

DR. MANOJ KUMAR PANDA, PHD

RESEARCH ENGINEER

AICRP ON POST HARVEST TECHNOLOGY

DEPARTMENT OF AGRICULTURAL PROCESSING & FOOD ENGINEERING

COLLEGE OF AGRICULTURAL ENGINEERING AND TECHNOLOGY

O.U.A.T., BHUBANESWAR – 751003, INDIA



EDUCATIONAL QUALIFICATION

PhD	(Agricultural Engineering), 2006 Orissa University of Agriculture and Technology
Thesis	Studies on Microwave Assisted Convective Dehydration of Pineapple
M. Tech.	(Post Harvest Technology) 1990
Thesis	Microcomputer Based Control System of Rotary Dryer Operation
Grade	Excellent
B.Sc	(Agricultural Engineering and Technology), 1987 Orissa University of Agriculture & Technology

SCHOLARSHIPS/HONOURS RECEIVED

ICAR merit Scholarship during undergraduate studies

British Scholarship during Post Graduate Studies

PROFESSIONAL EXPERIENCE

College of Agricultural Engineering and Technology, OUAT, Bhubaneswar

Research Engineer, AICRP on Post Harvest Technology, CAET, OUAT, Bhubaneswar Since 2012

Associate Professor and In-Charge Central Laboratory, OUAT from 2006 to 2012

Assistant Research Engineer, AICRP on Post Harvest Technology, CAET, OUAT: 1995-2006 (12 years including 1 ½ years and In-Charge Research Engineer, AICRP on Post Harvest Technology).

Junior Scientist, Dept. of Agricultural Processing & Food Engineering From 1992 to 1995

Asian Institute of Technology, Bangkok Thailand

Research Associate: Asian Institute of Technology, Bangkok, Thailand: 1990-1992 (2 years during which I worked as a Consultant on Soil Mechanics and Foundation Engineering for the Freeway Express Highway

International Crops Research Institute for Semi-Arid Tropics (ICRISAT), Hyderabad, INDIA

Research Associate, International Crops Research Institute for Semi-Arid Tropics, Hyderabad: 1988 (1 year). Worked on Rainfall Simulator, Saptivity Study etc. I was posted as a Supervisor for and Adopted Catchment Area at Mittimari, near to Bangalore for adoption of latest Technology among farmers of that area.

Sound knowledge in operation of the following major equipments

Scanning Electron Microscope with SE, BSE and EDS detectors
High Performance Thin Layer Chromatography
High Performance Liquid Chromatograph with Mass Spectrophotometer
Multiwave Digestion/Extraction/Drying System
Super Critical Fluid Extraction System
Solid Phase Extraction System
UV-VIS Spectrophotometer
Atomic Absorption Spectrophotometer
Hunterlab Colorimeter
TA-XT plus Texture Analyser
Gas Chromatograph
Diode Array Detector
Rheometer
Controlled Atmospheric Storage System
Modified Atmospheric Packaging System
Different Drying equipments like Freeze Dryer, Fluidised Bed Dryer, ph meter, and other equipments

PROFESSIONAL INTEREST

Food quality and Safety
Agro Processing System

TEACHING EXPERIENCE

23 years of teaching experience at UG and PG level in the discipline of Agricultural Processing and Food Engineering

Courses Taught at Undergraduate Level

PHT of Horticultural Crops
PHT of Cereals, Pulses and Oil Seeds
Engineering Properties of Biological Materials
Food properties and food quality

Courses taught at Post Graduate Level

Instrumentation and Measurement Techniques
Drying and Dehydration

Milling of Cereals, Pulses and Oilseeds
Engineering properties of Food Materials
Food Quality and Safety Engineering
Food Analysis and Quality Control

Counsellor for IGNOU course “Diploma in Value added products from Fruits and Vegetables.

RESEARCH GUIDANCE

4 nos. of Master Students in Post Harvest Processing and Food Engineering as guide & 8 nos. as co-guide
Acted as Co-guide for 2 nos. of BVSc&AH Students
40 nos. of Undergraduate students in Agricultural Engineering

RESEARCH CONTRIBUTION

Designed and developed a 4Q capacity onion storage structure
Fabricated one CRR type dryer
Designed and developed a 4Q cross flow batch dryer
Designed and developed biomass heat exchanger
Developed a laboratory scale microwave assisted convective dryer
Optimization of process parameters for osmotic dehydration of pineapple
Optimized process parameter for microwave assisted convective dehydration of pineapple
Developed value added products from pine apple and cashew apple

EXTENSION CONTRIBUTION

Imparted training to many farmers, small scale processors and SHGs on value addition to Cereals, Pulses, Spices, Fruits and Vegetables

Demonstrated different prototypes developed under AICRP on PHT to the farmers and end users.

Provided technical guidance to SHGs NGOs and small scale entrepreneurs for establishment of agro processing complexes.

Actively helped the Research Engineer in establishment of two nos. of Agro Processing Complex.

ADMINISTRATIVE EXPERIENCE

Research Engineer of AICRP on PHT since 2012
Remain in-Charge of Research Engineer for 1 ½ years
In-Charge of Central Laboratory from 2006 to 2012

UNIVERSITY SERVICE/OTHER ACTIVITIES

Officer in charge of Training and placement cell of the college for 2 years during which 100% placement were achieved

Technical expert in many Purchase Committee including Central Purchase Committee since 2007.

UNIVERSITY SERVICE/OTHER ACTIVITIES

Officer in Charge, Training and Placement (2 yrs) during which 100% placement were achieved

Member in Anti-ragging squad of the College

Technical Expert in many Purchase Committees including the Central Purchase

PUBLISHED BOOKS/MANUALS

- Manual of Food Engineering. 2007. S.K. Dash & M.K. Panda
- Manual of Food Engineering (Equipment). 2006. S.K. Dash, M.K. Panda, U.S. Pal and S.N. Mohanty
- Practical manual on Post Harvest Engineering of Cereals, Pulses and Oil Seeds.2005. U.S. Pal, M.K. Panda, K. Rayaguru, Md. K. Khan and S.N. Mohanty

PUBLICATION IN RESEARCH JOURNALS

Sahoo N.R., Pal, U.S., Dash S.K., Panda M.K., Sahoo D	Effect of combined hot air heat pump and microwave assisted drying on quality characteristics of onion shreds	(2014). J of Agril. Engg, vol 51 (1)
U. S. Pal & R. K. Patra & N. R. Sahoo & C. K. Bakhara & M. K. Panda	Effect of refining on quality and composition of sunflower oil.	2014. J. Food Sci Technol
Bebartta, J. P., Sahoo, N.R., Dash, S.K., Panda, M. K., Pal, U.S.	Kinetics modeling and moisture diffusivity of onion slices in fluidized bed drying,	Journal of Food Processing and Preservation DOI: 10.1111/j.1745-4549.2012.00764.x
Mohanta, B., S.K. Dash, M.K. Panda and G.R. Sahoo	Standardization of process parameters for microwave assisted convective dehydration of ginger	(2011).. J. Food Sci Technl.DOI 10.1007/s13197-011-0546-2.
Rayaguru K., M.K. Khan, G. Sahoo & M.K. Panda	Studies on Storage Characteristics of Betel leaves,	(2008). AMA, 39(3): 42-45
Nihar R. Sahooa, Manoj	Comparative study of MAP and	Scientia Horticulturae

K. Pandaa, Lalit M. Balb,□, Uma S. Pal, Dipika Sahoo	shrink wrap packaging techniques for shelf life extension of fresh guava	
Tirkey, B., Pal U.S., Sahoo N.R., Bal L.M., Bakhara C.K. and Panda M.K.	Evaluation of physico chemical changes of fresh cut unripe papaya during storage,	(2014) Journal of Food Packaging and Shelf Life, 17
Manoj K. Panda, Uma S. Pal, Lalit M. Bal, Tapasi Mohapatra	Changes in tissue structure and textural characteristics of maize grain during cooking process	(2014) Journal of Food Measurement and Characterization ISSN 2193-4126 Food Measure DOI 10.1007/s11694-014-9217-
Mohapatra L., G.R. Sahoo, M.K. Panda & S.C. Parija	Pharmacokinetic profile of Nimesulide in Bovine Calves	(2009).. Journal of Bioequivalence & Bioavailability, vol 1 (4): 121-126
Dash, S.K., Panda, M.K. and Kar A.,	Effect of microwave power level on the dehydration of partially osmo-dehydrated pineapple.	2007. Paper presented in 41 st Annual Convention of ISAE, Jan 29-31, 2007
Panda, M.K., Dash, S.K., and Kar A. Mohanty S.N..	Effect of different pretreatments on quality of dehydrated pineapple.	Paper presented in 41 st Annual Convention of ISAE, Jan 29-31, 2007
Pal, U.S., Sahoo, N.R., Panda, M.K. and Khan, Md. K.	Equilibrium moisture study of turmeric	(2005).. Curr. Agric. Res. 18 (1-4)
Pal, U. S., Khan, Md. K., Sahoo, G.R. and Panda, M.K.	Post harvest practices of turmeric in Orissa India	(2003), , Agricultural Mechanization in Asia, Africa and Latin America , 33(4) : 45-49.
Panda, M.K., Pal, U.S., Sahoo G. and Mohanty S.N.	Studies on Storage of Onion.	2003. National Seminar on Food, Nutrition and Sustainable Development. October 20-21, 2003
Pal, U.S., Panda M.K., Sahoo N.R. and Khan M.K. 2003.	Performance evaluation of CIAE Dal Mill.	National Seminar on Food, Nutrition and Sustainable Development. October 20-21, 2003.
U. S. Pal, M. K. Panda, N. R. Sahoo, M. K. Khan	Performance evaluation of CIAE dal mill	(2003) p: 56 National seminar on Food, Nutrition and Sustainable Development
Pal, U.S., Panda M.K. Sahoo G. and Khan M.K.	Effect of processing parameters on quality of Turmeric	International Seminar on Traditional

2002..		Knowledge-Health and Environment. February 23 -24, 2002
Mohanty, S.N., Bal S. Dash S.K. and Panda M.K.	Effects of hydrostatic parboiling on the milling quality of paddy (cv. Parijata).	(2002). Journal of Agricultura Engineering, vol 39(2): 9-14: April-Jun, 2002
Mohanty, S.N., Bal S. Dash S.K. and Panda M.K.	Hydration characteristics of paddy.	(2002). Journal of Agricultura Engineering, vol 39(1): 1-8: Jan-Mar, 2002
U. S. Pal, G. R. Sahoo, M. K. Panda, M. K. Khan, S. N. Mohanty, S. Swain	Post harvest losses of vegetables in Orissa	(2001), FP-II-09 35th annual convention of ISAE
Khan, Md. K., Panda, M.K., Rayaguru, K. and Bakhra, C.K.	Optimum harvesting stage for paddy.	(1997). J. of Env. and Ecology, 15(2) : 355-356
Khan, Md. K., Rayaguru, K., Panda, M.K. and Bakhra, C.K.	Assessment of harvest and post harves losses of paddy.	(1997). J. of Env. and Ecology, 15(2) :341-342

PAPERS PRESENTED AT WORKSHOP/SEMINAR

Dash, S.K., Panda, M.K. and Kar A.,	Effect of microwave power level on the dehydration of partially osmo-dehydrated pineapple.	2007. Paper presented in 41 st Annual Convention of ISAE, Jan 29-31, 2007
Panda, M.K., Dash, S.K., and Kar A. Mohanty S.N..	Effect of different pretreatments on quality of dehydrated pineapple.	Paper presented in 41 st Annual Convention of ISAE, Jan 29-31, 2007
Panda, M.K., Pal, U.S., Sahoo G. and Mohanty S.N.	Studies on Stoage of Onion.	2003. National Seminar on Food, Nutrition and Sustainable Development. October 20-21, 2003
Pal, U.S., Panda M.K., Sahoo N.R. and Khan M.K. 2003.	Performanc evaluation of CIAE Dal Mill.	National Seminar on Food, Nutrition and Sustainable Development. October 20-21, 2003.
Pal, U.S., Panda M.K. Sahoo G. and Khan M.K. 2002..	Effect of processing parameters on quality of Turmeric	International Seminar on Traditional Knowledge-Health and Environment. February 23 -24, 2002
U. S. Pal, G. R. Sahoo, M. K. Panda, M. K. Khan, S. N. Mohanty, S. Swain	Post harvest losses of vegetables in Orissa	(2001), FP-II-09 35 th annual convention of ISAE
U. S. Pal, M. K. Panda, N. R. Sahoo, M. K. Khan	Performance evaluation of CIAE dal mill	(2003) p: 56 National seminar on Food, Nutrition and Sustainable Development

TECHNICAL BULLETINS

M. K. Khan, U. S. Pal, G. R. sahuo, N. R. sahuo, K. Rayaguru, M. K. Panda	Status report on post harvest activities in Orissa
U. S. Pal, M. K. Khan, K. Rayaguru, M. K. Panda, G. R. sahuo, N. R. sahuo	Post harvest management of turmeric
K. Rayaguru, M. K. Khan, M. K. Panda, U. S. Pal, G. R. Sahoo, N. R. Sahoo	Post harvest profile of betel leaves
Sahoo, N. R., M. K. Panda, U. S. Pal, G. Sahoo and Md. K. Khan	Effect of Natural Calamities on Post Harvest Implications of Food, Feed, Fuel and seed
U. S. Pal, M. K. Khan, M. K. Panda, K. Rayaguru, G. R. sahuo, N. R. sahuo	Dali Kala, <i>Gramanchalare Nijukti sujogara eka madhyama</i>
K. Rayaguru, M. K. Panda, U. S. Pal, M. K. Khan G. R. sahuo, N. R. Sahoo	Dhana Unsa Drum Dhana unseibara sahaja upaya
N. R. Sahoo, U. S. Pal, G. R. Sahoo, M. K. Khan, K. Rayaguru, M. K. Panda,	Rural Processing Value added products from cashew apple, custard apple and pine apple
G. R. Sahoo, K. Rayaguru, U. S. Pal, M. K. Khan, M. K. Panda, N. R. Sahoo	Leafy vegetables, Natures gift to mankind
M. K. Panda, N. R. Sahoo, K. Rayaguru, G. R. Sahoo, U. S. Pal, M. K. Khan, S. N. Mohanty	Potato chips
K. Rayaguru, N. R. Sahoo, M. K. Panda, U. S. Pal, G. R. Sahoo, M. K. Khan, S. N. Mohanty	Zero energy cool chamber
C K Bakhara, M. K. Panda , U. S. Pal, N. R. Sahoo, R K Patra, M. Mohapatra	Mahua seed decorticator
M. K. Panda, U. S. Pal, C K Bakhara, N. R. Sahoo, R K Patra	Research Highlights of AICRP on Post Harvest Technology (Bhubaneswar centre)
U. S. Pal, S. K. Dash, M K Panda, C K Bakhara, K Rayaguru, M K Khan	Post harvest technology of food grains
C K Bakhara, M. K. Panda , U. S. Pal, N. R. Sahoo, R K Patra, M. Mohapatra	Post harvest activities of vegatbales and pack house technology
U. S. Pal, C K Bakhara, M. K. Panda , N. R. Sahoo, R K Patra, M. Mohapatra	Mini oil refining unit
U. S. Pal, C K Bakhara, M. K. Panda , N. R. Sahoo, R K Patra	Glossary of post harvest equipments

LEAFLETS

U. S. Pal, M. K. Panda, M. K. Khan, K. Rayaguru, G. R. Sahoo, N. R. sahuo	Haladira byabaharika gyana sambandhare kichhi janiba katha
U. S. Pal, N. R. Sahoo, K. Rayaguru, M. K. Panda, M. K. Khan, G. R. Sahoo	Post harvest management of turmeric
K. Rayaguru, M. K. Panda, M. K. Khan, G. R. Sahoo, U. S. Pal, N. R. Sahoo	Panapatrara byabaharika gyana sambandhare kichhi janiba katha
K. Rayaguru, M. K. Panda, M. K. Khan, G. R. Sahoo, U. S. Pal, N. R. Sahoo	Post harvest profile of betel leaves
U S. Pal, M. K. Panda, C K Bakhara, N. R. Sahoo, S K Dash	Dalikalara byabahara
U S. Pal, M. K. Panda, C K Bakhara, N. R. Sahoo, R K Patra	Taila bijara prakriya karana
U. S. Pal, C K Bakhara, M. K. Panda, N. R. Sahoo, R K Patra, M. Mohapatra	Sarba bharatiya gabesanaprakalpa, Amala parbarti baisayika gyana, eka drustipata

TRAINING PROGRAMMES ATTENDED

Governance and Food Safety in International Food Chains	Mar12-30, 2012
• Summer School on Design of Storage structures and Quality Assessment Techniques for Agricultural Produce,	May 21-Jun 10, 2003. CIPHET, Ludhaina
• Summer School on Recent Technologies for Post Harvest Management of Agricultural Produce,	May 16-Jun 5, 2000. CIPHET, Ludhiana
• Summer School on Biotechnological Approaches to Food Processing. January	20 – February 9, 2004. Centre of Advanced Studies, Dept. of Foods and Nutrition, Post graduate and research centre, Acharya N.G. Ranga Agri. University, Hyderabad.
• Winter School on CAD of Agricultural Machinery,	December 1-21, 1999. CIAE, Bhopal
• AUTOCAD applications.	1989. Regional Computer Centre, AIT, Bangkok
• FORTRAN Programming,	1990. AIT, Regional Computer Centre, Bangkok

PROFESSIONAL AFFILIATIONS

1. Life Member, Indian Society of Agricultural Engineers (ISAE)
2. Life Member, Orissa Engineering Congress, Bhubaneswar
3. Life Member, AIT Alumni Association.
4. Life member, Institute of Engineers