

RITUPARNA BANERJEE

Senior Scientist

Tel no. 040-29801674

Fax No. 040-27201672

E-mail: Rituparna.Banerjee@icar.gov.in
rituparnabnrj@gmail.com

Address:

ICAR-National Meat Research Institute,
Chengicherla, Bod-Uppal Post,
Hyderabad, 500092, Telangana**Field of specialization**

Livestock Products Technology (LPT)

Employment record

Employer	Institute/University	Post/Appointment	Period
Indian Council of Agricultural Research	National Meat Research Institute, Hyderabad	Senior Scientist	02.02.2020 to till date
Indian Council of Agricultural Research	National Meat Research Institute, Hyderabad	Scientist (Sr. scale)	02.01.2015 to 01.01.2020
Maharashtra Animal & Fishery Sciences University, Nagpur	Nagpur Veterinary College, Nagpur and College of Veterinary Sciences, Udgir	Assistant Professor	30.06.2008 to 31.12.2014

SIGNIFICANT ACHIEVEMENTS**PATENTS/PRODUCTS/TECHNOLOGIES/PROCESS**

1. Patent submitted: **Ultrasound-assisted method for extraction of gelatin from poultry processing waste** (Indian patent Application no. 202441082670)
2. Patent submitted: **A method for authentication of meat from cold-slaughtered chicken vis-à-vis meat from freshly slaughtered poultry** (Indian patent Application No. 202341012102).
3. Developed “Rapid Immunochromatography based kit for authentication of pork” and commercialized to M/s. MR Labs, Hyderabad through MoU dated 23/10/2021
4. Developed Immunochromatography based chicken detection kit
5. GELFrEE fractionation and MS-based technology for authentication of meat species.
6. Technology development for identification of protein biomarker ‘peroxiredoxin -6’ using 2D-DIGE and MALDI-TOF/TOF MS for authentication of animal slaughtered according to Halal procedures.
7. Optimization of procedures for extraction, purification, and generation of protein hydrolysates/peptides from buffalo liver

8. Superchilling and vacuum packaging technology for extension of shelf-life of meat and meat products.
9. Establishment of modern abattoir for pig slaughter (M/s. Farm Fresh Pork Products & Farm, Krishna District, A.P. File No. 14-2/ITMU/NRCM/09, Date: 03/09/2015)
10. Technology for establishment of Retail meat shop or value-added meat products processing unit (M/s. Prochicken, Hyderabad, File No. 14-2/ITMU/NRCM/09, Date: 19/07/2016)
11. Technology for processing of seekh-kebabs (Popularized through Entrepreneurship Trainings)
12. Technology for development of low-salt and low-fat meat products
13. Process optimization for development of antioxidant dietary fiber-rich meat products.

RESEARCH

1. **Principal Investigator** of SERB POWER Grant '*Green extraction and valorization of poultry processing waste: Exploration of bioactivity of collagen-derived peptides*'
2. **Principal Investigator** of Department of Biotechnology (DBT), GoI funded '*Comprehensive proteomic approaches and development of point-of-need lateral flow assay for authentication of animal derived gelatin*'
3. **Co-PI** of Indian Council of Agricultural Research funded Agri-business incubator (ABI) project' of ICAR-NRC on Meat
4. **Co-PI** of Ministry of Food Processing Industries (MoFPI), GoI funded '*Detection and Quantification of Animal Body Fat (Tallow)/ Vegetable Fat in Milk Fat/Ghee*'
5. **Co-PI** of Food Safety and Standards Authority of India (FSSAI) funded '*Estimation of Carcinogenic and Mutagenic Compounds in Processed Meat*'
6. **Co-PI** of Department of Biotechnology (DBT), GoI funded '*Development of rapid immunochromatographic assay kit for field level detection of meat adulteration*'

CONTRACT RESEARCH PROJECTS

1. **"Evaluation and comparison of Licious chicken with market available chicken for competitive advantage in Juiciness"**
Client: *LICIOUS, Delightful Gourmet Pvt. Ltd., Bangalore*
2. **"Packaging interventions for chilled and superchilled meat/poultry- a pragmatic solution for improving the quality and shelf-life"**
Client: *Sealed Air Packaging Materials (India) LLP, Mumbai*
3. **"Carcass and meat quality characterization of native chicken breeds"**
Client: *M/s. Indbro Research & Breeding Farms Pvt. Ltd., Hyderabad*

PUBLICATIONS (10 best in last 5 years)

1. Bhargavi, P. K., **Banerjee, R***, Raziuddin, Md., Maheswarappa, N.B., Verma, A. K., Prasad M.G. Lalthanmawii, J. (2025). Sustainable gelatin extraction from poultry skin-head-feet blend: An ultrasound-assisted approach. *Poultry Science*, 104(4), 104975.
2. Lalthanmawii, J., **Banerjee, R***, Maheswarappa, N.B., Biswas, S., Belore, B., Prasad M.G. and G. Patra (2024). Ultrasound-assisted extraction for green recovery of poultry skin collagen hydrolysates with antioxidant and antihypertensive activities. *Biomass Conversion and Biorefinery*, 1-14.
3. Govindaiah, P. M., Maheswarappa, N. B., **Banerjee, R.**, Muthukumar, M., Manohar, B. B., Mishra, B. P., ... & Biswas, A. K. (2024). Decoding halal and jhatka slaughter: novel insights into welfare and protein biomarkers in slow-growing broiler chicken. *Journal of the Science of Food and Agriculture*, 104(15), 9160-9168.
4. Govindaiah, P.M., Maheswarappa, N.B., **Banerjee, R.**, Mishra, B.P., Manohar, B.B., Dasoju, S. (2023). Traditional halal meat production without stunning versus commercial slaughter with electrical stunning of slow-growing broiler chicken: impact on meat quality and proteome changes. *Poultry Science*. 102(11): 103033.
5. **Rituparna Banerjee**, Naveena B Maheswarappa, Subhasish Biswas, Sowmya Dasoju, Kiran Mohan, Ranjith Ramnathan (2023). Peptidomics Approaches for Meat Authentication Employing Rapid in-solution GELFrEE Fractionation and MALDI-TOF MS. *Journal of Food Composition & Analysis*, 60: 772–782.
6. **Rituparna Banerjee**, Naveena B Maheswarappa, Subhasish Biswas, Sowmya Dasoju, Sukhdeo Barbuddhe, Vishnuraj M. Rajan, Gopal Patra, Debasish Bhattacharyya (2023). Lateral flow immunoassay-based absolute point-of-care technique for authentication of meat and commercial meat products. *Journal of Food Science & Technology*, 60: 772–782.
7. Kiran Mohan, Naveena B. Maheswarappa, **Rituparna Banerjee** (2022). Exploring the dynamics of women consumer preference, attitude and behaviour towards meat and meat products consumption in India. *Meat Science*. 193: 108926.
8. Naveena, B.M., **Banerjee, R.**, Muthukumar, M. Barbuddhe, S., Sowmya, D. and Varakumar, P. (2021). Optimization of Novel GELFrEE Fractionation for Molecular Weight Based In-solution Protein Separation from Buffalo Meat, Pork and Chicken. *Food Analytical Methods*, 14(1): 88-97 (DOI: 10.1007/s12161-020-01839-8).
9. Kiran, M., Naveena, B.M, **Rituparna Banerjee**, Venkatesh, Ch. And Rapole, Srikanth (2021). Impact of stunning before slaughter on expression of skeletal muscles proteome in sheep. *Animal Biotechnology*.
10. **Rituparna Banerjee**, Naveena Basappa Maheswarappa, Sowmya Dasoju, Sushma Andhe (2021). OFFGEL and GELFrEE fractionation: Novel liquid phase protein recovery strategies in proteomics studies. *Trends in Analytical Chemistry*. 140: 116282.

TRAININGS CONDUCTED

- ICAR sponsored 21 days summer/winter school: 2
- SERB-sponsored Hi-end workshop/karyashala: 2
- SERB-sponsored internship training/Vrithika: 1
- NAHEP sponsored hands-on-training: 2
- 10 days collaborative training programme sponsored by MANAGE: 1
- Entrepreneurship development training: > 25

RECOGNITION

- Awarded with SERB International Travel Grant for attending 11th International Conference on Sustainable Solid Waste Management at Rhodes, Greece from 19-22 June, 2024.
- Conferred Indian Meat Science Fellow Award 2024 at XII Conference of Indian Meat Science Association (IMSACON XII) and National Symposium on 'Green and Sustainable Meat Sector: Global Game Changer, DUVASU, Mathura
- Member of Bureau of Indian Standards, FAD18/ Panel-I: Code of Practices related to Slaughter House and Meat Industry
- Member of Bureau of Indian Standards FAD 18/Panel VI: Panel on Waste Management related to Slaughterhouse and Meat Industry
- Received Journal of Food Science and Technology (Food Science) best paper award for the paper 'Lateral flow immunoassay-based absolute point-of-care technique for authentication of meat and commercial meat products' by Association of Food Scientists and Technologists (India) at 30th ICFOST, in December, 2024.
- Membership of National Academy of Veterinary Sciences, New Delhi, 2023
- IMSA Best Doctoral Thesis Award, Indian Meat Science Association, 2022
- Young Scientist Award by Indian Association for the Advancement of Veterinary Research (IAAVR), in 2019
- Best Scientist Award for significant research contribution during 2021-22, 2022-2023 at ICAR- National Meat Research Institute, Hyderabad in 2022, 2023
- 15 best oral and poster presentations in National and International Seminar
- Smt Mira Mallik Gold Medal for securing highest marks in BVSc & AH West Bengal University of Animal & Fishery Sciences, Kolkata in 2006
- Gold Medal for securing highest marks in 5th & 6th semester in BVSc & AH West Bengal University of Animal & Fishery Sciences, Kolkata in 2006