

**Dr. Karunakar Singh**

Professor &amp; Head

B Sc, St. Andrew's College, Gorakhpur, 1979

B Tech, HBTI, Kanpur, 1983

M Tech, HBTI, Kanpur, 1985

Ph D, HBTI, Kanpur, 1998

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email: [ksingh\\_hbti@yahoo.com](mailto:ksingh_hbti@yahoo.com)**Experience ( ~ 31 years: Academic and Industrial)**

Teaching and Research - ~27 years

Industrial (Amul Dairy, Anand)- ~4 years

**Research Interests**

Processing of Cereals and Legume Pulses, Dairy, Fruits, vegetable and Bakery &amp; confectionary products

**Research guidance**

M Tech : 33 (Completed), 2 (In progress) ; Ph D : 4 (Completed), 2 (In progress)

**Summer school and Quality improvement programme attended and organized: 26****Awards and Honors**

Recipient of Best poster presentation award in the Group Grain Science and Technology. "Effect of Moist-heat treatment on milling of Arahar " presented at third IFCON-93 held at Mysore, from 7-12 sept.,1993

**Administrative assignment undertaken:**

Convener, Faculty Advisor and Hony. Secretary (Council of Students' Activities); Hostel Warden and Assistant Dean Student's Welfare; Proctor and Chief Proctor HBTI; Tabulator and Assistant Dean PRG; Chairman ( Board of Studies); Member of Screening committee for promotion under ACP for officers of HBTI, Kanpur; Assistant Dean Academic affairs; Head, Biochemical Engineering and Food Technology (HBTU, Kanpur), Member (Board of Examination, HBTUKanpur) and Dean Student's Welfare (HBTU)

**Associated experience**

Subject Expert for curriculum Development and AICTE; Managing T&amp;P and organizing national and international seminars and conferences; External expert for selection of faculty for University of Lucknow, SHIATS, Allahabad and FET, RBS College, Agra; RDC member of Chemical Engineering and Technology Dr. APJAKTU, Lucknow and BU, Jhansi; Assisting entrepreneurial development and training programme, External examiner for Food Science &amp; Tech. in Dr. APJAKTU, Lucknow, BHU, Varanasi, AMU, Aligarh, MGCGVV, Chitrakut, CSAUA&amp;T, Kanpur, MPUA&amp;T, Udaipur, BU, Jhansi etc.; Examiner for PhD Food Tech. for SLIET &amp; PTU(Punjab), MGCGVV, Chitrakut, BSAMU, Aurangabad (Maharashtra), SHIATS, Allahabad, CDLU, Sirsa; Hony. Asstt. Co-ordinator in Rice Processing and Allied Machines (RPAM) Testing Centre (HBTI); Technical Expert in the panel of District Industry centre (DIC), Kanpur; Subject expert/evaluator for the project submitted to the CST-UP, Lucknow, Subject Expert for UPPSC, Allahabad

## PRESENTATIONS & PUBLICATIONS:

### A. International Presentations & Publications:

1. **K. Singh**, D.C.Saxena, B.K. Mishra And P.N. Maheshwari (1993) “ Effect of Moist- heat treatment on Milling of Aarahar ” Ibid (Abstract No. GST-12 p 185 in Abstract Volume).
2. V.K.Srivastava, **K. Singh**, Rajkumar and P.N.Maheshwari (1993).“Effect of Microwave Treatment on dehydration of Garlic” poster presentation in third International Food Convention IFCON-93, held at CFTRI, Mysore, (India): Sep.7-12, (Abstract No. FVP-3, pp.140-141
3. **K. Singh** and P.N. Maheshwari (1997) “ Optimization of Conventional Pretreatment for Quantitative Dehusking of Pigeonpea ” poster presentation in Indian Conventation of Food Scientists and Technologist (ICFost -97, held at BARC, Anushaktinagar, Mumbai (India) : Sept.25-26 (Abstract No. D-8, p.46 in Abstract Volume).
4. Chandra Subhash, **Singh. K.** and Maheshwari. P.N. (1998). “Microwave Energy for Drying Green Mango Slice to Amchur” poster presentation in 4<sup>th</sup> International Food Convention IFCON-98. held at CFTRI, Mysore ( India) Nov. 23-27, (Abstract No.0- 34, p.156 in abstract Volume)
5. Chandra Subhash, **Singh, K.** and Maheshwari. P.N. (1998). “Preservation of Green Mango Flesh and Pulp” poster presentation in 4<sup>th</sup> International Food Convention IFCON-98. held at CFTRI, Mysore( India) Nov. 23-27, (Abstract No.0-35, p.156 in abstract Volume)
6. **Singh K.** and Maheshwari P.N. (1998) .Studies on Milling of Mungbean (*Vignaradiata*) and Urdbean (*Vigna mungo*) . Poster presentation in 4<sup>th</sup> International Food Convention IFCON-98. held at CFTRI, Mysore( India) Nov. 23-27, (Abstract No.24, p.169 in (Abstract Volume).
7. Pathak.A.K., **Singh K.** and Maheshwari, P.N. (2000) “ Dehydrated Flakes from Damaged Aonla Fruits”poster presentation in International Conference on Processed Food for 21<sup>st</sup> Century ” Organised by Deptt. of Food Technology and Biochemical Engineering, Jadhavpur University Calcutta,(WB), Jan,14-16. 2000. (Abstract No. FPE – XXI in Abstract Volume).
8. Singh K.,Shukla J. Srivastava D.,Maheshwari P.N.(2000). ”Effect of Sprouted Mungbean Flour (SMF) Fortification on the Quality of Biscuits” poster presentation in International Conference on processed food for 21<sup>st</sup> Century ” Organised by Deptt. of Food Technology and Biochemical Engineering, Jadhavpur University Calcutta(WB), Jan,14-16. 2000. {(Abstract No. FPEN –12(1)}.
9. Rajesh Garg, Deepak Srivastava,K. Singh and G.N.Mathur (2000) “LDPE/LLDPE/HDPE Blended films for Food Packaging Application: A Thermo Mechanical Study: Poster Presentation in International Conference on Processed Food for 21<sup>st</sup> Century” Organised by Deptt. of Food Technology and Biochemical Engineering, Jadhavpur University Calcutta (WB), Jan,14-16. 2000. {(Abstract No. FPEN – 12(2)}.
10. Singh K.,Maheshwari P.N. and Kant U (2003) “Utilization of Wheat Bran: Preparation of High fibre Biscuits ” Poster Abstract in 5<sup>th</sup> International Food Convention of food Scientists & Technologists. (IFCON -03), held at CFTRI Mysore (India): Dec. 5-8, p- 109 in Abstract Volume.)
11. Bhasker N.K. Maheshwari P.N. and Singh K.(2003) “Studies of Optimisation of Pre- treatment and Processing Conditions in Preparation of Banana Powder” Ibid (Abstract No. FR-74, P.203 )
12. Lal Apoorva B., Singh A.P., Maheshwari P.N. and Singh K. (2003) “Application of Microwave Energy in Processing and Preservation of Aonla Paste” Ibid (Abstract No. PK-10, P.220 in Abstract Volume.)
13. V.Nanda, S.Singh, C.S. Raina, N.Jindal, K. Singh and D.C. Saxena (2004) “optimization of the Process Variables for the Preparation of Processed Paneer using Response Surface Methodology” research paper published in J.Eur. food RES. Technol,pp.218:529-534.
14. Dheeraj Mishra, A.K. Shukla A.K. Dixit, and K. Singh (2005) “ Aqueous Enzymatic Extraction of oil from Mandarin Peels ” research paper published in J. Oleo Science Vol. 54 No. 6 ( Japan Oil Chemist Society). Pp.335-359.

15. D.Mishra, A.K. Shukla, A.K. Dubey, A.K. Dixit and K. Singh (2006), "Insecticidal Activity of Vegetable Oils against Mustard Aphid *Lipaphis erysimi* Kalt under field conditions" *J.Oleo Science* Vol.55 No.5 (Japan Oil Chemist Society). pp- 217-223.
16. D.Mishra, A.K. Shukla, Kamal.K.Tripathi, A.Singh A.K.Dixit and K. Singh (2007) "Efficacy of Application of Vegetable Seed oil as Grain Protectant against infestation by *Callosobruchus chinensis* and its effect on milling fractions & apparent degree of dehusking of legume pulses" *J.Oleo Science* Vol.56(Japan Oil Chemist Society). pp.1-7
17. Taruna Joshi, Leela Iyengar, Karunakar Singh, Sanjeev Garg (2008) Isolation, identification and application of novel bacterial consortium TJ-1 for decolourization of structurally different azo-dyes. *J.Bioresource Technology*, Vol.99, pp-7115-7121.
18. Alak Kr. Singh & Karunakar Singh (2009) "Study on  $\beta$ -galactosidase isolation, purification and optimization of lactose hydrolysis in whey for production of Instant energy drink". *International journal of Food Engineering* Vol.5 issue (2) article 5.
19. Apoorva Behari Lal, K.P.Mishra and Karunakar Singh (2010) "Studies on Optimization of Process Conditions for Osmotic Concentration of Apple Slices". *International Journal of Agriculture and Food Science Technology*. Vol. 1(2) .pp- 127-132.
20. Alak Kumar Singh and Karunakar Singh (2012) "Study on Hydrolysis of Lactose in Whey by use of Immobilized Enzyme Technology for Production of Instant Energy Drink". *Advance Journal of Food Science and Technology*. Vol.4(2) .pp- 84-90.
21. Alak Kumar Singh and Karunakar Singh (2012) "Utilization of Whey for the Production of Instant Energy Beverage by Using Response Surface Methodology". *Advance Journal of Food Science and Technology*. Vol.4(2) .pp- 103-111.
22. Vivek Kumar, Rishika Tewari and K. Singh (2013)c "Comparative studies of drying methods on yield and composition of essential oil of *Cymbopogon Citratus*". *Journal of Essential Oil Bearing Plants* (Taylor & Francis, UK). DOI: 10.1080/0972060X.2014.935069
23. Vivek Kumar, H.K. Sharma and K. Singh (2013) "Effect of cooking conditions and microwave drying on physico-chemical, functional and anti-nutritional properties of "Taro flour". *International Journal of Food Properties* (Taylor & Francis, UK). (Communicated)
24. Vivek Kumar, H.K. Sharma, K. Singh and Rishik Tewari (2014). "Application of Taguchi Method to Optimize Taro-Wheat Flour Composite Cake" oral presentation in International Conference on New Approaches in Food Security and Value Addition: Technological and Genetic Options (NAFSVA-2014), held at RBS Engineering Technical Campus, Bichpuri, Agra, (India): Feb.17-19 (Abstract No. VA-O-13, p.56 in Abstract Volume).
25. Vivek Kumar, H.K. Sharma, K. Singh and Shewta Mishra (2014). "Optimization of Process Parameters for the Production of Taro Chips using RSM" oral presentation in (NAFSVA-2014), Ibid (Abstract No. VA-O-15, p.57 in Abstract Volume).
26. Akshay Kumar Singh, K. Singh and Vivek Kumar (2014). "Antioxidant Properties of Pomegranate Peel" oral presentation in (NAFSVA- 2014), Ibid (Abstract No. SE-O-15, pp.69-70 in Abstract Volume).
27. Raju Kumar Sah, Anuraj Pathik and K. Singh (2014). "Food Supply Chain Losses, Constraints and Wastage Avoiding Strategy" poster presentation in (NAFSVA- 2014), Ibid (Abstract No. FS-P-15, p.79 in Abstract Volume).
28. Vivek Kumar, Anjali and K. Singh (2014). "Detection of Genetically Modified Organisms (GMOs) in Foods" poster presentation in (NAFSVA- 2014), Ibid (Abstract No. BT-P-18, pp.86-87)
29. Nikita Bhargava, K. Singh and Vivek Kumar (2014). "Using Membrane Transporters; A Step Towards Sustainable Crop Production" poster presentation in (NAFSVA- 2014), Ibid (Abstract No. SE-P-10, p.110)

30. Teena Rawat, Harshit Chaurasia and K. Singh (2014). "Quality Assurance in Food Industry" poster presentation in (NAFSVA- 2014), Ibid (Abstract No. SE-P-17, p.113 in Abstract Volume).
31. Vivek Kumar, H.K. Sharma, K. Singh and Shewta Mishra (2014) "Optimization of Process Parameters for the Production of Taro Chips using RSM with Fuzzy Modelling". *Journal of Food Measurement and Characterization*. DOI 10.1007/S11694-015-9248-1
32. Vivek Kumar, H.K. Sharma, K. Singh and Rishika Tewari (2014) "Optimization of Taro – Wheat Composite flour cake using Taguchi Technique". *Journal of Food Measurement & Characterization* (Springer) DOI: 10.1007/s11694-014-9208-1.
33. Vivek Kumar, H. K. Sharma, K. Singh, Pragati Kaushal, and R. P. Singh (2015) Effect of pre-frying drying on mass transfer kinetics of taro slices during deep fat frying. *International Food Research Journal* (Accepted, In Press).
34. Vivek Kumara, Rishika Tewaria & K. Singh (2015) Comparative Studies of Drying Methods on Yield and Composition of the Essential Oil of *Cymbopogon citrates*. *Journal of essential oil bearing plants*. Vol 18 (3): 744-750.
35. Vivek Kumar, H.K. Sharma and K. Singh (2015) Physico-chemical, functional and anti-nutritional properties of taro (*Colocasia esculenta*) flour as affected by cooking and drying methods. *African Journal of Food Science* (Accepted, In Press).
36. Vivek Kumar, H.K. Sharma and K. Singh (2016) Mathematical modeling of thin layer microwave drying of taro slices. *Journal of Institution of Engineers (India) Series A*. Vol 97 (1): 53-61.
37. Vivek Kumar, H.K. Sharma and K. Singh (2016) "Effect of precooking on drying kinetics of taro (*Colocasia esculenta*) slices and quality of its flours. *Journal of Institution of Engineers (India) Series A*. (Under Review).
38. Soumya Rathore, K. Singh and Vivek Kumar (2016) "Miilet grain processing, utilization and its role in health promotion: A Review". *Journal of Food Research*. (Under Review).

#### **B. National Presentations & Publications:**

1. K.Singh, R.P.Singh and P.N.Maheshwari (1986). "Microwave processing of paddy for Stabilization of Rice-bran" proc. National Seminar on Oil Seed Products for Edible Purpose' held at HBTI, Kanpur March 1-2, pp 63-69.
- 2.K. Singh, S.V.Vivek, J.Shukla and P.N.Maheshwari (1999) "Sprouted Chickpea Flour (SCF) Fortified Biscuits" poster presentation in National Seminar on "Traditional Health food : Status and perspective" organized jointly by Deptt. of food Science and Technology, G.B. Pant University of Agriculture and Technology, Pant Nagar (Uttanchal) India and Association of Food Scientist & Technologists India (Pant Nagar Chapter) held at Pant Nagar ( India): March 26-27, 1999.
- 3.Singh K. Pathak A.K., Gupta V.K. and Maheshwari P.N. (2000) " Effect of Pre-processing Treatment(s) on Phsico- chemical properties of Dried Banarasi Aonla Flakes & Powder".Research Paper Presentation in Silver Jubilee Seminar on Emerging Trends in Food Processing: Technology and Value Addition, Organized by Deptt. of Food Technology, Bundelkhand University, Jhansi-(UP), May 26-27, 2000
4. Pandit B., Singh K. Pant. K.K. Gupta V.K. and Pathak A.K.(2000) "Removal of Arsenic from Contaminated water by Activated Alumina". Research paper presentation in Silver Jubilee Seminar on Emerging Trends in Food Processing: Technology and Value Addition, organized by Deptt. of Food Technology, Bundelkhand University, Jhansi-(UP), May 26-27, 2000
5. Rajesh Garg, Deepak Srivastava, K. Singh and G.N.Mathur (2000) "Ternary Blended Polyethylene Films for Food Packaging Applications –A Thermo- mechanical Study" Poster abstract in 14<sup>th</sup> Indian Convention of Food Sci. & Tech.. (ICFoST-2000), held at CFTRI Mysore (India): Nov. 22-24, Abstract No. C- 44, P.13

6. Mallika Gupta, Deepak Srivastava, Maheshwari P.N. and Singh K. (2000) "Dehydration and Quality of Dried Tomato Soupmix " Poster abstract in 14<sup>th</sup> Indian Convention of Food Scientists & Technologists. (ICFoST-2000), held at CFTRI Mysore (India): Nov. 22-24 (Abstract No. H-39, P.173 in Abstract Volume.)
7. Maheshwari P.N. and Singh, K. (2000) "Shelf Stable Sprouted Grains" Poster abstract in 14<sup>th</sup> Indian Convention of Food Scientists & Technologists. (ICFoST-2000), held at CFTRI Mysore (India): Nov. 22-24 (Abstract No. 1-39, P.189 in Abstract Volume.)
8. Singh Surendra, Nigam P.K. Maheshwari P.N. and Singh K. (2002) "Isolation of Protein from Slaughter House Blood" Poster Abstract in National Seminar on "Development of Food Processing Industries in UP " Organized by Deptt. Of Horticulture and food Processing UP " held at Lucknow (India) Jan.16-17, 2002 (Abstract Volume).
9. Singh Surendra, Maheshwari P.N. and Singh Karunakar. (2002) "Preparation of Fortified Papaya Fruit Bar" Poster Abstract in 15<sup>th</sup> Indian Convention of Food Scientists and Technologists(ICFoST-2002, held at CFTRI ,Mysore, India):December 12-13,2002 (Abstract no E-48,p-52 in Abstract Volume.).
10. Ashish Khare, Amit Pratap Singh, Ravindra S.Patil, K. Singh and Alak Kumar Singh (2007) "Utilization of whey into Beverages-A Review " J. Beverage and food world, pp.27-32.
11. Misra Alok Mani, Vivek, Singh Alak Kumar and Singh Karunakar (2009) "Effect of Hot air oven and Dehumidified air drying on the yield and quality of Essential oil of Tulsi(*Ocimum Sanctum*) leaves" paper presentation in a national symposium on Recent Technological Developments in Bioprocess & Food Processing Industries (Genesis-2009) held at HBTI, Kanpur (India): feb14-15, 2009.
12. Jain Naman, Pandey Neelam, and Singh Karunakar (2011),"Preparation and evaluation of high fibre biscuit using oat flour" paper presentation in a national symposium on emerging innovative technologies for assurance of quality and safety in processed foods(FoQSAT- 2011),held at IIT Kgp (India):Feb,24-25,,2011.
13. Sanchit Gupta, Sneha Mishra and Karunakar Singh (2011),"Development and sensory assessment of powdered cocoa beverage using non-nutritive sweetener" paper presentation in a national symposium on emerging innovative technologies for assurance of quality and safety in processed foods(FoQSAT-2011),held at IIT Kharagpur (India):Feb,24-25, 2011
14. Karunakar Singh (2011),"Food Preservation and Processing: Challenges and Opportunities." Technical paper presentation in a national Conference on Newer Advances in Food Science and Technology (NAFSAT-2011), held at Faculty of Engineering and Technology, RBS College, Bichpuri, Agra (India):March05-06,2011. (Abstract No IT-05, P.20 in Abstract Volume.) .
15. Singh Karunakar, Gupta Sanchit and jain Naman (2011),"Development of Value added ready to use instant chilla mix" Research paper presentation in a national Conference on Newer Advances in Food Science and Technology (NAFSAT-2011), held at Faculty of Engineering and Technology, RBS College, Bichpuri, Agra (India):March05-06,2011. (Abstract No. NR-01, P.22 in Abstract Volume.)
16. Singh Karunakar, jain Naman and Gupta Sanchit (2011),"Importance of cold chain management for food produce" Technical paper presentation in a national Conference on Newer Advances in Food Science and Technology (NAFSAT-2011), held at Faculty of Engineering and Technology, RBS College, Bichpuri, Agra(India):March05-06,2011. (Abstract No. NR-10, P.26 in Abstract Volume.)
17. Karunakar Singh and Sanchit Gupta (2011),"Junk Food" Technical paper presentation in a national Seminar on Challenges and Prospects in Bio-Energy & Food Security" (GENESIS -2011) held at Department of Biochemical Engineering and Food Technology, HBTI, Kanpur (India):March 09,2011. (Abstract No. FSPP-19, P.43 in Abstract Volume.)
18. Singh Karunakar, jain Naman and Gupta Sanchit (2011),"Effect of Cocoa Fermentation on Quality of milk Chocolate" Technical paper presentation in a National Seminar on Recent Advances in the Development of Fermented Foods organized by the Centre of Food Science and Technology, Institute of Agricultural Sciences,BHU Varanasi (India) April 08- 09,2011.

19. Singh Karunakar, Gupta Rahul, Gupta Sanchit and Jain Naman (2011), "Studies on and evaluation of paneer-like product prepared from Blend of Soya milk and standardized fluid milk" Research paper presentation in a National Seminar on Recent Advances in the Development of Fermented Foods organized by the Centre of Food Science and Technology, Institute of Agricultural Sciences, BHU Varanasi (India) April 08-09, 2011.
20. Apoorva Behari Lal, K.P. Mishra and Karunakar Singh (2012) "Optimization of Air Drying Process for Osmotically Concentrated Apple Slices". Beverage & Food World. Vol. 39 (12).
21. Subhi Rizvi, Vivek Kumar and Karunakar Singh (2013) "Studies on preservation of Bottle Gourd juice" Technical paper presentation in a Golden Jubilee National Seminar on Advances in Bioprocesses for Environmental Safety and Nutritional Security, (Genesis-2013) held at HBTI, Kanpur, India: March 2-3, 2013 (Abstract NSO-5, p.34 in Abstract volume)
22. Karunakar Singh, Vivek Kumar and Pranay Banerjee (2013) "Seabuckthorn; A fruit with in potential to eradicate micronutrient deficiency". (Genesis-2013) Ibid (Abstract No. NSO-10, p.36 Abstract Volume).
23. Rishika Tewari, Vivek Kumar, Rashmi Pushkar, Nikita Bhargava & Karunakar Singh (2013) "Spray Drying kinetics of Tomato Juice using computational Fluid Dynamics". (Genesis-2013) Ibid (Abstract No. NSO-22, p.42 in Abstract volume).
24. Sonali Sinha, Karunakar Singh and Vivek Kumar (2013) "Effect of Pre-processing Treatment on the Quality of Ground Turmeric" (Genesis-2013) Ibid (Abstract No. NSP-01. p.57 in Abstract Volume).
25. Apoorva Behari Lal, K.P. Mishra and Karunakar Singh (2013) "Optimization of Process Conditions for Osmotic Concentration of Apple Slices". Beverages & Food World Vol. 40 (4). Pp 55-58.
26. Vivek Kumar, Sonali Sinha, Nikita Bhargava, K. Singh and Akshay Kr. Singh (2014) "Effect of Processing Conditions and Quality of Turmeric Powder" oral presentation in A Golden Jubilee National Seminar on "Trends and Prospects of Bioprocesses for Development of Health Care Products (Genesis 2014) organized by Department of BEFT under aegis of TEQIP-II World Bank Project at HBTI Kanpur (UP). March.08-09, (Abstract No. HCO-22, p.41 in Abstract Volume).
27. Akshay Kr. Singh, Nikita Bhargava and K. Singh (2014) "Exploring the Realm of Natural Antioxidants". (Genesis-2014) Ibid (Abstract No. HCP-02, p.53 in Abstract Volume).
28. Karunakar Singh (2015). "Legume-Pulse Milling: opportunities and challenges for sustainable rural development". Oral presentation in National Conference on Innovation and Biopreneurship for sustainable & Rural Development. Promoted by UPTU, Lucknow & CST-UP, Hosted by SR Group of Institutions, Bakshi ka Talab, Lucknow (UP), May 09, 2015