

Department of Food Science and Technology (MRSPTU, Bathinda)
Research/ Other Collaborations

Dept.	Academic Year	Title of the collaborative activity	Name of the collaborating agency with contact details	Name of the participant	Year of collaboration	Duration	Nature of the activity
Food Science and Technology	2018	Pearl millet: flour and starch properties	Chaudhary Devi Lal University, Sirsa and Guru Nanak Dev University, Amritsar	Kawaljit Singh Sandhu	2018	1 year	Published a book chapter
Food Science and Technology	2020	Phytochemicals and Antioxidant Properties in Pearl Millet	Chaudhary Devi Lal University, Sirsa	Kawaljit Singh Sandhu	2020	1 year	Published a book chapter
Food Science and Technology	2020	Shelf Life Enhancement of Pearl Millet Flour	Chaudhary Devi Lal University, Sirsa and Guru Nanak Dev University, Amritsar	Kawaljit Singh Sandhu	2020	1 year	Published a book chapter
Food Science and Technology	2020	Pearl millet: A draught arrested crop	Chaudhary Devi Lal University, Sirsa and Guru Nanak Dev University, Amritsar	Kawaljit Singh Sandhu	2020	1 year	Published a book chapter
Food Science and Technology	2021	Silver-Based Solvent Extraction of EPA/DHA from Fish Oil: Chemistry and Process Development	Guru Nanak Dev University, Amritsar and Indian Institute of Technology, Kharagpur	Kawaljit Singh Sandhu	2021	1 year	Published a book chapter
Food Science and Technology	2020	Pearl Millet: Properties, Functionality and its Applications	Chaudhary Devi Lal University, Sirsa and Guru Nanak Dev University, Amritsar	Kawaljit Singh Sandhu	2020	1 year	Published a book
Food Science and Technology	2020	Essential Fatty Acids: Sources, Processing Effects, and Health Benefits	Chaudhary Devi Lal University, Sirsa	Kawaljit Singh Sandhu	2020	1 year	Published a book

Food Science and Technology	2021	Biotechnical Processing in the Food Industry: New Methods, Techniques, and Applications	Indian Institute of Technology, Kharagpur	Kawaljit Singh Sandhu	2021	1 year	Published a book
Food Science and Technology	2021	Millet: Properties, Processing, and Health Benefits	Chaudhary Devi Lal University, Sirsa	Kawaljit Singh Sandhu	2021	1 year	Published a book
Food Science and Technology	2018-2019	Tulsi (<i>Ocimum tenuiflorum</i>) seeds: <i>in vitro</i> DNA damage protection, bioactive compounds and antioxidant potential	1. Department of Food Science & Technology, Chaudhary Devi Lal University, Sirsa, India, 2. Department of Biotechnology, Chaudhary Devi Lal University, Sirsa, India	Dr. Kawaljit Singh Sandhu	2018	1 year	Research Publication
Food Science and Technology	2018-2019	Physicochemical, rheological, morphological, and <i>in vitro</i> digestibility properties of cross-linked starch from pearl millet cultivars	CDLU, Sirsa	Dr. Kawaljit Singh Sandhu	2018	1 year	Research Publication
Food Science and Technology	2019-2020	Difference in protein content of wheat (<i>Triticum aestivum</i> L.): effect on functional, pasting, color and antioxidant properties	CDLU, Sirsa	Dr. Kawaljit Singh Sandhu	2019	1 year	Research Publication
Food Science and Technology	2019-2020	Biocomposite edible coatings based on cross linked-sesame protein and mango puree for the shelf life stability of fresh-cut mango fruit	1. Amity University Noida, 2. SLIET, Longowal, Sangrur, Punjab,	Dr. Kawaljit Singh Sandhu	2019	1 year	Research Publication

Food Science and Technology	2019-2020	Millets: A cereal grain with potent antioxidants and health benefits	1. Guru Nanak Dev University Amritsar, 2. CDLU Sirsa	Dr. Kawaljit Singh Sandhu	2019	1 year	Research Publication
Food Science and Technology	2019-2020	Rheological and pasting behavior of OSA modified mungbean starches and its utilization in cake formulation as fat replacer	1. Guru Nanak Dev University Amritsar, 2. CDLU Sirsa	Dr. Kawaljit Singh Sandhu	2019	1 year	Research Publication
Food Science and Technology	2019-2020	Fermented pearl millet: A product with enhanced bioactive compounds and DNA damage protection activity	Chaudhary Devi Lal University, Sirsa	Dr. Kawaljit Singh Sandhu	2019	1 year	Research Publication
Food Science and Technology	2019-2020	Rheological behavior of wheat starch and barley resistant starch (type IV) blends and their starch noodles making potential	1. Guru Nanak Dev University Amritsar, 2. CDLU Sirsa	Dr. Kawaljit Singh Sandhu	2019	1 year	Research Publication
Food Science and Technology	2019-2020	Physicochemical, rheological, morphological, and in vitro digestibility properties of pearl millet starch modified at varying levels of acetylation	1. Guru Nanak Dev University Amritsar, 2. CDLU Sirsa	Dr. Kawaljit Singh Sandhu	2019	1 year	Research Publication
Food Science and Technology	2019-2020	Experimental and modeling studies of the flow, dynamic and creep recovery properties of Pearl millet starch as affected by concentration and cultivar type	SLIET, Longowal, Sangrur	Dr. Kawaljit Singh Sandhu	2019	1 year	Research Publication

Food Science and Technology	2019-2020	Impact of high pressure processing on the rheological, thermal and morphological characteristics of Mango kernel starch	1. Guru Nanak Dev University Amritsar, 2. Chaudhary Devi Lal University, Sirsa, India, 3. Kuwait Institute for Scientific Research, Safat, Kuwait	Dr. Kawaljit Singh Sandhu	2019	1 year	Research Publication
Food Science and Technology	2019-2020	Dynamic, shear and pasting behavior of native and octenyl succinic anhydride (OSA) modified wheat starch and their utilization in preparation of edible films	1. Guru Nanak Dev University Amritsar, 2. CDLU Sirsa	Dr. Kawaljit Singh Sandhu	2019	1 year	Research Publication
Food Science and Technology	2019-2020	Faba bean (<i>Vicia faba</i>) starch Structure, properties and in vitro digestibility-A review	1. Guru Nanak Dev University Amritsar, 2. CDLU Sirsa	Dr. Kawaljit Singh Sandhu	2019	1 year	Research Publication
Food Science and Technology	2019-2020	Effect of debittered fenugreek (<i>Trigonella foenum graecum</i> L.) flour addition on physical, nutritional, antioxidant and sensory properties of wheat flour rusk	1. CDLU Sirsa, 2. Lovely Professional University, Jalandhar, India, 3. Mata Gujri College, Fatehgarh, Sahib, India	Dr. Kawaljit Singh Sandhu	2019	1 year	Research Publication
Food Science and Technology	2019-2020	Kidney bean (<i>Phaseolus vulgaris</i>) starch-A review	1. Guru Nanak Dev University Amritsar, 2. CDLU Sirsa	Dr. Kawaljit Singh Sandhu	2019	1 year	Research Publication
Food Science and Technology	2020-2021	Solid-state fermentation of pearl millet with <i>Aspergillus oryzae</i> and <i>Rhizopuszygosporus</i> : Effects on bioactive profile and DNA damage protection activity	1. Guru Nanak Dev University Amritsar, 2. CDLU Sirsa, 3. National Centre for Integrated Pest Management, Pusa Campus, New Delhi, India	Dr. Kawaljit Singh Sandhu	2020	1 year	Research Publication

Food Science and Technology	2020-2021	Chemistry and microbial sources of curdlan with potential application and safety regulations as prebiotic in food and health	1. Indian Institute of Technology Kharagpur, Kharagpur 721302, West Bengal, India., 2. College of Agriculture, University of Basrah, Basra City, Iraq., 3. Mansinhbhai Institute of Dairy & Food TechnologyMIDFT, Dudhsagar Dairy Campus, Mehsana-384 002, Gujarat, India., 4. Sant Longowal Institute of Engineering and Technology, Longowal 148106, Punjab, India., 5. Food Research Department, School of Chemistry. Autonomous University of Coahuila, Saltillo Campus. 25280. Coahuila, México.	Dr. Kawaljit Singh Sandhu	2020	1 year	Research Publication
Food Science and Technology	2020-2021	A novel starch from <i>Pongamia piñata</i> seeds: Comparison of its thermal and rheological properties with starches from other botanical sources	1. Guru Nanak Dev University Amritsar, 2. CDLU Sirsa	Dr. Kawaljit Singh Sandhu	2020	1 year	Research Publication
Food Science and Technology	2020-2021	Physical, structural and thermal properties of composite edible films prepared from Pearl millet starch and carrageenan gum: Process optimization using response surface methodology	1. Amity University Noida, Government Medical College and Hospital, Chandigarh, 2. GNDU Amritsar, 3. CDLU Sirsa	Dr. Kawaljit Singh Sandhu	2020	1 year	Research Publication
Food Science and Technology	2020-2021	Oat starch: Physico-chemical, morphological, rheological characteristics and its applications: A review	1. Guru Nanak Dev University Amritsar, 2. CDLU Sirsa	Dr. Kawaljit Singh Sandhu	2020	1 year	Research Publication

Food Science and Technology	2020-2021	Antioxidant characterization and in vitro DNA damage protection potential of some Indian fenugreek (<i>Trigonellafoenum-graecum</i>) cultivars: Effect of solvents	1. CDLU Sirsa , 2. Guru Nanak Dev University Amritsar	Dr. Kawaljit Singh Sandhu	2020	1 year	Research Publication
Food Science and Technology	2020-2021	Quantification of phenolic acids and antioxidant potential of wheat rusks as influenced by partial replacement with barley flour	1. CDLU Sirsa , 2. Guru Nanak Dev University Amritsar	Dr. Kawaljit Singh Sandhu	2020	1 year	Research Publication
Food Science and Technology	2020-2021	Kinetic, rheological and thermal studies of flaxseed (<i>Linumusatissimum</i> L.) oil and its utilization	1. CDLU Sirsa , 2. Guru Nanak Dev University Amritsar	Dr. Kawaljit Singh Sandhu	2020	1 year	Research Publication
Food Science and Technology	2020-2021	Effect of cross-linking on physicochemical, thermal, pasting, in vitro digestibility, and film forming properties of faba bean starch	1. CDLU Sirsa , 2. Guru Nanak Dev University Amritsar	Dr. Kawaljit Singh Sandhu	2020	1 year	Research Publication
Food Science and Technology	2020-2021	Functional, thermal and rheological behavior of fenugreek (<i>Trigonellafoenum-graecum</i> L.) gums from different cultivars: a comparative study	1. CDLU Sirsa , 2. Guru Nanak Dev University Amritsar, 3. LPU Jalandhar	Dr. Kawaljit Singh Sandhu	2020	1 year	Research Publication
Food Science and Technology	2020-2021	Development, characterization, and biocompatibility of zinc oxide coupled starch nanocomposites from different botanical sources	1. CDLU Sirsa , 2. Guru Nanak Dev University Amritsar, 3. Shoolini University of Biotechnology and Management Sciences, Bajhol, PO Sultanpur, Distt. Solan 173229, HP, India	Dr. Kawaljit Singh Sandhu	2020	1 year	Research Publication

Food Science and Technology	2020-2021	Unraveling the efficacy of different treatments towards suppressing limonin and naringin content of Kinnow juice: An innovative report	1. Clemson University, Clemson, SC, 29634, USA, 2. Faculty of Engineering, Universiti Teknologi Malaysia, 81310 Johor Bahru, Johor, Malaysia, 3. National Centre for Integrated Pest Management, Pusa Campus, New Delhi, India, 4. Guru Nanak Dev University, Amritsar, India	Dr. Kawaljit Singh Sandhu	2021	1 year	Research Publication
Food Science and Technology	2020-2021	Formulation and evaluation of a supplementary food (Panjiri) using wheat and flaxseed flour composites: micronutrients, antioxidants and heavy metals content	1. CDLU Sirsa , 2. Guru Nanak Dev University Amritsar	Dr. Kawaljit Singh Sandhu	2021	1 year	Research Publication
Food Science and Technology	2020-2021	Rice-bran oil: An emerging source of functional oil. Journal of Food Processing and Preservation	1. Clemson University, Clemson, United States, 2. Guru Nanak Dev University Amritsar, 3. Chaudhary Devi Lal University, Sirsa, India, 4. ICAR – Central Institute for Research on Cotton Technology, Mumbai, India	Dr. Kawaljit Singh Sandhu	2021	1 year	Research Publication
Food Science and Technology	2020-2021	Aspergillus oryzae Fermented Rice Bran: A Byproduct with Enhanced Bioactive Compounds and Antioxidant Potential	1. CDLU Sirsa, 2. University of Reading, Reading RG6 6UR, UK, 3. ICAR-40009, India	Dr. Kawaljit Singh Sandhu	2021	1 year	Research Publication

Food Science and Technology	2020-2021	Unraveling the bioactive profile, antioxidant and DNA damage protection potential of rye (<i>Secale cereale</i>) flour	1. Clemson University, Clemson, United States, 2. Guru Nanak Dev University Amritsar, 3. School of Chemical and Energy Engineering, Faculty of Engineering, Universiti Teknologi Malaysia (UTM), Johor Bahru 81310, Malaysia, 4. Centre for Advanced Composite Materials (CACM), Universiti Teknologi Malaysia (UTM), Johor Bahru 81310, Malaysia, 4. Institute for Environment and Development (LESTARI), Universiti Kebangsaan Malaysia (UKM), Bangi 43600, Malaysia	Dr. Kawaljit Singh Sandhu	2021	1 year	Research Publication
Department of Food Science and Technology	2018-2019	Wheat-fenugreek composite flour noodles: Effect on functional, pasting, cooking and sensory properties	Department of Food Science and Technology, Chaudhary Devi Lal University, Sirsa, India	Sandhu, K.S.	2018	1 year	Research Paper
Department of Food Science & Technology	2019-20	Fermented pearl millet: a product with enhanced bioactive compounds and DNA damage protection activity	Chaudhary Devi Lal University, Sirsa, India	Sandhu, K.S.	2019	1 year	Research Paper
Department of Food Science and Technology	2019-20	Impact of octenyl succinic anhydride on rheological properties of sorghum starch	Department of Food Science and Technology, Chaudhary Devi Lal University, Sirsa, India	KS Sandhu	2019	1 year	Research Paper
Department of Food Science and Technology	2020-2021	Kidney bean (<i>Phaseolus vulgaris</i>) starch: A review	1. Department of Food Science and Technology, Chaudary Devi Lal University, Sirsa, 2. Department of Food Science and Technology, Guru Nanak Dev University, Amritsar, India,	Sandhu, K.S.	2020	1 year	Research Paper

Department of Food Science and Technology	2021	Effect of selected physical and chemical modifications on physicochemical, pasting, and morphological properties of underutilized starch from rice bean (<i>Vigna umbellata</i>)	1. School of Bioengineering and Food Technology, Shoolini University of Biotechnology and Management Sciences, Bajhol, PO Sultanpur, Distt., Solan, HP,2. Department of Food Science and Technology, Guru Nanak Dev University, Amritsar, India	KS Sandhu	2021	1 year	Research Paper
Department of Food Science and Technology	2021	Effect of cross-linking modification on structural and film-forming characteristics of pearl millet (<i>Pennisetum glaucum</i> L.) starch	1. Department of Food Science and Technology, Chaudhary Devi Lal University, Sirsa Haryana, 2.I CAR-Central Institute for Research on Cotton Technology, Mumbai Maharashtra, 3. Department of Food Technology, Maharshi Dayanand University, Rohtak Haryana,India,4. Department of Food, Nutrition and Packaging Sciences, Clemson University, Clemson, SC, United States,5. Research and Development Department, CENCIRA Agrofood Research and Innovation Centre, Ion Meşter 6, Cluj-Napoca, Romania	KS Sandhu	2021	1 year	Research Paper
Department of Food Science and Technology	2021-22	Rheological, thermal, and structural properties of high-pressure treated Litchi (<i>Litchi chinensis</i>) kernel starch	1. Department of Food Science and Technology, Guru Nanak Dev University, Amritsar,2. Department of Food Science and Technology, Chaudhary Devi Lal University, Sirsa,India, 3. Environment and Life Sciences Research Center, Kuwait Institute for Scientific Research, Safat, Kuwait	KS Sandhu	2021	1 year	Research Paper

Department of Food Science and Technology	2020-21	Fermented barley bran: An improvement in phenolic compounds and antioxidant properties	1. Department of Food Science and Technology, Chaudhary Devi Lal University, Sirsa,2. Department of Food Science and Technology, Guru Nanak Dev University, Amritsar, India,3. Department of Food, Nutrition and Packaging Sciences, Clemson University, Clemson, SC, United States, 4. Chemical and Biochemical Processing Division, ICAR—Central Institute for Research on Cotton Technology, Mumbai, India	KS Sandhu	2021	1 year	Research Paper
Department of Food Science and Technology	2021-22	Physicochemical and Rheological Properties of Cross-Linked Litchi Kernel Starch and Its Application in Development of Bio-Films	1. Department of Food Science and Technology, Guru Nanak Dev University, Amritsar,2. Department of Food Science and Technology, Chaudhary Devi Lal University, Sirsa,3. Indian Institute of Food Processing Technology, Guwahati, Assam, India	KS Sandhu	2021	1 year	Research Paper