CURRICULAM VITAE

DR. TANAJI G. KUDRE
DOB: 02/01/1982
Principal Scientist
Department of Meat and Marine Sciences
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RESEARCH INTEREST:

- Seafood chemistry and biochemistry.
- Improvement of meat quality and safety using plant extracts.
- Development of novel and value-added products from fish and livestock (meat and eggs).
- Physicochemical, microbiological and nutritional aspects of meat and meat products.
- Valorization of fish and livestock processing wastes for biofuel and bio-functional compound.
- Marine nutraceuticals and functional foods.
- Meat authentication using genomic and proteomics

EDUCATIONAL QUALIFICATIONS:

Degree	**Year**	**Field/ Subjects**	**University/Institution**
Ph.D.	2013	Food Science and Technology	Prince of Songkla University, Hat Yai, Thailand
M.Sc.	2006	Biotechnology	Swami Ramanand Teerth Marathwada University, Nanded, India
B.Sc.	2004	Microbiology, Zoology and Botany	Swami Ramanand Teerth Marathwada University, Nanded, India

AWARDS / ACHIEVMENT:

- **Young Scientist-**2015, SERB- Early Career Research Award, SERB, DST, India
- **PSU Post-doctoral Fellowship**-2013, Thailand
- **Alltech Young Scientist Award-**2013, Thailand
- **Alltech Young Scientist Award**-2012, Thailand
- **PhD Scholarship** (for 3 yrs), Graduate School, Prince of Songkla University, Thailand.
- **3rd University rank** (M.Sc. Biotechnology), SRTMU, Nanded, MH, India

MEMBERSHIP OF PROFESSIONAL SOCIETIES:

- Association of Food Scientists & Technologists, India (Life Member)
- Society of Biological chemists, India (Life Member)

RESEARCH and TECHING EXPERIENCE:

- **Principal Scientist (May 2021 to till date),** Department of Meat and Marine Sciences, CSIR-Central Food Technological Research Institute, Mysore, India.
- **Senior Scientist (May 2018 to May 2021),** Department of Meat and Marine Sciences, CSIR-Central Food Technological Research Institute, Mysore, India.
- **Scientist (May 2014 to May 2018),** Department of Meat and Marine Sciences, CSIR-Central Food Technological Research Institute, Mysore, India.
- **Post-doctoral fellow,** Faculty of Agro-Industry, Prince of Songkla University, Hat Yai, Thailand, August 2014- December 2014.
- **June 2010-Present:** PhD Research fellow in Department of Food Technology, Faculty of Agro-Industry, Prince of Songkla University, Hat Yai, Thailand.
- **September 2011- September 2012: Worked as a Teaching Assistant**, Department of Food Technology, Prince of Songkla University, Hat Yai, Thailand.
- **June 2007-May 2010:** Worked as a Research Project Assistant on project entitled as "**Biotechnology for Leather: Towards cleaner Processing- Phase-II and III"** at Biochemical Science Division, National Chemical Laboratory, Council of Scientific and Industrial Research (CSIR), Pune, Maharashtra, India.

- **Aug 2006-May 2007:** Worked as a **Lecture** at MGM college of Computer Science and Information Technology, Nanded, India (Swami Ramanad Teerth Marathwad University). Guided two MSc students for project dissertation.

RESEARCH PUBLICATIONS:

Research Articles:

1. Kanwate, B. W., Karkal, S. S., & Kudre, T. G. (2024). Impact of antioxidant potential of rohu (*Labeo rohita*) swim bladder gelatin hydrolysate on oxidative stability, textural and sensory properties of fish sausage enriched with polyunsaturated fatty acids. *Journal of Food Science and Technology*, *61*(6), 1083-1093
2. Kanwate, B. W., Patel, K., Karkal, S. S., Rajoriya, D., Sharan, K., & Kudre, T. G. (2024). Production of Antioxidant, Angiotensin-Converting Enzyme Inhibitory and Osteogenic Gelatin Hydrolysate from *Labeo rohita* Swim Bladder. *Marine Biotechnology*, *26*(2), 404-420.
3. Karkal, S. S., Jamadar, A. S., & Kudre, T. G. (2024). Valorization of marine fishmeal industry oil as feedstock and calcined shrimp and crab shells as catalysts for production of biodiesels and evaluation of their fuel properties, engine combustion, performance and gas emission characteristics. *Process Safety and Environmental Protection*, *182*, 443-455.
4. Karkal, S. S., Rathod, D. R., Jamadar, A. S., Suresh, P. V., Kumar, H. N. P., & Kudre, T. G. (2024). *Fenneropeanus indicus* Shrimp Shell and Fishmeal Oil: A Novel Feedstock for Biodiesel Production and Bio Derived Heterogeneous Catalyst Development. *Catalysis Letters*, *154*(4), 1521-1536.
5. Rathod, D. R., Karkal, S. S., Jamadar, A. S., Hashem, A. M. A., Suresh, P., Mamatha, S. S., & Kudre, T. G. (2024). Prospects of novel heterogeneous base catalysts and nanocatalysts in achieving sustainable biodiesel production [Review]. *International Journal of Green Energy*, *21*(5), 1017-1042.
6. Siewe, F. B., Makebe, C. W., Muala, W. C. B., Laya, A., Nkongho, N. R., Meliko, M. O., . . . Bhaskar, N. (2024). Advances in processing, reaction pathways, stabilisation and food applications of natural seafood flavourings. *Food Bioscience*, *58*, Article 103627.
7. Karkal, S. S., Rathod, D. R., Jamadar, A. S., Shivaramu, M. S., & Kudre, T. G. (2024). Exploitation of freshwater fish waste as feedstock and *Fenneropeneus indicus* shrimp shell as catalyst source for biodiesel production. *Biofuels-Uk*, *15*(1), 1-15.
8. Bethi, C. M. S., Prakash, G. J., Pedda, M. S., & Kudre, T. G. (2023). Utilization of lactobacillus fermented proteins from meat processing wastewaters as a dietary protein source in poultry feed [Article]. *3 Biotech*, *13*(2), 12, Article 69.
9. Dave, J., Ali, A. M. M., Kudre, T., Nukhthamna, P., Kumar, N., Kieliszek, M., & Bavisetty, S. C. B. (2023). Influence of solvent-free extraction of fish oil from catfish

(Clarias magur) heads using a Taguchi orthogonal array design: A qualitative and quantitative approach. *Open Life Sciences*, *18*(1), Article 20220789.

10. Hashem, A. M. A., Venmarath, A., & Kudre, T. G. (2023). Preparation, purification, and identification of novel antioxidant peptides from red-bellied pacu (*Piaractus brachypomus*) fish meat protein hydrolysate. *Food Science and Biotechnology*, 31, 2057-2068.
11. Karkal, S. S., & Kudre, T. G. (2023). Valorization of marine fish waste biomass and *Gallus gallus* eggshells as feedstock and catalyst for biodiesel production. *International Journal of Environmental Science and Technology*, *20*(7), 7993-8016.
12. Hashem, A. M. A., Karkal, S. S., & Kudre, T. G. (2023). Production Optimization and Characterization of Antioxidant Protein Hydrolysate From *Piaractus brachypomus* Fish Meat By Probiotic Bacillus Strain Isolated From Chicken Gizzard. *27*(5), 987–1010.
13. Hashem, A. M. A., Sakhare, S. D., & Kudre, T. G. (2023). Effect of *Piaractus brachypomus* fish protein hydrolysate on physicochemical , sensory, and storage properties of cookies. *Biocatalysis and Agricultural Biotechnology*, *51*, 102761.
14. Karkal, S. S., D. R. Rathod, A. S. Jamadar, S. S. Mamatha, and T. G. Kudre. (2023). Production optimization, scale-up, and characterization of biodiesel from marine fishmeal plant oil using *Portunus sanguinolentus* crab shell derived heterogeneous catalyst. *Biocatalysis and Agricultural Biotechnology* 47:102571.
15. Johny, L. C., Kudre, T. G., & Suresh, P. V. (2022). Production of egg white hydrolysate by digestion with pineapple bromelain: optimization, evaluation and antioxidant activity study. *Journal of Food Science and Technology*, *59*(5), 1769-1780.
16. Johny, L. C., Vijaykumar, M., Kudre, T. G., & Suresh, P. V. (2022). Malabar sole (*Cynoglossus macrostomus*) skin as promising source of type I acid and pepsin solubilized collagens with potential bioactivity. *Journal of Food Science and Technology*, *59*(1), 157-167.
17. Kanwate, B. W., & Kudre, T. G. (2022). Impact of different extraction conditions on yield, physicochemical and functional characteristics of gelatin from *Labeo rohita* swim bladder. *Food Science and Biotechnology*, *31*(10), 1277-1287.
18. Bethi, C. M. S., Jayprakash, G., Muthukumar, S. P., & Kudre, T. G. (2021). Application of proteins from different meat processing wastewater streams as a dietary protein source in animal feed [Article]. *Journal of Environmental Management*, *299*, 113662.
19. Johny, L. C., Kudre, T. G., & Suresh, P. V. (2021). Acid and Pepsin Soluble Collagens from Skin By-product of Red-bellied Pacu (*Piaractus brachypomus*): Extraction and Comparative Characterizations Towards Finding Substitute to Bovine and Porcine Collagen. *Journal of Aquatic Food Product Technology*, *30*(3), 364-376.
20. Siewe, F. B., Kudre, T. G., & Narayan, B. (2021). Optimisation of ultrasound-assisted enzymatic extraction conditions of umami compounds from fish by-products using the combination of fractional factorial design and central composite design. *Food Chemistry*, *334*, 127498.

21. Bethi, C. M. S., Narayan, B., Martin, A., & Kudre, T. G. (2020). Recovery, physicochemical and functional characteristics of proteins from different meat processing wastewater streams. *Environmental Science and Pollution Research*, *27*(20), 25119-25131.
22. Bharane, P. R., Bethi, C. M. S., & Kudre, T. G. (2020). Effect of *Catla catla* roe protein isolate on textural and sensorial properties of surimi gel from *Piaractus brachypomus*. *Journal of Food Measurement and Characterization*, *14*(3), 1391-1401.
23. Gavva, C., Patel, K., Kudre, T., Sharan, K., & Nandini, C. D. (2020). Glycosaminoglycans from fresh water fish processing discard - Isolation, structural characterization, and osteogenic activity. *International Journal of Biological Macromolecules*, *145*, 558-567.
24. Mouafo, H. T., Mbawala, A., Tanaji, K., Somashekar, D., & Ndjouenkeu, R. (2020). Improvement of the shelf life of raw ground goat meat by using biosurfactants produced by lactobacilli strains as biopreservatives. *LWT, 133,* 110071.
25. Karkal, S. S., & Kudre, T. G. (2020). Valorization of fish discards for the sustainable production of renewable fuels. *Journal of Cleaner Production*, *275*, 122985.
26. Siewe, F. B., Kudre, T. G., Bettadaiah, B. K., & Narayan, B. (2020). Effects of ultrasound-assisted heating on aroma profile, peptide structure, peptide molecular weight, antioxidant activities and sensory characteristics of natural fish flavouring. *Ultrasonics Sonochemistry*, *65*, 105055.
27. Bruno, S. F., Ekorong, F., Karkal, S. S., Cathrine, M. S. B., & Kudre, T. G. (2019). Green and innovative techniques for recovery of valuable compounds from seafood by-products and discards: A review. *Trends in Food Science & Technology*, *85*, 10-22.
28. Bruno, S. F., Kudre, T. G., & Bhaskar, N. (2019a). Effects of different pretreatments and proteases on recovery, umami taste compound contents and antioxidant potentials of Labeo rohita head protein hydrolysates. *Journal of Food Science and Technology-Mysore*, *56*(4), 1966-1977.
29. Bruno, S. F., Kudre, T. G., & Bhaskar, N. (2019b). Impact of pretreatment-assisted enzymatic extraction on recovery, physicochemical and rheological properties of oil from *Labeo rohita* head. *Journal of Food Process Engineering*, *42*(3), e12990.
30. Kanwate, B. W., Ballari, R. V., & Kudre, T. G. (2019). Influence of spray-drying, freeze-drying and vacuum-drying on physicochemical and functional properties of gelatin from *Labeo rohita* swim bladder. *International Journal of Biological Macromolecules*, *121*, 135-141.
31. Kudre, T. G., Bejjanki, S. K., Kanwate, B. W., & Sakhare, P. Z. (2018). Comparative study on physicochemical and functional properties of egg powders from Japanese quail and white Leghorn chicken. *International Journal of Food Properties*, *21*(1), 956-971.
32. Surasani, V. K. R., Kudre, T., & Ballari, R. V. (2018). Recovery and characterization of proteins from pangas (*Pangasius pangasius*) processing waste obtained through pH shift processing. *Environmental Science and Pollution Research*, *25*(12), 11987-11998.

33. Kanwate, B. W., & Kudre, T. G. (2017). Effect of various acids on physicochemical and functional characteristics of gelatin from swim bladder of rohu (*Labeo rohita*). *Journal of Food Science and Technology*, *54*(8), 2540-2550.
34. Kudre, T. G., Bhaskar, N., & Sakhare, P. Z. (2017). Optimization and characterization of biodiesel production from rohu (*Labeo rohita*) processing waste. *Renewable Energy*, *113*, 1408-1418.
35. Surasani, V. K. R., Tyagi, A., & Kudre, T. (2017). Recovery of Proteins from Rohu Processing Waste Using pH Shift Method: Characterization of Isolates. *Journal of Aquatic Food Product Technology*, *26*(3), 356-365.
36. Kudre, T., & Thongraung, C. (2014). Organic Solvent and Laundry Detergent Stable Crude Protease from Nile Tilapia (*Oreochromis niloticus*) Viscera. *Journal of Aquatic Food Product Technology*, *23*(1), 87-100.
37. Kudre, T. G., & Benjakul, S. (2014a). Effects of Bambara Groundnut Protein Isolates and Microbial Transglutaminase on Textural and Sensorial Properties of Surmi Gel from Sardine (*Sardinella albella*). *Food and Bioprocess Technology*, *7*(6), 1570-1580.
38. Kudre, T. G., & Benjakul, S. (2014b). Physicochemical and functional properties of beany flavour-free bambara groundnut
39. Kudre, T., & Benjakul, S. (2013). Effects of bambara groundnut protein isolate on protein degradation and gel properties of surimi from sardine (*Sardinella albella*). *Journal of Food Processing and Preservation*, *37*(5), 977-986.
40. Kudre, T., Benjakul, S., & Kishimura, H. (2013). Effects of protein isolates from black bean and mungbean on proteolysis and gel properties of surimi from sardine (*Sardinella albella*). *Lwt-Food Science and Technology*, *50*(2), 511-518.
41. Kudre, T. G., & Benjakul, S. (2013a). Combining Effect of Microbial Transglutaminase and Bambara Groundnut Protein Isolate on Gel Properties of Surimi from Sardine (*Sardinella albella*). *Food Biophysics*, *8*(4), 240-249.
42. Kudre, T. G., & Benjakul, S. (2013b). Effects of binary organic solvents and heating on lipid removal and the reduction of beany odour in Bambara groundnut (*Vigna subterranean*) flour. *Food Chemistry*, *141*(2), 1390-1397.
43. Kudre, T. G., Benjakul, S., & Kishimura, H. (2013). Comparative study on chemical compositions and properties of protein isolates from mung bean, black bean and bambara groundnut. *Journal of the Science of Food and Agriculture*, *93*(10), 2429-2436.

Book Chapter:

1. Karkal, S.S., Venmarath, A., Velappan, S.P., Kudre, T.G. (2022). Enzymes in Meat, Fish, and Poultry Product Processing and Preservation-II. In: Dutt Tripathi, A., Darani, K.K., Srivastava, S.K. (eds) Novel Food Grade Enzymes. Springer, Singapore.

2. K. Sandesh Suresh, T.G. Kudre (2022). Advances in meat processing technologies and product development, B. Prakash (Ed.), Research and Technological Advances in Food Science (2022), pp. 61-89. Elsevier
3. S. K. Sandesh, P.V. Suresh and T. G. Kudre (2019). Prospective eco-fuel feedstocks for sustainable production. In Azad K (Eds.) *Advances in Eco-fuels for sustainable environment, (*pp. 89-117), Woodhead Publishing, Elsevier.
4. Suresh, P. V., Kudre, T. G., & Johny, L. C. (2018). Sustainable Valorization of Seafood Processing By-Product/Discard. In R. R. Singhania, R. A. Agarwal, R. P. Kumar & R. K. Sukumaran (Eds.), *Waste to Wealth*, (pp. 111-139). Singapore: Springer Singapore.
5. Puthanveetil V Suresh, AR Brundha, Tanaji G Kudre, SK Sandesh (2024). Valorization of Seafood Processing By-Products for Bioactive Compounds. In Umile Gianfranco Spizzirri (Eds), Nutraceutics from Agri-Food By-Products (pp. 319-360). John Wiley & Sons, Inc.

TECHNOLOGY DEVELOPED AND TRANFERED:

Sl No.	**Name of the technology**
1.	Instant gravy mixes (dehydrated)
2.	Sausage preparation – Meat/ Fish/ Chicken/ Pork
3.	Shelf stable Meat/Fish/Chicken/pork/prawn/egg wafers
4.	Marinated – tandoori chicken including marinating paste
5.	Shelf-stable chicken biriyani
6.	Shelf-stable chicken tit-bits
7.	Meat burger
8.	Egg loaf
9.	Shelf stable kabab mix with chicken meat
10.	Ready to eat shelf stable egg crunchy bite
11.	Dehydrated Egg Cubes
12.	Deep fat fried Egg Cubes
13.	Shelf stable Egg Albumin and Egg Yolk Cubes
14.	Low fat meat kofta
15.	Shelf stable biriyani paste
16.	Shelf-stable varieties of curry pastes for vegetarian & non-vegetarian traditional

	cuisines
17.	Shelf-stable convenience mix: A cooking base
18.	Gelatin from Chicken feet

INVITED TALK/SYMPOSIA/CONFERENCES:

Presented/delivered more than 30 posters and invited talks in national and international conferences.

THESIS (Postdoc / Ph.D. / M.TECH. /M.SC. / B. TECH) SUPERVISION:

Course	Total numbers of students
CSIR-TWAS post doctorate	01 (student from Egypt)
Ph.D.	07
M.Sc./M.Tech/ B. Tech.	30

RESEARCH PROJECTS (ONGOING AND COMPLETED):

Sl. No	Title of Project	Project Category	Funding agency/Industry	Role
1	Evaluation of RIL algal biomass as a dietary protein source on growth performance, immunological parameters, and meat quality of broiler chicken (SSP348)	Industry Sponsored project	Reliance Industries Ltd. Navi Mumbai	Principal Investigator
2	Extension of the shelf life of Pandhara Rassa in metal can (SSP 341)	Industry Sponsored project	Nirmitee Enterprises, Pune -411041 Maharashtra India.	Principal Investigator
3	Development and validation of fluori PCR--a handheld platform device for onsite detection of meat authenticity and microbial contamination (HCP031, WP3.5).	CSIR-mission mode	CSIR, India	Principal Investigator

4	DPR preparation and submission on fish processing, value added products and waste utilization facility (CNP 555).	Industry Sponsored project	M/s Mathsya Bandhana Pvt. Ltd. Udupi	Principal Investigator
5	Development of shelf-stable non-Jain (red, white, brown base gravies, red pasta sauce, chole masala, bhuna masala, makhani tomato gravy and biriyani masala), and jain masala pastes (SSP299).	Industry Sponsored project	M/s HVP Food Products Private Limited, Mumbai, India.	Principal Investigator
6	Valorisation of Fishery Waste for Development of Biofertiliser, Biorefinery, Biofeed & Recovery of Biopolymers (VALBBBB) (CSIR-NIO as a nodal lab with project ref. no. MLP2012) (CFTRI project number: MLP 290).	CSIR-mission mode	CSIR, India	Principal Investigator
7	Evaluation of pulse electric field for recovery of proteinaceous material from wastewater streams of fish/meat processing and utilization of recovered biomolecules through biotechnological approaches (GAP 495)	Grant-in Aid Project	SERB (DST), India	Principal Investigator
8	Development of a process for the ready-to-eat chips from chicken, fish and prawn/shrimp meat (SSP 238)	Industry Sponsored project	M/S Savija Food Private Limited, Kerala, India	Principal Investigator
9	Developing process technology for the preparation of coconut-rich chicken, mutton, fish and vegetable curry paste (SSP 255)	Industry Sponsored project	Orange Fresh Foods, Pvt. Ltd. Mangalore, India	Principal Investigator
10	Use of fish processing waste oil for biodiesel production (MLP167)	Major lab project (MLP)	CSIR-CFTRI, India	Principal Investigator

11	Development of nanotechnology based neuroprotection using chitooligosaccharides (COS) for Neurodegenerative Disease	Grant-in Aid Project	ICMR, India	Co-Principal Investigator
12	Development of nutritious and bio-functional meat and egg based snack(s) and beverage(s) products (MLP295)	Major lab project (MLP)	CSIR-CFTRI, India	Co-Principal Investigator
13	Valorization of by-products from fish industry: Isolation and characterization of glycosaminoglycans for various application (GAP609)	Grant-in Aid Project	DBT, India	Co-Principal Investigator
14	Non-digestible carbohydrates as functional mimics of human milk oligosaccharides (MLP272)	CSIR - mission mode	CSIR-CFTRI, India	Co-Principal Investigator
15	Development of sensitive, cost-effective, easy to use dipstick kit for the precise detection of COVID 19 infections (MLP266)	CSIR Covid Projects	CSIR-CFTRI, India	Team member
16	A cost-effective process of preparation of arabinoxylan from wheat bran and its incorporation in low dietary fiber food products for their commercial application (MLP278)	CSIR-FTC Project	CSIR-CFTRI, India	Team member
17	Development of native and recombinant bacteriophage-based nanoprobes/biocontrol formulations for detection and protection against foodborne pathogens as an alternative technology for food preservation and food safety (HCP 031, WP 1.3)	CSIR - mission mode	CSIR-CFTRI, India	Team member
18	CSIR mission mode project on “Food and Consumer Safety Solutions” (FOCUS, HCP 016) WP 2 (2.2)	CSIR-mission mode	CSIR, India	Team member

19	CSIR mission mode project on "Health and Wellness Reach out through Nutraceuticals and Nutritionals" (HCP 019: WP 1.3 Nutri foods for breakfast	CSIR - mission mode	CSIR, India	Team member
20	Scale up of processes for texturized fish products and shelf-life studies (MLP0216)	MLP	CSIR-CFTRI, India	Team member
21	Development of Ketogenic Food Products for wellness (MLP 215)	MLP	CSIR-CFTRI, India	Team member
22	Empowerment of rural women in food processing sector through CSIR-CFTRI intervention with select technologies-HARIT (MLP0242)	MLP	CSIR-CFTRI, India	Team member
23	Liquid Egg Processing Unit-Detailed Project Report	CNP	-	Team Member