

Personal Profile



Dr. Nikhil Kumar Mahnot
Assistant Professor, Department of Food Technology
Rajiv Gandhi University, Rono Hills, Doimukh
Arunachal Pradesh-791112

Email: nikhil.mahnot@rgu.ac.in
nikhil.mahnot@gmail.com

Phone No.: +91 7896434467

Summary

As a food technologist, I seek to serve academia by (1) educating and training students to apply scientific knowledge to develop expertise in food technology, (2) carrying out research in the field of novel food preservation and processing technologies. My fields of interest include food chemistry, food microbiology, food product development, quality and shelf-life assessment of food products.

Educational Profile

Ph.D.	Tezpur University, Tezpur, Assam; 2019 Supervisor: Prof. Charu Lata Mahnata
M.Tech	Tezpur University, Tezpur, Assam; 2012 Subject: Food Processing Technology Specialization: Food Processing and Technology
B.Sc.	Cotton College, Guwahati, Assam; 2009 Subject: Botany (Hons.)

Professional Experience

Assistant Professor , Department of Food Technology, Rajiv Gandhi University, Arunachal Pradesh, India	May, 2021-till date
Assistant Professor , Department of Bioengineering and Technology, Gauhati University, Assam, India	March, 2017- May 2021

Administrative Experience

Not Applicable

Awards & Honours

1. Cleared **ASRB-NET** for lectureship, 2016
2. Cleared **UGC-NET** for lectureship, 2013

3. **Nehru-Fulbright Doctoral Research Fellowship**, Purdue University, USA , (2015-2016)
4. **DST INSPIRE Fellowship** by DST, in 2013
5. **Gold Medalist** (M.Tech), by Tezpur University, India 2012
6. **Best Graduate** by Cotton College, India, 2009.

Membership of Professional Bodies

1. Life member of Association of Food Scientists and Technologists, India (2019-till date)

Research Interests

- Food Chemistry
- Non-Thermal Processing technologies
- Food Microbiology
- Food Product Development
- Food Quality and Shelf-life assessment

Research Publications

1. A Descriptive Sensorial Approach for Bitterness Reduction and Flavor Enhancement in Citrus maxima Beverage. Chakrabarty, S., **Mahnot NK**, Dutta D. *Journal of Culinary Science and Tehcnology*, 1-32, **2025**. (IF:1.1)
2. Advancing food systems with industry 5.0: A systematic review of smart technologies, sustainability, and resource optimization. Singh KA, Patra F, Gosh T, **Mahnot NK**, Dutta H and Duary RK. *Sustainable Futures*, 9, 100694, **2025**. (IF: 3.3).
3. Optimization of water chestnut (*Trapa bispinosa*) starch, fructo-oligosaccharide and inulin concentrations for low-fat flavoured yogurt consisting of a probiotic *Lacticaseibacillus rhamnosus* strain. Borah S, Kakoty T, Borah PK, Mahnot NK, Seth D, Patra F and Duary RK. *Sustainable Food Technology*, 2, 837-848, **2024**. (IF: NA)
4. Characteristics of rice starches modified by single and dual heat moisture and osmotic pressure treatments. Gayary MA , Marboh V, **Mahnot NK**, Chutia H, Mahanta CL. *International Journal of Biological Macromolecules*, 225, 127932, **2024**. (IF: 8.2)
5. Banana peel nanocellulose and soy protein hydrolysate complexed colloidal nanoparticles synthesis using ultrasonic interventions: characterization and stable pickering emulsion formation. Gogoi P, **Mahnot NK**, Gautam G, Duary RK *Food Science and Biotechnology*, **2023**. (IF: 2.9)
6. Impact of hydrothermal treatments on the functional, thermal, pasting, morphological and rheological properties of underutilized yam starches. Bora J, **Mahnot NK**, Makroo HA, Mahnot CL. *Food Measurement and Characterization*, **2022**. (IF: 2.432)

7. Cold Plasma Treatment Concerning Quality and Safety of Food: A Review. Bora J, Khan T, **Mahnot NK**. *Current Research in Nutrition Research and Food Science*, 10(2), **2022**. (IF: 0.8)
8. Tender coconut water processing: hurdle approach, quality, and accelerated shelf-life measurements. **Mahnot, N.K.**; & Mahanta, C.L. *Journal of Food Measurement and Characterization*, 1-12, **2021**. (IF: 3.4)
9. In-package cold plasma decontamination of fresh-cut carrots: microbial and quality aspects. Mahnot, N.K.; Syiu, L.P.; Wan, Z.; Keener, K.; & Misra, N.N. *Journal of Physics D: Applied Physics*, 5(3), 154002, **2020**. (IF: 3.4)
10. Strategy to achieve a 5-log *Salmonella* inactivation in tender coconut water using high voltage atmospheric cold plasma (HVACP). **Mahnot, N.K.**; Mahanta, C.L.; Keener K.M.; & Misra. N.N. *Food Chemistry*, 284, 303–311, **2019**. (IF: 8.8)
11. Atmospheric cold plasma inactivation of *Escherichia coli* and *Listeria monocytogenes* in tender coconut water: Inoculation and accelerated shelf-life studies. **Mahnot, N.K.**; Mahanta, C.L.; Farkas, B.E.; Keener, K.M.; Misra, N.N. *Food Control*, 106, 106678, **2019**. (IF: 6.0)
12. Quality characterization and effect of sonication time on bioactive properties of honey from North East India. **Mahnot, N.K.**; Saikia, S.; & Mahanta, C.L. *Journal of Food Science and Technology*, 56(2), 724–736, **2019**. (IF: 3.1)
13. Shelf life enhancement and associated quality and sensory changes on refrigerated storage of tender coconut water subjected to non-thermal microfiltration and treated with additives. **Mahnot, N.K.**; Gupta, K.; & Mahanta, C.L. *Journal of Food Science and Technology*, 56(7), 3408–3421, **2019**. (IF: 3.1)
14. Optimisation of a carambola pomace fibre fortified mix fruit beverage powder, its characterization and in vivo study. Saikia, S.; **Mahnot, N.K.**; Chattopadhyay P, Agnihotri A. & Mahanta, C.L. *Journal of the Saudi Society of Agricultural Sciences*, 19(1), 14-21, **2018**.
15. Phytochemical content and antioxidant activities of thirteen fruits of Assam, India. Saikia, S.; **Mahnot, N.K.**; & Mahanta, C.L. *Food Bioscience*, 13, 15–20, **2016**. (IF: 5.2)
16. A comparative study on the effect of conventional thermal pasteurisation, microwave and ultrasound treatments on the antioxidant activity of five fruit juices. Saikia, S.; **Mahnot, N.K.**; & Mahanta, C.L. *Food Science and Technology International*, 22(4), 288–301, **2016**. (IF: 2.3)
17. Optimisation of phenolic extraction from *Averrhoa carambola* pomace by response surface methodology and its microencapsulation by spray and freeze drying. Saikia, S.; **Mahnot, N.K.**; & Mahanta, C.L. *Food Chemistry*, 171, 44–52, **2015**. (IF: 8.8)
18. Effect of Spray Drying of Four Fruit Juices on Physicochemical, Phytochemical and Antioxidant Properties. Saikia, S.; **Mahnot, N.K.**; & Mahanta, C.L. *Journal of Food Processing and Preservation*, 39(6), 1656–1664, **2015**. (IF: 2.5)
19. Effect of additives on the quality of tender coconut water processed by nonthermal two stage microfiltration technique. **Mahnot, N.K.**; Kalita, D.; Mahanta, C.L.; & Chaudhuri, M.K. *LWT - Food Science and Technology*, 59(2), 1191–1195, **2014**. (IF: 6.0)
20. Effect of l-ascorbic acid addition on the quality attributes of micro-filtered coconut water stored at 4°C. DasPurkayastha, M.; Kalita, D.; **Mahnot, N.K.**; Mahanta, C.L.; Mandal, M.; & Chaudhuri, M.K. *Innovative Food Science and Emerging Technologies*, 16, 69–79, **2012**. (IF: 6.6)

Patent

1. Keener, K.M.; & **Mahnot, N.K.**: INACTIVATING PATHOGEN MICROORGANISMS USING COLD PLASMA, has been accepted by United States Patent & Trademark Office (USPTO). Publication no. WO2017200930A1, 2020.

Book/Book Chapter published

1. Gautam G. Gayary MA, **Mahnot NK**, Mahanta CL. Ultrasound Processing of Foods and Food Products: An Overview, in *Advance Research Methods in Food Processing Technologies*(1 ed.) Eds. Goyal, MR.; Veena, N., & Watharkar, RB.; Apple Academic Press, USA, 2024.
2. Saikia, S; **Mahnot, NK.**, & Gupta, K. Nutraceuticals with Health Promoting Activities, in *Novel Processing Methods for Plant-Based Health Foods: Extraction, Encapsulation, and Health Benefits of Bioactive Compounds.* (1 ed.) Eds. Goyal, MR.; Veena, N., & Watharkar, RB.; Apple Academic Press, USA, 2023.
3. **Mahnot, NK.**; Chakraborty, S.; Gupta, K.; & Saikia, S. Cold Plasma Processing Methods: Impact if Decontamination on Food Quality, in *Research on food process engineering and applications.* (1ed.), Eds by Goyal, MR.; Watharkar, RB.; Apple Academic Press, USA, 2023.
4. Gupta, K., Rather, MA. ,Kumar, P., Bardhan, P., **Mahnot, NK.**, Mandal, M., & Rupam Kataki, R. Physical and Chemical Hydrolysis Methods for Breaking Down the Complex Waste Biomass to the Fermentable Sugars and Value-Added Products, in *Thermochemical and Catalytic Conversion Technologies for Future Biorefineries Clean Energy Production Technology.* Eds. Verma, P. Springer, Singapore, 2022.
5. **Mahnot, NK.**, Chakraborty, S., Das, BJ., Borah, P, Saikia, S. Decontamination of Fruit Beverages in *Microbial Decontamination of Food.* Eds. Shah, MA., Mir, SA. Springer, Singapore, 2022.
6. Bora, J., Tongbram, T., **Mahnot, NK.**, Mahanta, CL., Badwaik, LS. Tocopherol in *Nutraceuticals and Health Care.* Eds. Kour, J., Nayik, GA.Eselvier, USA, 2022.
7. Saikia, S; **Mahnot, NK**; Sahu, RK.; & Kalita, J. Edible sea weeds as potential sources of nutraceutical, in *Marine Niche: Application in Pharmaceutical Sciences.* (1ed.) Eds. Nathani, N.; Mootapally, C.S.; Gadhvi ,I.R.; Maitreya, B.; Joshi, C.G. Spinger Singapore, 2020, 183-201.

Research guidance

Post-doc fellow

Not Applicable

Ph.D scholar

Gomi Dirchi (2022-Continuing)

Yami Nani (2022-Continuing)

Masters guidance

19 students

Course/Conference/Workshop organized

1. National Webinar on National Education Policy 2020, in Retrospect of Food Processing and Technology: Challenges and the Way Forward, by Department of Food Technology, Rajiv Gandhi University, Arunachal Pradesh, India.
Duration: August, 2021
Role: Convenor
2. International Webinar on Technologies on processing of safe foods, entrepreneurial prospects and Ministry Support: Sufficing the demands of the Food Industry, by Department of Food Technology, Rajiv Gandhi University, Arunachal Pradesh, India
Duration: July, 2021
Role: Convenor

Course/Conference/Workshop etc. attended

1. Delivered an invited talk at National Conference on Emerging Technologies for Sustainable Agro-Food-Bio Systems (ET-SAFE-2025) at Tezpur University, India, 13th-15th February, 2025.
Title of Talk : Cold Plasma Process Technology in Liquid Systems.
2. Delivered an invited talk during Green School Program under PM SHRI scheme, held at PM SHRI KENRIYA VIDYALAYA NO. 2, Itanagar, India, 28th Nov. 2024.
Title of Talk: Green Campus
3. Delivered an invited talk during 8th Northeast Green Summit 2023 to be held at Arunachal Pradesh Legislative Assembly Itanagar, on 10th March 2024
Title: Functional Foods: Food and Health
4. Delivered an invited talk in Recent Trends on Common Lifestyle Diseases and Awareness Among the Youths of Arunachal Pradesh, Department of Zoology, Rajiv Gandhi University, India, on 17th March, 2023.
Title: Food Safety Quality and Health
5. Delivered an invited talk in a lecture during National Conference on Underutilized Food Resources: Nutrient Composition, value Addition and Quality Assurance, held at Mizoram University, Mizoram, India, on 25th-26th May, 2023.
Title of the Talk: Cold Plasma Technology: Novel Non-Thermal Approach for Food Preservation
6. Delivered an invited talk in an International Webinar held at Department of Food Nutrition and Dietetics, Assam Downtown University, Guwahati, India on 23rd December, 2020.
Title of the talk: Functional Foods and their Health benefits

7. Delivered an invited talk in 'International conference on Nutraceuticals and chronic diseases', an International Conference' held at Indian Institute of Technology-Guwahati, Guwahati, India during 23-25th September, 2019.

Title of the talk: Nutraceuticals from sea weeds against chronic diseases

8. Delivered an oral presentation in 'National Symposium on Probiotics and Functional Foods on Health Management, a National Symposium' held at Department of Food Engineering and Technology, Tezpur University, Tezpur, India, during 4-5th March, 2019.

Title of the presentation: Functional Foods and Non-Dairy Matrixes for Probiotic Delivery: A Review

9. Delivered an invited talk in 'Molecular Biology/Molecular Diagnostics' an workshop held Department of bioengineering and Technology, Gauhati University, India during 17-24th December, 2018.

Title of the talk: HPLC-Principles and Application

10. Delivered an oral presentation in 'Trends and Innovation in Food Processing Technology: Prospects and Challenges, an National Seminar' held at Department of Food Engineering and Technology, Tezpur University, Tezpur, India, during 9-10th February, 2017.

Title of the presentation: Modelling ascorbic acid degradation for shelf life prediction of tender coconut water with added chemicals preservatives and mild heating

11. Presented a poster in 'Innovative Prospects in Food Processing: Integration of Engineering and biological Sciences, held at Tezpur University, Place, India during during 27-28th March, 2015.

Title of the presentation/talk: Shelf life stability of two stage microfiltered tender coconut water along with honey stored under refrigerated conditions.

12. Presented a poster in 'Nutritional Security through Sustainable Development, Research and Education for Healthy foods (NSURE-IFCON), held at CFTRI, Mysore, India during 18-21st December, 2013.

Title of the presentation: Effect of starch (*Dioscorea sp.*)-protein (casein) composite edible film and coating on the bio-active properties, texture and color of green chilies and garlic cloves

13. Presented a poster in 'Nutritional Security through Sustainable Development, Research and Education for Healthy foods (NSURE-IFCON), held at Tezpur University, Tezpur, India during 14-16th November, 2011.

Title of the presentation: Effect of microfiltration on tender coconut water quality

Sponsored Project

Title of the project	Funding agency	Year of sanction	Role
Tailoring Cold plasma-liquid interactions for microbial decontamination in exotic juices of	DST-SERB	2022	PI

Arunachal Pradesh: A non-thermal approach for safe preservation of liquid foods			
Development of a UV-Based reactor for no-thermal microbial decontamination in fruits/vegetable juices	Rajiv Gandhi University (SEED GRANT)	2022	PI
