Curriculum Vitae

Brajesh Kumar Panda

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ACADEMIC QUALIFICATION

Indian Institute of Technology Kharagpur, West Bengal, India 10-2020

Doctor of Philosophy: *Food Process Engineering*

Thesis Title: Process Development for Continuous Paddy Parboiling

07-2014

Indian Institute of Technology Kharagpur, West Bengal, India

Master of Technology: *Food Process Engineering*

Thesis Title: Effect of Pressure on Oxidation Time and Quality Attributes of Orthodox Tea

GPA: 9.27/10

06-2012

College of Agricultural Engineering and Technology, Odisha, India

Bachelor of Technology: *Agricultural Engineering*

Thesis Title: Development of Herbal Tea Bags using Stevia as a Sugar Substitute

GPA: 8.27/10

PROFESSIONAL EXPERIENCE

- Served as postdoctoral research associate at Advance Postharvest Technology Centre, CARIE, Lethbridge College, AB- Canada (Aug 2021-Aug 2022). Responsibilities include development of on-farm drying solutions, project planning and lab development worth $2.5 Million.
- Worked as an academic researcher in University of South Australia (May-2020 to May-2021) on projects dealing with table olive processing and non-destructive quality estimation of tree nuts.
- Extensive discussion sessions with the representatives from Nut Producers of Australia Pty Ltd, Lenswood apples, LEDA Ag, Kangaroo Island Olives and SureNut Pty Ltd.
- Planned and written project proposals and managed a mega project as senior research fellow and guided postgraduate students on research projects and scientific reporting.
- Designed and developed oxidation chamber to speed up orthodox tea manufacturing and continuous process for hydrothermal treatment in rice processing.
- Trainee at Central Institute of Post-harvest Engineering and Technology, India for 4 months and at Odisha Farm Machinery Research & Development Centre, India for a month.
- Practical exposure to production line and standard regulatory practice in flour mills, parboiling plant, dairy processing plants, processing plant for extruded products, Fruit juice processing plant, apple processing and packaging plant.

EXPERTISE

- Grain processing and storage
- Food formulation and characterization
- Product and process development
- Sensory studies
- Food waste management
- Food safety and quality control
- Starch gelatinization
- Analytical Instruments: Rheometer, Texture analyzer, E-Nose, UV Spectrophotometer, HPLC, DSC, SEM
- Heat and mass transfer analysis

AWARD AND HONORS

- Received fellowship from Ministry of Human Resource Development (MHRD), Government of India for doctoral research.
- Cleared National Eligibility Test (NET) in Agricultural Process Engineering, conducted by Indian Council of Agricultural Research.
- Received "Anurag Kanti Award" for best post-graduate thesis in Food Process Engineering and Technology from IIT Kharagpur.
- Secured all India 67th rank in Graduate Aptitude Test in Engineering (Agricultural Engineering) and got fellowship from MHRD, Government of India.
- "Silver Medal" in Song in 12th All India Inter Agricultural University Youth Festival (Agri-Fest). Anand, Gujarat, India, 2011.
- "Gold Medal" in Skit in 11th All India Inter Agricultural University Youth Festival (Agri-Fest). SHIATS, Allahabad, India, 2010.

RESEARCH PUBLICATIONS

- **Panda, B. K**., Mishra, G., Ramirez, W. A., Jung, H., Singh, C. B., Lee, S. H., & Lee, I. (2022). Rancidity and moisture estimation in shelled almond kernels using NIR hyperspectral imaging and chemometric analysis. ***Journal of Food Engineering***, 318, 110889.
- Khuntia, A., **Panda, B. K**., & Shrivastava, S. L. (2022). Effect of pulsating microwave treatment on wheat parboiling: Comparative assessment and structural characterization. ***Food Chemistry***, 367, 130694.
- Mahato, D. K., Pandhi, S., Kamle, M., Gupta, A., Sharma, B., **Panda, B. K**., ... & Kumar, P. (2022). Trichothecenes in food and feed: Occurrence, impact on human health and their detection and management strategies. **Toxicon**.
- Ramirez, W. A., Mishra, G., **Panda, B. K**., Jung, H. W., Lee, S. H., Lee, I., & Singh, C. B. (2022). Multispectral camera system design for replacement of hyperspectral cameras for detection of aflatoxin B1. **Computers and Electronics in Agriculture**, 198, 107078.

- **Panda, B. K**., Panigrahi, S. S., Mishra, G., & Shrivastava, S. L. (2021). Microwave-Assisted Hydration of Freshly Harvested Paddy (Oryza sativa L.): Process Development Based on Soaking Characterization and Energy Utilization. ***Food and Bioprocess Technology***, 14(10), 1844-1856.
- Mishra, G., **Panda, B. K**., Ramirez, W. A., Jung, H., Singh, C. B., Lee, S. H., & Lee, I. (2021). Application of SWIR hyperspectral imaging coupled with chemometrics for rapid and non-destructive prediction of Aflatoxin B1 in single kernel almonds. ***LWT***, 112954.
- **Panda, B. K**., Mishra, G., Panigrahi, S. S., & Shrivastava, S. L. (2021). Microwave-assisted parboiling of high moisture paddy: A comparative study based on energy utilization, process economy and grain quality with conventional parboiling. ***Energy***, 121011.
- Mishra, G., **Panda, B. K**., Ramirez, W. A., Jung, H., Singh, C. B., Lee, S. H., & Lee, I. (2021). Research advancements in optical imaging and spectroscopic techniques for nondestructive detection of mold infection and mycotoxins in cereal grains and nuts. ***Comprehensive Reviews in Food Science and Food Safety***, 20(5), 4612-4651.
- **Panda, B. K**., & Shrivastava, S. L. (2019). Microwave assisted rapid hydration in starch matrix of paddy (*Oryza sativa* L.): Process development, characterization, and comparison with conventional practice. ***Food Hydrocolloids***, 92, 240-249.
- **Panda, B. K.**, Chavan, A. N., & Datta, A. K. (2019). Development of super-atmospheric oxidation chamber for orthodox tea processing and its validation through neural network approach. ***Journal of the Science of Food and Agriculture***, 99(8), 3752-3760.
- **Panda, B. K**., Mishra, G., & Vishwakarma, R. K. (2019). Thin layer drying kinetics of Indian blackberry (*Syzygium cumini* L.) Pulp. ***Journal of Agricultural Engineering***, 56, 2.
- Kumar, V., Devi, M. K., **Panda, B. K**., & Shrivastava, S. L. (2019). Shrinkage and rehydration characteristics of vacuum assisted microwave dried green bell pepper. ***Journal of Food Process Engineering***, 42(4), -13030.
- Mishra, G., Srivastava, S., **Panda, B. K.**, & Mishra, H. N. (2018). Prediction of *Sitophilus granarius* infestation in stored wheat grain using multivariate chemometrics & fuzzy logic-based electronic nose analysis. ***Computers and Electronics in Agriculture***, 152, 324-332.

- **Panda, B. K.**, Mishra, G., & Datta, A. K. (2018). Orthodox tea (*Camellia sinensis* L.) oxidation under the influence of compressed air: Process optimization. ***Journal of Food Processing and Preservation***, 42(4), -13573.
- Mishra, G., Srivastava, S., **Panda, B. K.**, & Mishra, H. N. (2018). Sensor array optimization and determination of *Rhyzopertha dominica* infestation in wheat using hybrid neuro-fuzzy-assisted electronic nose analysis. ***Analytical Methods***, 10(47), 5687-5695.
- Mishra, G., Srivastava, S., Panda, B. K., & Mishra, H. N. (2018). Rapid assessment of quality change and insect infestation in stored wheat grain using FT-NIR spectroscopy and chemometrics. ***Food Analytical Methods***, 11(4), 1189-1198.
- **Panda, B. K.**, & Datta, A. K. (2016). Quantitative analysis of major phytochemicals in orthodox tea (*Camellia sinensis* L.), oxidized under compressed air environment. ***Journal of Food Science***, 81(4), C858-C866.
- Mishra, G., Joshi, D. C., & **Panda, B. K.** (2014). Popping and puffing of cereal grains: a review. ***Journal of Grain Processing and Storage***, 1(2), 34-46.

BOOK CHAPTERS

- **Panda, B. K.,** Panigrahi, S. S., Mishra, G., and Kumar, V. (2022). Robotics for General Material Handling Machines in Food Plants. Book chapter 13 in Transporting operations of food materials within food factories- Volume 3, Elsevier
- Mishra, G. and **Panda, B. K.** (2022). Cereal based fermented foods and non-alcohol beverages. Book chapter 8 in Functional cereals and cereal foods. Springer nature
- **Panda, B. K.**, Mishra, G. and Kumar, V. (2016). Non thermal process: pulsed electric fields pulsed light, high hydrostatic pressure, and ionizing radiation. Book chapter: Food Engineering Emerging Issues, Modeling, and Applications, Taylor and Francis Group, 2, 294-320.
- Ghodki, B. M., **Panda, B. K.**, Ghodki, D. M., and Goswami, T. K. (2016). Three-dimensional printing of food. Food Engineering Emerging Issues, Modeling, and Applications, 211–232.

CONFERENCE

- **Panda, B. K.**, Mishra, G., Ramirez, W. A., Jung, H., Singh, C. B., Lee, S. H., & Lee, I. (2022). Sorting of aflatoxin B1 contamination in whole almonds using multispectral imaging. CSBE, 2022; Charlottetown, Prince Edward Island, Canada, July 24-27.
- **Panda, B. K.**, Mishra, G., Ramirez, W. A., Jung, H., Singh, C. B., Lee, S. H., & Lee, I. (2022). Detection of aflatoxin B1 in shelled almonds using SWIR hyperspectral imaging. ASABE, 2022; Houston, Texas, USA. July 17-20.
- **Panda, B. K**., & Shrivastava, S. L. (2018). Effect of microwave assisted soaking on hydration behaviour of paddy during parboiling (Oral). 52nd Annual Convention of Indian Society of Agricultural Engineering (***ISAE***), Anand, Gujarat, India, 08-01-2018.
- **Panda, B. K**., & Shrivastava, S. L. (2018). Microwave soaking of paddy: an effect study (Oral). *Annual International Meeting* of American Society of Agricultural and Biological Engineers (***ASABE***), Detroit, USA, 27-07-2018.
- **Panda, B. K.**, & Shrivastava, S. L. (2018). A study on qualitative influence of microwave assisted steam parboiling of paddy (Poster). 19th *World Food Congress of Food Science and Technology*, organised by International Union of Food Science and Technology (***IUFoST***), Navi Mumbai, India, 23-10-2018.
- **Panda, B. K.**, & Shrivastava, S. L. (2017). Microwave assisted parboiling of freshly harvested paddy (*Oryza sativa*): A faster and energy efficient approach (Poster). *Annual International Meeting* of Institute of Food Technologists (***IFT***), Las Vegas, USA, 25-06-2017.