

Name and qualification: NAVEENA, B.M., Ph. D & Post-doc (USA)

Expertise: Livestock Products Technology

- Proteomics of lipid oxidation induced oxidation of livestock and poultry myoglobins.
- OFFGEL fractionation and mass spectrometry based proteomic approach for meat species identification.
- Protein biomarkers for differentiating tender vs. tough muscles and young vs. old buffaloes.
- Natural antioxidant, processing and packaging mediated strategies for improving quality and safety of meat and meat products.
- Value added meat products and Entrepreneurship development

Projects handled and at presently handling:

EXTERNAL FUNDED PROJECTS

Sl. No.	Project Title	Funding Agency	Funding Period	Grant Amount
1	Identification of species-specific peptide biomarkers using high-throughput proteomic approaches (BT/PR7825/FNS/20/742/2013). (Principal Investigator)	Department of Biotechnology (DBT), Govt. India	2013-2016	35.00 lakh Rs.
2	Proteomics of lipid oxidation induced oxidation of buffalo and goat meat myoglobins (Reg. No. 0237/2009). (Principal Investigator)	Department of Science & Technology (DST), Govt. India	2011-2014	21.00 lakh Rs.
3	Value chain for clean meat production from sheep. (Co-Principal Investigator)	World Bank Funded Project (NAIP)	2008-2012	584.77 lak Rs.

SPONSERED/CONTRACT RESEARCH PROJECT WITH PRIVATE INDUSTRIES

1	Evaluation of Oxikan™ in enhancing qualities and shelf-life of meat and meat products. (Project Leader)	Kancor Ingredients Ltd., Kerala	Nov 2011- Nov 2012	1.75 lakhs Rs.
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2	Characterization and evaluation of natural antioxidants extracted from different spices in ground chicken and pork. (Project Leader)	Kancor Ingredients Ltd., Kerala	April 2013- Dec 2013	2.50 lakhs Rs.
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INSTITUTE-INDUSTRY COLLABORATIVE PROJECTS

1	Economics, meat yield and quality of broilers grown to different live weights. (Principal Investigator)	Industrial collaborative project with Indbro Poultry Farms, Hyderabad	2007-08	30.00 lakh
2	Emu meat quality, processing and product development towards a niche market. (Principal Investigator)	Industrial collaborative project with Krishna Emu Products Ltd. (KEP), Vijayawada, A.P.	2012-14	28.6 lakh

Important publications: 10 Best Research Publications

- **Naveena, B.M.**, Usha Rani, K., Praveen Kumar, Y. and Rapole S. (2016). Proteomic based approach for characterizing 4-hydroxy-2-nonenal induced oxidation of buffalo (*Bubalus bubalis*) and goat (*Capra hircus*) meat myoglobins. *Proteome Science* 14(18): 1-16 (DOI: 10.1186/s 12953-016-0108-7).
- **Naveena, B.M.**, Vaithiyanathan, S., Muthukumar, M., Sen, A.R., Praveen Kumar, Y., Kiran, M., Shaju, V.A. and Ramesh Chandran, K. (2013). Relationship between the solubility, dosage and antioxidant capacity of carnosic acid in raw and cooked ground buffalo meat and chicken patties. *Meat Science (Elsevier)*, 95: 195-202.
- Tatiyaborworntham, N., Faustman, C., Yin, S., Ramanathan, R., Mancini, R., Suman, S., Beach, C., **Maheswarappa Naveena.**, Grunwald, E. and Richards, M. (2012). Redox instability and hemin loss of mutant sperm whale myoglobins induced by 4-hydroxy-nonenal in vitro. *Journal of Agricultural and Food Chemistry*, 60, 8473-8483.
- Shuang, Y., Faustman, C., Tatiyaborworntham, N., Ramanathan, R., **Maheswarappa Naveena.**, Mancini, R., Joseph, P., Suman, S.P. and Sun, Q. (2011). Species-specific myoglobin oxidation. *Journal of Agricultural and Food Chemistry*, 59, 12198-12203.

- **Naveena, B.M.**, Faustman, C., Tatiyaborworntham, N., Shuang, Y., Ramanathan, R. (2010). Detection of 4-Hydroxy-2-nonenal adducts of turkey and chicken myoglobins using mass spectrometry. *Food Chemistry*, 122, 836-840.
- Ramanathan, R., Mancini, R. A. and **Maheswarappa Naveena**, (2010). Effects of Lactate on Bovine Heart Mitochondria-Mediated Metmyoglobin Reduction. *Journal of Agricultural and Food Chemistry*, 58, 5724-5729.
- **Maheswarappa Naveena**, Faustman, C., Tatiyaborworntham, N., Shuang, Y., Ramanathan, R. and Mancini, R.A. (2009). Mass Spectrometric Characterization and Redox Instability of Turkey and Chicken Myoglobin as Induced by Unsaturated Aldehydes. *Journal of Agricultural and Food Chemistry*, 57, 8668-8676.
- **Naveena, B.M.**, Sen, A.R., Vaithyanathan, S., Babji, Y. and Kondaiah, N. (2008). Comparative efficacy of pomegranate juice, pomegranate rind powder and BHT in cooked chicken patties. *Meat Science*, 80(4), 1304-1308.
- **Naveena, B.M.**, Muthukumar, M., Sen, A.R., Babji, Y. and Murthy, T.R.K. (2006). Improvement of shelf-life of buffalo meat steaks using lactic acid, clove oil and vitamin C during retail display. *Meat Science*, 74(2): 409-415.
- **Naveena, B.M.**, Mendirartta, S.K. and Anjaneyulu, A.S.R. (2004). Tenderization of buffalo meat using plant proteases from *Cucumis trigonus Roxb* (Kachri) and *Zingiber officinale roscoe* (Ginger rhizome). *Meat Science*, 68: 363-369.

Any other information:

I. FELLOWSHIP

- **Associate Fellow:** National Academy of Agricultural Sciences (NAAS), New Delhi since 2014.
- **DST-BOYSCAST Fellowship** (Department of Science & Technology-Better Opportunities for Young Scientists in Chosen Areas of Science & Technology) 2007-08 for undergoing advanced training at University of Connecticut, USA under Dr. Cameron Faustman, Associate Dean.

II. MEMBERSHIP

- **Scientific Panel Member** for Food Safety and Standards Authority of India (FSSAI), Ministry of Health and Family Welfare, Govt. India since 2015.
- **Member**, Electronic Working Group (eWG) of CODEX India since 2015.

- **Member- Mentor Council**, Directorate General of Employment and Training, Ministry of Labour & Employment, Govt. India.
- **Inspection team member**, Agricultural and Processed Food Products Export Development Authority (APEDA), Govt. India for export meat plant inspection.
- **Life Member:** Indian Meat Science Association (IMSA), Association of Food Scientists & Technologists (AFST) and Indian Poultry Science Association (IPSA)
- **Annual Member:** World's Poultry Science Association (WPSA)

III. AWARDS

(i) *International Awards*

- Selected as national contact person from India for International Congress of Meat Science and Technology (ICOMST, Headquarters: Finland) along with members from 48 different countries.
- Awarded with “**Free Registration Participants for Developing Countries**” for attending 56th International Congress of Meat Science & Technology, Jeju, Korea, August 20-25, 2010 and presented 2 scientific posters.
- Awarded with “**British Poultry Science Young Scientist Travel Grant**” for attending XII European Poultry Conference, Verona, Italy, 2006.
- Shortlisted for “**ASIAN MEAT SCHOLARSHIP-2012**” by Asian Agribiz and Stork Marel Food Processing, Singapore.

(ii) *National Honor/Awards*

- Awarded with **Lal Bahadur Shastri Outstanding Young Scientist** for the year 2013 from Indian Council of Agricultural Research (ICAR), Ministry of Agriculture, Govt. India.
- Awarded grant under “International Travel Scheme (ITS)” from **Dept. Science & Technology, Govt. India** for attending 56th ICOMST, Jeju, Korea, 2010.
- Awarded grant from **Centre for International Cooperation in Science (CICS), Indian National Science Academy, Govt. India** for presenting a invited paper at Ist

International summer school held at Max-Rubner Institute, Kulmbach, Germany from October 18-21, 2011.

- Awarded with **eight** Best Poster/Best Oral Presentations at various National Seminar/Symposium.

(iii) Scientific Leadership

- **Associate editor** “*Journal of Meat Science*”, ISSN: 0975-5209 (An official publication of Indian Meat Science Association) from 2009 to 2013.
- **Editor** “*ICAR-NRC on Meat-Annual Report*” from 2010 to present.
- **Chief Editor** “*NRC on Meat News Letter*” from 2010 to present.
- **Secretary** “*Indian Meat Science Association*”, Reg. No. 307/2001, from February, 2013.
- **Joint Organizing Secretary** “*5th Conference and National Symposium of Indian Meat Science Association*” (IMSACON-V) held at National Research Centre on Meat, Hyderabad, A.P., from 7-9th February, 2013.