

## CURRICULUM VITAE



### **Dr. Bagath Madijagan**

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#### **Official Address address**

Scientist

Animal Nutrition Division

National Institute of Animal Nutrition and  
Physiology

Hosur Road, Bangalore-560030, Karnataka,  
India

E-mail: [bbagath@gmail.com](mailto:bbagath@gmail.com)

Phone: +91 -9035865536

#### **Permanent address**

S/o P. Madijagan

450, Ambedkar Road, Ashok Nagar

Lawspet, Pondicherry - 605008

India

Phone: +91- 413 -2253322

#### **Objective**

My interest lies in conducting high quality research in the field of climate change and livestock production with primary concentration for identification different biological and identification markers for different environmental stress with nine years of experience.

#### **Educational Qualifications**

**Ph.D.** (December, 2012) Genetic engineering Lab, Division of Bacteriology and Mycology  
Indian Veterinary Research Institute, Izatnagar, Bareilly, India –243122

Concentration – Animal Biotechnology

*Dissertation Topic: “Evaluation of recombinant P17 antigen of Brucella abortus as potential diagnostic agent”*

GPA: 8.30/10

**M.V.Sc** (January, 2006) Genetic engineering Lab, Division of Veterinary Biotechnology,  
Indian Veterinary Research Institute, Izatnagar, Bareilly, India –243122

Concentration – Animal Biotechnology

*Thesis Topic: “Studies Expression of 87 kDa Outer Membrane Protein of Pasteurella multocida in prokaryotic and eukaryotic vector system and study its immunogenicity”*

GPA: 8.03/10

**B.V.Sc &A.H** (August 2002) Rajiv Gandhi College of Veterinary and Animal Sciences, Kurumbapet, Pondicherry- 605009

GPA: 6.4/10

### **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: 26<sup>th</sup> Annual conference of SAPI and National Symposium, held at KVAFSU, Bidar, India between 2<sup>th</sup> - 22<sup>nd</sup> 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: 9<sup>th</sup> Kerala veterinary science congress (KVSC 2017) held at Flora airport hotel, Trissur, Kerala, India between 11<sup>th</sup>-12<sup>th</sup> 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. Manjunatha

reddy, 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 3<sup>rd</sup>-4<sup>th</sup> 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 9<sup>th</sup> 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-AnimalBiotechnology.

### **Employment/Working Experience**

- 1. Scientist** (From January 2009 to continue) Animal Nutrition Division, National Institute of Animal Nutrition and Physiology, Adugodi, Bangalore-560030.

**Concentration:** *Molecular Biology / Molecular Physiology / Stress physiology / Adaptation Physiology / Immunity*

**Projects Associated currently:**

1. Effect of different proportion of energy and protein levels on the immune response in goats (Principal Investigator).
2. INDO-FRENCH PROJECT- Eclipse project emerging crop-livestock production systems adapted to a changing environment –entitled “Animal adaptation to climate change: Assessing the productive and adaptive capability of two different goat breeds to heat stress based on differences in the phenotypic and genotypic traits”. (Associate)
3. Comparative assessment of the resilience capacity of different indigenous goat breeds to summer heat stress based on selective thermo-tolerant gene expression pattern (Associate).
4. G-protein coupled receptors and gut hormones in gut chemosensing and regulation of fat digestion and absorption in sheep (Associate).

**Completed project:**

5. ICAR (Indian Council of Agricultural Research) Sponsored: Development of 16s RNA Rumen specific microbes database (Principal Investigator).
6. ICAR (Indian Council of Agricultural Research) Sponsored: Elucidating the endocrine and molecular mechanisms of feed restriction impacting somatotrophic axis in goats (Associate).
7. **Network Project-Veterinary Type Culture** – Rumen microbes (Associate).
8. **NFBSRA-National. Fund for Basic & strategic Research in. Agriculture** - Rumen microbial manipulations for mitigation of methane emission and productivity enhancement in dairy animals (Associate).
9. **NAIP- National Agricultural Innovation project** - Manipulation of rumen ecosystem through modified rumen microbes encoding novel fibrolytic enzymes using nucleic acid based technologies for the improved utilization of crop residues (Associate).

**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.
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### **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

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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.
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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.

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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.
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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

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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.
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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.
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### **Books/Technical Bulletin/Technical Manual**

1. Sejian, V., Malik, K., **Bagath, M.**, Krishnan, G and Bhatta, R (2017). Industrial Experience Training Compendium on “Climate change and livestock production” held at ICAR-National Institute of Animal Nutrition and Physiology, NIANP, Adugodi, Bangalore-560030, between 28 July -17 August 2017, pp1-166.
2. Sejian, V., Malik, K., **Bagath, M.** and Bhatta, R (2016). Industrial Experience Training Compendium on “Climate change and livestock production” held at ICAR-National Institute of Animal Nutrition and Physiology, NIANP, Adugodi, Bangalore-560030, between 1-21<sup>nd</sup> June 2016, pp 1-166.
3. Sejian, V., **Bagath, M.**, Malik, K and Bhatta, R (2015). Industrial Experience Training Compendium on “Climate change and livestock production” held at ICAR-National Institute of Animal Nutrition and Physiology, NIANP, Adugodi, Bangalore-560030, between 8-28 June 2015, pp 1-151.

4. Thulasi, A., **Bagath, M** and Rajenderan, D (2013). Veterinary Type Culture -Rumen Microbes. Hands on training program held at ICAR-National Institute of Animal Nutrition and Physiology, NIANP, Adugodi, Bangalore-560030, between 12-18<sup>th</sup> March 2013, pp 1-108.
5. Chandrasekharaiah, M., Prasad, K.S., Thulasi, A and **Bagath, M** (2010). Livestock Feeding and Management. Compendium for the training programme under 'Mass media support to agriculture extension' Published by Director NIANP. Between 7-10<sup>th</sup> April, 2010, pp 1-131.

### Seminars/Symposiums Attended

1. Participated in XXVII Annual conference & national symposium of the society of ANIMAL physiologists of India (SAPI) on “**Augmentation of animal productivity under changing socio-economic scenario**”, 27<sup>th</sup>-28<sup>th</sup> November 2018, at NDRI, Karnal, Haryana, India.
2. Participated in XXVI Annual conference & national symposium of the society of ANIMAL physiologists of India (SAPI) on “**Physiological innovations to forecast the impact of climate change and evolve strategies for sustainable livestock production**”, 21<sup>st</sup> - 22<sup>nd</sup> December 2017, at Bidar Veterinary college, Karnataka, India.
3. Participated in XXXIV Annual Conference of Indian Poultry Science Association on “**Innovations for Safe and Sustainable Poultry Production**” Organised by IPSA CARI and ICAR- NINAP, 28<sup>th</sup> - 30<sup>th</sup> November, NIMHANS Convention Centre, Bangalore, India.
4. Participated in International conference on, 19<sup>th</sup> ADNAT Convention International Symposium on “**Microbiome in Health and Disease**”, 23<sup>rd</sup> - 25<sup>th</sup> February, 2016, at NIANP, Bangalore.
5. Participated in International conference on “**Global animal nutrition conference**” organized by Animal Nutrition Society of India at Hotel Taj Vivanta, Bangalore between 20-22, april 2014.
6. Participated in International conference on Animal Health and Welfare Conference and the 18<sup>th</sup> Asian Regional Meeting of the Commonwealth Veterinary Association including

Satellite Conferences, **“Progress in Animal Welfare’ and ‘Canine Rabies Contro”** 20 – 24 February 2014, NIANP Auditorium, Adugodi, Bangalore.

7. Participated in the 3th Indian Veterinary Congress & XX Annual Conference of IAAVR & National Symposium on **"Thrust Areas in Veterinary Research, Education, Regulatory Reforms and Governace for quality services to Farmers"**, at Institute of Health & Veterinary Biologicals, Hebbal, Bangalore on 16-17 April 2013.

### **Short Course/Training Attended**

1. Attended 4day Bioinformatics training entitled **“Bioinformatics for Transcriptome Sequencing”** at ICAR-IISR, Kozhikode from 21-23, march 2017.
2. Participated in one-day workshop on **“Use of near infrared spectrometry (NIRS) for evaluation of forage quality”** organized by ICAR-NIANP under ARCHE\_NET project on 30th April, 2015.
3. Participated in **“Metagenomics- Role of next generation sequencing and bioinformatics”** from 15-24, October, 2013 at AAU, Anand, Gujarat.
4. Participated in winter school training on **“Genome and metagenome analysis in research and diagnosis”** on Oct 22nd – 11th Nov, 2009 at Division of Biochemistry, IVRI.

### **Training Organized**

1. 21 days Industrial Experience Training on **“Climate change and livestock production”** for the students of Kerala Veterinary and Animal Sciences University, at ICAR-National Institute of Animal Nutrition and Physiology, NIANP, Adugodi, Bangalore-560030, between 28<sup>th</sup> July to 17<sup>th</sup> August 2017.
2. 21 days Industrial Experience Training on **“Climate change and livestock production** for the students of Kerala Veterinary and Animal Sciences University, at ICAR-National Institute of Animal Nutrition and Physiology, NIANP, Adugodi, Bangalore-560030, between 1<sup>st</sup> to 21<sup>th</sup> June 2016.

3. 21 days Industrial Experience Training on “**Climate change and livestock production**” for the students of Kerala Veterinary and Animal Sciences University, at ICAR-National Institute of Animal Nutrition and Physiology, NIANP, Adugodi, Bangalore-560030, between 8<sup>th</sup> to 28<sup>th</sup> June 2015.
4. 21 days Industrial Experience Training on “**Climate change and livestock production**” for the students of Kerala Veterinary and Animal Sciences University, at ICAR-National Institute of Animal Nutrition and Physiology, NIANP, Adugodi, Bangalore-560030, between 26<sup>th</sup> Sept to 16<sup>th</sup> October 2014.
5. 7 days Hands on training on “**Veterinary Type Culture -Rumen Microbes**” at ICAR-National Institute of Animal Nutrition and Physiology, NIANP, Adugodi, Bangalore-560030, between 12<sup>th</sup> - 18<sup>th</sup> March 2013.
6. 4 days training programme on training programme on “Mass media support to agriculture extension” at ICAR-National Institute of Animal Nutrition and Physiology, NIANP, Adugodi, Bangalore-560030, between 7<sup>th</sup> to 10<sup>th</sup> April, 2010.

### Technical Skills

1. **Molecular Biology:** RNA and DNA extraction, PCR amplification, cDNA transcription, Southern Blot Analysis, Real-time PCR, Western blot analysis, Recombinant proteins production in prokaryotic and eukaryotic expression systems, Proteins purification, and targeted DNA vaccine vectors construction.
2. **Immunology:** Analysis of cytokine production by ELISA, and Real-time PCR, ELISA, Production of hyper immune serum.
3. **Biochemistry:** Estimation of Hormones, Blood biochemical parameters, Serum enzymes quantification.
4. **Microbiology:** Isolation and identification of bacterial, fungal isolates (both aerobic and anaerobic) based on cultural and biochemical tests.

5. **Bioinformatics:** Molecular biology software's like MGRAST, DNA star, Gene tool, Primer-3, BLAST operation. Online molecular biology software's, Protein structure analysis and prediction software, Statistical analysis software's SPSS.etc.
6. **Animal handling:** Handling of Goats, Rabbits, Mice, cattle.

### Professional Achievements

Cleared **National Eligibility Test** (For Lecturership/Assistant Professorship) held in 2006 in the professional subject Animal Biotechnology conducted by **Agricultural Scientists Recruitment Board (ASRB) of Indian Council of Agricultural Research (ICAR)**

### Patents Obtained

1, Chandrasekharaiah, M., Thulasi,A., **Bagath, M** and Lyju Jose,V (2012). An animal concentrate feed mix with *curcuma aromatica* for reduction of methane. **Indian Patent No.289668**. Filed on January 9, 2012, Date of grant; 06-11-2017

### NCBI Accession Number

1. Accession No.: KJ702467- - **Bagath, M.**, Thamizharasan, A., Yosef, D., Jonathan, L.R., Varalakshmi, S and Pallab, C. TITLE- Evaluation of recombinant P17 antigen of Brucella abortus as potential diagnostic agent.
2. Accession No.: HQ684845 – Chandrasekharaiah M., Thulasi, A., **Bagath, M.**, Prasanna Kumar, D., Sunil S, S., Palanivel, C and Samparh, T.K. TITLE- Expression and biochemical characterization of two novel Feruloyl esterases derived from fecal samples of Rusa unicolor and Equus burchelli.
3. Accession No.: HQ684846 - Chandrasekharaiah, M., Thulasi, A., **Bagath, M.**, Prasanna Kumar, D., Sunil S. S., Palanivel, C. and Samparh, T.K. TITLE- Expression and biochemical characterization of two novel Feruloyl esterases derived from fecal samples of Rusa unicolor and Equus burchelli.
4. Accession No.: HQ824368- Chandrasekharaiah, M., Thulasi, A., **Bagath, M.**, Prasanna Kumar, D., Sunil S.S., Palanivel, C., Lyju Jose, V and Samparh, T.K. TITLE- Uncultured bacterium clone exo-glucanase gene, partial cds.
5. Accession No.: HQ163773- Chandrasekharaiah, M., Thulasi, A., **Bagath, M.**, Prasanna



- Kumar, D., Sunil S. S., Palanivel, C. and Samparh, T.K. TITLE- Uncultured bacterium clone FT3-7 feruloyl esterase gene, complete cds.
6. Accession No.: HQ000041- Chandrasekharaiah, M., Thulasi, A., Lyju Jose, V., Sampath, T.K. and **Bagath, M.** TITLE- Molecular characterization of uncultured fungi from buffalo feces.
  7. Accession No.: HQ000039- Chandrasekharaiah, M., Thulasi, A., Lyju Jose, V., Sampath, T.K. and **Bagath, M.** TITLE- Molecular characterization of uncultured fungi from buffalo feces.
  8. Accession No.: HQ000042- Chandrasekharaiah, M., Thulasi, A., Lyju Jose, V., Sampath, T.K. and **Bagath, M.** TITLE- Molecular characterization of uncultured fungi from buffalo feces.
  9. Accession No.: HQ000040- Chandrasekharaiah, M., Thulasi, A., Lyju Jose, V., Sampath, T.K. and **Bagath, M.** TITLE- Molecular characterization of uncultured fungi from buffalo feces.
  10. Accession No.: HQ000038- Chandrasekharaiah, M., Thulasi, A., Lyju Jose, V., Sampath, T.K. and **Bagath, M.** TITLE- Molecular characterization of uncultured fungi from buffalo feces.
  11. Accession No.: HQ000038- Chandrasekharaiah, M., Thulasi, A., **Bagath, M.**, Lyju Jose, V. and Sampath, T.K. TITLE- Isolation and characterization of an organism with 70% sequence homology to *Methanopyrus kandleri*.
  12. Accession No.: GU573955- Chandrasekharaiah, M., Thulasi, A., **Bagath, M.**, Lyju Jose, V. and Sampath, T. K. TITLE- Isolation and molecular characterization of *Methanocaldococcus* sp. from rumen fluid of Indian buffaloes.
  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

### **Computer Knowledge**

- In-charge information technology at ICAR-NIANP, adugodi Bangalore, since 2013 to Oct. 2017.
- Nodal office for online examination centre for Karnataka state under ICAR, since 2013 to Oct. 2017.
- Handling Servers, Networking, router configuration, IT solutions etc.
- MS-Word, MS-PowerPoint, MS-Excel, Windows –98, 2000, Windows-XP, 2007
- Handling of servers, linux.
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## References

### **1. Dr. Veerasamy Sejian, M.V.Sc and PhD**

Senior Scientist

Nutrient kinetics and integrative Physiology

Laboratory, Animal Physiology Division,

National Institute of Animal Nutrition and Physiology,

Hosur Road, Adugodi, Bangalore- 560030. Karnataka,

India.

Phone: +919740726121,

**E-mail:** [drsejain@gmail.com](mailto:drsejain@gmail.com)

### **2. Dr. Raghavendra Bhatta., M.V.Sc and PhD**

Director & Principal Scientist

ICAR-National Institute of Animal Nutrition and

Physiology

Adugodi, Hosur Road, Bangalore – 560030

Mobile No: +91-9035665594

E-mail: [ragha0209@yahoo.com](mailto:ragha0209@yahoo.com)