



Dr. Karunakar Singh

Professor & 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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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 & 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 Arhar " 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&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 & Tech. in Dr. APJAKTU, Lucknow, BHU, Varanasi, AMU, Aligarh, MGCGVV, Chitrakut, CSAUA&T, Kanpur, MPUA&T, Udaipur, BU, Jhansi etc.; Examiner for PhD Food Tech. for SLIET & 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 Arhar ” 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 Convention 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 4th 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 4th 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 4th 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 21st 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 21st 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 21st 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 5th 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 β -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 Technolgy*. 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 Kumar, 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) "Millet 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 14th 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 14th 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 14th 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 15th 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