

Nikhil Kumar Mahnot, Ph.D

Assistant Professor

Department of Food Technology
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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.

EMPLOYMENT HISTORY

Assistant Professor

Department of Food Technology, **Rajiv Gandhi University**, India

2021-present

Duties and Key responsibilities:

- Teaching and carrying out research
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Assistant Professor

Department of Bio-engineering and Technology, **Gauhati University**, India

Duties and Key responsibilities:

- Establishing an Integrated M.Sc.-Ph.D in Food Science program.
 - Teaching, research & executed laboratory classes.
 - Supervising students for their Master's Dissertation.
 - Played a key role in structuring syllabus and drafting course regulations.
 - Executed competitive entrance examinations and student's admissions
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2017-2021

Junior Research Fellow

Department of Food Engineering and Technology, **Tezpur University**, India

2012-2013

EDUCATION

PhD (Food Engineering and Technology)

Tezpur University, India

2019

Thesis Title: Enhancement of Shelf-Life of Tender Coconut Water Using Microfiltration, Cold Plasma and Hurdle Technology

M.Tech (Food Processing and Technology)

Tezpur University, India

2012

Thesis title:

- (1) *Study Of The Properties Of Dioscorea Starch And Casein Based Composite Edible Films And Coatings And Their Effect On The Quality Of Minimally Processed Green Chilies And Garlic.* [Major]
 - (2) *Effect Of Two Stage Microfiltration And Additives On The Shelf Life Of Tender Coconut Water.* [Minor]
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B.Sc. (Botany honours)

Gauhati University, India

2009

AWARDS AND HONORS

Awarded Nehru-Fulbright Doctoral Research Fellowship , Purdue University, USA.	2015-2016
Awarded DST-INSPIRE Fellowship to carry out doctoral work	2013-2018
Awarded Gold Medal for being top of the class in M. Tech	2012
Awarded Best Graduate at the Department of Botany, Cotton College.	2009
Awarded Best poster Presentation at the National conference, IPFP	2015
Cleared National Eligibility Test for lectureship conducted by UGC	2013
Cleared National Eligibility Test for lectureship conducted by ASRB	2016

INVITED TALKS

- **‘Nutraceuticals from sea weeds against chronic diseases’** at International conference on Nutraceuticals and chronic diseases, 2019 at IIT, Guwahati, India.
- **‘Food Safety’** on the occasion of World Food Day, 2017 at Assam Down Town University, 2017, India.

RESEARCH SUPERVISION

Student	Thesis title
Sayantana Chakraborty	Effect of calcium salts on soluble oxalate removal, physicochemical and bioactive properties in star fruit (<i>Averrhoa carambola</i>) juice.
Sumi Das	Suitability of standardized <i>Dillenia indica</i> juice as a delivery matrix for probiotic bacteria <i>Lactobacillus rhamnosus</i> and <i>Lactobacillus sakei</i> .
Bhaskarjyoti Dutta	Extraction of bioactive properties of <i>Garcinia pedunculata</i> and formulation of a black tea drink with <i>Garcinia pedunculata</i> fruit extract.
Shyam Bordoloi	Extraction and characterization of essential oil from <i>Citrus limon</i> and <i>Citrus aurantifolia</i> .
Manuranjan Dutta	Study on the effect of fermentation on biochemical parameters of <i>Colocasia esculanta</i> (L.) Schott. Leaves.

TEACHING

Course	Year
Food Chemistry; Instrumentation in Food Analysis; Emerging Trends in Food Processing; Post-harvest Technology of Plantation Crops; New Food Product Development and Sensory Evaluation	2017, 2018 & 2019
Industrial & Food Microbiology	2017 & 2018
Dairy Chemistry & Technology	2017 & 2019

PROFESSIONAL SERVICES/MEMBERSHIP

- External examiner for Assam Down Town University, Assam, India and University of Science and Technology, Meghalaya, India for graduate and post graduate courses.
- Reviewer for LWT-Food Science and Technology [Reviewed 7 manuscripts]
- Reviewer for Journal of Food Microbiology [Reviewed 2 manuscripts]
- Reviewer for Heliyon [Reviewed 2 manuscripts]
- Reviewer for Journal of Basic Microbiology [Reviewed 1 manuscripts]
- Life member of Association of Food Scientists and Technologists, India.

SEMINAR/SYMPOSIUM/CONFERENCE

- ‘Raising Agro-processing & Integrating Novel technologies for Boosting Organic Wellness’, 2020, Tezpur University, India. **[Participation]**
- ‘Functional Foods and Non-Dairy Matrixes for Probiotic Delivery: A Review’ at National Symposium on Probiotics and Functional Foods on Health Management, 2019, Tezpur University, India. **[Oral presentation]**
- ‘Modelling ascorbic acid degradation for shelf life prediction of tender coconut water with added chemicals preservatives and mild heating’ at ‘Trends and Innovation in Food Processing Technology: Prospects and Challenges, 2017, Tezpur University, India. **[Oral presentation]**
- ‘The Effect of HVACP on Microbial, Physical and Chemical Properties of Orange Juice’ at IFT, 2016, Chicago, USA. **[Poster presentation]**
- ‘Use of high voltage atmospheric cold plasma (HVACP) for reducing *Salmonella* Typhi in tender coconut water (TCW)’ at IFT, 2016, Chicago, USA. **[Poster presentation]**
- ‘Shelf life stability of two stage microfiltered tender coconut water along with honey stored under refrigerated conditions’ at National Conference IPFP, 2015, Tezpur University, India. **[Poster 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’ at International Food Convention on NSURE-Healthy Foods, 2013 at CFTRI, Mysore, India. **[Poster Presentation]**
- ‘Effect of microfiltration on tender coconut water quality’ in National seminar on BIOFOODS, 2011 at Tezpur University, India. **[Poster Presentation]**

WORKSHOP & TRAINING

- Training program in **Molecular Biology/molecular Diagnostics** organised by Department of Bioengineering and Technology, GUIST, Gauhati University, December 17th -24th, 2018
- **Advance certificate course on Food Safety and Analysis** organised by FICCI Research and Analysis Centre (FRAC), March 20th, 2017 to April 3rd, 2017.
- Workshop on **Intellectual Property Rights** organized by MHRD IPR chair, Tezpur University, August 8th, 2012.

SKILLS

Food Chemistry	Physio-chemical, Chemical, Bio-chemical and Enzymatic assays
Food Microbiology	Basic handling, culturing and antimicrobial assays
Instrumental analysis	Hunter color lab, Texture analysis, SEM, TEM, HPLC, GC-MS, FTIR & XRD
Modeling	Fuzzy logic, Accelerated Shelf-life testing
Software	Microsoft Office, Design Expert, SPSS and Origin

PATENT

- Kevin M Keener and **Nikhil Kumar Mahnot** “INACTIVATING PATHOGEN MICROORGANISMS USING COLD PLASMA” has been awarded by United States Patent & Trademark Office (USPTO). Publication no. US10729798B2 dated 04/08/2020

PUBLICATIONS

SCI-INDEXED

- **Mahnot NK**, Syiu LP, Wan Z, Keener K, Misra NN. In-package cold plasma decontamination of fresh-cut carrots: microbial and quality aspects. *Journal of Physics D: Applied Physics*, 5(3), 154002, 2020. (IF: 3.169)
- **Mahnot NK**, Mahanta CL, Keener KM, Misra NN. Strategy to achieve a 5-log *Salmonella* inactivation in tender coconut water using high voltage atmospheric cold plasma (HVACP). *Food Chemistry*, 284, 303–311, 2019. (IF: 6.306)
- **Mahnot NK**, Mahanta CL, Farkas BE, Keener KM, Misra NN. Atmospheric cold plasma inactivation of *Escherichia coli* and *Listeria monocytogenes* in tender coconut water: Inoculation and accelerated shelf-life studies. *Food Control*, 106, 106678, 2019. (IF: 4.258)
- **Mahnot NK**, Saikia S, Mahanta CL. Quality characterization and effect of sonication time on bioactive properties of honey from North East India. *Journal of Food Science and Technology*, 56(2), 724–736, 2019. (IF: 1.946)
- **Mahnot NK**, Gupta K, Mahanta CL. 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. *Journal of Food Science and Technology*, 56(7), 3408–3421, 2019. (IF: 1.946)
- Saikia S, **Mahnot NK**, Mahanta CL, Chattopadhyay P, Agnihotri A. Optimisation of a carambola pomace fibre fortified mix fruit beverage powder, its characterization and in vivo study. *Journal of the Saudi Society of Agricultural Sciences*, 19(1), 14-21, 2018. (IF: 0.000)
- Saikia S, **Mahnot NK**, Mahanta CL. Phytochemical content and antioxidant activities of thirteen fruits of Assam, India. *Food Bioscience*, 13, 15–20, 2016. (IF: 3.067)
- Saikia S, **Mahnot NK**, Mahanta CL. A comparative study on the effect of conventional thermal pasteurisation, microwave and ultrasound treatments on the antioxidant activity of five fruit juices. *Food Science and Technology International*, 22(4), 288–301, 2016. (IF: 1.654)
- Saikia S, **Mahnot NK**, Mahanta CL. Optimisation of phenolic extraction from *Averrhoa carambola* pomace by response surface methodology and its microencapsulation by spray and freeze drying. *Food Chemistry*, 171, 44–52, 2015. (IF: 6.306)
- Saikia S, **Mahnot NK**, Mahanta CL. Effect of Spray Drying of Four Fruit Juices on Physicochemical, Phytochemical and Antioxidant Properties. *Journal of Food Processing and Preservation*, 39(6), 1656–1664, 2015. (IF: 1.405)
- **Mahnot NK**, Kalita D, Mahanta CL, Chaudhuri MK. Effect of additives on the quality of tender coconut water processed by nonthermal two stage microfiltration technique. *LWT - Food Science and Technology*, 59(2), 1191–1195, 2014. (IF: 4.006)
- Das Purkayastha M, Kalita D, **Mahnot NK**, Mahanta CL, Mandal M, Chaudhuri MK. Effect of l-ascorbic acid addition on the quality attributes of micro-filtered coconut water stored at 4°C. *Innovative Food Science and Emerging Technologies*, 16, 69–79, 2012. (IF: 4.477)

BOOK CHAPTERS

- Saikia S, **Mahnot NK**, Sahu RK, Kalita J. Edible sea weeds as potential sources of nutraceutical. In *Marine Niche: Application in Pharmaceutical Sciences*. (1ed.) Edited By Nathani N, Mootapally CS, Gadhvi IR, Maitreya B, Joshi CG. Springer Singapore (2020). **[Accepted]**
- **Mahnot NK**, Chakraborty S, Gupta K, Saikia S. Cold plasma processing: use in food industry for decontamination and impact on food quality. In *Research on Food Process Engineering and Applications*. (1ed.) Edited by Goyal MR, Watharkar, RB. Apple Academic press, USA. **[Accepted]**
- Saikia S, Gupta K, **Mahnot NK**. Bioactive compounds with health promoting properties: Sources of Nutraceuticals. In *Research on Food Process Engineering and Applications*. (1ed.). Edited by Goyal MR, Watharkar, RB. Apple Academic press, USA. **[Accepted]**

OTHER DETAILS

(as on 03/03/2022)

Google scholar: h-index: 10 i10-Index: 9
Google scholar: https://scholar.google.com/scholar?hl=en&as_sdt=0%2C5&q=Nikhil+Mahnot&oq=
Researchgate : https://www.researchgate.net/profile/Nikhil_Mahnot
Linkedin : <https://www.linkedin.com/in/nikhil-mahnot-8743b454/>
OrcidID : <https://orcid.org/0000-0003-4306-8569>
Publons : <https://publons.com/researcher/4127228/nikhil-kumar-mahnot/>
Scopus ID : <https://www.scopus.com/authid/detail.uri?authorId=56254346400>

PERSONAL DETAILS

Date of Birth: 20/08/1988

Languages: Hindi (Proficient), Assamese (Conversational) and English (Proficient).

Hobbies: Photography, cricket, tennis, bowling, trekking, and travelling.