Profile

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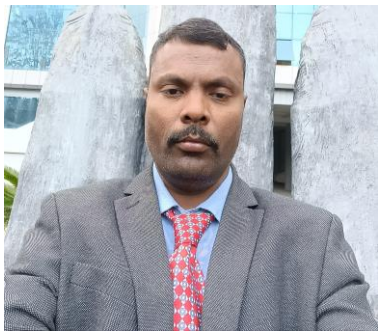

Short Biography:

I am a professional Food Technologist, completed my post-graduation and doctoral degree in Food Engineering and Technology. I am having wide experiences and expertise in the area of Food Processing Technology, the outcome of my 24 years experiences in both industry and academic domines (Industrial experiences from 2001 to 2010, 9 years and Academic from 2010 to till date 15 years). I developed number of food products, contributed key area such as quality assurance and safety, technology transferred and commercialization in order to improve livelihood standard of tribal people of Meghalaya, India. Currently I am working multidisciplinary focused advance research in Green Technology (AI in Food Processing and Technology) application and implementation of customized techniques into rural development in India.

I published 44 research articles in reputed peer review journals, authored 7 text books, 4 book chapters, well expertise in project management system, 14 major R&D projects till date, 11 R&D projects were completed successfully, and 3 ongoing research projects. Fifty papers were presented in national and international conferences/seminars and overall, my publication credentials are 15 h-index, 20 i-10 index, and 532+ total citations. My achievements from the academic, I filed 3 patents and commercialized into different food processing companies. I have successfully created 550 entrepreneurs in Agriculture and allied field through incubation centre. I am having wider working experiences in both national and international food industry with various capacities for 9 years.

I am recipient of **Best Teacher Award**, **Excellence in Research Award**, and **Outstanding Scientist Award** from Omm Shanti Narayan Foundation Trust for the year of 2021, **Outstanding Teacher Award** from *SOCIETY FOR BIOTIC AND ENVIRONMENTAL RESEARCH (SBER)* for the year of 2022, and **Dr. V.P. Tyagi Memorial Award** for outstanding contribution and recognition in the filed of Food Technology for the year of 2022.

Area/Field of Research: Green Technology (Non-Thermal), AI application in Food Processing Industries, Hyperspectral Imaging System (HIS) in Smart/Intelligent packaging, Emerging technologies in fermentation technology.

Education and Qualification

Degree/Certificate	Board/ University	Subjects
Graduation	Tamil Nadu Agricultural University. Coimbatore, Tamil Nadu, India https://tnau.ac.in.	Agricultural Sciences
Master Degree	G.B. Pant University of Agriculture and Technology (GBPUA&T), U.S. Nagar, Uttarakhand, India https://www.gbpuat.ac.in	Food Technology
Doctoral Degree	Tezpur University, Tezpur, Assam, India, http://www.tezu.ernet.in	Food Engineering & Technology

Thesis title: Value addition of Khoonphal (*Haematocarpus validus*), Meghalaya, India.
Advisor: Prof. S. C. Deka, http://www.tezu.ernet.in/dfpt.
Thesis summary: The physicochemical and phytochemical characterization of indigenous edible fruits, application of ultrasound assisted extraction (UAE) and microwave assisted extraction of bioactive functional materials, microencapsulation through non-thermal technique and evaluation as a target delivery system by *in vitro* gastro-

intestinal digestion (IVGID) simulation models and value addition and development of number of convenience food products (Ready to drinks fruit beverage, spray dried fruit powder, green processed fruit juice)

Professional experience:

- **Position: Quality Control (QC) Manager** **Periods: 01/09/2001 to 30/04/2005**

Institution name/country: VVD & Sons Pvt, Ltd Company, Chennai, India
Role and activities: Ensure all activities of quality & food safety comply with local law/ destination country law and FSSAI, BIS & ISO standards. Management of the quality control team and ensuring the safety quality agenda is managed effectively so that products are manufactured legally and safety in compliance with customers and internal specifications and standards. Ensuring that the procedures are communicated, maintained and trained out.

- **Position: Quality Control (QC) Manager** **Periods: 02/05/2005 to 31/07/2008**

Company name/country: Sarl Snax (Multinational Company- Swiss and France Collaborated), France (FMCG and Food Industry).
Role and activities: Manage and develop technical activities including Quality Assurance, Research & Development, Process optimize. Manage performance of the technical teams to ensure achievements related to budget, support to product management, and production. Develop strong QMS and ensure QMS is applied effectively in all related department. Ensure all the activities related to quality & food safety comply with local law/ destination country law and EU and FDA standards. Hygiene and GMP: define GMP tool and ensure the tool has up to date, consistent and appropriate cleaning procedures that meet the requirements of quality standards and customers. Ensure that the procedures are communicated, maintained, trained out and communicated.

- **Position**: **Research & Development Manager** **Periods**: **01/08/2008 to 29/08/2010**

Company name/country: Padworth Company Limited-Multinational company-Hong Kong (FMCG and Food Industry)
Role and activities: Ensure research and development activities, which leading R&D efforts of company from its inception to develop a range of food products. Ensure that all R&D processes are documented from the organisation's quality standards as set and that all processes have SOPs in place. Implementing these SOPs on ground and their regular upgradation and process validation will be the key driver of high-quality standards across the organisation.

- **Position: Assistant Professor-Food Technology** **Periods**: **30/08/2010 to 08/08/2012**

Institution name/country: Department of Food Science and Nutrition, Central Agricultural University (CAU), Imphal. https://cau.ac.in.
Role and responsibility: Engaging active role in the academic direction of courses including teaching, research, academic assessment, and academic administration. Carry out my duties as are assigned by university authority.

- **Position: Assistant Professor-Food Technology** **Periods**: **09/08/2012 to 18/09/2023**

Institution name/country: Department of Agribusiness Management & Food Technology, North-Eastern Hill University/India. Indian Government University. https://www.nehu.ac.in.
Role and responsibility: Engaging active role in the academic direction of courses including teaching, research, academic assessment, and academic administration. Carry out my duties as are assigned by university authority.

- **Position: Associate Professor-Food Technology** **Periods**: **19/09/2023 to till date**

Institution name/country: Department of Agribusiness Management & Food Technology, North-Eastern Hill University/India. Indian Government University. https://www.nehu.ac.in.
Role and responsibility: Engaging active role in the academic direction of courses including teaching, research, academic assessment, and academic administration. Carry out my duties as are assigned by university authority.

1. Teaching such assigned classes as deemed appropriate by the competent authority of the University authority, additionally supervision of post-graduate and doctorate students where appropriate. There will be a university norm for class contact hours per week/semester.
2. Carrying out assessment, monitoring, and evaluation of examinations work, and providing an academic and consultative support to students in their learning activities.
3. Providing academic input on existing and new courses and course development.

4. Engaging in research, consultancy and development work as appropriate.
5. Participating in committees appropriate to courses and meetings convened by authority
6. Maintaining appropriate records and making available information as required by authority
7. Undertaking appropriate academic administrative tasks
8. Engaging in promotion including student recruitment as appropriate.
9. Participating in development, implementation and maintenance of academic quality assurance arrangements,
10. Participating in appropriate activities necessary to the development of their department/school and the University.
11. Participating in engagement, outreach and other public activities and liaise with professional bodies and stakeholders to promote the department/school/university
12. Disseminate the results of applied food science and technology research through publication in academic journals and by other appropriate means and seek research funding through national and international opportunities.

- **Position: Nodal Officer** **Periods**: **10/02/2020 to till date**

Institution name/country: Incubation Centre, North-Eastern Hill University, Tura Campus, Meghalaya, https://nehuturaincubation.wixsite.com/main.

Role and activities: Conducting capacity training, organising hands on training, establishing processing units, creating common facility centre, developing entrepreneurship, livelihood improvements, idea pitch concept, pilot plant study, transfer of technology.

Courses taught and other services provided to students and the home institution:

- FTC-501: Emerging Technologies in Food Processing
- FTC 503: Food Material and Product Properties
- FTC 506: Technologies of Convenience Foods
- FTC 507: Industrial Manufacturing of Food and Beverages
- FTC 508: Emerging Technologies in Food Packaging
- FTC 511: Cocoa and Chocolate Processing Technologies
- FTC 513: Spices, Herbs and Condiments
- FTC 514: Techniques in Food Quality Analysis
- FTC-702: Advance Food Processing Technology (Theory and Practical)-PhD Students

Supervising and mentoring summary:

- Master Degree level (17) students have been awarded and (7) students are ongoing under my supervision, area-Food Processing and Technology
- Ph.D. Degree level (3) student is ongoing under my supervision, area-Food Processing and Technology

Overall publication credentials:

- Google Scholar: https://scholar.google.co.in/citations?user=6awwETgAAAAJ&hl=en,
- Research ID (WoS): https://www.webofscience.com/wos/author/record/I-1510-2016
- Researchgate Id: https://www.researchgate.net/profile/RajuSasikumar/unconfirmed?acceptedAuthorUid=2229523435
- Orcid Id: https://orcid.org/0000-0002-9280-5396
- Vidwan Id: https://vidwan.inflibnet.ac.in/myprofile

Publications:

1. Tej Bhan Singh, Ramesh Kumar Saini, Ravinder Kaushik, **Sasikumar R**, Vivek Kambhampati, Seema Singh, Prince Chawla (2025). Assessment of physicochemical properties and consumer preferences of multi-millet extruded snacks using a fuzzy logic approach, *Foods,* **Accepted.**
2. **Sasikumar R**, Thirumalaisamy, Selva Kumar, Kaviarasu, G, Mangang Irengbam Barun, Kaushik Ravinder Mansingh Paul, Tomer Vidisha, Amit K. Jaiswal (2025). A comprehensive review on cold plasma applications in food industry, *RSC-Sustainable Food Technology*, 2025 (4), https:/doi.org/10.1039/D5FB00148J.

3. **Sasikumar R,** Selva Kumar T, Kambhampati Vivek, Sandeep Kumar Panda, Amit K. Jaiswal (2025). Formulation and characterization of ready-to-drink nutraceutical beverage from blood fruit (Haematocarpus validus), *LWT-Food Science and Technology*, 225(2025), 117923, https://doi.org/10.1016/j.lwt.2025.117929.
4. **Sasikumar R**, Kambhampati Vivek, Sahu JK, Paras Sharma, Govindasamy Kadirvel, Amit K. Jaiswal (2025). Nutritional, phytochemical, and toxicological profiles of Blood fruit (*Haematocarpus validus*). *Journal of Agriculture and Food Research*, 17(2025), 101731-101739, https://doi.org/10.1016/j.jafr.2025.101731
5. Pallabika Gogoi, Paras Sharma, Giridhar Goudar, Anwesha Mahajan, Himjyoti Dutta, **Sasikumar** R, R. Ananthan, Mohar Singh, M. Nagaraju, T. Longvah (2025). Nutritional profile and mineral bio-accessibility of pigmented rice landraces. *Journal of Food Measurement and Characterization*, 19(1), 1-18, https://doi.org/10.1007/s11694-024-03094-5
6. **Sasikumar, R**, Selvakumar T (2024). Blood fruit: An underutilized fruit from northeast India for food processing and economic sustainability. *Food Science and Nutrition Technology,* 9(3), 1-3, https://doi.org/10.23880/fsnt-16000351
7. Tej Bhan Singh, Ravinder Kaushik, **Sasikumar** R, Kambhampati Vivek, Poonam Singha, Sushil Kumar Singh (2024). Development and characterization of ready-to-eat (RTE) multi-millet extruded food snack. *Cereal Research Communications,*52(4), 1-14, https://doi.org/10.1007/s42976-024-00616-1
8. **Sasikumar R**, Nongmaithem Roshiya, Kambhampati Vivek, , Sandeep Janghu, Govindasamy Kadirvel, Amit K. Jaiswal (2024). Enhanced bioactive component recovery from Sohiong via optimized enzyme-assisted microwave extraction and its stability in freeze-dried premix. *LWT-Food Science and Technology*, 209, 116796, https://doi.org/10.1016/j.lwt.2024.116796.
9. Latha Bhanu, Giridhar Goudar, Pallabika Gogoi, Anwesha Mahajan, K. Subhash, Anil Kumar Chandragiri, M. Sreedhar, Himjyoti Dutta, Arnab Roy, Baby Z. Hmar, Paras Sharma, **Sasikumar R**, T. Longvah (2024). Effect of roasting on nutritional composition, polyphenols and antioxidant properties of chironji (Buchanania lanzan Spreng.) kernels. *Journal of Food Measurement and Characterization,* 18(6), 1-17, https://doi.org/10.1007/s11694-024-02710-8.
10. **Sasikumar R**, Kambhampati Vivek, Govindasamy Kadirvel, Amit K. Jaiswal (2024). Analysis of physicochemical and phytonutrients properties of bastard oleaster fruits and its mass prediction using artificial neural network model. *Journal of Agriculture and Food Research* 17(2024), 101224-1012301, https://doi.org/10.1016/j.jafr.2024.101224.
11. Simran Sharma, Ritesh Sharma, S. Chakkaravarthi, Saravanan Mani, Ankur Kumar, Shruti Mishra, **Sasikumar R**, Amit K. Jaiswal (2024). Effect of frying on physicochemical and nutritional qualities of herbs and spices incorporated rice cracker. *Food Chemistry Advances,*4(2024), 1-6. https://doi.org/10.1016/j.focha.2024.100690.
12. **Sasikumar R**, Irengbam Barun Mangang, Kambhampati Vivek, Amit K. Jaiswal (2023). Effect of ultrasound-assisted thin bed drying for retaining the quality of red bell pepper and compare the predictive ability of the mathematical model with Artificial Neural Network. *Journal of Food Process Engineering*, 46(11), 1-13, https://doi.org/10.1111/jfpe.14468. 8.89
13. S. Chakkaravarthi S, **Sasikumar R**, Nazni P (2022). Evaluation of oil quality of selected street fried foods. *Journal of Food and Dietetics Research,* 2(1), 9-17, https://doi.org/10.48165/jfdr.2022.2.1.1.
14. **Sasikumar R**, Paras Sharma, & Jaiswal AK (2022). Alginate and β-lactoglobulin matrix as wall materials for encapsulation of polyphenols to improve efficiency and stability. *International Journal of Food Engineering*, 19 (10), 1-9, https://doi.org/10.1515/ijfe-2022-0202
15. **Sasikumar R**, Jaiswal AK (2022). Effect of thermosonication on physicochemical and anti-nutritional properties of blood fruit beverage. *Journal of Food Processing and Preservation*, 47(10), 1-9 https://doi.org/10.1111/jfpp.17268
16. **Sasikumar R**, & Jaiswal AK (2022). Influence of pediocin assisted thermosonication treatment on phytonutrients, microbial and sensory qualities of blood fruit juice. *Journal of Food Processing and Preservation*, 46(9), 1-8, https://doi.org/10.1111/jfpp.17105
17. **Sasikumar R**, Das AJ, Deka SC (2021). In vitro cytoprotective activity of cyanidin 3-glucoside extracts from *Haematocarpus validus* pomace on streptozotocin induced oxidative damage in pancreatic ß-cells. *Saudi Journal of Biological Sciences*, 28(7), 1-14. https://doi.org/10.1016/j.sjbs.2021.05.065
18. Vivek K, Singh SS, **Sasikumar R**, Sami R (2021). Consumer preference study on combined ultrasound and sodium hypochlorite treated fresh cut kiwifruits coated with chitosan using the fuzzy logic approach. *Journal of Microbiology, Biotechnology and Food Sciences*, 11(1), e4054-e4059. https://doi.org/10.15414/jmbfs.4054
19. **Sasikumar R,** Vivek K, Jaiswal AK (2021). Effect of spray drying conditions on the physical characteristics, amino acid profile and bioactivity of blood fruit (*Haematocarpus validus* Bakh.F. Ex Forman) seed protein isolate. *Journal of Food Processing and Preservation*, 44(12), 1-9, https://doi.org/10.1111/jfpp.15401

20. **Sasikumar R,** Das D, Jaiswal AK (2021). Effects of extraction methods and solvents on the bioactive compounds, antioxidant activity and storage stability of anthocyanin rich blood fruit (*Haematocarpus validus*) extracts. *Journal of Food Processing and Preservation*, 43 (11). 1-8, https://doi.org/10.1111/jfpp.15401.
21. **Sasikumar R,** Vivek K, Chakkaravarthi S, Deka SC (2020). Physicochemical characterization and mass modeling of blood fruit (*Haematocarpus validus*) – An underutilized fruit of north-eastern India. *International Journal of Fruit Science*, 20 (5): 1-14. https://doi.org/10.1080/15538362.2020.1848752.
22. **Sasikumar R**, Das D, Chakkaravarthi S, Deka SC (2020). GC-HRMS screening of bioactive compounds responsible for antimicrobial and antioxidant activities of blood fruit (*Haematocarpus validus* Bakh.F. Ex Forman) of North-East India. *Archives of Microbiology*, 202 (7): 1-12. https://doi:10.1007/s00203-020-01985-x.
23. **Sasikumar R**, Das M, Deka SC (2020). Process optimization for the production of blood fruit powder by spray drying technique and its quality evaluation. *Journal of Food Science and Technology*, 57 (6): 2269-2282. https://doi:10.1007/s13197-020-04264-1.
24. **Sasikumar R**, Das M, Sahu JK, Deka SC (2020). Qualitative properties of spray dried blood fruit (*Haematocarpus validus*) powder and its sorption isotherms. *Journal of Food Process Engineering*, 43 (4): 1-12. https://doi:10.1111/jfpe.13373.
25. **Sasikumar R**, Chutia H, Deka SC (2019). Thermosonication assisted extraction of blood fruit (*Haematocarpus validus*) juice and process optimization through response surface methodology. *Journal of Microbiology, Biotechnology and Food Sciences*, 9 (2): 228-235. https://doi:10.15414/jmbfs.2019.9.2.228-235.
26. **Sasikumar R**, Pradhan D, Deka SC (2019). Effects of thermosonication process on inactivation of *Escherichia coli* and *Saccharomyces cerevisiae* and its survival kinetics modeling in khoonphal (*Haematocarpus validus*) juice to extend its shelf life. *Journal of Food Processing and Preservation*, 43 (11). 1-11, https://doi.org/10.1111/jfpp.14220
27. **Sasikumar R**, Vivek K, Deka, SC (2019). Sensory evaluation of ultrasound assisted microwave treated fruit (*Haematocarpus validus*) juice through fuzzy logic approach. *International Food Research Journal*, 26 (4): 1229-1236.
28. **Sasikumar R**, Deka SC (2018). Influence of thermosonication treatments on bioactive compounds and sensory quality of fruit (*Haematocarpus validus*) juice. *Journal of Food Processing and Preservation,* 42 (8), 1-15. http://dx.doi:10.1111/jfpp.13701.
29. Vivek K, Mishra S, **Sasikumar R** (2017). Effect of ultra-sonication on postharvest quality parameters and microbial load on *Docynia indica*. *Scientia Horticulturae,* 225: 163–170. http://dx.doi.org/10.1016/j.scienta.2017.07.006.
30. **Sasikumar R**, Vivek K, Chakaravarthy S, Deka SC (2017). Effect of post-harvest quality parameters on ultra-sonication treatment of khoonphal (*Haematocarpus validus*) of Meghalaya, North-East India. *Journal of Food Processing Technology* 8 (4): 668-672. http://dx.doi:10.4172/2157-7110.1000668.
31. **Sasikumar R**, Vivak K (2016). Optimization of sugar substitutes in therapeutic beverages using response surface methodology. *International Journal Agricultural and Food Science,* 6 (2):19-23.
32. Vivek K, Pratibha S, **Sasikumar R** (2016). Optimization of iron rich extruded *Moringa oleifera* snack product for anemic people using response surface methodology (RSM). *Journal of Food Processing Technology*, 7 (12): 1-6.
33. **Sasikumar R**, Anilkumar, Vivek K, Deka SC (2015). Effect on partial substitution of sweet potato flour on the quality of white wheat bread: Organic sweet potato grown from west garo hill, Meghalaya, North East India. *Journal of Root Crops,* 41 (1): 48-55.
34. **Sasikumar R**, Sethuraman Sivakumar (2015). Value addition and product diversification of edible aroids-based convenience foods in North East India. *Journal of Root Crops,* 42 (1): 302-307.
35. **Sasikumar R**, Deka SC (2015). Studies on the process development and shelf life of low-calorie therapeutic aloe vera RTS beverage by using artificial sweetener. *Madras Agricultural Journal,* 102 (7-9): 298-302.
36. **Sasikumar R**, Jha Y.K, Chakaravarthy S (2015). Studies on encapsulated enzymes to accelerate proteolysis in cheddar cheese. *International Journal of Food and Nutritional Science,* 4 (5): 32-37.
37. **Sasikumar R** (2015). Storage stability of functional beverages prepared from aloe vera, blended with bael fruit. *International Journal of Food Quality and Safety,* 1: 39-44.
38. **Sasikumar R** (2015). Preparation of therapeutic RTS beverage from aloe vera gel and aonla fruit juice evaluation of storage stability, *Asian Journal of Dairy and Food Research.* 34 (2): 151-155.
39. **Sasikumar R** (2015). Development, quality evaluation and shelf-life studies of probiotic beverages using whey and aloe vera juice. *Journal of Food Processing Technology,* 6 (9): 1-5.
40. **Sasikumar R**, Vivek k (2015). Process development therapeutic RTS beverages from blend of aloe vera and pineapple. *Journal Agriculture and Technology*, 2 (2): 7-14.
41. **Sasikumar R** (2014). Studies on prospects and constraints of agro-based food processing industries in North-East, India. *Journal Agriculture and Technology*, 1 (2): 66-71.

42. **Sasikumar R** (2013). Low-cost process development of cheese spread from buffalo milk by using exogenous enzymes and quality evaluation. *Beverage and Food World,* 40 (7): 63-66.
43. **Sasikumar R** (2013). Effect of processing on physiochemical and sensory parameters of low calorie therapeutic RTS beverage blend of aloe vera and aonla fruit using artificial sweeteners. *Asian Journal of Food and Agro-Industry,* 6 (6): 337-346.
44. **Sasikumar R**, Ray RC, Paul PK, Suresh CP (2013). Development and storage studies of therapeutic Ready to Serve (RTS) made from blend of aloe vera, aonla and ginger juice. *Journal of Food Processing Technol*ogy, 4 (5): 232-237.

Text Book/Book Chapters:

1. Irengbam Barun Mangang, Roshiya Nongmaithem, **Sasikumar, R**. Jagan Mohan, and Loganathan Manickam (2024). Influence of High-Voltage Electrical Discharges on Oil Extraction and Its Quality *Emerging Methods for Oil Extraction from Food Processing Waste.* (Prem Prakash Srivastav and Sangeetha Karunanithi). CRC Press, Taylor & Francis Group, New York. **(1)** 107-116. ISBN: 9781003408567*,* https://doi.org/10.1201/9781003408567.
2. **Sasikumar R**, Selvakumar T, Kaviarusu G (2024). General Laboratory Practices and food analysis Techniques. Biotech publication- New Delhi. ISBN: 978-8176225908.
3. Sankar Chandra Deka (2019). Effect of Ultrasound-Assisted Treatment on Postharvest Quality of Khoonphal (*Haematocarpus validus*) of Meghalaya North-East India. *Innovations in Food Processing Technologies*. (Nandan Sit, Laxmikant S. Badwaik and Amit Baran Das). New India Publishing Agency (NIPA), New Delhi. ISBN: 9789386546517.
4. **Sasikumar R**, Chakkaravarthy S, Vivek, K (2017). Food Processing Technology, A Technical Manual, Biotech Publication, New Delhi. ISBN: 9788176223706.
5. **Sasikumar R** (2015) Text book on Post Harvest Technology of Fruits and Vegetables Biotech publication- New Delhi. ISBN: 9788176223485.
6. **Sasikumar R** (2014) Fermentation Technologies in Food Production, *Progress in Biotechnology for Food Application.* (Wing-Fu Lai). OMICS Group e-books, USA. 1-20. ISBN: 9781632780102.
7. Ramesh C. Ray, Aly F. El Sheikha and **Sasikumar R** (2014) Oriental Fermented Functional Probiotic Foods. *Microorganisms and Fermentation of Traditional Foods* (Ramesh C. Ray and Didier Montet). CRC Press, Taylor & Francis, New York. **(9)** 281-309. ISBN: 9781482223088. https://doi.org/10.1201/b17307**.**
8. **Sasikumar R** (2014) Recent Innovation in Food Packaging Technology, *Dairy and Food Processing Industry (Recent Trends*). (Mishra.B.K). Biotech Books, New Delhi. **(2)** 12-29. ISBN: 9788176223003.
9. **Sasikumar R** (2013). *Food Processing Technology in Agro based sector.* Biotech publication- New Delhi. ISBN: 9788176223493.
10. Kowsalya S, **Sasikumar R** (2012), (1st Ed.) *Commercial Production Methods of Spirulina*, Lap Lambert Academic Publishing AG & Co.KG, Germany. ISBN: 9783848427871.
11. **Sasikumar R**, Sivakumar P.S, (2012), (1st Ed.) Agri Food Crops Processing, value addition, packaging & Storage, New India Publishing Agency (NIPA), New Delhi. ISBN: 9789381450406.
12. **Sasikumar R** (2011), (Ed.) *Accelerated Cheese Flavour Development*, Lap Lambert Academic Publishing AG & Co.KG, Germany. (International). ISBN: 9783845435497.

Invited presentations:

1. Interactive Session on Research & Development in Food processing sector in North Eastern States "Low-cost Process development of snack foods from local farm produce by applying Single screw extrusion technology" organized by Indian chamber of commerce and Ministry of Food Processing Industries, New Delhi, India on 10th February 2011.
2. One day Awareness programme "Processing and value addition of underutilized minor forest products" organized by Khadi & Village Industries Commission (Ministry of Micro, Small & Medium Enterprises, Govt. Of India) on 29th February 2012.
3. National conference on "Traditional Beverages in North East India and quality development" organized by Association of Food Science and Technology-Manipur Chapter and Central Agricultural University (AFST- M & CAU, Imphal) on 11-12th April 2015.
4. North East Food Processing & Technology Summit-2015 on "Food Processing Technologies in North Eastern Sates of India" organized by FINER- Guwahati, India on 19th September 2015.
5. North East Food Processing Conclave on "Application of Food Processing Technologies in North East India" organized by Indian Chamber of Commerce and Ministry of Food Processing Industries, New Delhi, India on 6th October 2015.
6. International Conference Recent Advances in Agricultural, Biological and Applied Sciences Research-2022 "Novel Alginate and β-Lactoglobulin matric used as wall material for encapsulation of polyphenols to improve efficiency and stability" at Nagaon, Assam, India on 8th-9th Aug 2022.

Oral/Poster presentation in international conferences:

- International Conference on "Impact of Ultrasound-Assisted Thin Bed Drying on the Preservation of Red Bell Pepper Quality: A Comparative Analysis of Predictive Accuracy between Mathematical Models and Artificial Neural Networks" held in **CSIR-CFTRI, Mysore, India from 07-10 December, 2023.**
- International Conference "A comparative study of thermosonication extraction with conventional method of blood fruit (*Haematocarpus validus*) juice based on its functional properties" held in **National Institute of Nutrition, Hyderabad, Telangana, India from 11-13, November, 2018**.
- International Conference "Effect on functional phytochemicals of khoonphal juice microencapsulation through spray dried powder drink" held in **National Institute of Nutrition, Hyderabad, Telangana, India from 11-13, November, 2018.**
- International Conference "Effect of inlet temperature and carrier agent concentration on khoonphal (*Haematocarpus validus*) juice powder by spray drying" held in **CSIR-CFTRI, Mysore, India from 12-15 December, 2018.**
- Value chain analysis: A case studies on pineapple value addition from North East India. *International seminar on Look East Policy: Perspectives from the South East-Asian architecture*, organized by **NEHU, Tura Campus, Tura, Meghalaya, 26th to 27th June, 2015.**
- International Seminar "Value chain analysis: A case study on pineapple value addition from West Garo Hills, Meghalaya, India" held in Department of Management, North-Easter Hill University, Meghalaya, India from 26-27, June, 2015.
- International Conference "Value added products and quality evaluation of bael fruits from Meghalaya" held in **UBKV & IARI, New Delhi**, India from 22-24, May, 2014.
- International Conference "Problem and prospects of fruits and vegetables processing industry: An empirical study in West Garo Hills, Meghalaya, North-East India" held in Department of Management, North-Easter Hill University, Meghalaya, India from 26-27, June, 2014.
- Process optimization of microencapsulated polyphenols from khoonphal pomace by jet flow vibration technology and its evaluation as a target delivery system. *27th Indian Convention of Food Scientist and Technology RAINBOW*, organized by AFST-Tezpur University, 30th Jan 2020 to 1st Feb 2020.
- Process Optimization of Microencapsulated Polyphenols from Blood Fruits Pomace Extract by Novel Jet Flow Vibration Technology and Evaluation as a Target Delivery System. *Biotic Science Congress (BioSCon), 2022, International Conference Recent Advances in Agricultural, Biological and Applied Sciences Research-2022*, 8th - 9th Aug 2022.
- Nutritional and Anti-Nutrient Composition, Bioavailability, and Acute Toxicity Potential of *Haematocarpus validus*. *Biotic Science Congress (BioSCon), 2022, International Conference Recent Advances in Agricultural, Biological and Applied Sciences Research-2022*, 8th -9th Aug 2022.
- Promotion of Potential Agri-Business Ventures in North-East India: A Way Forward. *International Conference Recent Advances in Agricultural, Biological and Applied Sciences Research-2022*, 8th -9th Aug 2022.

Professional honors, awards and fellowships:

- ICAR (Indian Council of Agricultural Research, Government of India) JRF in Master Degree-1999 2001
- National Eligibility Test (NET) conducted by ICAR, Government of India in Food Science & Technology in 2001
- Best Teacher Award for the year of 2021 by Omm Shanti Narayan Foundation Trust, Bhubaneswar, Odisha
- Outstating Scientist Award for the year of 2021 by Omm Shanti Narayan Foundation Trust, Bhubaneswar, Odisha
- Excellence in Research Award for the year of 2021 by Omm Shanti Narayan Foundation Trust, Bhubaneswar, Odisha
- Outstanding Teacher Award for the year of 2022 by Society for Biotic and Environmental Research (SBER), Khowai, Tripura, India.
- Dr. V.P. Tyagi Memorial Award for the year of 2022 for outstanding contribution and recognition in the field of Food Technology by Agricultural and Environmental Technology Development Society (AETDS), U.S. Nagar, Uttarakhand, India.
- Scholars Academic and Scientific Society (SAS Society) has recognized my tremendous contributions in academics and research and has provided me their prestigious SAS Fellow Membership (FSASS) with Membership IDSAS/FSASS/542/2022.
- Distinguished Scientist Award for the year of 2024 for outstanding contribution and recognition in the field of Food Processing Technology by Agricultural and Environmental Technology Development Society (AETDS),

U.S. Nagar, Uttarakhand, India in the 6th International conference on Cutting-Edge Solution in Science - Agriculture Technology, Engineering and Humanities (CSATEH-2024) at UGC-HRDC Hall, Kumaun University, Nainital, Uttarakhand, India.

Editorial board member in the International Referred Journal

1. International Journal of Advanced Scientific Research and Management
   https://ijasrm.com/editorial-board/
2. International Journal of Food Engineering and Technology
   http://www.ijfet.org/editorial-board
3. Journal of Food Processing and Preservation
   https://www.hindawi.com/journals/jfpp/editors/
4. Journal of Food Quality
   https://onlinelibrary.wiley.com/page/journal/6095/homepage/editorial-board
5. Food Science & Nutrition Technology
   https://medwinpublishers.com/FSNT/editorial-board.php
6. Current Research in Nutrition and Food Science
   https://www.foodandnutritionjournal.org/about/editorial-board/

Completed/ongoing research projects:

- **Name of the project:** Low-cost process development and quality evaluation of carbonated beverages made from Aloe vera Gel blend with extract of Amla, Sweet lime and Ginger in Meghalaya- North Eastern Region.
  Contribution: Principal Investigator (PI)
  Funding agency: Ministry of Food Processing Industry, Government of India,
  Period:2011-2014 (**Completed**)
  Project value (Rs): 32, 00,000/
- **Name of the project:** Agri-entrepreneurship skilled professional training for Agriculture graduate in Meghalaya
  Contribution: Principal Investigator (PI)
  Funding agency: MANAGE, Hyderabad, Ministry of Agriculture, Government of India
  Period: 2016-2017 (**Completed**)
  Project value (Rs): 10,00,000/
- **Name of the project:** Skilled Capacity Training and Transfer of Technology in Agriculture and Allied Sector
  Contribution: Principal Investigator (PI)
  Funding agency: ICAR-NIBSM, Raipur, Chhattisgarh, Government of India
  Period: 2019-2020 (**Completed**)
  Project value (Rs): 60,00,000/-
- **Name of the project:** Development of low-cost process technology for extraction of oleoresin, essential oils and its value-added products from Tejpatta and creating entrepreneurship for tribal people of Meghalaya
  Contribution: Principal Investigator (PI)
  Funding agency: TRIFED, Ministry of Tribal Affairs, Government of India
  Period: 2017-2020 (**Completed**)
  Project value (Rs): 26,00,000/-
- **Name of the project:** Value addition of banana (Musa. sp) and creating small scale enterprises of Meghalaya tribal community though minimal processing technology
  Contribution: Principal Investigator (PI)
  Funding agency: Department of Biotechnology, Government of India
  Period: 2018-2021 (**Completed**)
  Project value (Rs): 71,06,000/-
- **Name of the project:** Value chain on processing of novel duck meat and egg products under existing farming system of NER for entrepreneurship development
  Contribution: Principal Investigator (PI)
  Funding agency: Department of Biotechnology, Government of India
  Period:2018-2021 (**Completed**)
  Project value (Rs): 45,00,000/-
- **Name of the project:** Extraction and characterization of functional phytochemicals from khoonphal (*Haematocarpus validus*) of Meghalaya and its value addition
  Contribution: Principal Investigator (PI)
  Funding agency: Department of Science & Technology, SERB, Government of India
  Period:2018-2021(**Completed**)
  Project value (Rs): 28,00,000/-

- **Name of the project:** Skilled Capacity Training and Transfer of Technology in Agriculture and Allied Sector
  Contribution: Principal Investigator (PI)**,**
  Funding agency: ICAR-NIBSM, Raipur, Chhattisgarh, Government of India
  Period:2020-2021 (**Completed**)
  Project value (Rs): 60,00,000/-
- **Name of the project:** Development of vegetative propagation protocol and vacuum freeze dehydrated probiotic powder from Sohiong (*Prunus nepalensis*) fruit
  Contribution: Principal Investigator (PI)**,**
  Funding agency: Department of Biotechnology, Government of India
  Period:2021-2024 (**Ongoing**)
  Project value (Rs): 1,20,00,000/
- **Name of the project: Establishing Regional Food Testing Laboratory in NEHU Tura Campus, Meghalaya**
  Contribution: Principal Investigator (PI)**,**
  Funding agency: Ministry of Food Processing Industries, Government of India
  Period:2023-2028 (**Ongoing**)
  Project value (Rs): 20,35,05,000/
- **Name of the project: Setting Up Honey Testing Laboratory in NEHU Tura Campus, Meghalaya**
  Contribution: Principal Investigator (PI)**,**
  Funding agency: Meghalaya Basin Development Authority (MBDA), Government of Meghalaya
  Period:2023-2028 (**Ongoing**)
  Project value (Rs): 1,82,00,000/-
- **Name of the project: Establishing Common Incubation Centre (Commercial Food Processing Centre) in NEHU Tura Campus, Meghalaya**
  Contribution: Principal Investigator (PI)**,**
  Funding agency: Ministry of Food Processing Industries, Government of India
  Period:2025-2030 (**Ongoing**)
  Project value (Rs): 2,75,00,000/-

1. Products developed

Sl. No.	Name of products	Development Institute/Company	Date development	Date of commercialization
1	Low temperature spices grinding (Spices powder)	VVD and Sons Private Company, Chennai, Tamil Nadu, India	10/01/2002	09/05/2022
2	Development of Kurkure Rice Grits incorporated using single screw extrusion system (Kurkure)	Sarl Snax (Multinational Company-Swiss and France Collaborated), France (FMCG and Food Industry). Algeria	11/01/2006	20/09/2006
3	Development of Tapioca Based Tortilla Chips	Padworth Company Limited-Multinational company-Hong Kong (FMCG and Food Industry)	09/03/2009	19/10/2009

2. Technology developed/Transferred and Commercialized

Sl. No.	Name of Technology	Development Institute/Company	Name of company technology has transferer	Date of Technology transferer
1	Development of Low-Cost Multi Fruit Pulper-Portable model for Minor Fruits of North-East India	Department of Agribusiness Management and Food Technology, North-Eastern Hill University, Meghalaya	M/S. Select Best Solution Limited Company, Coimbatore, Tamil Nadu	11/02/2019
2	Non-Thermal Processing of Wild Honey from Meghalaya	Department of Agribusiness Management and Food Technology, North-Eastern Hill University, Meghalaya	M/S. United Associates, West Garo Hills, Meghalaya	11/03/2019

3	Encapsulated Spices Instant Ready Mix for Deep fat Fried Products	Department of Agribusiness Management and Food Technology, North-Eastern Hill University, Meghalaya	M/S/ LD Enterprises, West Garo Hills, Tura, Meghalaya	20/05/2020
4	Low-Cost Instant Ready Mix Spices Pre-Mix Coating for Cashew Nut and Other Nuts	Department of Agribusiness Management and Food Technology, North-Eastern Hill University, Meghalaya	M/S. LD Agro Foods, West Garo Hills, Tura, Meghalaya	02/11/2020

3. Patents filed/published/granted:

3.1.Patents granted

Sl. No.	Title of patents	Application No	Patent No	Date of grant
1	Self- Stable Microencapsulated Polyphenols Comprising Microbeads Comprising Non-Thermally Encapsulated Polyphenols Including Alginate-β- Lactoglobulin	202031008809	444009	09/08/2023

3.2. Patents filled and published

1	Process for preparation of ready-to-drink nutraceutical beverage from khoonphal fruit [*Haematocarpus validus* (Miers) Bakh. F. Ex Forman]	202031026689	24/06/2020	14/08/2020
2	Development of design and process of low-cost hydro-steam distillation of tezpatta oil	202131060463	24/12/2021	05/08/2022

Policy Documents

1. Sivakumar, PS., Nedunchezhiyan, M., Tengli, MB., Thirunavukkarasu, D., Shanmugasundaram, B., Raju, S., Bharathi, CS., Chhetri, A., **Sasikumar, R**., Byju, G., Gayathri, BR, and Athira Krishnan, LR. 2024. Catalysing grassroot entrepreneurship through satellite incubation centres in India. Good Practice Notes 6. APIRAS-APAARI. The TAP-AIS project, FAO. 1-14. https://www.fao.org/in-action/tropical-agriculture-platform/resources/tap-ais-publications/en/

Community services:

- Soft skill interventions under Cashew Nut Processing Cluster at Selsella Block of West Garo Hills, Meghalaya, Cashew Nut Processing with special emphasis on Energy Conservation and Reducing Breakage. (Creating awareness and entrepreneurship)
- Hard skill interventions under Cashew Nut Processing Cluster at Selsella Block of West Garo Hills, Meghalaya, Commercial Cashew Nut Processing in remote rural areas. (Creating small and medium entrepreneurs in remote rural areas)
- Establishing Piggery, Kuroiler, Duckery and Apery Units in different parts of Meghalaya, India
- Establishing Meat and Poultry Processing Units in different parts of Meghalaya, India
- Scale up livelihood Business Incubator (LBI) and Technology Business incubator (TBI) (Upliftment of living standard of rural people).

A	**Infrastructure**
	Facilities created 1. Establishing Piggery unit- 20 units 2. Establishing Kroiler unit-10 units 3. Establishing Sericulture unit-150 units 4. Establishing Fish culture and production 10 units 5. Establishing Agro processing unit-10 units in Meghalaya
	Cost Rs. 90,00,000.00
	Funding Agency/Scheme ICAR-National Institute of Biotic Stress Management (NIBSM), Raipur
	Capacity

	550 farmers
	Special features To encourage women and male farmers and unemployed youth into income earning through varies livelihood improvement programmes
	Beneficiary/target groups 550 farmers including 100 % of Scheduled Tribes (ST) Population (Rural youths, Farm Women, Farmers)
	How NER is getting benefitted with the facility Income earning through small scale agro-based livelihood improvement programmes to the unemployed youth, farm women, farmers of the NER and also to bridge the gap between supply and demand of agro-input supports in NER
B	**Technology**
	Name Livelihood improvement programmes (Agro-based livelihood activities)
	Features • To encourage farmers and unemployed youth into income earning through small scale agro based livelihood activities **Potential** • Large numbers of unemployed youths • Large gap between demand and supply daily needs of agro-based commodities in the state • 98% of the total state population are consuming (pork, chicken, fish, silk pupa and its value added products)
	Expected benefit over conventional technology • Eco-friendly culture system. • It reduces environmental impact. • Improves land and water use efficiency • Limited or zero water exchange
	Target group/geographical region Rural youths, Farm women, Farmers etc. (Meghalaya)
	Year of technology demonstrated 2019-2020, 2020-2021, and 2021- 2022 (Three Years)
	Adoption rate (among target group/region) In the Meghalaya (Khasi, Garo and Jaintia Hill regions) the adoption rate is 92%
C	**Skill development training**
	Topic Livelihood Improvement Programme in Agro-based sectors, Tribal Community of Meghalaya
	Duration (10 skill development training), each training had 3 and 5 days duration in different time period from 2020 to 2022
	Target group 100 % of ST population in the Meghalaya states (Rural youths, Farm Women, Farmers)
	Number of beneficiaries 550 nos. beneficiaries
	Expected benefits Such technology will help to enhance their livelihood status and self-sustainability in the Meghalaya state and leads to doubling farmers income among tribal community of that region
	Scope for scaling up The technology has a scope to scale up to the remaining blocks of the state.
Trained	***Total Number of Trained***

	1. Total Number of Persons trained - in NE States during 2019-2020= 158 persons (128 Female and 30 Male) 2020-2021= Not trained (Due to Covid-19) 2021-2021= 142 persons (112 Female and 30 Male) 2. Total Tribal people trained - in NE States 2019-2020, 2020-2021, and 2021 to till date. 2019-2020= 158 persons (128 Female and 30 Male) 2020-2021= Not trained (Due to Covid-19) 2021-2021= 142 persons (112 Female and 30 Male)

Membership and activities in professional associations:

- AFST- (Association of Food Science and Technology)- Life Member
- ISRC (Indian Society for Root Crops) –Life Member
- COBACAS (Cooch Behar Association for Cultivation of Agricultural Science)- Life Member
- MASU (Madras Agricultural Student Union)- Life Member
- Society for Biotic and Environmental Research (SBER)- Life Member
- The Association of Microbiologists of India (AoMI)-Life Member
- Western Ghat Researcher Association of Agricultural Sciences and Technology (RAAST)-Life Member

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