BIO-DATA



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Post held: Professor & Head
Job Responsibilities: Teaching, Research & Administration
Teaching Experience: 20 years; Research Experience: 25 years
Administrative Experience: 15 Years (As Incharge & Head of Department, Associate Dean (Academic Affairs)

Educational Qualifications :

- Ph.D. (Food Technology): Guru Nanak Dev University, Amritsar (2006)
  Title: Isolation and characterization of starch from corn hybrids
- M.Sc. (Food Technology): Guru Nanak Dev University, Amritsar (1999)
- Bachelor of Food Science and Technology (Hons.): Guru Nanak Dev University, Amritsar (1997)

Experience (20 years):

- Professor & Head, Department of Food Science and Technology, Maharaja Ranjit Singh Punjab Technical University, Bathinda, Punjab from October, 2020 to October, 2020.
- Associate Professor & Head, Department of Food Science and Technology, Maharaja Ranjit Singh Punjab Technical University, Bathinda, Punjab from October, 2017 to October, 2020.
- Incharge of the Department of Food Science and Technology from March 2011 to October, 2017
- Assistant Professor, Department of Food Science and Technology, Chaudhary Devi Lal University, Sirsa (Stage-2) from October 2011 to October, 2017
- Assistant Professor, Department of Food Science and Technology, Chaudhary Devi Lal University, Sirsa (Stage-1) from October 2007 to October 2011
- Post-Doctoral Researcher, Korea University, Seoul, South Korea, June 2006 to October 2007
- Lecturer (Contract basis), July 2005 to April 2006
- Senior Research Fellowship, CSIR, September 2004 to July 2005
- Junior and Senior Research Fellowship, Guru Nanak Dev University, Amritsar from February 2001 to September 2004
- Research and Development and Quality Control Chemist, Amritsar Beverages Ltd, Amritsar, Punjab from May 1999 to February 2001

Awards & Fellowships:

- Listed in "World Ranking of Top 2% Scientists from year 2018 to till date published by Stanford University, USA.
- *Young Scientist Award*-2009 by Punjab Academy of Sciences.
- *Young Scientist Award*-2008 by Association of Food Scientists and Technologists (India).

- *Award for Best paper* (Food Science)-2007 by Association of Food Scientists and Technologists (I) for research paper entitled "Functional properties of normal, waxy and sugary corn starches" published in Journal of Food Science and Technology 44(6), 565-571 (2007).
- *Award of Honor* for outstanding research achievement during Post Doctoral Research by Korea University, Seoul, South Korea.
- Awarded *Post Doctoral Research Fellowship* by Korean Ministry of Education, South Korea (2006).
- Awarded Senior Research Fellowship by Council of Scientific and Industrial Research, New Delhi (2004).
- Awarded Junior and Senior Research Fellowship by Guru Nanak Dev University, Amritsar (2001).
- National Eligibility Test (NET) for Lecturership (1999) conducted by ASRB (ICAR), New Delhi.

Research Projects/Financial assistance received as Principal Investigator/Co-investigator:

S. No	*Title of Project*	*Funding Agency*	*Amount (Rs. in Lac)*	*Status*
1.	Biodegradable films prepared from various native and modified starches	University Grants Commission	13.23/-	Completed
2.	Study of bioactive compounds, flour and starch properties of underutilized pearl millet crop	Department of Science and Technology	28.81/-	Completed
3.	Utilization of kinnow for value added product development for sustainable growth of farmers	Department of Science and Technology	26.32/-	Completed
4.	Setting up of Secondary entrepreneurial network in Punjab	Punjab State council of Science & Technology	1.80/-	Completed
5.	Grant-in-aid for setting up of Food Testing Laboratory	Ministry of Food Processing Industries, Govt. of India	253.12/-	On-going

List of Publications

Google scholar citation: 10,519; h-index: 56

S. No.	*Publications*
122	Reetu Palthania, **Kawaljit Singh Sandhu**, Shweta Chaturvedi. Effect of Dual Modification on Physico-Chemical, Rheological and In Vivo Digestibility of Pigeon Pea Starch. *Food Biophysics, 21(4),* (2026.
121	Amandeep Singh, **Kawaljit Singh Sandhu**, Charanjit Singh Riar. Analysing the impact of hydrothermal treatment and degree of milling on the nutritional, physicochemical and functional properties of brown Kodo millet (*Paspalum scrobiculatum* L.). *Food and Humanity, 101364,* (2026).
120	Amandeep Singh, Tejinder Kaur, **Kawaljit Singh Sandhu**, Charanjit Singh Riar. Strategic Review on Parboiling of Millets: A Promising Solution to Enhance Millet Processing, Storage Stability and Food Sustainability. *Journal of Food Process Engineering, 49 (5),* (2026).

119.	Hardeep Singh, Shweta Chaturvedi, **Kawaljit Singh Sandhu**, Barinderjeet Singh Toor, and Vinita Sharma. Impact of Processing on Millets: A Pathway to Improved Nutrition and Functionality. *Current Nutrition Reports*, *14 (1), 122,* (2025).
118.	Hardeep Singh, Kiranbeer Kaur, Barinderjeet Singh Toor, Ankita Kataria, and **Kawaljit Singh Sandhu**. Exploring the potential of artificial intelligence for restructuring the food packaging. *Journal of Future Foods*, (2025).
117.	Reetu Palthania, Shweta Chaturvedi, **Kawaljit Singh Sandhu**, and Yashi Srivastava. Comparative study of physicochemical, thermal, rheological, and digestibility properties of starches from six Indian legume cultivars. *International Journal of Biological Macromolecules, 147161,* (2025).
116.	Sukhvinder Singh Purewal, Kartik Sharma, Pinderpal Kaur, **Kawaljit Singh Sandhu**, and Rishav Kamboj. Processing mediated suppression of bitterness causing compounds in ready to serve kinnow beverage, *Food Chemistry Advances 2, 100275,* (2023).
115.	Pinderpal Kaur, **Kawaljit Singh Sandhu**, Sukhvinder Singh Purewal, and Amit Bhatia. Physicochemical, morphological, thermal, pasting and tablet making properties along with drug releasing potential of rye (*Secale cereale*) starch: a report broadening its commercial uses. *Journal of Food Measurement and Characterization 17 (2)*, (2023).
114.	Sukhvinder Singh Purewal, Piyush Verma, Pinderpal Kaur, **Kawaljit Singh Sandhu**, Ram S. Singh, Avneet Kaur, and Raj Kumar Salar. A comparative study on proximate composition, mineral profile, bioactive compounds and antioxidant properties in diverse carrot (*Daucus carota* L.) flour. *Biocatalysis and Agricultural Biotechnology 48, 102640,* (2023).
113.	Sukhvinder Singh Purewal, Pinderpal Kaur, **Kawaljit Singh Sandhu**. Valorization of bioactive profile and antioxidant properties of Kinnow peel, and pulp residue: a step towards utilization of Kinnow waste for biscuit preparation. *Journal of Food Measurement & Characterization 17 (1),* (2023).
112.	Pinderpal Kaur, **Kawaljit Singh Sandhu**, Sneh Punia Bangar, and William Scott Whiteside. Effect of edible coating from octenyl succcinic anhydride (OSA) modified rye starch to extend shelf life of plums, *International Journal of Food Science & Technology,* (2022).
111.	Sukhvinder Singh Purewal, Pinderpal Kaur, Gagandeep Garg, **Kawaljit Singh Sandhu**, and Raj Kumar Salar. Antioxidant, anti-cancer, and debittering potential of edible fungi (*Aspergillus oryzae*) for bioactive ingredient in personalized foods. *Biocatalysis and Agricultural Biotechnology*, 43, 102406 (2022).
110.	Pinderpal Kaur, **Kawaljit Singh Sandhu**, and Maninder Kaur. Indian rye (*Secale cereale*) cultivars: fiber profile, minerals content, physical-functional and biscuit making properties. *Journal of Food Measurement and Characterization*, 1-10 (2022).
109.	Sneh Punia Bangar, Nitya Sharma, Harpreet Kaur, Maninder Kaur, **Kawaljit Singh Sandhu**, Sajid Maqsood, and Fatih Ozogul. A review of Sapodilla (*Manilkara Zapota*) in human nutrition, health, and industrial applications. *Trends in Food Science & Technology*, 127, 319-334 (2022).
108.	Sukhvinder Singh Purewal, Rishav Kamboj, **Kawaljit Singh Sandhu**, Pinderpal Kaur, Kartik Sharma, Maninder Kaur, Raj Kumar Salar, Sneh Punia, and Anil Kumar Siroha. Unraveling the effect of storage duration on antioxidant properties, physicochemical and sensorial parameters of ready to serve Kinnow-Amla beverages. *Applied Food Research*, 2 (1) 100057 (2022).
107.	Sukhvinder Singh Purewal, Pinderpal Kaur, and **Kawaljit Singh Sandhu**. Bioactive profile and antioxidant properties of Kinnow seeds: A report broadening its potential. *Applied Food Research*, 2 (2) 100135 (2022).
106.	Sneh Punia Bangar, **Kawaljit Singh Sandhu**, Monica Trif, Vishal Manjunatha, and Jose Manuel Lorenzo. Germinated Barley Cultivars: Effect on Physicochemical and Bioactive Properties. *Food Analytical Methods*, 15, 2505–2512 (2022).

105.	Sukhvinder Singh Purewal, **Kawaljit Singh Sandhu**, Pinderpal Kaur, and Sneh Punia. Effect of processing on bioactive profile, minerals, and bitterness causing compounds of Kinnow jam. *Journal of Food Processing and Preservation*, e16629, (2022).
104.	Sneh Punia Bangar, **Kawaljit Singh Sandhu**, Monica Trif, and Jose Manuel Lorenzo. The effect of mild and strong heat treatments on in vitro antioxidant properties of barley (*Hordeum vulgare*) cultivars. *Food Analytical Methods*, 15, 2193–2201 (2022).
103.	Sneh Punia Bangar, **Kawaljit Singh Sandhu**, Alexandru Rusu, Monica Trif, and Sukhvinder Singh Purewal. Evaluating the Effects of Wheat Cultivar and Extrusion Processing on Nutritional, Health-Promoting, and Antioxidant Properties of Flour. *Frontiers in Nutrition*, 9: 872589, (2022).
102.	Anil Kumar Siroha, Sneh Punia Bangar, **Kawaljit Singh Sandhu**, Jose Manuel Lorenzo, and Monica Trif. Octenyl Succinic Anhydride Modified Pearl Millet Starches: An Approach for Development of Films/Coatings. *Polymers*, 14 (12) 2478 (2022).
101.	Mamta Bhardwaj, **Kawaljit Singh Sandhu**, and D.C. Saxena, Mathematical modelling and characterization of starch nanocrystals synthesized from pearl millet varieties with different amylose content. *Starch/Stärke*, 2200058, (2022).
100.	Prafull Chavan, Archana Sinhmar, Somesh Sharma, Alain Dufresne, Rahul Thory, Maninder Kaur, **Kawaljit Singh Sandhu**, Manju Nehra, and Vikash Nain. Nanocomposite Starch Films: A New Approach for Biodegradable Packaging Materials. *Starch/Stärke*, 2100302 (2022).
99.	Vikash Nain, Maninder Kaur, **Kawaljit Singh Sandhu**, Rahul Thory, and Archana Sinhmar. Development of Starch Nanoparticle From Mango Kernel in Comparison With Cereal, Tuber, and Legume Starch Nanoparticles: Characterization and Cytotoxicity. *Starch/Stärke*, 2100252 (2022).
98.	Vinita Sharma, Maninder Kaur, **Kawaljit Singh Sandhu**, Shamandeep Kaur, and Manju Nehra. Barnyard millet starch cross-linked at varying levels by sodium trimetaphosphate (STMP): Film forming, physico-chemical, pasting and thermal properties. *Carbohydrate Polymer Technologies and Applications*, 2, 100161 (2021).
97.	**Kawaljit Singh Sandhu**, Anil Kumar Siroha, Sneh Punia, Lalit Sangwan, Manju Nehra, and Sukhvinder Singh Purewal. Effect of degree of cross linking on physicochemical, rheological and morphological properties of Sorghum starch. *Carbohydrate Polymer Technologies and Applications*, 2, 100073 (2021)
96.	Pinderpal Kaur**, Kawaljit Singh Sandhu**, Sukhvinder Singh Purewal, Maninder Kaur, and Surender Kumar Singh, Rye: A wonder crop with industrially important macromolecules and health benefits. *Food Research International*, 150, 110769 (2021).
95.	Pinderpal Kaur, **Kawaljit Singh Sandhu**, Sneh Punia Bangar, Sukhvinder Singh Purewal, Maninder Kaur, and Rushdan Ahmad Ilyas, Muhammad Rizal Muhammad Asyraf, Muhammad Rizal Razman Unraveling the Bioactive Profile, Antioxidant and DNA Damage Protection Potential of Rye (*Secale cereale*) Flour. *Antioxidants*, *10*(8), 1214 (2021).
94.	Sneh Punia Bangar, **Kawaljit Singh Sandhu**, Monica Trif, Alexandru Rusu, Ioana Delia Pop and Manoj Kumar, Enrichment in different health components of barley flour using twin-screw extrusion technology to support nutritionally balanced diets. *Frontiers in Nutrition* ; 8: 823148 (2021).
93.	Sneh Punia Bangar, **Kawaljit Singh Sandhu**, Alexandru Vasile Rusu, Pinderpal Kaur, Sukhvinder Singh Purewal, Maninder Kaur, Navneet Kaur, and Monica Trif. Proso-Millet-Starch-Based Edible Films: An Innovative Approach for Food Industries. *Coatings*, *11*(10), 1167 (2021).
92.	Anil Kumar Siroha, Sneh Punia Bangar, **Kawaljit Singh Sandhu**, Monica Trif, Manoj Kumar, and Prixit Guleria**.** Effect of Cross-Linking Modification on Structural and Film-Forming Characteristics of Pearl Millet (*Pennisetum glaucum* L.) Starch. *Coatings*, *11*(10), 1163 (2021).

91.	Sukhvinder Singh Purewal, Sneh Punia, Pinderpal Kaur, **Kawaljit Singh Sandhu**, R A Llyas, Surender Kumar Singh, and Maninder Kaur. Unraveling the efficacy of different treatments towards suppressing limonin and naringin content of Kinnow juice: An innovative report.LWT, 152, 112341 (2021).
90.	Vinita Sharma, Maninder Kaur, **Kawaljit Singh Sandhu**, Vikash Nain, and Sandeep Janghu. Physicochemical and Rheological Properties of Cross-Linked Litchi Kernel Starch and its Application in Development of Bio-Films. *Starch/Stärke*, 2100049 (2021).
89.	Sneh Punia Bangar, **Kawaljit Singh Sandhu**, Sukhvinder Singh Purewal, Maninder Kaur, Pinderpal Kaur, Anil Kumar Siroha, Komal Kumari, Mukesh Singh, and Manoj Kuma. Fermented barley bran: An improvement in phenolic compounds and antioxidant properties. *Journal of Food Processing and Preservation*. 00:e15543, (2021).
88.	Sukvinder Singh Purewal, and **Kawaljit Singh Sandhu.** Debittering of citrus juice by different processing methods: A novel approach for food industry and agro-industrial sector. *Scientia Horticulturae*, 276, 109750 (2021).
87.	Punia, S., Kumar, M. and **Sandhu, K. S.** Rice bran oil: An emerging source of functional oil. *Journal of Food Processing and Preservation*. e15318 (2021).
86.	Thakur, Y., Thory, R., **Sandhu, K. S.,** Kaur, M., Sinhmar, A., and Pathera, A. K. (2021) Effect of selected physical and chemical modifications on physicochemical, pasting, and morphological properties of underutilized starch from rice bean (*Vigna umbellata*). *Journal of Food Science and Technology,* 1-10.
85.	**Kawaljit Singh Sandhu,** Maninder Kaur, Sneh Punia, and Jasim Ahmed. Rheological, thermal, and structural properties of high-pressure treated Litchi (*Litchi chinensis*) kernel starch. *International Journal of Biological Macromolecules.* 175:229-234 (2021).
84.	Verma, D.K., Niamah, A. K., Patel, A. R., Thakur, M., **Sandhu, K. S.,** Chávez-González, M. L., Nihir Shah, and Aguilar, C. N. Chemistry and microbial sources of curdlan with potential application and safety regulations as prebiotic in food and health. *Food Research International*, 133, 109136 (2020).
83.	Punia, S., **Sandhu, K. S.,** Grasso, S., Purewal, S. S., Kaur, M., Siroha, A. K., Kumar, K., Kumar, V. and Kumar, M. (2020) Aspergillus oryzae Fermented Rice Bran: A Byproduct with Enhanced Bioactive Compounds and Antioxidant Potential. *Foods*, 10, 70.
82.	Karwasra, B. L., Kaur, M., **Sandhu**, **K. S.,** Siroha, A. K., and Gill, B. S. (2020) Formulation and evaluation of a supplementary food (Panjiri) using wheat and flaxseed flour composites: micronutrients, antioxidants and heavy metals content. *Journal of Food Processing and Preservation* e14998
81.	Sharma, I., Sinhmar, A., Thory, T., **Sandhu**, **K. S.,** Kaur, M., Nain, V., Pathera, A. K., and Chavan, P. (2020) Synthesis and characterization of nano starch-based composite films from kidney bean (*Phaseolus vulgaris*) *Journal of Food Science and Technology*.
80.	Purewal, S. S., and **Sandhu, K. S.** (2020) Nutritional profile and health benefits of kinnow: An updated review. *International Journal of Fruit Science*.
79.	**Kawaljit Singh Sandhu,** Anil Kumar Siroha, Sneh Punia, and Manju Nehra. Effect of heat moisture treatment on rheological and in vitro digestibility properties of pearl millet starches. *Carbohydrate Polymer Technologies and Applications*, 1, 100002 (2020).
78.	Vikash Nain, Maninder Kaur, **Kawaljit Singh Sandhu,** Rahul Thory, and Archana Sinhmar. Development, characterization, and biocompatibility of zinc oxide coupled starch nanocomposites from different botanical sources. *International Journal of Biological Macromolecules.* 162:24-30 (2020).
77.	Sanju Bala Dhull, **Kawaljit Singh Sandhu**, Sneh Punia, Maninder Kaur, and Anju Malik.

	Functional, thermal and rheological behavior of fenugreek (*Trigonella foenum–graecum* L.) gums from different cultivars: a comparative study. *International Journal of Biological Macromolecules* (Accepted, 2020).
76.	Sneh Punia, Sanju Bala Dhull, **Kawaljit Singh Sandhu**, Maninder Kaur, and Sukhvinder Singh Pureval. Kidney bean (*Phaseolus vulgaris*) starch- A review. *Legume Science* (Accepted, 2020).
75.	Vinita Sharma, Maninder Kaur, **Kawaljit Singh Sandhu**, and Sachin Godara. Effect of cross-linking on physicochemical, thermal, pasting, *in vitro* digestibility, and film forming properties of faba bean starch. *International Journal of Biological Macromolecules*, 159, 243-249 (2020).
74.	Sneh Punia, **Kawaljit Singh Sandhu**, Sanju Bala, and Maninder Kaur, Anil Kumar Siroha. Kinetic, rheological and thermal studies of flaxseed (*Linum usitatissiumum* L.) oil and its utilization. *Journal of Food Science and Technology* (In Press, 2020).
73.	Sneh Punia, **Kawaljit Singh Sandhu,** and Maninder Kaur. Quantification of phenolic acids and antioxidant potential of wheat rusks as influenced by partial replacement with barley flour. *Journal of Food Science and Technology* (In Press, 2020).
72.	Sanju Bala Dhull, Maninder Kaur, and **Kawaljit Singh Sandhu**. Antioxidant characterization and in vitro DNA damage protection potential of some Indian fenugreek (*Trigonella foenum-graecum*) cultivars: Effect of solvents. *Journal of Food Science and Technology* (In Press, 2020).
71.	Sneh Punia, **Kawaljit Singh Sandhu**, Sanju Bala Dhull, Anil Kumar Siroha, Sukhvinder Singh Purewal, Maninder Kaur, Mohd. Kashif Kidwai. Oat starch: Physico-chemical, morphological, rheological characteristics and its applications: A review. *International Journal of Biological Macromolecules*, 154, 493-498 (2020).
70.	**Kawaljit Singh Sandhu**, Loveleen Sharma, Maninder Kaur, and Ramandeep Kaur. Physical, structural and thermal properties of composite edible films prepared from Pearl millet starch and carrageenan gum: Process optimization using response surface methodology. *International Journal of Biological Macromolecules*, 143, 704-713 (2020).
69.	Anil Kumar Siroha, Sneh Punia, Maninder Kaur and **Kawaljit Singh Sandhu**. A novel starch from *Pongamia piñata* seeds: Comparison of its thermal and rheological properties with starches from other botanical sources. *International Journal of Biological Macromolecules*, 143, 984-990 (2020).
68.	Deepak Kumar Verma, Alaa Kareem Niamah, Ami R. Patel, Mamta Thakur, **Kawaljit Singh Sandhu**, Mónica L. Chavez-Gonzalez, Nihir Shah, and Cristobel Noe Aguilar. Chemistry and microbial sources of curdlan with potential application and safety regulations as prebiotic in food and health. *Food Research International* (Accepted, 2020).
67.	Sukhvinder Singh, Raj Kumar Salar, Manpreet Singh Bhatti, **Kawaljit Singh Sandhu**, Surender Kumar Singh, and Pinderpal Kaur. Solid-state fermentation of pearl millet with Aspergillus oryzae and Rhizopus azygosporus: Effects on bioactive profile and DNA damage protection activity. *Journal of Food Measurement and Characterization,* 14, 150-162 (2020)
66.	Anil Kumar Siroha, Sneh Punia, **Kawaljit Singh Sandhu**, and Brij Lal Karwasra. Physicochemical, pasting and rheological properties of pearl millet starches from different cultivars and their relationships. *Acta Alimentaria,* 49, 49-59 (2020).
65.	Sanju Bala Dhull, Sneh Punia, **Kawaljit Singh Sandhu**, Prince Chawla, and Ajay Singh. Effect of debittered fenugreek (*Trigonella foenum graecum* L.) flour addition on physical, nutritional, antioxidant and sensory properties of wheat flour rusk. *Legume Science,* https://doi.org/10.1002/leg3.21 (2019).
64.	Sneh Punia, Sanju Bala Dhull, **Kawaljit Singh Sandhu**, and Maninder Kaur. Faba bean (*Vicia faba*) starch Structure, properties and in vitro digestibility-A review. *Legume Science* https://doi.org/10.1002/leg3.18 (2019).

63.	Sneh Punia, **Kawaljit Singh Sandhu**, Sanju Bala Dhull, and Maninder Kaur. Dynamic, shear and pasting behavior of native and octenyl succinic anhydride (OSA) modified wheat starch and their utilization in preparation of edible films. *International Journal of Biological Macromolecules*, 133, 110-116 (2019).
62.	Maninder Kaur, Sneh Punia, **Kawaljit Singh Sandhu**, and Jasim Ahmed. Impact of high pressure processing on the rheological, thermal and morphological characteristics of Mango kernel starch. *International Journal of Biological Macromolecules,* 140, 149-155 (2019).
61.	Mamta Bhardwaj, **Kawaljit Singh Sandhu** and Dharmesh Chandra Saxena. Experimental and modeling studies of the flow, dynamic and creep recovery properties of Pearl millet starch as affected by concentration and cultivar type. *International Journal of Biological Macromolecules*, 135, 544-552 (2019).
60.	Anil Kumar Siroha, **Kawaljit Singh Sandhu**, Maninder Kaur, and Varinder Kaur. Physicochemical, rheological, morphological, and in vitro digestibility properties of pearl millet starch modified at varying levels of acetylation. *International Journal of Biological Macromolecules*, 131, 1077-1083 (2019).
59.	Sneh Punia, **Kawaljit Singh Sandhu**, Anil Kumar Siroha, and Sanju Bala Dhull. Omega 3-Metabolism, absorption, bioavailability and health benefits- A review. PharmaNutrition, 10, 100162 (2019).
58.	Sneh Punia, Anil Kumar Siroha, **Kawaljit Singh Sandhu** and Maninder Kaur. Rheological behavior of wheat starch and barley resistant starch (type IV) blends and their starch noodles making potential. *International Journal of Biological Macromolecules*, 130, 595-604 (2019).
57.	Sukhvinder Singh, **Kawaljit Singh Sandhu**, Raj Kumar Salar, and Pinderpal Kaur. Fermented pearl millet: A product with enhanced bioactive compounds and DNA damage protection activity. *Journal of Food Measurement and Characterization*, In Press (2019).
56.	Sneh Punia, Anil Kumar Siroha, **Kawaljit Singh Sandhu** and Maninder Kaur. Rheological and pasting behavior of OSA modified mungbean starches and its utilization in cake formulation as fat replacer. *International Journal of Biological Macromolecules*, 128, 230-236 (2019).
55.	Pinderpal Kaur, Sukhvinder Singh, **Kawaljit Singh Sandhu** and Maninder Kaur. DNA damage protection: an excellent application of bioactive compounds. *Bioresources and Bioprocessing*, 6, 2 (2019).
54.	Sukhvinder Singh, Pinderpal Kaur, **Kawaljit Singh Sandhu**, Maninder Kaur and Raj Kumar Salar. Millets: A cereal grain with potent antioxidants and health benefits. *Journal of Food Measurement and Characterization*, 13, 793-806 (2019)
53.	Loveleen Sharma, Charanjiv Saini, Harish Kumar Sharma, and **Kawaljit Singh Sandhu**. Biocomposite edible coatings based on cross linked sesame protein and mango puree for the shelf life stability of fresh cut mango fruit. *Journal of Food Process Engineering*, e12938 (2019).
52.	Anil Kumar Siroha, **Kawaljit Singh Sandhu**, and Sneh Punia. Impact of octenyl succinic anhydride (OSA) on rheological properties of sorghum starch. *Quality Assurance and Safety of Crops and Foods* 11 (3), 221-229 (2019).
51.	Sneh Punia, **Kawaljit Singh Sandhu** and Anil Kumar Siroha. Difference in protein content of wheat (*Triticum aestivum* L.): effect on functional, pasting, color and antioxidant properties. *Journal of the Saudi Society of Agricultural Sciences*, 18, 378-384 (2019).
50.	Anil Kumar Siroha and **Kawaljit Singh Sandhu**. Physicochemical, rheological, morphological, and *in vitro* digestibility properties of cross-linked starch from pearl millet cultivars. *International Journal of Food Properties*, 21, 1371-1385 (2018).
49.	Pinderpal Kaur, Sanju Bala Dhull, **Kawaljit Singh Sandhu**, Raj Kumar Salar and Sukhvinder Singh Purewal. Tulsi (*Ocimum tenuiflorum*) seeds: *in vitro* DNA damage protection, bioactive

	compounds and antioxidant potential. *Journal of Food Measurement and Characterization*, 1530-1538 (2018).
48.	Rahul Thory, **Kawaljit Singh Sandhu** and Archana Sinhmar. Effect of location on physico-chemical, cooking and antioxidant properties of variously-treated and milled Indian rice cultivars. *Current Research in Nutrition and Food Science, 6,* 183-190 (2018).
47.	Sanju Bala Dhull and **Kawaljit Singh Sandhu**. Wheat-fenugreek composite flour noodles: Effect on functional, pasting, cooking and sensory properties. *Current Research in Nutrition and Food Science*, *6*, 174-182 (2018).
46.	**Kawaljit Singh Sandhu** and Anil Kumar Siroha. Relationships between physicochemical, thermal, rheological and *in vitro* digestibility properties of starches from pearl millet cultivars. *LWT-Food Science and Technology*, *83*, 213-224 (2017).
45.	Raj Kumar Salar, Sukhwinder Singh Purewal, and **Kawaljit Singh Sandhu**. Fermented pearl millet (*Pennisetum glaucum*) with *in vitro* DNA damage protection activity, bioactive compounds and antioxidant potential. *Food Research International*, *100,* 204-210 *(*2017).
44.	**Kawaljit Singh Sandhu** and Sneh Punia. Enhancement of bioactive compounds in barley cultivars by solid state fermentation. *Journal of Food Measurement and Characterization*, *11*, 1355-1361 (2017).
43.	**Kawaljit Singh Sandhu**, Poonam Godara, Maninder Kaur, and Sneh Punia. Effect of toasting on physical, functional and antioxidant properties of oat cultivars. *Journal of the Saudi Society of -Agricultural Sciences*, *16*, 197-203 (2017).
42.	Rahul and **Kawaljit Singh Sandhu**. A comparison of mango kernel starch with a novel starch from litchi (*Litchi chinensis*) kernel: physicochemical, morphological, pasting and rheological properties. *International Journal of Food Properties*, *20,* 911-921 (2017).
41.	Anil Kumar and **Kawaljit Singh Sandhu.** Effect of different methods of heat processing's on the antioxidant properties of pearl millet (*Pennisetum glaucum* L.) cultivars. *Journal of Food Measurement and Characterization*, *11*, 872-878 (2017).
40.	Raj Kumar Salar, Sukhwinder Singh Purewal, and **Kawaljit Singh Sandhu**. Bioactive profile, free radical scavenging potential, DNA damage protection activity and mycochemicals in Aspergillus awamori (MTCC-548) extracts: A novel report on filamentous fungi. *3 Biotech, 7*, 164 (2017).
39.	Raj Kumar Salar, Sukhwinder Singh Purewal, and **Kawaljit Singh Sandhu**. Relationships between DNA damage protection activity, total phenolic content, condensed tannin content and antioxidant potential among Indian barley cultivars. *Biocatalysis and Agricultural Biotechnology*, *11*, 201-206 (2017).
38.	Sneh Punia, **Kawaljit Singh Sandhu** and Somesh Sharma. Comparative studies of color, pasting, and antioxidant properties of wheat cultivars as affected by toasting and roasting heat treatments. *Nutrafoods*, 16, 1-8 (2017).
37.	**Kawaljit Singh Sandhu,** Sneh Punia and Maninder Kaur. Effect of fermentation duration by *Aspergillus awamorinakazawa* using solid state fermentation: antioxidant properties of wheat cultivars. *LWT-Food Science and Technology*, *71*, 323-328 (2016).
36.	Anil Kumar, **Kawaljit Singh Sandhu** and Maninder Kaur. Physicochemical, functional, and antioxidant properties of flour from pearl millet varieties grown in India. *Journal of Food Measurement and Characterization*, *10 (2)*, 311-318 (2016).
35.	**Kawaljit Singh Sandhu**, Loveleen Sharma, and Maninder Kaur. Effect of granule size on-physicochemical, morphological, thermal and pasting properties of native and 2-octenyl-1-ylsuccinylated potato starch prepared by dry heating under different pH conditions. *LWT-Food Science and Technology*, *61*, 224-230 (2015).
34.	Maninder Kaur, **Kawaljit Singh Sandhu**, AmitPal, and Aruna Sharma. Gluten free biscuits prepared from buckwheat flour by incorporation of various hydrocolloids: physicochemical

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Ph.D. Research Guidance:

Title	Name of candidate	Date of Registration	Date of award of Degree
Characterization of bioactive compounds, starch and proteins of wheat and barley cultivars	Sneh Punia	31-1-2013	29-12-16
Characterization of native and modified starches from Indian pearl millet cultivars	Anil Kumar	31-1-2013	30-6-17
Development and characterization of starch nanoparticles from different botanical sources and their applications in drug delivery	Vikas Kumar	31-1-2013	30-8-18
Characterization of bioactive compounds and starch from different Indian rice cultivars	Rahul Thory	31-1-2013	30-8-18
Characterization of bioactive compounds, gums, and proteins from seeds of different fenugreek (*Trigonella foenum-graecum*) cultivars	Sanju Bala	23-4-2014	30-8-18
Isolation, modification, characterization and utilization of starch from non-conventional sources	Vinita Sharma	9-3-2017	17-2-2021

Ph.D. scholars enrolled:

Sr. No.	Name	Title of research
1	Pinderpal Kaur	Characterization of Indian rye cultivars for their starch, proteins, fibers and bioactive properties
2	Reetu	Evaluation of physico-chemical and nutritional characteristics of selected underutilized millets and development of value-added products
3	Hardeep Singh	Characterization of native and modified starches from selected tubers for various functional properties: their application in food and tablet formulation

4	Shweta Chaturvedi	Characterization of native and modified starches from selected minor millets for various functional properties: their application in food and tablet formulation

Orientation/Refresher course attended:

- Attended General Orientation Course from 25-2-2009 to 24-3-2009 held at Academic Staff College, Guru Nanak Dev University, Amritsar.
- Attended Refresher Course in the subject of Bio Sciences from 18-2-2011 to 10-3-2011 held at Academic Staff College, Guru Nanak Dev University, Amritsar.
- Attended National workshop on basic techniques in Biotechnology, Food technology and Bio-informatics from 15-6-2011 to 28-6-2011 held at Chaudhary Devi Lal University, Sirsa.
- Attended Refresher Course in the subject of Disaster Management from 26-11-2015 to 16-12-2015 held at Academic Staff College, Guru Nanak Dev University, Amritsar.

Membership of Professional bodies:

- Life member of Punjab Science Congress.
- Life member of Association of Food Scientists and Technologists (AFSTI), Mysore, India.
- Life member of Association of Microbiologists of India.
- Member of Korean Society of Food Science and Technology, South Korea.

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