

CURRICULUM VITAE

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Areas of Interest

- Food packaging
- Food processing waste utilization
- Food laws and regulations
- Extraction of bioactive compounds

Academic Qualification

- **Ph. D. in Food Engineering & Technology (2014)**
Tezpur University, Napaam, Assam, India.
- **M. Tech. in Food Engineering & Technology (2005)**
Sant Longowal Institute of Engineering & Technology (SLIET) Longowal, Punjab, India.
- **B. Tech. in Food Technology (2002)**
University Department of Chemical Technology (UDCT), Amravati University, Amravati, Maharashtra, India
- **ICAR NET in Food Science and Technology for Lectureship (2010).**

Academic Experience

- June 2020 - Continuing : **Professor** in the Department of Food Engineering and Technology, Tezpur University, Tezpur, Assam, India.
- Jan.2017 - June 2020 : **Associate Professor** in the Department of Food Engineering and Technology, Tezpur University, Tezpur, Assam, India.
- Nov. 2009 - Jan. 2017 : **Assistant Professor** in the Department of Food Engineering and Technology, Tezpur University, Tezpur, Assam, India.
- June 2006 - Nov. 2009 : **Lecturer** in the Department of Food Technology, Jaipur National University, Jagatpura, Jaipur, Rajasthan, India
- Sep. 2005 - June 2006 : **Assistant Professor** in K.S.K. College of Food Technology, Beed affiliated to Marathwada Agriculture University, Parbhani, Maharashtra, India

Members of Professional Societies/Associations

- Vice-President of Association of Food Scientists & Technologists, India (AFSTI) for 2021.
- Life Member of Indian Society for Technical Education (ISTE) (Membership No. LM 96962).
- Life Member of Association of Food Scientists and Technologists, India (AFSTi) (Membership No. 2/L016/14/ZON).
- Life Member of Association of Indian Institute of Chemical Engineers (IICChE) (Membership No. LM-71338).

Patents:

Filed: 03

1. **Title:** Development of low fat baked snacks using de- oiled soya flour
Application no. 202031039202; **Filing date:** 10.09.2020; **Publication date:** 24.03.2022;
In the name of: TEZPUR UNIVERSITY **Filed at:** Intellectual Property India
2. **Title:** Low-cost biodegradable plate made from eggshell
Application no. 202331046993; **Filing date:** 12.07.2023; **Publication date:** 02.08.2024;
In the name of: TEZPUR UNIVERSITY **Filed at:** Intellectual Property India
3. **Title:** Biodegradable plates from areca nut husk and water hyacinth fibre
Patent Application no. 202531000131; **Filing Dated:** 01.01.2025
In the name of: TEZPUR UNIVERSITY **Filed at:** Intellectual Property India

Awards:

- Elected as a **Fellow** of Maharashtra Academy of Sciences in the field of Engineering & Technology in the year 2025.
- Awarded with '**Eat Right Research Team Award**' under the category of '**Eat Healthy**' for project title "Development of low-fat, high-protein baked snack using de-oiled soya flour" and received '**Certificate of Excellence**' for the year 2022 from Food Safety and Standards Authority of India (FSSAI), New Delhi.
- Received '**Shri Somalal Vyas SEA Innovation Award 2022**' for the project title "Development of low fat baked snacks by utilizing by-product of soybean oil industry (de-oiled soya cake)" from The Solvent Extractors' Association of India.
- Received '**Shri Somalal Vyas SEA Innovation Award 2024**' for the project title "Fabrication of Biopolymeric Films using oilseed Meals and Natural Gums" under Research Scientists & Academician Category and another for the project title "Biodegradable Plates based on Oilseed Meals and Plant Fibers" under Students & Research Scholars Category from The Solvent Extractors' Association of India.
- **Shri Somalal Vyas- SEA Innovation Award 2025** for the project "Innovation Title: Performance Assessment of Assam Lemon Peel and Elephant Apple Sepal in Regenerating Fried Oil" from The Solvent Extractors' Association of India.

Additional Responsibilities at Tezpur University

- Director, Tezpur University Entrance Examination Cell for Academic Year 2026-27.
- Head, Department of Food Engineering and Technology, Tezpur University, Tezpur, Assam Aug. 2022 to Aug. 2025.
- Deputy Director of Food Quality Control Laboratory (NABL Accredited Laboratory), Tezpur University, Tezpur, Assam since 2015 (continuing).
- Center-in-charge, JoSAA-CSAB, 2021.
- Deputy Chief Coordinator of XVIII Convocation Committee, 2020.
- Convener, B. Tech. students Induction programme 2020-21.
- Coordinator Examination Committee of the School of Engineering for Spring and Autumn, 2020.
- Deputy Center-in-charge, JoSAA-CSAB, 2020.
- Deputy Chief Coordinator of XVII Convocation Committee, 2019.
- Deputy Center-in-charge, JoSAA-CSAB, 2019.
- Convener, B. Tech. students Induction programme 2019.
- Coordinator, B. Tech. Screening cum Selection Committee, 2018.
- Convener, B. Tech. students Induction programme 2018.
- Coordinator, B. Tech. Screening cum Selection Committee, 2017.

As a member of following committees of Tezpur University

- B. Tech. seat matrix preparation committee for academic session 2020-21.
- NBA accreditation/ preparation committee for M. Tech. programme, 2020.
- B. Tech. 2nd semester internal branch sliding for Spring semester 2020.
- Committee to prepare the modalities for enrolment of diploma holders through lateral entry for academic session 2019-20.
- Core committee for conducting Tezpur University Students' Council (TUSC) Election 2019.
- B. Tech. 2nd semester internal branch sliding for Spring semester 2019.
- Committee for University student-feedback process and follow-up action, 2019
- NBA preparation committee for conversion of provisional to full accreditation of B. Tech. programme, 2018.
- B. Tech. admission committee (BAC), 2018.
- B. Tech. Screening cum Selection Committee, 2016.
- Laboratory Head (Wet Lab) Quality Control Laboratory, Tezpur University, Tezpur, Assam from 09/06/2014 to 11/10/2015.
- Members of the organizing committee for Techxetra 2015.
- Boards of Undergraduate and Post Graduate studies for the Department of Food Engineering and Technology, Tezpur University.
- Departmental Research Committee of Dept. of Food Engineering and Technology.
- Departmental Advisory Committee of Dept. Food Engineering and Technology.
- Doctoral Committee for several Ph.D. scholars of Dept. Food Engineering and Technology.

Research Projects Handled:

Sl. No.	Name of the Project	Funding Agency	Period	Project Cost
1.	Development of active packaging film from food processing wastes	ICAR, New Delhi (PI)	2016-18 (2years)	Rs. 31,00,000/-
2.	Processing and packaging of various edible bamboo shoot species growing in different agro-ecological regions of Assam	UGC, New Delhi (PI)	2011-14 (3years)	Rs. 11,54,467/-
3.	Development of Enzyme based Extraction Process for Improving quality and recovery of starch from different varieties of <i>Colocasia esculenta</i> (Arbi) of Assam for Food	MoFPI, New Delhi (Co-PI)	2011-13 (2years)	Rs. 27,26,000/-

<u>Research Publications:</u>	Impact Factor (2024)
1. Rani, R., Verma, P., Marimuthu, S., & Badwaik, L. S. (2026). Plant fibre-reinforced oilseed meal based biocomposites and biodegradable plates: development and performance analysis. <i>Sustainable Food Technology</i> .	5.3
2. Chetia, I., Tongbram, T., Ponnampalath, S. P. G., & Badwaik, L. S. (2025). Alginate-based encapsulation of edible flower extract: Process optimization, characterization and in vitro release kinetics. <i>International Journal of Biological Macromolecules</i> , 148877.	8.5
3. Tongbram, T., Vaniyan, L., MacCalman, T., Bharati, A., Warren, F. J., Badwaik, L. S., Borah, P. K. & Yakubov, G. E. (2025). Soluble amylose chains inhibit gelatinisation and retrogradation in waxy corn starch. <i>Food Hydrocolloids</i> , 111936.	12.4
4. Rajbongshi, B., Saikumar, A., & Badwaik, L. S. (2025). Valorization of areca nut husk and water hyacinth fibers into biodegradable plates for sustainable packaging. <i>Sustainable Food Technology</i> .	5.3
5. Junaid, P. M., Saikumar, A., Islam, R. U., Patel, M. K., Eranda, D. H. U., Islam, M., Zaidi, S. & Badwaik, L. S. (2025). Polysaccharide-based biopolymers: exploring film fabrication techniques, molecular interactions, and their potential food applications. <i>Quality Assurance and Safety of Crops & Foods</i> , 17(4), 257-283.	--
6. Chakravorty, P., Badwaik, L. S., & Das, A. B. (2026). Impact of extrusion cooking on tree bean (<i>Parkia timoriana</i>) seed protein emulsion gels with natural deep eutectic solvents and its use as an extrusion-based 3D food printing ink. <i>Journal of Food Engineering</i> , 403, 112722.	5.8
7. Adhikary, P., Chetia, J., Sharma, M., & Badwaik, L. S. (2025). Shelf life extension of grapes through chitosan coating reinforced zinc oxide nanoparticles containing phytochemicals from lemon pomace. <i>Scientia Horticulturae</i> , 342, 114018.	4.2
8. Saikumar, A., & Badwaik, L. S. (2025). Rheological, functional, thermal and physicochemical properties of mucilage extracted from gelatinous pulp of <i>Dillenia</i>	8.5

indica. L (elephant apple). International Journal of Biological Macromolecules, 307, 141924.	
9. Devi, L. M., & Badwaik, L. S. (2025). Development of functional coconut water jelly by incorporating anthocyanin microcapsules and its characterization. Journal of Food Measurement and Characterization, 19, 1981–1991.	2.9
10. Saikumar, A., Sahal, A., Mansuri, S. M., Hussain, A., Junaid, P. M., Nickhil, C., ... & Kumar, S. (2025). Assessment of physicochemical attributes and variation in mass-volume of Himalayan pears: Computer vision-based modeling. Journal of Food Composition and Analysis, 137, 106955.	4.6
11. Kapila, K., Kirtania, S., Nath, K. K., Saikumar, A., Badwaik, L. S., & Ahmed, G. A. (2025). Synergistic effect of graphene oxide on the properties of poly (vinyl alcohol)/carboxymethyl cellulose electrospun nanofiber mats. Journal of Vinyl and Additive Technology. https://doi.org/10.1002/vnl.22192	3.5
12. Nickhil, C., Mansuri, S. M., Saikumar, A., Junaid, P. M., Nisha, R., Badwaik, L. S., Deka, S.C. & Kumar, S. (2025). Estimation of mass and volume of freshly harvested Assam lemon (<i>Citrus limon</i> Burm L.) using computer vision: Exploring changes on different storage days. Applied Fruit Science, 67(3), 141.	1.3
13. Marimuthu, S., Saikumar, A., & Badwaik, L. S. (2025). Development and characterization of biodegradable foam plates from corn starch and banana bunch stalks coated with beeswax. Biomass Conversion and Biorefinery, 15(5), 7763-7777.	3.5
14. Chetia, I., Das, A. J., & Badwaik, L. S. (2024). Assessment of nutritional and bioactive properties of selected edible flowers: Characterisation of phenolic compounds by reversed-phase high performance liquid chromatography. Journal of Chromatography Open, 6, 100167.	3.2
15. Chetia, I., Das, A. J., & Badwaik, L. S. (2024). Extraction of phenolic compounds from edible flowers (<i>Phlogacanthus thyrsoiflorus</i>) using ultrasound - microwave - assisted extraction and its screening by HPLC. Journal of Food Process Engineering, 47(5), e14616.	2.9
16. Chetia, I., Vijayakumar, A., & Badwaik, L. S. (2025). Edible flowers' flavor, safety and their utilization as functional ingredients: A review. Journal of Food Science and Technology, 62(1), 11-23	2.6
17. Rani, R., & Badwaik, L. S. (2024). Synergistic impact of natural gums and crosslinkers on the properties of oilseed meals based biopolymeric films. International Journal of Biological Macromolecules, 130809.	8.5
18. Sriram, M., Saikumar, A., & Badwaik, L. S. (2024). Food losses and wastage within food supply chain: a critical review of its generation, impact, and conversion techniques. Waste Disposal & Sustainable Energy, 6, 661–676	3.6
19. Devi, L. M., Das, A. B., & Badwaik, L. S. (2024). Ultrasound-assisted extraction of anthocyanin from black rice bran and its encapsulation by complex coacervation. Food Hydrocolloids for Health, 100174.	5.1
20. Sarma, D., Marak, M. R., Chetia, I., Badwaik, L. S., & Nath, P. (2024). AuNP decorated aegle marmelos leaf as SERS substrate for trace detection of antibiotics and machine learning based classification. Physica Scripta. 99, 026006	2.9

21. Verma, P., Rani, R., Das, D., Rai, K. K., Gogoi, P., & Badwaik, L. S. (2024). Transformation of banana peel into biodegradable film added with starch and carboxymethyl cellulose and its characterization. <i>Sustainable Chemistry and Pharmacy</i> , 37, 101356.	5.8
22. Saikumar, A., Singh, A., Dobhal, A., Arora, S., Junaid, P. M., Badwaik, L. S., & Kumar, S. (2023). A review on the impact of physical, chemical, and novel treatments on the quality and microbial safety of fruits and vegetables. <i>Systems Microbiology and Biomanufacturing</i> , 4(2), 575-597.	--
23. Kapila, K., Kirtania, S., Devi, L. M., Saikumar, A., Badwaik, L. S., & Rather, M. A. (2023). Potential perspectives on the use of poly (vinyl alcohol)/graphene oxide nanocomposite films and its characterization. <i>Journal of Food Measurement and Characterization</i> , 18(2), 1012-1025.	2.9
24. Sharma, M., Dash, K. K., & Badwaik, L. S. (2023). Development of chewing gum model system from phytochemicals of black jamun (<i>Syzygium cumini</i>) pulp and study of its dissolution kinetics. <i>Journal of Food Science and Technology</i> , 61(2), 300-310.	2.6
25. Sharma, M., Dash, K. K., Badwaik, L. S., & Bhagya Raj, G. V. S. (2023). Characterization and storage stability of microencapsulated black jamun (<i>Syzygium cumini</i>) pulp extract via freeze drying. <i>Journal of Food Process Engineering</i> , e14447.	2.9
26. Rani, R., Gosh, T., & Badwaik, L. S. (2023). Optimization of mustard, soybean and flaxseed meal blend formulation for development of biopolymeric film and its characterization. <i>Sustainable Chemistry and Pharmacy</i> , 33, 101147.	5.8
27. Singha, P., Rani, R., & Badwaik, L. S. (2023). Influence of sugarcane bagasse fibre on the properties of sweet lime peel-and polyvinyl alcohol-based biodegradable film. <i>Sustainable Food Technology</i> , 1(4), 610-620.	--
28. Jadhav, H. B., Badwaik, L. S., Annapure, U., Casonova, F., & Alaskar, K. (2023). A Review on the Journey of edible flowers from farm to consumer's plate. <i>Applied Food Research</i> , 100312.	6.2
29. Haokip, N., Duary, R. K., & Badwaik, L. (2023). Clerodendrum Glandulosum L. incorporated functional pasta: phytochemical, textual, structural and sensory studies. <i>Journal of Microbiology, Biotechnology and Food Sciences</i> , e9599-e9599.	0.9
30. Chetia, J., Adhikary, P., Devi, L. M., & Badwaik, L. S. (2023). Extraction of essential oil from Assam lemon peels and its incorporation in chitosan based coating for maintaining grape quality. <i>Sustainable Chemistry and Pharmacy</i> , 32, 101034.	5.8
31. Devi, L. M., Das, A. B., & Badwaik, L. S. (2023). Effect of gelatin and acacia gum on anthocyanin coacervated microcapsules using double emulsion and its characterization. <i>International Journal of Biological Macromolecules</i> , 235, 123896.	8.5
32. Saikumar, A., Nickhil, C., & Badwaik, L. S. (2023). Physicochemical characterization of elephant apple (<i>Dillenia indica</i> L.) fruit and its mass and volume modeling using computer vision. <i>Scientia Horticulturae</i> , 314, 111947.	4.2
33. Sarma, D., Nath, K. K., Biswas, S., Chetia, I., Badwaik, L. S., Ahmed, G. A., & Nath, P. (2023). SERS determination and multivariate classification of antibiotics in chicken meat using gold nanoparticle-decorated electrospun PVA nanofibers. <i>Microchimica Acta</i> , 190(2), 64.	5.4

34. Devi, L. M., & Badwaik, L. S. (2022). Variety difference in physico-chemical, cooking, textural, pasting and phytochemical properties of pigmented rice. <i>Food Chemistry Advances</i> , 100059.	--
35. Das, M., Devi, L. M., & Badwaik, L. S. (2022). Ultrasound-assisted extraction of pumpkin seeds protein and its physicochemical and functional characterization. <i>Applied Food Research</i> , 100121.	6.2
36. Bhattacharjee, A., Kumar, D., & Badwaik, L. S. (2022). Rheological and textural properties of dough made out of de-oiled soya flour with application of different binding agents. <i>Journal of Food Process Engineering</i> , e14027.	2.9
37. Akhila, V., & Badwaik, L. S. (2022). Recent advancement in improvement of properties of polysaccharides and proteins based packaging film with added nanoparticles: A review. <i>International Journal of Biological Macromolecules</i> , 203, 515-525.	8.5
38. Singha, P., Rani, R., & Badwaik, L. S. (2022). Sweet lime peel-, polyvinyl alcohol- and starch-based biodegradable film: preparation and characterization. <i>Polymer Bulletin</i> , 80(1), 589-605.	3.2
39. Neog, B., Das, J. K., Vijayakumar, A., & Badwaik, L. S. (2022). Development and characterization of edible films made with Indian jujube fruit puree and pectin. <i>Journal of Food Process Engineering</i> , 45(3), e13977.	2.9
40. Sharma, M., Dash, K. K., & Badwaik, L. S. (2022). Physicochemical and release behaviour of phytochemical compounds based on black jamun pulp extracts-filled alginate hydrogel beads through vibration dripping extrusion. <i>International Journal of Biological Macromolecules</i> , 194, 715-725.	8.5
41. Changmai, N. J., & Badwaik, L. S. (2021). Effect of Polyvinyl Alcohol, Starch and Modified Bee Wax on Properties of Sweet Lime Pomace Based Biodegradable Containers. <i>Journal of Packaging Technology and Research</i> , 5(2), 107-114	--
42. Devi, L. M., & Badwaik, L. S. (2022). Influence of temperature, time and alkali concentration on protein extraction from muskmelon seed meal. <i>Indian Chemical Engineer</i> , 64(2), 219-226.	0.9
43. Barman, M., Das, A. B., & Badwaik, L. S. (2021). Effect of xanthan gum, guar gum and pectin on physicochemical, color, textural, sensory and drying characteristics of kiwi fruit leather. <i>Journal of Food Processing and Preservation</i> , e15478.	2.5
44. Rani, R., & Badwaik, L. S. (2021). Functional Properties of Oilseed Cakes and Defatted Meals of Mustard, Soybean and Flaxseed. <i>Waste and Biomass Valorization</i> , 12, 5639–5647	2.6
45. Arafat, Y., Altemimi, A., Pratap-Singh, A., & Badwaik, L. S. (2021). Active Biodegradable Films Based on Sweet Lime Peel Residue and Its Effect on Quality of Fish Fillets. <i>Polymers</i> , 13(8), 1240.	4.9
46. Altemimi, A. B., Al-Hilphy, A. R., Abedelmaksoud, T. G., Aboud, S. A., Badwaik, L. S. , Noore, S., & Pratap-Singh, A. (2021). Infrared Radiation Favorably Influences the Quality Characteristics of Key Lime Juice. <i>Applied Sciences</i> , 11(6), 2842.	2.5
47. Arafat, Y., Altemimi, A., Ibrahim, S. A., & Badwaik, L. S. (2020). Valorization of Sweet Lime Peel for the Extraction of Essential Oil by Solvent Free Microwave Extraction Enhanced with Ultrasound Pretreatment. <i>Molecules</i> , 25(18), 4072.	4.6

48. Lalnunthari, C., Devi, L. M., & Badwaik, L. S. (2020). Extraction of protein and pectin from pumpkin industry by-products and their utilization for developing edible film. <i>Journal of Food Science and Technology</i> , 57(5), 1807–1816.	2.6
49. Lalnunthari, C., Devi, L. M., Amami, E., & Badwaik, L. S. (2019). Valorisation of pumpkin seeds and peels into biodegradable packaging films. <i>Food and Bioproducts Processing</i> , 118, 58-66.	3.4
50. Devi, L. M., Lalnunthari, C., & Badwaik, L. S. (2019). Direct Transformation of Muskmelon Seeds Meal into Biodegradable Films and Their Characterization. <i>Journal of Polymers and the Environment</i> , 27(3), 456-463.	4.7
51. Saikia, M., & Badwaik, L. S. (2018). Characterization and antimicrobial property of casein, gelatin and pectin based active composite films. <i>Journal of Packaging Technology and Research</i> , 2(3), 233-242.	--
52. Das, P., Borah, P. P., & Badwaik, L. S. (2018). Transformation of chicken feather keratin and pomelo peel pectin into biodegradable composite film. <i>Journal of Polymers and the Environment</i> , 26(5), 2120-2129.	4.7
53. Borah, P. P., Das, P., & Badwaik, L. S. (2017). Ultrasound treated potato peel and sweet lime pomace based biopolymer film development. <i>Ultrasonics Sonochemistry</i> , 36, 11-19.	9.7
54. Amami, E., Khezami, W., Mezrigui, S., Badwaik, L. S. , Bejar, A. K., Perez, C. T., & Kechaou, N. (2017). Effect of ultrasound-assisted osmotic dehydration pretreatment on the convective drying of strawberry. <i>Ultrasonics Sonochemistry</i> , 36, 286-300.	9.7
55. Barman, N., & Badwaik, L. S. (2017). Effect of ultrasound and centrifugal force on carambola (<i>Averrhoa carambola</i> L.) slices during osmotic dehydration. <i>Ultrasonics Sonochemistry</i> , 34, 37-44.	9.7
56. Badwaik, L. S. , Gautam, G., & Deka, S. C. (2015). Influence of blanching on antioxidant, nutritional and physical properties of bamboo shoot. <i>Journal of Agricultural Sciences</i> , 10(3), 140-150.	--
57. Choudhury, M., Badwaik, L. S. , Borah, P. K., Sit, N., & Deka, S. C. (2015). Influence of bamboo shoot powder fortification on physico-chemical, textural and organoleptic characteristics of biscuits. <i>Journal of Food Science and Technology</i> , 52(10), 6742-6748.	2.6
58. Badwaik, L. S. , Borah, P. K., & Deka, S. C. (2015). Optimization of Microwave Assisted Extraction of Antioxidant Extract from <i>Garcinia pedunculata</i> Robx. <i>Separation Science and Technology</i> , 50(12), 1814-1822.	2.4
59. Badwaik, L. S. , Borah, P. K., & Deka, S. C. (2015). Production and Purification of Anti-Bacterial Biometabolite from Wild-Type <i>Lactobacillus</i> , Isolated from Fermented Bamboo Shoot: Future Suggestions and a Proposed System for Secondary Metabolite Onsite Recovery During Continuous Fermentation. <i>Applied Biochemistry and Biotechnology</i> , 175(4), 1915-1925.	3.1
60. Badwaik, L. S. , Borah, P. K., Borah, K., Das, A. J., Deka, S. C., & Sharma, H. K. (2014). Influence of fermentation on nutritional compositions, antioxidant activity, total phenolic and microbial load of bamboo shoot. <i>Food Science and Technology Research</i> , 20(2), 255-262.	0.6
61. Badwaik, L. S. , Borah, P. K., & Deka, S. C. (2014). Antimicrobial and enzymatic antibrowning film used as coating for bamboo shoot quality improvement. <i>Carbohydrate Polymers</i> , 103, 213-220.	12.5

62. Barman, S., Sit, N., Badwaik, L. S. , & Deka, S. C. (2015). Pectinase production by <i>Aspergillus niger</i> using banana (<i>Musa balbisiana</i>) peel as substrate and its effect on clarification of banana juice. <i>Journal of Food Science and Technology</i> , 52(6), 3579-3589.	2.6
63. Sit, N., Misra, S., Baruah, D., Badwaik, L. S. , & Deka, S. C. (2014). Physicochemical properties of taro and maize starch and their effect on texture, colour and sensory quality of tomato ketchup. <i>Starch - Stärke</i> , 66(3-4), 294-302.	2.4
64. Khawas, P., Das, A. J., Sit, N., Badwaik, L. S. , & Deka, S. C. (2014). Nutritional composition of culinary <i>Musa</i> ABB at different stages of development. <i>American Journal of Food Science and Technology</i> , 2(3), 80-87.	--
65. Badwaik, L. S. , Choudhury, M., Dash, K. K., Borah, P. K., & Deka, S. C. (2014). Osmotic dehydration of bamboo shoots enhanced by centrifugal force and pulsed vacuum using salt as osmotic agent. <i>Journal of Food Processing and Preservation</i> , 38(5), 2069-2077.	2.5
66. Seth, D., Badwaik, L. S. , & Ganapathy, V. (2015). Effect of feed composition, moisture content and extrusion temperature on extrudate characteristics of yam-corn-rice based snack food. <i>Journal of Food Science and Technology</i> , 52(3), 1830-1838.	2.6
67. Badwaik, L. S. , Choudhury, S., Borah, P. K., Sit, N., & Deka, S. C. (2014). Comparison of kinetics and other related properties of bamboo shoot drying pretreated with osmotic dehydration. <i>Journal of Food Processing and Preservation</i> , 38(3), 1171-1180.	2.5
68. Badwaik, L. S. , Choudhury, S., Borah, P. K., & Deka, S. C. (2013). Optimization of osmotic dehydration process of bamboo shoots in mixtures of sucrose and sodium chloride solutions. <i>Journal of Food Processing and Preservation</i> , 37(6), 1068-1077.	2.5
69. Badwaik, L. S. , Prasad, K., & Seth, D. (2014). Optimization of ingredient levels for the development of peanut based fiber rich pasta. <i>Journal of Food Science and Technology</i> , 51(10), 2713-2719.	2.6
70. Badwaik, L. S. , Borah, P.K., Borah, K., Sit, N. & Deka, S. C. (2012). Antimicrobial activity of indigenous medicinal plant extract on spoilage microbes present in bamboo shoots. <i>International Journal of Agriculture and Food Science Technology</i> , 3(3), 234-237.	--
71. Sit, N., Gayan, H., Badwaik, L. S. and Deka, S. C. (2012). Development of protein rich RTS beverage by incorporating whey in carambola juice. <i>International Journal of Agriculture and Food Science Technology</i> , 3(3), 199-201.	--
72. Badwaik, L. S. , Prasad, K., & Deka, S. C. (2012). Optimization of extraction conditions by response surface methodology for preparing partially defatted peanut. <i>International Food Research Journal</i> , 19(1), 341-346.	0.8

Book Edited:

1. Sit, N., **Badwaik, L. S.** and Das A. B. (2019). *Innovations in Food Processing Technology*. New India Publishing Agency, New Delhi. ISBN 9789386546517.
2. Contreras-Esquivel, J. C., **Badwaik, L. S.**, Kannan, P., and Haghi, A. K. (2020). *Food Product Optimization for Quality and Safety Control-Process, Monitoring, and Standards*. Apple

Academic Press, Inc. (In Press, Pub Date: December 2020; Hard ISBN: 9781771888790; E-Book ISBN: 9781003003144).

3. **Badwaik, L. S.**, Aguilar, C. N., and Haghi, A. K. (2021). Food Loss and Waste Reduction-Technical Solutions for Cleaner Production. Apple Academic Press, Inc. (In production, Pub Date: May 2021; Hard ISBN: 9781771889391)

Book Chapters:

1. Chetia, I., Vijayakumar, A., & Badwaik, L. S. (2025). Safety Concerns/Issues and Consumer Acceptance of Edible Flowers. In Edible Flowers: Source of Phytonutrients, Valorization and Technological Advancements (pp. 293-320). Cham: Springer Nature Switzerland.
2. Junaid, P. M., Saikumar, A., Nazim, M. S., Zaidi, S., **Badwaik, L. S.**, & Ahmad, F. (2024). Film-Based Packaging for Food Safety and Preservation: Issues and Perspectives. In Microbial Biotechnology in the Food Industry: Advances, Challenges, and Potential Solutions (pp. 429-446). Cham: Springer International Publishing.
3. Gautam, G., Rani, R., **Badwaik, L. S.**, and Mahanta, C. L. (2022). Chitosan-Based Films and Coatings. In Biopolymer-Based Food Packaging: Innovations and Technology Applications. Edited by Kumar, S., Mukherjee, A., Dutta, J. John Wiley & Sons, Inc. 110-146.
4. Bora, J., Tongbram, T., Mahnot, N., Mahanta, C.L., **Badwaik, L.S.** (2022). Tocopherol. In Nutraceuticals and Health Care. Edited by Jasmeet Kour and Gulzar Ahmad Nayik Academic Press, 259-278.
5. Pal, J., and **Badwaik, L. S.** (2020). Microwave-Assisted Extraction of Phenolic Compounds from Ceylon Olive (*Elaeocarpus serratus*). Food Product Optimization for Quality and Safety Control: Process, Monitoring, and Standards. In Food Product Optimization for Quality and Safety Control-Process, Monitoring, and Standards. Edited by Contreras-Esquivel, J. C., Badwaik, L. S., Kannan, P., and Haghi, A. K. Apple Academic Press, Inc. 53.
6. Choudhury, M., Dash K.K. and **Badwaik. L. S.** (2019). Mass transfer kinetics of osmotic dehydration of bamboo shoots. In Innovations in Food Processing Technology, Edited by Sit, N., Badwaik, L. S. and Das A. B. New India Publishing Agency, New Delhi. pp. 1-9 (ISBN 9789386546517).
7. Dutta P, **Badwaik. L. S.** (2019). Application of Ultrasound and High-pressure Homogenization in Development of Biopolymer Based Packaging Material. In Innovations in Food Processing Technology, Edited by Sit, N., Badwaik, L. S. and Das A. B. New India Publishing Agency, New Delhi. pp. 95-104 (ISBN 9789386546517).
8. Mishra P., **Badwaik. L. S.** (2017) Cakes – From Beginning to End on All Counts. In A Baker's Essential Handbook: A Complete Guide to the Baking Industry. L.B. Associates (Pvt) Ltd., Noida. pp 85-94 (ISBN-13-978-93-81760-02-4).
9. Senapati A. K.,**Badwaik, L. S.**..... (2016). Indigenous fermented foods involving acid fermentation. In Joshi, V. K. (Ed.) Indigenous fermented foods of South Asia. CRC press. pp 423-489 (ISBN 9780367377076).

10. **Badwaik, L. S.**, Kapoor, R., Saxena, R. & Agarwal, R. (2011). Development of alcoholic beverage by utilizing whey. In Bio-processing of foods, Edited by Panesar, P.S., Sharma H.K. and Sarkar B.C. Asiatech Publishers, Inc. New Delhi. pp. 359-365 (ISBN: 818768027X, 9788187680277).

Popular Articles:

1. Badwaik, L. S., Deka, S. C. & Dolui, S. K. (2012) Developing Active and Intelligent Packaging. Food Marketing and Technology Magazine (L.B. Associates (Pvt) Ltd), 3(4), 17-19
2. Badwaik, L. S., Sit, N. & Deka, S. C. (2012). New Trends in Flexible Packaging for the Food Industry. Food Marketing and Technology Magazine (L.B. Associates (Pvt) Ltd), 3(9), 30-32.

Publications in Conference Proceedings:

1. Sarma, M., **Badwaik, L. S.**, Dash, K.K. Drying characteristics of combine hot air-microwave dried bamboo shoot. In Proceeding of National Seminar cum Workshop on Innovative Prospects in Food Processing, March 27-28, 2015, pp. 198-211.
2. Choudhury, M., **Badwaik, L. S.** Shelf-life study of osmotically dehydrated bamboo shoots under different storage conditions. In Proceeding of National Seminar cum Workshop on Innovative Prospects in Food Processing, March 27-28, 2015, pp. 139-147.
3. **Badwaik, L. S.**, Borah, P. K. & Deka, S. C. Development of antimicrobial-antibrowning edible coating and its effect on bamboo shoot quality. In Proceeding of National Seminar cum Workshop on Innovative Prospects in Food Processing, March 27-28, 2015, pp. 212-219.
4. **Badwaik, L. S.**, Borah, K., Borah, P. K. & Deka, S. C. Fermentation kinetics and biochemical analysis of fermented bamboo shoot product (Khorisa) of Assam. In Proceeding of Fifth International Conference on Fermented Foods Health Status and Social Well Being: Challenges and opportunities (SASNET), Dec. 15-16, 2011. pp.42-44.

Research Guidance:

Ph. D. Guidance: Completed-6, Ongoing - 4

1. Mr. Maanas Sharma (Completed in 2022)
Topic: Extraction and encapsulation of phytochemicals from black jamun (*Syzygium cumini*) pulp and its application
2. Ms. Lourembam Monika Devi (Completed in 2023)
Topic: Extraction and characterization of anthocyanin-rich extracts from pigmented rice bran of Manipur; its protection ability by double emulsification and application in food model.
3. Ms. Ruchi Rani (Completed in November, 2024)
Topic: Valorisation of oilseed meals for the development of biopolymeric film and biodegradable container with application of natural gums and plant fibres

4. Ms. Haokip, Nemnunhoi (Completed in December, 2024)
Topic: Biochemical and Functional Characterization of Ethnomedicinal Plants of Manipur for Development of Functional Food Product
5. Ms. Indrani Chetia (Completed in August, 2025)
Topic: Extraction and Encapsulation of Phytochemicals from Edible Flower for Application in Food System
6. Ms. Prostuti Chakravorty (Completed in Feb, 2026)
Topic: Development of customized high-moisture meat analogue from *Parkia timoriana* seed protein
7. Mr. Thoithoi Tongbram (Enrolled in 2019)
Topic/ Area of work: Structure and digestion of starch gels: responses to simulated physiological shear, oral-gastrointestinal enzymes and mucins
8. Mr. Akuleti Saikumar (Enrolled 2021)
Topic/ Area of work: Development of elephant apple mucilage based nanofiber mats by eletrospinning and its application in food packaging
9. Ms. Elizabeth Pame (Enrolled in Autumn 2024)
10. Ms. Medha Basumatary (Enrolled in Spring 2025)
11. Mr. Nihar Nihar Ranjan Bhuyan (Enrolled in Spring 2026)

M. Tech./ Int. M. Tech.: Completed- 28; Ongoing- 2

Sl. No.	Name of Students	Project Title	Degree	Year of submission
1.	Monisha Choudhury (Roll No: FPT09005)	Osmotic dehydration of bamboo shoot and its mass transfer kinetics	M. Tech.	May 2012
2.	Sumita Choudhury (Roll No: FPT 09010)	Osmotic drying of bamboo shoots followed by different dehydration techniques and comparison of kinetics and other related properties	M. Tech.	May 2012
3.	Kankana Borah (Roll No: FPL10004)	Effect of herbs extract on identified lactobacillus species and spoilage microbes present in fermented bamboo shoot product.(khorisa)	M. Tech.	May 2012
4.	Jishnu Deka (Roll No: FPT1004)	Saccharification and fermentation of bamboo shoot for the production of alcoholic beverage	M. Tech.	May 2013
5.	Mausumi Sarma (Roll No: FPT10006)	Effect of slice thickness, syrup temperature and blanching time on quality attributes of instant bamboo shoot candy	M. Tech.	May 2013
6.	Jayanta Pal (Roll No: FPL13015)	Microwave assisted extraction of phenolic compounds from <i>Dillenia indica</i> and <i>Elaeocarpus serratus</i> and its application in edible film	M. Tech.	June 2015
7.	Maitri Saikia (Roll No: FET11009)	Development of casein, gelatin and pectin based active edible films incorporated with clove essential oil	Int. M. Tech.	June 2015
8.	Nirmali Barman (Roll No: FET11010)	Process optimization for osmo-dehydrated Carambola (<i>Averrhoa carambola</i> L.) slices	Int. M. Tech.	June 2015

9.	Pulak Das (Roll No: FPL14009)	Development of chicken feather protein and pomelo peel pectin based composite film and its application on fried fish fillet	M. Tech.	May 2016
10.	Purba Prasad Borah (Roll No: FPL14016)	Development of biopolymer film from ultrasound treated potato peel and sweet lime pomace	M. Tech.	May 2016
11.	C. Lalnunthari (Roll No: FPL15009)	Utilization of pumpkin seeds and peels for developing biodegradable film	M. Tech.	May 2017
12.	Lourembam Monika Devi (FPL15004)	Muskmelon Seeds Meal Based Packaging Films: Development and Characterization	M. Tech.	May 2017
13.	Kuldeep Kumar Haloi (FET13006)	Optimization of osmotic dehydration process and quality evaluation of coated papaya cubes	Int. M. Tech.	May 2017
14.	Yasir Arafat (FPL16010)	Vacuum-assisted solvent free microwave extraction of essential oil from sweet lime (Citrus limetta) peel and its utilization	M. Tech.	June 2018
15.	Nishant Joyti Changmai (FET14004)	Development of sweet lime pomace based biodegradable container and improvement of its barrier properties with application of modified bees	Int. M. Tech.	June 2018
16.	Mridusmita Barman (FPL17002)	Effect of hydrocolloids on physicochemical properties of kiwi fruit leather and its drying kinetics	M. Tech.	June 2019
17.	MRIDUL DAS (FEM18004)	Optimization of ultrasound assisted extraction of protein from pumpkin seeds and its characterization	M. Tech.	July 2020
18.	Nizum Boro (FEM18012)	Ultrasound assisted Acid Hydrolyzed modification of Bora Rice Starch and its incorporation in a Biodegradable Film	M. Tech.	July 2020
19.	Pooja Singha (FEM19015)	Development of sweet lime peel based biodegradable film incorporated with sugarcane bagasse fibre	M. Tech.	July 2021
20.	Ramngaih Zuala (FEM19019)	Effect of high pressure homogenization and ultrasonic homogenization on the physico-chemical properties of sweet lime juice	M. Tech.	July 2021
21.	Jishuraj Chetia (FEM20013)	Microwave assisted extraction of essential oil from Assam lemon peels and effect of chitosan coating incorporated with essential oil on storage quality of grapes	M. Tech.	June 2022
22.	Pragyan Adhikary (FEM20002)	Extraction of Phenolic Compounds from Assam Lemon Pomace and Its Utilization in Nanoparticles Synthesis and Edible Coating	M. Tech.	June 2022
23.	Sriram M. (FEM21004)	Development and characterization of bio-degradable plate using the eggshells waste	M. Tech.	June 2023
24.	Prakash Verma (FEM21021)	Development of banana peel based antimicrobial film for application on bread sample	M. Tech.	June 2023
25.	Bedanta Rajbongshi (FEM22003)	Development and Characterization of Biodegradable Plates Using Areca Nut Husk and Water Hyacinth Fiber	M. Tech.	June 2024
26.	Bidisha Karjee (FEM22009)	Microwave-assisted alkali extraction for synthesis of cellulose nanocrystals from areca nut husk and its application in food packaging	M. Tech.	June 2024
27.	Kamalika Sarkar (FEM23021)	Microwave assisted extraction of phytochemicals from pomegranate peel: its incorporation in edible films and coatings for maintaining grape quality	M. Tech.	June 2025
28.	Loukrakpam Binita Chanu (FEM23015)	Valorization of passion fruit peel for the synthesis of nanocellulose for incorporation in packaging film and its application as a coating on cherry tomatoes	M. Tech.	June 2025

Invited Talks

1. Delivered a talk on ‘Development of sustainable packaging materials using areca nut husk cellulose and alkali-treated fibers’ at 31st ICFoST held at NIFTEM, Thanjavur, India during 18-20 Dec. 2025
2. Delivered a talk on ‘Electrospun Mucilage/PVA-ZnO NPs Nanofiber Mats for Active Food Packaging Applications’ at National Conference on “Food Innovations, Food Allergies and Traditional Foods” (FIFATF-2025), held at SLIET, Longowal during 11-12 Dec. 2025.
3. Delivered a talk on ‘Sustainable approach for the development of biodegradable plates by utilizing agro-waste and plant fibers’ at National Food Convention 2025 held at SLIET, Longowal during 15-16 Oct. 2025.
4. Delivered a talk on *Fundamentals of Quality Standards, Good Manufacturing Practices* to the participants of Assam Agriculture University, Jorhat on 24th March, 2025.
5. Talk on *Sustainable Food Packaging* in the webinar organized by Chamber for Advancement of Small and Medium Businesses on 13th April, 2024.
6. Delivered a talk on *Value addition of some underutilized food resources of North East India* in National Conference on Underutilized Food Resources: Nutrient Composition, Value Addition and Quality Assurance organized by Department of Food Technology, Mizoram University, Aizawl, Mizoram, 25 – 26 May, 2023.
7. Delivered a talk on Texture Analysis in 07-day residential training program on “Analytical Approaches for Characterization of Food and Biomaterials” at Tezpur University, Assam, from 24th February - 03rd March 2023.
8. Talk on *Recent Advancement in Biodegradable Food Packaging* in Faculty Development Program on Recent Trends in Food Processing and Preservation Technologies organized by Department of Food Technology, Shivaji University, Kolhapur on 1-5 Feb. 2022.
9. Talk on *Emerging Sectors, Concepts & Technology in Promoting FPI* in the North East Summit on Food Processing organized by IIM Shillong on 24-25 Sep., 2021.
10. Talk on *Food Quality and Safety* in the Webinar on Celebration of “World food Safety day-2021” organized by NetProFaN- NE Chapter on 7th June, 2021.
11. Talk on *Food processing waste as a source of valuable compounds for Sustainable Food Packaging* in the Webinar on “Sustainable Materials for food packaging” organized by Institute of Advanced Study in Science and Technology, Guwahati on 9 Nov. 2020.
12. Talk on *Food Processing* in Industrial and business Trade Fair (UDYAM 2017) organized at Church Field Tezpur, 16 Dec. 2017.
13. Lecture on Packaging, Bottling and quality maintenance of Traditional food at Workshop on Traditional Food Items of Assam: Processing and Preservation at Jengraimukh College, Jengraimukh, Majuli, Assam, 11-13 June 2013.
14. Talk on Job Opportunities in Food Processing at Workshop on Career and Business Prospects in Food Processing at District Library Auditorium, Tezpur, Assam, 22 Feb. 2012.
15. Talk on Energy Conservation in Food Processing Industry at Seminar cum Workshop on Food Processing Opportunities in Assam organized by CII on at Guwahati, 4-5 Feb. 2010.

Paper presented in seminar/ conferences: 15 Nos

Conferences /Seminar Organized

As a Convenor/ Coordinator

1. Chairman, National Conference on Emerging Technologies for Sustainable Agro-Food-Bio Systems (ET-SAFe-2024), organized by Tezpur University, Assam, India 13-15 February 2025.
2. Convenor of International Conference on “Sustainable Approaches in Food Engineering and Technology” (SAFETy-2021) organized by Tezpur University, Assam, India, and University of Georgia, Georgia (US) on 24th and 25th June 2021.
3. Convenor of 27th Indian Convention of Food Scientists and Technologists (ICFoST) on *Raising Agro-processing & Integrating Novel Technologies for Boosting Organic Wellness (RAINBOW)* at Tezpur University, Tezpur, Assam held on 30 Jan -1 Feb. 2020.
4. Coordinator National Seminar on ‘*Trends and Innovation in Food Processing Technology: Prospects and Challenges*’ at Department of Food Engineering and Technology, Tezpur University, Napaam held on 9-10 Feb., 2017.

As a Member

5. Member of 28th Indian Convention of Food Scientists and Technologists (ICFoST) on *Emerging and Adoptable Technologies for Sustainable Agro-Food industries and Economy (EAT-SAFE)* held virtually on 20-22, Jan. 2022.
6. Members of the organizing committee of International Conference entitled “*Technological Innovations for Integration of Food and Health (TIIFH 2019): A focus on North-East India*” in the Department of Dept. of Food Engg. & Tech., Tezpur University, Tezpur, Assam held on 14 -16, February, 2019
7. Members of the organizing committee of National symposium on *Probiotics and Functional Foods on Health Management* at Department of Food Engineering and Technology, Tezpur University, Napaam held on 4-5 March, 2019.
8. Members of the organizing committee for One Day UGC-SAP Seminar on ‘*Research Trends in Food Processing: Value Addition & Enterprise Development (RTiFP-2017)*’ at Department of Food Engineering and Technology, Tezpur University, Napaam held on 27 March, 2017.
9. Members of the organizing committee for National Seminar Cum Workshop on ‘*Innovative Prospects in Food Processing: Integration of Engineering and Biological Sciences*’ at Department of Food Engineering and Technology, Tezpur University, Napaam held on 27 to 28 March, 2015.
10. Members of the organizing committee for National Seminar on ‘*Role of Bioactive Compounds in Foods on Human Health*’ at Department of Food Engineering and Technology, Tezpur University, Napaam held on 14 to 16 November, 2011.
11. Members of the organizing committee for the Cluster Meeting of the DST on ‘*Food Processing Instrumentation*’ at Tezpur University, Napaam held on 13 to 14 October, 2011.

Trainings and Workshops Undergone

1. Faculty Development Program on “Outcome Based Education (OBE) and NBA Accreditation Process” organized by Bharati Vidyapeeth’s Institute of Computer Applications and Management (BVICAM), New Delhi, 23-27 Nov. 2020.
2. Advances in Food Processing Technologies” at Department of Food Engineering and Technology, Tezpur University, Napaam, 20-24 Nov. 2017.
3. Faculty Development Program on “Advances in Food Processing Technologies” at Department of Food Engineering and Technology, Tezpur University, Napaam, 20-24 Nov. 2017.
4. Workshop on Outcomes (CO/PO/PSO) based Curriculum at Tezpur University, 19 June, 2018.

5. Training Programme on Laboratory Management System and Internal Auditor Training- ISO/IEC 17025:2017 at Tezpur University, 8-9 May, 2018.
6. ISTE STTP on Technical Communication for Scientists and Engineers at Tezpur University, Napaam, Assam, 8 Oct. to 11 Nov. and 30 Nov. to 5 Dec. 2015
7. ISTE STTP on Pedagogy for Effective use of ICT in Engineering Education at Tezpur University, Napaam, Assam, 5-31 Jan. 2015
8. Training Programme on Laboratory Management System and Internal Auditor Training- ISO/IEC 17025:2005 at Tezpur University, 12-15 May, 2015.
9. Faculty Development Programme on Current Approaches in Teaching and Research in Science and Technology at Tezpur University, Napaam, Assam, 15- 27 Dec. 2014.
10. UGC sponsored Orientation Programme at RTM Nagpur University, Nagpur (Maharashtra) 2-29 Jan. 2014.
11. ISTE workshop on Engineering Mechanics at Tezpur University, Napaam, Assam, 26 Nov.-6 Dec. 2013.
12. Professional Development Programme on Science Communication through Mass Media at Tezpur University, Napaam, 1-6 Oct. 2012.

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