



**Dr. Dalbhagat Chandrakant Genu**

**Ph.D.**

**Department of Food Process Engineering**

**NIT Rourkela**

📍 B-310, VK Hall of Residence, NIT Rourkela – 769 008 (Odisha)

☎ : +91 8348561119

✉ e-mail: [cgdalbhagat@gmail.com](mailto:cgdalbhagat@gmail.com)

🌐 <https://www.linkedin.com/in/dr-chandrakant-dalbhagat-8b7240122/>

## **WORK EXPERIENCE**

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### **Assistant Professor**

**NIT Rourkela (31 March 2023 – Present)**

- Teaching and research activities

### **Post-Doctoral Experience**

**IIT Kharagpur (February 2021 – December 2022)**

- Designing experiments and conducting the trials as per project objectives.
- Supervising the pilot plant production and quality testing of FRK.
- Developing standard operating procedures (SOPs) for manufacturing FRK.
- Method development and validation of micronutrient analysis in FRK.
- Ensuring implementation of GMP, GHP, and HACCP protocols during the functioning of the pilot plant.
- Demonstrating the pilot-scale facility of FRK and providing training to the officials of Central and State Govt., FRK manufacturers, and rice millers.
- Writing research and review papers, technical reports, etc.

### **Assistant Professor**

**K. K. Wagh College of Agricultural Engineering and Technology (July 2011- October 2015)**

- Teaching undergraduate courses related to food process engineering.
- Supervised the practical classes.
- Supervised the students for their undergraduate projects.
- Worked as external examiners and evaluators.

### **Teaching Assistant**

Served as Teaching Assistant to Prof. H N Mishra, IIT Kharagpur in developing the National Programme on Technology Enhanced Learning (NPTEL)-SWAYAM Online courses and in the online teaching of UG/PG classes at IIT Kharagpur, Kharagpur, West Bengal.

## **EDUCATIONAL QUALIFICATION**

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### **Doctor of Philosophy (2021)**

#### **Food Process Engineering**

IIT Kharagpur, West Bengal

**Project title:** Studies on manufacture of micronutrient fortified rice kernels using extrusion technology

### **Master of Technology (2011)**

**CGPA: 8.68**

#### **Dairy and Food Engineering**

IIT Kharagpur, West Bengal

**Project title:** Study and performance evaluation of a new plate heat exchanger of higher capacity

### **Bachelor of Technology (2009)**

**CGPA: 8.54 (First Class with Distinction)**

#### **Mahatma Phule Agricultural University**

Rahuri, Maharashtra (India)

**Project title:** Preparation of soil fertility map of the experimental farm, Nashik, Maharashtra, India

## National Eligibility Test

Cleared National Eligibility Test in Agricultural Structure and Process Engineering (2018) and Post-Harvest Engineering and Technology (2013) conducted by ASRB, New Delhi.

## Graduate Aptitude Test in Engineering (GATE) Examination

Cleared Graduate Aptitude Test in Engineering (GATE) Examination in Agricultural Engineering (2009)

## PROFESSIONAL SOCIETY MEMBERSHIP

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- Life Member of Indian Society of Agricultural Engineering (Member ID: LM-12295)
- Member of Association of Food Scientists and Technologists (Member ID: AFST/R-1-2022/ZON/013)

## MEMBER OF NATIONAL COMMITTEES/PANEL

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- Served as a Panel Member in the committee of the Bureau of Indian Standards, Govt. of India (FAD16 & FAD20), for developing the Indian Standards for fortified rice, fortified rice kernels, vitamin-mineral premix, equipment for the manufacture of fortified rice kernel and fortified rice.

## PUBLICATIONS

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### A) Peer-Reviewed Publications in National-International Journals

1. Vishwakarma, S., Mandliya, S., **Dalbhat, C. G.**, Majumdar, J., & Mishra, H. N. (2023). Effect of Marjoram Leaf Powder Addition on Nutritional, Rheological, Textural, Structural, and Sensorial Properties of Extruded Rice Noodles. *Foods*, 12(5), 1099. <https://doi.org/10.3390/foods12051099>
2. Yadav, G. P., **Dalbhat, C. G.**, & Mishra, H. N. (2023). Preparation of Low Glycemic Rice and Comparison of Its Physicochemical Properties, Cooking Characteristics, Starch Digestibility and Microstructure with Raw Rice (*Swarna Cv*). *Food Science and Engineering*, 30-43. <https://doi.org/10.37256/fse.4120231882>
3. Nithya, A., **Dalbhat, C. G.**, & Mishra, H. N. (2022). A comparative study on the physicochemical, cooking and textural properties of fortified rice kernels prepared from raw and parboiled rice. *International Journal of Food Science & Technology*, 57(2), 1325-1332. <https://doi.org/10.1111/ijfs.15529>
4. Yadav, G. P., **Dalbhat, C. G.**, & Mishra, H. N. (2022). Effects of extrusion process parameters on cooking characteristics and physicochemical, textural, thermal, pasting, microstructure, and nutritional properties of millet-based extruded products: A review. *Journal of Food Process Engineering*, 45(9), e14106. <https://doi.org/10.1111/jfpe.14106>
5. Vishwakarma, S., **Dalbhat, C. G.**, & Mishra, H. N. (2022). Preparation of skim milk powder tablet and finite element analysis of its pressing die. *Journal of Food Process Engineering*, 45(5), e14016. <https://doi.org/10.1111/jfpe.14016>
6. Vishwakarma, S., **Dalbhat, C. G.**, Mandliya, S., & Mishra, H. N. (2022). Investigation of natural food fortificants for improving various properties of fortified foods: A review. *Food Research International*, 111186. <https://doi.org/10.1016/j.foodres.2022.111186>
7. Mandliya, S., Pratap-Singh, A., Vishwakarma, S., **Dalbhat, C. G.**, & Mishra, H. N. (2022). Incorporation of mycelium (*Pleurotus eryngii*) in pea protein based low moisture meat analogue: Effect on its physicochemical, rehydration and structural properties. *Foods*, 11(16), 2476. <https://doi.org/10.3390/foods11162476>
8. Thakur, A., Pandey, P., **Dalbhat, C. G.**, & Mishra, H. N. (2022). Development of grain-based carbonated beverage premix using maize (*Zea Mays*), Bengal gram (*Cicer Arietinum*), and finger millet (*Eleusine Coracana*). *Journal of Food Science and Technology*, 59(4), 1637-1648. <https://doi.org/10.1007/s13197-021-05175-5>
9. Misra, S., Pandey, P., **Dalbhat, C. G.**, & Mishra, H. N. (2022). Emerging technologies and coating materials for improved probiotication in food products: A review. *Food and Bioprocess Technology*, 15, 998-1039. <https://doi.org/10.1007/s11947-021-02753-5>

10. Kumar, D., Yadav, G. P., **Dalbhat, C. G.**, & Mishra, H. N. (2022). Effects of cold plasma on food poisoning microbes and food contaminants including toxins and allergens: A review. *Journal of Food Processing and Preservation*, e17010. <https://doi.org/10.1111/jfpp.17010>
11. **Dalbhat, C. G.**, & Mishra, H. N. (2021). Effect of the drying process on the color change, fissure development, and morphology of fortified rice kernels. *Journal of Food Process Engineering*, 44(7), e13719. <https://doi.org/10.1111/jfpe.13719>
12. **Dalbhat, C. G.**, & Mishra, H. N. (2021). Drying modeling, cooking characteristics, pasting properties, and crystallinity of fortified rice kernels. *Journal of Food Processing and Preservation*, 45(6), e15579. <https://doi.org/10.1111/jfpp.15579>
13. Yadav, G.P., **Dalbhat C. G.**, & Mishra H. N. (2021). Development of instant low glycemic rice using extrusion technology and its characterization. *Journal of Food Processing and Preservation*. 45(12), e16077. <https://doi.org/10.1111/jfpp.16077>
14. Raigar, R. K., **Dalbhat, C. G.**, & Mishra, H. N. (2020). Effect of pilot scale roasting on color and textural attributes of soybean kernels. *Journal of Food Processing and Preservation*, 44(11), e14883. <https://doi.org/10.1111/jfpp.14883>
15. **Dalbhat, C. G.**, & Mishra, H. N. (2019). Effects of extrusion process conditions on system parameters; physicochemical properties and cooking characteristics of extruded fortified rice kernels. *Journal of Cereal Science*, 89, 102782. <https://doi.org/10.1016/j.jcs.2019.05.016>
16. **Dalbhat, C. G.**, Mahato, D. K., & Mishra, H. N. (2019). Effect of extrusion processing on physicochemical, functional, and nutritional characteristics of rice and rice-based products: A review. *Trends in Food Science and Technology*, 85, 226–240. <https://doi.org/10.1016/j.tifs.2019.01.001>
17. Jena, S. K., & **Dalbhat, C. G.** (2018). Effect of Boiling Water Treatment for Mitigation of Toxic Recalcitrant Heavy Metal Residue in Fish Commonly Consumed in West Bengal, India. *Int. J. Pure App. Biosci.*, 6(2), 1005-1010. <http://dx.doi.org/10.18782/2320-7051.6417>
18. Burbade R. G., **Dalbhat C. G.**, Jadhav S. C., & Jadhav, N. V. (2012). Effect of wrapping materials on the storage of cut flowers. *Green farming: International Journal of Applied Agricultural and Horticultural Sciences*. 3(5), 607-610.
19. Jadhav, N. V., **Dalbhat C. G.**, & Jadhav, V. D. (2012). Preparation of Soil fertility map of Experimental farm, Nashik, Maharashtra, India. *Green farming: International Journal of Applied Agricultural and Horticultural Sciences*. 3(2), 238-241.

## B) Research Work Presented in National-International Conferences

1. A. Nithya, **Dalbhat C. G.** and Mishra H N (2022). Effect of apparent amylose content on system parameters and cooking properties of fortified rice kernels. *IFT FIRST: Annual Event and Expo. (FIRST-2022)*, Chicago (USA). July 10-13, 2022.
2. Vishwakarma, S., **Dalbhat, C. G.**, & Mishra, H. N. (2021). Food-to-Food Fortification of Rice Flour (Swarna Cv.) Using Dried Basil, Marjoram, and Spearmint Leaves Powders: A Physicochemical and Nutritional Study. In *Biology and Life Sciences Forum* (Vol. 6, No. 1, p. 15). MDPI. <https://doi.org/10.3390/Foods2021-10947>
3. Nithya, A., **Dalbhat, C. G.**, & Mishra, H. N. (2021). Comparative study on the physicochemical properties of extruded fortified rice kernels produced from different rice varieties with their corresponding rice varieties. In *Biology and Life Sciences Forum* (Vol. 6, No. 1, p. 114). Multidisciplinary Digital Publishing Institute. <https://doi.org/10.3390/Foods2021-11065>
4. Nithya A., **Dalbhat C. G.**, & Mishra H. N. (2021). Development of extraction and analytical method for determining folic acid and cyanocobalamin in fortified rice by HPLC. *International Conference on Sustainable Approaches in Food Engineering and Technology (SAFETY-2021)*, Tezpur (India). June 24-25.
5. Vishwakarma S., **Dalbhat C. G.**, & Mishra H. N. (2021). Computational fluid dynamic simulation of the twin screw extruder for fortified rice dough. *International Conference on Sustainable Approaches in Food Engineering and Technology (SAFETY-2021)*, Tezpur (India). June 24-25.
6. Yadav, G.P., **Dalbhat C. G.**, & Mishra H. N. (2020). Development of low glycemic instant rice using extrusion technology. 27<sup>th</sup> Indian Convention of Food Scientists and Technologists “*Raising Agro Processing and Integrating Novel Technologies for Boosting Organic Wellness (RAINBOW)*”, Tezpur University, Tezpur, January 30-February 1.

7. Vishwakarma S., **Dalbhat C. G.**, & Mishra H. N. (2020). Process optimization for the development of skim milk powder (SMP) tablets and its storage study. 27<sup>th</sup> Indian Convention of Food Scientists and Technologists “*Raising Agro Processing and Integrating Novel Technologies for Boosting Organic Wellness (RAINBOW)*”, Tezpur University, Tezpur, January 30-February 1.
8. **Dalbhat C. G.**, & Mishra H. N. (2018). Effect of extrusion process parameters on the functional, cooking, thermal and structural properties of fortified rice kernels (FRK). *IFT 18: A Matter of Science + Food*. Chicago, IL (USA). July 15-18.
9. **Dalbhat C. G.**, & Mishra H. N. (2018). Effect of die opening size on the extruder operating parameters, cooking and structural properties of fortified rice kernels. *19<sup>th</sup> IUFOST World Congress of Food Science and Technology*, Mumbai (India). October 23-27.
10. **Dalbhat C. G.**, & Mishra H. N. (2016). Performance evaluation of new plate heat exchanger of higher capacity. *International Conference on Emerging Technologies in Agricultural and Food Engineering*, Kharagpur, West Bengal (India). December 27-30.

### C) Other publications (Popular article)

**Dalbhat C. G.**, & Mishra H. N. (2017). Fortified Rice: Solution to Iron Deficiency Anaemia. *Food & Beverage News*, April 1-15.

### WORKSHOPS/COURSES ATTENDED/REGISTERED

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- A course on “Novel and Emerging Technologies for Food Processing Applications” conducted by Global Initiative for Academic Networks (GIAN), IIT Kharagpur (12-16 December 2016).
- A course on “Extrusion Processing in the Food and Feed Industries” conducted by Global Initiative for Academic Networks (GIAN), IIT Kharagpur (06-17 June 2016).
- A National Workshop on “Protected Cultivation for Vegetable Crops” organized by Mahatma Phule Krishi Vidyapeeth, Rahuri, Maharashtra (10-11 March 2015).
- A two-week ISTE workshop on “Engineering Thermodynamics” conducted by IIT Bombay (11-21 December 2012).

### ONLINE LECTURE DELIVERED/TRAINING ORGANISED

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- A lecture delivered on “NPD, QA, QC Global Regulatory Protocols, Digitization, Food Safety by Design Inspections” in CII 1<sup>st</sup> Virtual Overseas Study Mission on Food Safety and Quality 2021 organized by Food and Agriculture Centre of Excellence, Confederation of Indian Industry (CII), New Delhi (11-12 May 2021).
- A one-day online training session was organized on “Fortification and Blending Operation of FRK” on 17<sup>th</sup> August 2021 for Officials of Central and State Govt., FRK manufacturers, and rice millers.
- Delivered a lecture on “Scope and Process of Rice Fortification” in an online session “Manak Manthan” organised by the Bureau of Indian Standards (BIS), Hyderabad Branch, Hyderabad (28 October 2022).

### AWARDS AND ACHIEVEMENTS

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- Received “SRISTI-Gandhian Young Technological Innovation (GYTI) Award” for the research work “Manufacture of micronutrient fortified rice kernels through extrusion technology” at Vigyan Bhavan, New Delhi (06 July 2019).
- First Position in Poster Session on “Quality, Safety and Hygiene in Food Processing” at the International Conference on Sustainable Approaches in Food Engineering and Technology (SAFETY-2021) organized by Tezpur University and University of Georgia (24-25 June 2021).
- Received certificate of appreciation from Food and Agriculture Centre of Excellence, Confederation of Indian Industry (CII), New Delhi for contribution as a faculty in an online webinar on “NPD, QA, QC Global Regulatory Protocols, Digitization, Food Safety by Design Inspections” held on 11-12 May 2021.
- Received certificate of achievement in recognition of selection as a finalist to 2018 the American Association of Food Scientists for the Indian Subcontinent student poster contest.

- Received Senior Research Fellowship of Department of Biotechnology, Ministry of Science & Technology, Government of India under the sponsored project at Agricultural and Food Engineering Department, IIT Kharagpur (2016).
- Received first prize in paper fest competition at national level event OLYMPUS 09 organized by College of Engineering, Pandharpur, Maharashtra (23-24 February 2009).
- Second prize at state-level paper presentation programme “Krishi Yashawant-2009” organized by Dr D. Y. Patil College of Agricultural Engineering & Technology, Kolhapur, Maharashtra (26-27 February 2009).
- Received Padmashri Karmaveer Kakasaheb Wagh Memorial Merit Scholarship in the academic year 2005-06 and 2007-08.

## SOFTWARE SKILLS

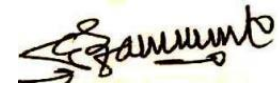
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MS Office, AutoCAD/Solidwork, Design Expert, Minitab (statistical analysis), MATLAB

## PERSONAL DETAILS

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Date of Birth : 10 October 1986  
Marital status : Married  
Permanent Address : At- Deole P o - Ghoti Tal-Igatpuri Dist-  
Nashik  
State-Maharashtra PIN-422402  
Languages Known : Marathi, Hindi, and English



(Dr. Dalbhagat Chandrakant Genu)

Place: Rourkela  
Date: 19<sup>th</sup> May 2023