed Journals

1. Angel, S.P., **Bagath, M.**, Sejian, V., Krishnan, G and Bhatta, R (2018). Expression patterns of candidate genes reflecting the growth performance of goats subjected to heat stress. **Molecular Biology Reports**. <https://doi.org/10.1007/s11033-018-4440-0>.
2. Aleena, J., Sejian, V., **Bagath, M.**, Krishnan, G., Beena, V and Bhatta, R (2018). Resilience of three indigenous goat breeds to heat stress based on phenotypic traits and PBMC HSP70 expression. **International journal of biometeorology**, 62(11), 1995-2005.
3. Archana, P.R., Sejian, V., Ruban, W., **Bagath, M.**, Krishnan., G, Aleena, J., Manjunathareddy, G.B., Beena, V and Bhatta, R (2018). Comparative assessment of heat stress induced changes in carcass traits, plasma leptin profile and skeletal muscle myostatin and HSP70 gene expression patterns between indigenous Osmanabadi and Salem Black goat breeds. **Meat Science** 141: 66-80 (<https://doi.org/10.1016/j.meatsci.2018.03.015>).
4. Archana, P.R., Sejian, V., Ruban, W., Bagath, M., Krishnan, G., Aleena, J., Manjunathareddy, G.B., Beena, V. and Bhatta, R (2018). Comparative assessment of heat stress induced changes in carcass traits, plasma leptin profile and skeletal muscle myostatin and HSP70 gene expression patterns between indigenous Osmanabadi and Salem Black goat breeds. **Meat science**, 141, 66-80.
5. Pragna, P., Sejian, V., **Bagath, M.**, Krishnan, G., Archana, P.R., Soren, N.M., Beena, V and Bhatta, R (2018). Comparative assessment of growth performance of three different indigenous goat breeds exposed to summer heat stress. **Journal of Animal Physiology Animal Nutrition** (Berl). doi: 10.1111/jpn.12892
6. Pragna, P., Sejian, V., Soren, N. M., **Bagath, M.**, Krishnan, G., Beena, V., Devi, P.I. and Bhatta, R (2017). Summer season induced rhythmic alterations in metabolic activities to adapt to heat stress in three indigenous (Osmanabadi, Malabari and Salem Black) goat breeds. **Biological Rhythm Research**, 1-15. doi: 10.1080/09291016.2017.1386891.
7. Vandana, G.D., **Bagath, M.**, Sejian, V., Krishnan, G., Beena, V and Bhatta, R (2018). Summer Season Induced Heat Stress Impact on the Expression Patterns of Different Toll-Like Receptor Genes in Malabari Goats. **Biological Rhythm Research**.

<https://doi.org/10.1080/09291016.2018.1464638> .

8. **Bagath, M** and Sejian, V (2018). Heat stress and Immune Function in Livestock”. **Multidisciplinary Advances in Veterinary Science**, 2.4: 395-398.
9. Afsal, A., Sejian, V., **Bagath, M.**, Krishnan, G., Devraj, C and Bhatta, R (2018). Heat stress and livestock adaptation: Neuro-endocrine regulation. Heat Stress and Livestock Adaptation: Neuro-endocrine Regulation. **International Journal of Veterinary and Animal Medicine**, 1(2):108.
10. Angel, S.P., Amitha, J.P., Rashamol, V.P., Vandana, G.D., Savitha, .T., Afsal, A., **Bagath, M.**, Krishnan, G and Sejian, V (2018). Climate Change and Cattle Production: **Impact and Adaptation. Journal of Veterinary Medicine and Research**, 5(4): 1134.
11. Rashamol, V.P., Sejian, V., **Bagath, M.**, Krishnan, G., Archana, P.R and Bhatta R (2018). Physiological adaptability of livestock to heat Stress: an updated review. **Journal of Animal Behavior Biometeorology**, 6:62-71.
12. Angel, S.P., **Bagath, M** and Sejian, V (2018). Climate change and hypothalamic–pituitary–adrenal axis in livestock: what we know and what needs to be explored? **Advanced Journal of Environmental Science and Technology**, Vol. 5 (4), pp. 245-246.
13. Vidya, M.K., Kumar, V.G., Sejian, V., **Bagath, M.**, Krishnan, G and Bhatta, R (2017). Toll-like receptors: significance, ligands, signaling pathways, and functions in mammals. **International Reviews of Immunology**, 13:1–17. doi:10.1080/08830185.2017.1380200
14. Niyas, P.A., Sejian, V., **Bagath, M.**, Parthipan, S., Selvaraju, S., Manjunathareddy. G.P., Kurien, E.K., Varma, G. and Bhatta, R (2017). Effect of heat and nutritional stress on growth and testicular HSP70 expression in goats. **Journal of Agrometeorology**, 19(3):189-194 .
15. **Bagath, M.**, Thamizharasan, A., Prasanna, K. D., Sonthosh, S. S., Veerasamy, S., & Pallab, C (2017). An evaluation of elisa using recombinant p17 antigen for cattle brucellosis. **Journal of Microbiology, Biotechnology and Food Sciences**, 6(5), 1140- 1144. doi:10.15414/jmbfs.2017.6.5.1140-1144.
16. **Bagath, M.**, Sejian, V., Krishnan, G., Vidya, M., Prathap, P., Archana, P. and Joy, A (2017). Nutrition and Immune System in Livestock: Mini Review. **Journal of Dairy and Veterinary Sciences**, 2(2): 555-582.
17. Chaidanya, K., Soren., N.M., Sejian, V., **Bagath, M.**, Manjunathareddy, G.B., Kurien, E.K.,

- Varma, G and Bhatta, R (2017). Impact of heat stress, nutritional stress and combined (heat and nutritional) stresses on rumen associated fermentation characteristics, histopathology and HSP70 gene expression in goats. **Journal of Animal Behaviour and Biometeorology**, 5(2):36-48.
18. Shaji, S., Sejian, V., **Bagath, M.**, Manjunathareddy, G. B., Kurien, E. K., Varma, G., & Bhatta, R (2017). Summer season related heat and nutritional stresses on the adaptive capability of goats based on blood biochemical response and hepatic HSP70 gene expression. **Biological Rhythm Research**, 48(1). doi:10.1080/09291016.2016.1232340
 19. Sophia, I., Sejian, V., **Bagath, M.** and Bhatta, R (2017). Influence of different environmental stresses on various spleen toll like receptor genes expression in osmanabadi goats. **Asian Journal of Biological Sciences**, 10: 9-16. DOI: 10.3923/ajbs.2017.9.16
 20. **Bagath, M.**, Sejian, V., Archana, S.S., Manjunathareddy, B.G., Parthipan, S., Selvaraju, S., Mech, A., David, I.C.G., Ravindra, J.P and Bhatta, R (2016). Effect of dietary intake on somatotrophic axis-related gene expression and endocrine profile in Osmanabadi goats. **Journal of Veterinary Behavior: Clinical Applications and Research**, 13: 72-79. DOI: 10.1016/j.jveb.2016.04.001.
 21. Sophia, I., Sejian, V., **Bagath, M** and Bhatta, R (2016). Quantitative expression of hepatic toll-like receptors 1–10 mRNA in Osmanabadi goats during different climatic stresses. **Small Ruminant Research**, 14: 11–16. DOI: 10.1016/j.smallrumres.2016.06.005
 22. Sejian, V., **Bagath, M.**, Parthipan, S., Manjunathareddy, G.B., Selvaraju, S, Archana, S.S., Giridhar, K., Soren, N.M., Rao, S.B.N., Giridhar, K., Ravindra, J.P and Bhatta R (2015). Effect of Different Diet Level on the Physiological Adaptability, Biochemical and Endocrine Responses and Relative Hepatic HSP70 and HSP90 Genes Expression in Osmanabadi Kids. **Journal of Agricultural Science and Technology A**, 755-769. DOI: 10.17265/2161-6256/2015.09.007
 23. Shaji, S., Sejian, V., **Bagath, M.**, Mech, A., David, I.C.G., Kurien, E.K., Varma, and Bhatta, R (2016). Adaptive capability as indicated by behavioral and physiological responses, plasma HSP70 level and PBMC HSP70 mRNA expression in Osmanabadi goats subjected to combined (heat and nutritional) stressors. **International Journal of Biometeorology**, 60(9):1311-23. DOI10.1007/s00484-015-1124-5.
 24. **Bagath, M.**, Megha, K. B., Chaudhuri, P., Varalakshmi, S and Goswami, P.P (2014). Protection against *P. multocida* B:2 using recombinant 87kDa OMP periplasmic protein.

Journal of Veterinary Science and Medical Diagnostics, 4:1 DOI: 10.4172/2325-9590.1000151.

25. Chandrasekharaiah, M., Thulasi, A., **Bagath, M.**, Prasanna, K.D., Santosh, S.S., Palanivel, C., Lyju, J.V and Sampath, K.T (2011). Molecular cloning, expression and characterization of a novel feruloyl esterase enzyme from the symbionts of termite (*Coptotermes formosanus*) gut. **Biochemistry and Molecular Biology Reports**, 44: 52-57. DOI 10.5483/BMBRep.2011.44.1.52
26. Chandrasekharaiah, M., Thulasi, A., **Bagath, M.**, Prasanna Kumar, D., Singh, S.S and Sampath, K.T (2012). Identification of cellulase genes from the metagenomes of *Equus burchelli* fecal samples and functional characterization of a novel bifunctional cellulolytic enzyme. **Applied Biochemistry and Biotechnology**, 167:132-41.
27. Varalakshmi, S., Balasubramanyam, B.V., Surendranath, B., **Bagath, M** and Rajendran, D (2013). Use of Novel Lactic Acid Bacterial Strains with Antagonistic Activity for the Preparation of Safe Indigenous Fermented Dairy Foods (Dahi and Raita). **Journal of Food Safety**. 34(1): 26-33.
28. Megha, K., Shardul, S., **Bagath, M.**, Tiwari, V., Prasad, N and Goswami, P.P (2009). Coexpression of 16.8 kDa antigen of *Mycobacterium avium para tuberculosis* and murine gamma interferon in a bicistronic vector and studies on its potential as DNA vaccine. **Veterinary Research Communications**. 33(7): 597-610.
29. Athira, P.R., Sejian, V., Jose, V.S., Shalini, V., **Bagath, M.**, Krishnan, G., Beena, V., Devi, P. I., Varma, G. and Bhatta, R (2016). Behavioral responses to livestock adaptation to heat stress challenges. **Asian Journal of Animal Sciences**, 11(1), pp.1-13. DOI: 10.3923/ajas.2017.1.13
30. Archana, P.R., Aleena, J., Pragna, P., Vidya, M.K., Niyas, A.P.A., **Bagath. M.**, Krishnan. G., Manimaran. A., Beena. V., Kurien. E.K., Sejian. V. and Bhatta R (2017). Role of heat shock proteins in livestock adaptation to heat stress. **Journal of Dairy, Veterinary and Animal Research** 5(1): 00127. DOI: 10.15406/jdvar.2017.05.00127
31. Sophia, I., Sejian, V., **Bagath, M** and Bhatta, R (2016). Impact of heat stress on immune response of livestock: A review. **Pertanika- Journal of Tropical Agricultural Science** 39 (4): 459 – 482.
32. Vidya, M. K., Girish, K., Bagath, M., Krishnan, G., Veerana, K.K., Sunil K., Sejian K and Bhatta R (2016). Adipose ti.31azassue significance with special emphasis on its role in

regulating immune functions in mammals. **International Research Journal of Chemistry** 1(3): 25-40.

33. Aleena, J., Pragna, P., Archana, P.R., Sejian, V., Krishnan, G., **Bagath, M.**, Manimaran, A., Beena, V., Kurien, E.K., Varma, G and Bhatta, R (2016). Significance of metabolic response in livestock for adapting to heat stress challenges. **Asian Journal of Animal Sciences**, 10(4): 224–234. doi:10.3923/ajas.2016.224.234
34. Pragna, P., Aleena, J., Archana, P.R., Sejian, V., Krishnan, G., **Bagath, M.**, Manimaran, A., Beena, V., Kurien, E.K., Varma, G and Bhatta, R (2016). Heat stress and dairy cow: Impact on Both milk yield and composition. **International Journal of Dairy Science**, 12(1): 1–11. doi:10.3923/ijds.2017.1.11
35. Jose, V.S., Sejian, V., **Bagath, M.**, Ratnakaran, A.P., Lees, A.M., Al-Hosni, Y.A.S., Sullivan, M., Bhatta, R and Gaughan, J.B (2016) Modeling of Greenhouse Gas Emission from Livestock. **Frontiers in Environmental Science**, 4:27. DOI: 10.3389/fenvs.2016.00027
36. Chaidanya, K., Shaji, S., Abdul Niyas, P.A., Sejian, V., Bhatta, R., **Bagath, M.**, Rao, G.S.L.H.V.P., Kurien, E.K and Varma, G (2015). Climate change and livestock nutrient availability: Impact and Mitigation. **Journal of Veterinary Science and Medical Diagnosis**, 4:3, DOI: <http://dx.doi.org/10.4172/2325-9590.1000160>
37. Shaji, S., Abdul Niyas, P.A., Chaidanya, K., Sejian, V., Bhatta, R., **Bagath, M.**, Rao, G.S.L.H.V.P., Kurien, E.K and Varma, G (2015). Ameliorative strategies to sustain livestock production during heat stress. **Journal of Veterinary Science and Medical Diagnosis**, 4:3, DOI: <http://dx.doi.org/10.4172/2325-9590.1000161>
38. Abdul Niyas, P.A., Chaidanya, K., Shaji, S., Sejian, V., Bhatta, R., **Bagath, M.**, Rao, G.S.L.H.V.P., Kurien, E.K and Varma, G (2015). Adaptation of livestock to environmental challenges. **Journal of Veterinary Science and Medical Diagnosis**, 4:3 DOI: <http://dx.doi.org/10.4172/2325-9590.1000162>
39. Jeyabal L., Ray D., Sureshkannan S., Nagarajan K., Visnuvinayagam, S., Ghosh, S., Banerjee, P.S., Chandra, S.S., **Bagath, M.**, Padmanath, K., Rajarajan, K and Ravikumar, P (2013). First Report of Moraxella Bovis Infection in Indian. **Advances in Animal and Veterinary Sciences**. 1(6): 202 – 204.

Book Chapters (International and National)

1. Sejian, V., **Bagath, M.**, Krishnan, G., Vaswani, S., Archana, P.R., Pragna, P., Maurya, V.P and Bhatta, R (2017). Impact of Adverse Environmental Stress on Productive and Reproductive Performance in Osmanabadi Goats. In: Simões J., Gutiérrez C. (eds) Sustainable goat production under mountain, Semi-arid and Arid Agro-ecosystems. Volume I-Health, Welfare, Reproduction and Conservation, Springer International Publisher, Cham, Switzerland pp 9-27.
2. Sejian, V., Krishnan, G., **Bagath, M.**, Vaswani, S., Vidya, M.K., Aleena, J., Maurya, V.P and Bhatta, R (2017). Adaptation strategies to sustain Osmanabadi goat production in a changing climate scenario. In: Simões J., Gutiérrez C. (eds) Sustainable goat production under mountain, Semi-arid and Arid Agro-ecosystems. Volume II-Local Goat Breeds and their Production Systems, Volume II, Springer International Publisher, Cham, Switzerland, pp 407-428.
3. Krishnan, G., **Bagath, M.**, Pragna, P., Vidya, M.K., Aleena, J., Archana, P.R., Sejian, V and Bhatta, R (2017). Mitigation of the heat stress impact in livestock reproduction. In: Therionology. Rita Payan Carreira (Ed). Intech Publisher, pp 63-86. DOI: 10.5772/intechopen.69091.
4. Sejian, V., Hyder, I., Maurya, V.P., **Bagath, M.**, Krishnan, G., Aleena, J., Archana, P.R., Lees, A.M., Kumar, D., Bhatta, R and Naqvi, S.M.K (2017). Adaptive mechanisms of sheep to climate change. In: Sheep production adapting to climate change. Sejian, V., Bhatta, R., Gaughan, J., Malik, P.K., Naqvi, S.M.K., Lal, R (Eds), Springer-Verlag GmbH Publisher, Singapore, pp 117-147.
5. Sejian, V., Krishnan, G., **Bagath, M.**, Vaswani, S., Pragna, P., Aleena, J., Lees, A.M., Maurya, V.P and Bhatta, R (2017). Measurement of severity of heat stress in sheep. In: Sheep production adapting to climate change. Sejian, V., Bhatta, R., Gaughan, J., Malik, P.K., Naqvi, S.M.K., Lal, R (Eds), Springer-Verlag GmbH Publisher, Singapore, pp 307-318.
6. Sejian, V., Samal, L., Soren, N.M., **Bagath, M.**, Krishnan, G., Vidya, M.K., Archana, P.R., Pragna, P., Hyder, I., Maurya, V.P., Mortlock, M.Y and Bhatta, R (2017). Adaptation strategies to counter climate change impact on sheep. In: Sheep production adapting to

climate change. Sejian, V., Bhatta, R., Gaughan, J., Malik, P.K., Naqvi, S.M.K., Lal, R (Eds), Springer-Verlag GmbH Publisher, Singapore, pp 413-430.

7. Sejian, V., **Bagath, M.**, Krishnan, G and Bhatta, R (2017). Climate change and small ruminant production: Impact and amelioration. In: Physiological Innovations to Forecast the Impact of Climate Change and to Evolve Strategies for Sustainable Livestock Production. Shrikant, K., Patil, N.A., Srinivas, R.P., Sathisha, K.B and Kartikesh, S.M (eds). Published by Organising Secretary, SAPICON-2017, Department of Animal Physiology and Biochemistry, Veterinary College, Nandinagar, Karnataka Veterinary, Animal & Fisheries Sciences University, Bidar- 585401, pp 87-95.
8. Samal, L., Krishnan, G., **Bagath, M.**, Sejian, V., Malik, P.K. and Bhatta, R (2017). Climate change adaptation in animal agriculture. In: Climate resilient animal agriculture, Rao, G.S.L.H.V.P., Varma, G.G., Beena, V (Eds), NIPA publisher, New Delhi pp 1-20.
9. Sejian, V., Krishnan, G., **Bagath, M.**, Samal, L., Soren N.M., Malik P.K and Bhatta, R (2017). Weather extremes and Livestock production under humid tropics. In: Livestock Meteorology. Rao, G.S.L.H.V.P., Varma, G.G., Beena, V (Eds), NIPA publisher, New Delhi, pp.145-164.
10. Samal, L., Sejian, V., **Bagath, M.**, Krishnan, G., Manimaran A and Bhatta, R (2017). Different Heat stress indices to Quantify stress response in Livestock and Poultry. In: Livestock Meteorology. Rao, G.S.L.H.V.P., Varma, G.G., Beena, V (Eds), NIPA publisher, New Delhi, pp.165-180.
11. Krishnan, G., Paul, V., Das, P.J., Hanah, S.S., Biswas, T.K., **Bagath, M.**, and V.Sejian (2017). Impending climate change and thermal adaptability of yaks. In: Climate resilient animal agriculture, Rao, G.S.L.H.V.P., Varma, G.G., Beena, V (Eds), NIPA publisher, New Delhi pp 127-141.
12. Sejian, V., Bahadur, S., Indu, S., **Bagath M.**, Malik, P.K., Soren, N.M., Kumar, D., Maurya, V.P., Shinde, A.K. Sahoo, A., Bhatta R and Naqvi, S.M.K (2016). Environmental stress impact on small ruminant's production. In: Sheep and Goat: Meat Production and Processing. A.K. Shinde, Y.P. Gadekar, S.M.K. Naqvi and A. Sahoo (eds), 1st Edition, Satish Serial Publishing House, pp 157-181.

13. Sejian, V., Bhatta, R., Malik, P.K., **Bagath, M.**, Al-Hosni, Y.A.S., Sullivan, M and Gaughan, J.B (2015). Livestock as sources of greenhouse gases and its significance to climate change. In: "Greenhouse Gases", Llamas, B and Pous, J (eds), ISBN 978- 953-51-4323-9, InTech International Publisher, Rijeka, Croatia pp 243-259.
14. Sejian, V., Samal, L., Haque, N., **Bagath M.**, Hyder, I., Maurya, V.P, Bhatta, R., Ravindra, J.P., Prasad, C.S., Lal, R (2015). Overview on adaptation, mitigation and amelioration strategies to improve livestock production under the changing climatic scenario. In: Climate change impact on livestock: adaptation and mitigation. Sejian, V., Gaughan, J., Baumgard, L., Prasad, C.S (Eds), Springer-Verlag GmbH Publisher, New Delhi, India, pp 359-398.
15. Singh, K.M., **Bagath, M.**, Chikara, S.K., Joshi, C.G and Kothari, R. K (2015). Metagenomic approaches in understanding the rumen function and establishing the rumen microbial diversity. In: Climate change impact on livestock: adaptation and mitigation. Sejian, V., Gaughan, J., Baumgard, L., Prasad, C.S (Eds), Springer-Verlag GmbH Publisher, New Delhi, India, pp 221-237.
16. Sejian, V., Samal, L., **Bagath, M.**, Suganthi, R.U and Lal, R (2014). Gaseous Emissions from Manure Management. In: Encyclopedia of Soil Science. Lal, R (ed), Taylor and Francis publisher, New York, USA.
17. Samal, L., Sejian, V., **Bagath, M.**, Suganthi, R.U and Lal, R (2014). Gaseous Emissions from grazing lands. In: Encyclopedia of Soil Science. Lal, R (ed), Taylor and Francis publisher, New York, USA. DOI: 10.1081/E-ESS2-120053664

[Invited Lectures/Lead Papers](#)

1. **Bagath, M.**, Sejian, V., Krishnan, G., Devaraj, C., Angel, P.S. and Afsal, A (2018). Heat stress and immune function in livestock. In: ICAR Sponsored short course on "Recent advances in nutritional-physiological approaches for improving reproduction and production in livestock under Climate Change Scenario". Suganthi, R.U, Soren N.M, Mishra, A. and Krishnan G (Eds) Published by Director, ICAR-NIANP, Bengaluru, India, pp 14-18.
2. Devaraj, C., Krishnan, G., **Bagath, M.**, Sejian, V. and Malik P.K (2018). Physiological role of adiponectin in regulation of energy metabolism in livestock. In: ICAR Sponsored short

course on “Recent advances in nutritional-physiological approaches for improving reproduction and production in livestock under Climate Change Scenario”. Suganthi, R.U, Soren N.M, Mishra, A. and Krishnan G (Eds) Published by Director, ICAR-NIANP, Bengaluru, India, pp 29-35.

3. Krishnan, G., Sejian, V., **Bagath, M.**, Devaraj, C., Suganthi, R.U., Amitha, J.P. and Afsal, A (2018). The significance of G-protein coupled receptors in regulation of energy homeostasis in livestock. In: ICAR Sponsored short course on “Recent advances in nutritional-physiological approaches for improving reproduction and production in livestock under Climate Change Scenario”. Suganthi, R.U, Soren N.M, Mishra, A. and Krishnan G (Eds) Published by Director, ICAR-NIANP, Bengaluru, India, pp 60-64.
4. Sejian, V., **Bagath, M.**, Krishnan, G., Devaraj, C., Rashamol, V.P., Vandhana, G.D. and Bhatta R (2018). Climate change and livestock production: contribution, impact and strategic plans to cope the livestock production system with special reference to modeling of GHG. In: ICAR Sponsored short course on “Recent advances in nutritional-physiological approaches for improving reproduction and production in livestock under Climate Change Scenario”. Suganthi, R.U, Soren N.M, Mishra, A. and Krishnan G (Eds) Published by Director, ICAR-NIANP, Bengaluru, India, pp 114-119.
5. **Bagath, M.**, Sejian, V., Krishnan, G., Devaraj, C., Angel, P.S. and Savitha, S.T (2018). Nutrition, heat stress and immune function. In: ICAR Sponsored Winter School on “Climate Change Led Abiotic and Biotic Stress in Farm Animals and Amelioration with Nutritional and Physiological Approaches”. Gowda, N.K.S., Krishnan, G., Rajendran, D. and Bhatta, R (Eds), Published by Director, ICAR-NIANP, Bengaluru, India, pp 69-76.
6. Sejian, V., Vandana, G.D., **Bagath, M.**, Krishnan, G., Savitha, S.T., Afsal, A., Awachat, V.B. and Bhatta, R (2018). Climate change and concept of multiple stresses in livestock. In: ICAR Sponsored Winter School on “Climate Change Led Abiotic and Biotic Stress in Farm Animals and Amelioration with Nutritional and Physiological Approaches”. Gowda, N.K.S., Krishnan, G., Rajendran, D. and Bhatta, R (Eds), Published by Director, ICAR-NIANP, Bengaluru, India, pp 9-16.
7. Sejian, V., Afsal, A., Krishnan, G., **Bagath, M.**, Devaraj, C., Amitha, J.P., Awachat V.B. and Bhatta, R (2018). Greenhouse gas modeling in livestock farms: Alternate solution for livestock associated climate change. In: ICAR Sponsored Winter School on “Climate Change

Led Abiotic and Biotic Stress in Farm Animals and Amelioration with Nutritional and Physiological Approaches”. Gowda, N.K.S., Krishnan, G., Rajendran, D. and Bhatta, R (Eds), Published by Director, ICAR-NIANP, Bengaluru, India, pp 39-48.

8. Krishnan, G., Sejian, V., **Bagath, M.**, Devaraj, C., Rashamol, V.P., Vandana G.D. and Awachat V.B (2018). Impact of heat stress on lipid or energy metabolism in livestock. In: ICAR Sponsored Winter School on “Climate Change Led Abiotic and Biotic Stress in Farm Animals and Amelioration with Nutritional and Physiological Approaches”. Gowda, N.K.S., Krishnan, G., Rajendran, D. and Bhatta, R (Eds), Published by Director, ICAR-NIANP, Bengaluru, India, pp 59-62.
9. Krishnan, G., Sejian, V., Devaraj, C., **Bagath, M.**, Amitha, J.P., Afsal, A. and Awachat, V.B (2018). Impact of heat stress on reproductive performance of livestock. In: ICAR Sponsored Winter School on “Climate Change Led Abiotic and Biotic Stress in Farm Animals and Amelioration with Nutritional and Physiological Approaches”. Gowda, N.K.S., Krishnan, G., Rajendran, D. and Bhatta, R (Eds), Published by Director, ICAR-NIANP, Bengaluru, India, pp 63-68.
10. Sejian, V., Amitha, J.P., Krishnan, G., **Bagath, M.**, Devaraj, C., Rashamol, V.P., Awachat, V.B. and Bhatta, R (2018). Climate change and water availability: Impact in livestock. In: ICAR Sponsored Winter School on “Climate Change Led Abiotic and Biotic Stress in Farm Animals and Amelioration with Nutritional and Physiological Approaches”. Gowda, N.K.S., Krishnan, G., Rajendran, D. and Bhatta, R (Eds), Published by Director, ICAR-NIANP, Bengaluru, India, pp 77-82.
11. Devaraj, C., Krishnan, G., **Bagath, M.** and Sejian, V (2018). Metabolic adaptation in farm animals to climate change. In: ICAR Sponsored Winter School on “Climate Change Led Abiotic and Biotic Stress in Farm Animals and Amelioration with Nutritional and Physiological Approaches”. Gowda, N.K.S., Krishnan, G., Rajendran, D. and Bhatta, R (Eds), Published by Director, ICAR-NIANP, Bengaluru, India, pp 201-206.
12. Sejian, V., **Bagath, M.**, Krishnan, G. and Bhatta, R (2018). Stress and dairy production – Reasons and remedies. In: ICAR Sponsored Winter School on “Climate Change Led Abiotic and Biotic Stress in Farm Animals and Amelioration with Nutritional and Physiological Approaches”. Gowda, N.K.S., Krishnan, G., Rajendran, D. and Bhatta, R (Eds), Published by Director, ICAR-NIANP, Bengaluru, India, pp 293-300.

13. Sejian, V., Savitha, S.T., **Bagath, M.**, Krishnan, G., Devaraj, C., Awachat, V.B. and Bhatta, R (2018). Estimation of important stress biomarkers. In: ICAR Sponsored Winter School on “Climate Change Led Abiotic and Biotic Stress in Farm Animals and Amelioration with Nutritional and Physiological Approaches”. Gowda, N.K.S., Krishnan, G., Rajendran, D. and Bhatta, R (Eds), Published by Director, ICAR-NIANP, Bengaluru, India, pp 351-356.
14. **Bagath, M.**, Krishnan, G., Devaraj, C., Angel, S.P., Vandana, G.D., Amitha, J.P., Pragna, P and Sejian, V (2018). Heat stress and immune system relationship in livestock. In: National Innovations in Climate Resilient Agriculture Workshop compendium on “Livestock and Climate Change”. Hemanth, G. K., Sejian, V., Giridhar, K. and Naveen, K. G. S (Eds), Published by Indian Council of Agriculture Research and National Innovations in Climate Resilient Agriculture, Hyderabad, India, on 26th February 2018, pp 18-20.
15. Sejian, V., **Bagath, M.**, Krishnan, G., Devaraj, C., Angel, S. P., Amitha, J. P., Rashamol, V. P., Aleena, J., Shashank, C. G. and Bhatta, R (2018). Impact of Climate Change on Animal Production and Health. In: National initiative on Climate Resilient Agriculture Workshop compendium on “Livestock and Climate Change”. Hemanth, G. K., Sejian, V., Giridhar, K. and Naveen, K. G. S (Eds), Published jointly by Veterinary College, Karnataka Veterinary Animal and Fishery Sciences University, Hassan, Karnataka and National Initiatives on Climate Resilient Agriculture, Indian Council of Agriculture Research and Hyderabad, India, pp 1-7.
16. Sejian,V., **Bagath, M.**, Krishnan, G., Devaraj, C., Afsal, A., Vandana, G.D., Archana P.R., Shashank., and Batta, R (2018). Adaptation and Mitigation Policies and Strategies for Adapting Livestock production to Climate Change. In: National Innovations in Climate Resilient Agriculture Workshop compendium on “Livestock and Climate Change”. Hemanth, G. K., Sejian, V., Giridhar, K. and Naveen, K. G. S (Eds), Published by Indian Council of Agriculture Research and National Innovations in Climate Resilient Agriculture, Hyderabad, India, on 26th February 2018, pp 8-13.
17. Krishnan, G., **Bagath, M.**, Devaraj, C., Amitha, J. P., Rashamol, V. P., Angel, S. P. and Sejian, V (2018). Impact of Climate Change on Reproductive Performances of Livestock. In: National initiative on Climate Resilient Agriculture Workshop compendium on “Livestock and Climate Change”. Hemanth, G. K., Sejian, V., Giridhar, K. and Naveen, K. G. S (Eds), Published jointly by Veterinary College, Karnataka Veterinary Animal and Fishery Sciences

University, Hassan, Karnataka and National Initiatives on Climate Resilient Agriculture, Indian Council of Agriculture Research and Hyderabad, India, pp 14 -17.

18. Archana, P. R., Sejian, V., Krishnan, G., **Bagath, M.**, Devaraj, C., Pragna, P., Aleena, J and Bhatta, R (2018). Heat stress impact on livestock meat production. In: National Innovations in Climate Resilient Agriculture Workshop compendium on “Livestock and Climate Change”. Hemanth, G. K., Sejian, V., Giridhar, K. and Naveen, K. G. S (Eds), Published by Indian Council of Agriculture Research and National Innovations in Climate Resilient Agriculture, Hyderabad, India, on 26th February 2018, pp 21-24.
19. Vandana, G.D., Sejian, V., **Bagath, M.**, Krishnan, G., Devaraj, C., Afsal, A and Bhatta, R (2018). Impact and amelioration of heat stress in poultry production. In: National Innovations in Climate Resilient Agriculture Workshop compendium on “Livestock and Climate Change”. Hemanth, G. K., Sejian, V., Giridhar, K. and Naveen, K. G. S (Eds), Published by Indian Council of Agriculture Research and National Innovations in Climate Resilient Agriculture, Hyderabad, India, on 26th February 2018, pp 25-28.
20. **Bagath, M.**, Angel, S. P., Afsal, A., Amitha, J. P., Vandana, G. D., Pragna, P., Rashamol, V. P. and Sejian, V (2018). Heat Stress on Rumen Fermentation Characteristics and Microbial Diversity in livestock. In: National initiative on Climate Resilient Agriculture Workshop compendium on “Livestock and Climate Change”. Hemanth, G. K., Sejian, V., Giridhar, K. and Naveen, K. G. S (Eds), Published jointly by Veterinary College, Karnataka Veterinary Animal and Fishery Sciences University, Hassan, Karnataka and National Initiatives on Climate Resilient Agriculture, Indian Council of Agriculture Research and Hyderabad, India, pp 29 -32.
21. Pragna, P., Sejian, V., **Bagath, M.**, Krishnan, G., Devaraj, C., Afsal, A., Aleena, J., Archana, P.R and Bhatta, R (2018). Metabolic adaptation of livestock in heat stress challenges. In: National Innovations in Climate Resilient Agriculture Workshop compendium on “Livestock and Climate Change”. Hemanth, G. K., Sejian, V., Giridhar, K. and Naveen, K. G. S (Eds), Published by Indian Council of Agriculture Research and National Innovations in Climate Resilient Agriculture, Hyderabad, India, on 26th February 2018, pp 33-36.
22. Rashamol, V. P., Sejian, V., **Bagath, M.**, Krishnan, G., Devaraj, C., Vandana, G. D., Angel, S. P. and Bhatta, R (2018). Physiological Adaptability of Livestock to Heat Stress Challenges. In: National initiative on Climate Resilient Agriculture Workshop compendium

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23. Afsal, A., Sejian, V., **Bagath, M.**, Krishnan, G., Devaraj, C., Vandana, G.D., and Bhatta, R (2018). Heat stress and livestock adaptation: Neuro-endocrine regulation. In: Workshop on “Livestock and Climate Change” Sponsored by Indian Council of Agriculture Research National Innovations in Climate Resilient Agriculture at Veterinary college Karnataka Veterinary Animal and Fisheries Sciences University, Hassan, Karnataka on 26th February, pp 41-43.
24. Angel, S.P., **Bagath, M.**, Sejian, V., Krishnan, G., Devaraj, C., Amitha, J.P., Shanshank, C. G and Bhatta, R (2018). Thermo-tolerant genes in livestock. In: One-day workshop on “Livestock and Climate Change” Hemanth, G. K., Sejian, V., Giridhar, K. and Naveen, K. G. S (Eds), Published by Indian Council of Agriculture Research and National Innovations in Climate Resilient Agriculture, Hyderabad, India, on 26th February 2018, pp 44-47.
25. Aleena, J., Sejian, V., **Bagath, M.**, Krishnan, G., Devaraj, C., Archana, P.R., Pragna, P and Bhatta, R (2018). Breed differences in livestock adaptation to climate change. In: One-day workshop on “Livestock and Climate Change” Hemanth, G. K., Sejian, V., Giridhar, K. and Naveen, K. G. S (Eds), Published by Indian Council of Agriculture Research and National Innovations in Climate Resilient Agriculture, Hyderabad, India, on 26th February 2018, pp 48-51.
26. Arun, A. S., Sejian, V., **Bagath, M.**, Krishnan, G., Devaraj, C., Rashamol, V. P. and Bhatta, R (2018). Stress Management in Captive Wild Animals. In: National initiative on Climate Resilient Agriculture Workshop compendium on “Livestock and Climate Change”. Hemanth, G. K., Sejian, V., Giridhar, K. and Naveen, K. G. S (Eds), Published jointly by Veterinary College, Karnataka Veterinary Animal and Fishery Sciences University, Hassan, Karnataka and National Initiatives on Climate Resilient Agriculture, Indian Council of Agriculture Research and Hyderabad, India, pp 55-58.
27. Rashamol, V. P., Sejian, V., **Bagath, M.**, Krishnan, G., Devaraj, C., Afsal, A. and Bhatta, R (2018). Significance of Modeling Technology to Predict Greenhouse Gas in Livestock Farms. In: National initiative on Climate Resilient Agriculture Workshop compendium on

- “Livestock and Climate Change”. Hemanth, G. K., Sejian, V., Giridhar, K. and Naveen, K. G. S (Eds), Published jointly by Veterinary College, Karnataka Veterinary Animal and Fishery Sciences University, Hassan, Karnataka and National Initiatives on Climate Resilient Agriculture, Indian Council of Agriculture Research and Hyderabad, India, pp 59 -63.
28. Amitha, J. P., Krishnan, G., Sejian, V., **Bagath, M.**, Devaraj, C., Rashamol, V. P. and Bhatta, R (2018). Significance of Body Condition Scoring to Optimize Productivity in Livestock Farms. In: National initiative on Climate Resilient Agriculture Workshop compendium on “Livestock and Climate Change”. Hemanth, G. K., Sejian, V., Giridhar, K. and Naveen, K. G. S (Eds), Published jointly by Veterinary College, Karnataka Veterinary Animal and Fishery Sciences University, Hassan, Karnataka and National Initiatives on Climate Resilient Agriculture, Indian Council of Agriculture Research and Hyderabad, India, pp 64 -68.
 29. Sejian, V., **Bagath, M.**, Krishnan, G., Malik, P.K., Archana, P.R. and Bhatta, R (2017). Heat stress: causes, impact and amelioration measures. In: ICAR Sponsored Winter School on “Livestock and Climate Change: Contributory Key Factors and Practical Strategies for Amelioration”. Bhatta, R., Malik, P.K., Kolte, A.P., Sejian, V and Gupta, R (Eds), organized by National Institute of Animal Nutrition and Physiology, Adugodi, Bangalore between 1-21 September 2017, pp 39-48.
 30. Sejian, V., Malik, P.K., **Bagath, M.**, Krishnan, G., Aleena, J. and Bhatta, R (2017). Nutritional stress impact and corrective measures in livestock. In: ICAR Sponsored Winter School on “Livestock and Climate Change: Contributory Key Factors and Practical Strategies for Amelioration”. Bhatta, R., Malik, P.K., Kolte, A.P., Sejian, V and Gupta, R (Eds), organized by National Institute of Animal Nutrition and Physiology, Adugodi, Bangalore between 1-21 September 2017, pp 49-56.
 31. **Bagath, M.**, Sejian, V., Krishnan, G. and Bhatta, R (2017). Heat shock proteins and their primer designing: standard PCR and real-time PCR. In: ICAR Sponsored Winter School on “Livestock and Climate Change: Contributory Key Factors and Practical Strategies for Amelioration”. Bhatta, R., Malik, P.K., Kolte, A.P., Sejian, V and Gupta, R (Eds), organized by National Institute of Animal Nutrition and Physiology, Adugodi, Bangalore between 1-21 September 2017, pp 63-72.
 32. Krishnan, G., Sejian, V., **Bagath, M.** and Devaraj, C (2017). Significance of G-protein coupled receptors in efficient energy metabolism. In: ICAR Sponsored Winter School on

- “Livestock and Climate Change: Contributory Key Factors and Practical Strategies for Amelioration”. Bhatta, R., Malik, P.K., Kolte, A.P., Sejian, V and Gupta, R (Eds), organized by National Institute of Animal Nutrition and Physiology, Adugodi, Bangalore between 1-21 September 2017, pp 191-196.
33. Devaraj, C., Krishnan, G., **Bagath, M.**, Sejian, V. and Malik, P.K (2017). Energy management in dairy animals during transition phase. In: ICAR Sponsored Winter School on “Livestock and Climate Change: Contributory Key Factors and Practical Strategies for Amelioration”. Bhatta, R., Malik, P.K., Kolte, A.P., Sejian, V and Gupta, R (Eds), organized by National Institute of Animal Nutrition and Physiology, Adugodi, Bangalore between 1-21 September 2017, pp 197-200.
34. Sejian, V., Malik, P.K., Krishnan, G., **Bagath, M.**, Pragna, P. and Bhatta, R (2017). GHG modeling in livestock farms. In: ICAR Sponsored Winter School on “Livestock and Climate Change: Contributory Key Factors and Practical Strategies for Amelioration”. Bhatta, R., Malik, P.K., Kolte, A.P., Sejian, V and Gupta, R (Eds), organized by National Institute of Animal Nutrition and Physiology, Adugodi, Bangalore between 1-21 September 2017, pp 253-258.
35. Sejian, V., **Bagath, M.**, Krishnan, G and Bhatta, R (2017). Stress and dairy production- Reasons and remedies. In: Technical seminar compendium on Feed and fertility management in dairy animals. Gowda, N.K.S and Selvaraju, S (Eds) held at ICAR-National Institute of Animal Nutrition and Physiology, Adugodi, Bangalore, India, on August 5 2017, pp 55-60.
36. Sejian, V., **Bagath, M.**, Krishnan, G., Malik, P.K., Pragna, P and Bhatta, R (2017). Global Warming: Role of Livestock. In: Industrial Experience Training Compendium on “Climate change and livestock production”. Sejian, V., Malik, P.K., Bagath, M., Krishnan, G and Bhatta, R (Eds) held at National Institute of Animal Nutrition and Physiology, NIANP, Adugodi, Bangalore-560030, between 28 July-17 August 2017, pp 8-18.
37. Sejian, V., **Bagath, M.**, Krishnan, G., Malik, P.K. Pragna, P and Bhatta, R (2017). Significance of Climate Change Modeling in Livestock Farms In: Industrial Experience Training Compendium on “Climate change and livestock production”. Sejian, V., Malik, P.K., Bagath, M., Krishnan, G and Bhatta, R (Eds) held at National Institute of Animal Nutrition and Physiology, NIANP, Adugodi, Bangalore-560030, between 28 July-17 August 2017, pp 52-60.

38. Sejian, V., Krishnan, G., **Bagath, M.**, Soren, N.M., Malik, P.K., Archana, P.R and Bhatta, R (2017). Climate change and livestock production: Concept of multiple stresses In: Industrial Experience Training Compendium on “Climate change and livestock production”. Sejian, V., Malik, P.K., Bagath, M., Krishnan, G and Bhatta, R (Eds) held at National Institute of Animal Nutrition and Physiology, NIANP, Adugodi, Bangalore-560030, between 28 July-17 August 2017, pp 70-78.
39. Sejian, V., Krishnan, G., **Bagath, M.**, Soren, N.M., Malik, P.K., Aleena, J and Bhatta, R (2017). Salient adaptation, mitigation and amelioration strategies to improve livestock production under the changing climatic scenario. In: Industrial Experience Training Compendium on “Climate change and livestock production”. Sejian, V., Malik, P.K., Bagath, M., Krishnan, G and Bhatta, R (Eds) held at National Institute of Animal Nutrition and Physiology, NIANP, Adugodi, Bangalore-560030, between 28 July-17 August 2017, pp 79-92.
40. Krishnan, G., Sejian, V., **Bagath, M.**, Archana, P.R., Pragna, P., Vidya, M.K and Bhatta, R (2017). Climate Change and Livestock Reproduction: Impact and Amelioration. In: Industrial Experience Training Compendium on “Climate change and livestock production”. Sejian, V., Malik, P.K., Bagath, M., Krishnan, G and Bhatta, R (Eds) held at National Institute of Animal Nutrition and Physiology, NIANP, Adugodi, Bangalore-560030, between 28 July-17 August 2017, pp 93-96.
41. Krishnan, G., Sejian, V., **Bagath, M** and Bhatta, R (2017). Impact of Climate Change on High Altitude Livestock Production. In: Industrial Experience Training Compendium on “Climate change and livestock production”. Sejian, V., Malik, P.K., Bagath, M., Krishnan, G and Bhatta, R (Eds) held at National Institute of Animal Nutrition and Physiology, NIANP, Adugodi, Bangalore-560030, between 28 July-17 August 2017, pp 105-108.
42. Sejian, V., **Bagath, M.**, Krishnan, G., Aleena, J., Vidya, M.K and Bhatta, R (2017). Significance of recording rumen and skin temperature measurements in cattle. In: Industrial Experience Training Compendium on “Climate change and livestock production”. Sejian, V., Malik, P.K., Bagath, M., Krishnan, G and Bhatta, R (Eds) held at National Institute of Animal Nutrition and Physiology, NIANP, Adugodi, Bangalore-560030, between 28 July-17 August 2017, pp 113-115.
43. **Bagath, M.**, Sejian, V., Krishnan, G., Aleena, J., Vidya, M.K and Bhatta, R (2017). Stress immune system relationship in livestock. In: Industrial Experience Training Compendium on

“Climate change and livestock production”. Sejian, V., Malik, P.K., Bagath, M., Krishnan, G and Bhatta, R (Eds) held at National Institute of Animal Nutrition and Physiology, NIANP, Adugodi, Bangalore-560030, between 28 July-17 August 2017, pp 116-119.

44. Sejian, V., **Bagath, M.**, Krishnan, G., Malik, P.K., Archana, P.R., Pragna, P and Bhatta, R (2017). Respiratory Chamber model, In vitro gas production model (Bioreactor model) and Dairy GHG Model to predict GHG emission from livestock farm. In: Industrial Experience Training Compendium on “Climate change and livestock production”. Sejian, V., Malik, P.K., Bagath, M., Krishnan, G and Bhatta, R (Eds) held at National Institute of Animal Nutrition and Physiology, NIANP, Adugodi, Bangalore-560030, between 28 July-17 August 2017, pp 132-136.
45. Veeranna, R.K., Krishnan, G., **Bagath, M.**, Aleena, J., Archana, P.R and Sejian, V (2017). Physiological responses recording in goat. In: Industrial Experience Training Compendium on “Climate change and livestock production”. Sejian, V., Malik, P.K., Bagath, M., Krishnan, G and Bhatta, R (Eds) held at National Institute of Animal Nutrition and Physiology, NIANP, Adugodi, Bangalore-560030, between 28 July-17 August 2017, pp 141-143.
46. Veeranna, R.K., Krishnan, G., **Bagath, M.**, Pragna, P., Vidya, M.K and Sejian, V (2017). Body condition scoring system- A simple tool to optimize productive and reproductive efficiency in small ruminants. In: Industrial Experience Training Compendium on “Climate change and livestock production”. Sejian, V., Malik, P.K., Bagath, M., Krishnan, G and Bhatta, R (Eds) held at National Institute of Animal Nutrition and Physiology, NIANP, Adugodi, Bangalore-560030, between 28 July-17 August 2017, pp 144-152.
47. **Bagath, M.**, Sejian, V., Krishnan, G., Veeranna, R.K., Pragna, P., Aleena, J and Bhatta, R (2017). ELISA methodology of growth, stress and reproductive hormones estimation. In: Industrial Experience Training Compendium on “Climate change and livestock production”. Sejian, V., Malik, P.K., Bagath, M., Krishnan, G and Bhatta, R (Eds) held at National Institute of Animal Nutrition and Physiology, NIANP, Adugodi, Bangalore-560030, between 28 July-17 August 2017, pp 160-162.
48. **Bagath, M.**, Sejian, V., Krishnan, G., Veeranna, R.K., Archana, P.R., Vidya, M.K and Bhatta, R (2017). Expression of Toll-Like Receptors (1-10) in goat mesenteric lymph node by Real-time PCR. In: Industrial Experience Training Compendium on “Climate change and livestock production”. Sejian, V., Malik, P.K., Bagath, M., Krishnan, G and Bhatta, R (Eds) held at

National Institute of Animal Nutrition and Physiology, NIANP, Adugodi, Bangalore-560030, between 28 July-17 August 2017, pp 163-166.

49. **M. Bagath**, V. Sejian, G. Krishnan and R. Bhatta. Heat Shock protein in livestock and their primer designing. In the Novel paradigms and technologies for augmenting livestock fertility under climate change scenario in the Winter School Compendium held at ICAR-National Institute of Animal Nutrition and Physiology, NIANP, Adugodi, Bangalore-560030, between 4-24, November 2016, pp 1-166.
50. Sejian, V., **Bagath, M.**, Krishnan, G., Mishra, A., Soren, N.M., Malik P.K. and Bhatta R (2016). Heat stress impact on livestock production. In the Novel paradigms and technologies for augmenting livestock fertility under climate change scenario in the Winter School Compendium held at ICAR-National Institute of Animal Nutrition and Physiology, NIANP, Adugodi, Bangalore-560030, between 4-24, November 2016, pp 1-166.
51. G. Krishnan, V. Sejian, **M. Bagath** and A. Mishra. Impact of heat stress on immune status of livestock. In the Novel paradigms and technologies for augmenting livestock fertility under climate change scenario in the Winter School Compendium held at ICAR-National Institute of Animal Nutrition and Physiology, NIANP, Adugodi, Bangalore-560030, between 4-24, November 2016, pp 1-166.
52. Abdul Niyas, P.A., Sejian, V., **Bagath, M.**, Selvaraju, S., Kurien, E.K., Varma, G and Bhatta, R (2016). Effect of heat stress, nutritional stress and combined stresses (heat and nutritional stress) on growth performance of Osmanabadi bucks. In: National Symposium on Climate driven food production systems: Agrometeorological interventions held at Tamil Nadu Agricultural University, Coimbatore, Tamil Nadu, India between 20-22 December 2016, pp 99-108, pp 109.
53. Archana, P.R., Aleena, J., Pragna, P., Sejian, V., **Bagath, M.**, Krishnan, G, Lees, A.M., Manimaran A., Beena, V., Kurien, E.K., Varma, G, Gaughan, J.B and Bhatta, R (2016). Role of heat shock proteins for livestock adaptation against heat stress. In: National Symposium on Climate driven food production systems: Agrometeorological interventions held at Tamil Nadu Agricultural University, Coimbatore, Tamil Nadu, India between 20-22 December 2016, pp 99-108, pp 110.
54. Aleena, J., Pragna, P., Archana, P.R., Sejian, V., **Bagath, M.**, Krishnan, G, Manimaran A., Beena, V., Kurien, E.K., Varma, G and Bhatta, R (2016). Significance of metabolic response

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Conference Papers (International and National)

1. **Bagath, M.**, Sejian, V., Krishnan, G., Angel, S.P., Amitha, J.P., Savitha, S.T. and Bhatta, R (2018). Differential expression patterns of PBMC TLR 1-10 in heat stressed indigenous Salam Black goat. In: XXVII annual conference of society of animal physiologists of India and national symposium on “Augmentation of animal productivity under changing socio-economic scenario”. Organized by Society of animal physiologists of India and ICAR-National Dairy Research Institute held at Karnal, Haryana, India on 27th and 28th November 2018, pp 62.
2. **Bagath, M.**, Sejian, V., Krishnan, G., Vandana G.D., Rashamol, V.P. and Bhatta, R (2018). Quantitative expression patterns of PBMC TLR 1-10 during heat stress exposure in indigenous Malabari goat. In: XXVII annual conference of society of animal physiologists of

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 13. Accession No.: GQ305124- Prejit, N., Agarwal, R.K., Bhilegaonkar, K., Biswas, R., **Bagath, M.** and Kumar, K. TITLE- Cloning and characterization of *ompC* of *Salmonella enterica* serovar Typhimurium (E-2375).
 14. Accession No.: AM903379 - Gangwar, S., **Bagath, M.**, Rai, A., Saxena, A. and Kumar, S. TITLE- Amplification and cloning of human interferon gamma gene in mammalian expression vector.
 15. Accession No.: AM903378 - Gangwar, S., Mathew, J., Rai, A., Kumar, S., **Bagath, M.** and Saxena, A. TITLE- Cloning of streptokinase gene in mammalian expression vector.

Professional Affiliations

1. International Society for Agricultural Meteorology, (The Netherlands)
2. International Association for Urban Climate, (USA)
3. Livestock Emissions and Abatement Research Network - LEARN, (New Zealand)
4. Basic Member in Greenhouse Gas Management Institute, USA
5. BIOTECH international, The European magazine for the life sciences industry.
6. Member of Veterinary council of India

7. Member of Tamil Nadu Veterinary council
8. Life Membership for Indian Association for the Advancement of Veterinary Research
9. Life member in Animal Physiology Association –Life member
10. Life member in Society of Veterinary Biochemists and Biotechnologists of India (SVBBI)

Serving as **editorial board member** in the following **International Journals**

- 1, International journal of climate research – since 2015
- 2, EC Veterinary Science – since 2015
- 3, ARC Journal of Animal and Veterinary Sciences (AJAVS) – since 2015
- 4, International Journal of Research & Development Organisation (IJRDO) –Advisory board member- since 2016
- 5, International Journal of Animal and Veterinary Sciences
- 6, International journal of veterinary papers – since 2016
7. GSC Biological and Pharmaceutical Sciences – since Oct- 2017
8. International Journal of Molecular Biotechnology – Since Sept- 2017
9. International Journal of Genetic Engineering and Recombination Sept- 2017
10. Multidisciplinary Advances in Veterinary Science – Since April-2018