RESUME

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Date of Birth: 21.06.1976 Sex: Female

Research Interest

My expertise is in the area of biotechnology, particularly microbial enzymes studies. My additional research goals include Human/Microbe interactions. My work combines the synergistic use of proteomics, molecular, morphological and culture-based methods in laboratory and field settings.

Academics

Sr. No.	Institution /Place	Degree Awarded	Year of completion	Thesis/Project title
1.	Guru Nanak Dev University, Amritsar	B.Sc. (Medical)	1997	-
2.	Guru Nanak Dev University, Amritsar	M.Sc. (Microbiology)	1999	Inulinase Enzyme from *Streptomycetes* spp.
3.	Department of Biotechnology, Guru Nanak Dev University, Amritsar	Ph.D. (Biotechnology)	2006	Purification and Characterization of Inulinase enzyme from *Aspergillus fumigatus.*
4.	Universität klinikum Tübingen Klinik fur Allgemeine, Viszeral und Transplantations-chirurgie Immunologie Labor-Tuebingen Germany.	Postdoctoral fellowship	2007-2009	Tolerance measurement after Liver Transplantation (Immunological study)

Experience

Sr. No.	Institution /Place	Position	From (Date)	To (date)
1.	Center for Interdisciplinary Biomedical Research, Adesh University, Bathinda, Punjab.	Associate Professor	21/05/2017	**Till now**
2.	Center for Interdisciplinary Biomedical Research, Adesh University, Bathinda, Punjab.	Assistant Professor	16/11/2015	20/05/2017 (1.6 Years)
3.	Department of Biotechnology, Eternal University, Baru Sahib, H.P.	Assistant Professor	03/08/2013	15/11/2015 (2.3 Years)
4.	Regional Plant Quarantine Station, Amritsar, Ministry of Agriculture, Govt. of India.	Research Associate	06/02/2012	01/08/2013 (1.6 Year)
5.	Eberhardt Karls University of Tuebingen, Germany.	Postdoctoral fellow with Dr. Martin Schenk, Professor and Head Department of General, Visceral and Transplant Surgery. Telefon: 07071/29-80397; martin.schenk@uni-tuebingen.	01/06/2007	30/06/2009 (2.1 Years)
6.	Department of Biotechnology, Lovely Professional University Phagwara, Punjab.	Lecturer	25/06/2005	22/05/2006 (11 Months)

7.	Department of Biotechnology, Guru Nanak Dev University, Punjab.	Lecturer	03/08/2004	25/05/2005 (9 months)

Number of students Supervised

Ph.D. as Supervisor: 06 (Pursuing)
M. Sc. Thesis as Supervisor: 02
M. Tech Nanotechnology Training reports: 05
M. Tech Biotechnology Training reports: 11

International Research Publications

(Total Impact factor-40.463; H-index-13 and Citations-1255)

1. Heyar AK, Kaur K, Gill AK, **Gill Prabhjot Kaur** (2019). Phenotypic and Genotypic detection of inducible clindamycin resistance in *Staphylococcus aureus* isolated from various clinical samples. Indian Journal of Medical Microbiology (submitted).
2. Kaur S, Gupta A, **Gill Prabhjot Kaur** (2019). Predisposing factors and Seasonal distribution of *Tenia* infections in Tertiary Care Hospital. International Journal of Microbiology Research 11(7): 1641-1644.
3. **Gill Prabhjot Kaur** (2019). Rapid Isolation of Peripheral Blood Mononuclear Cells from Whole Blood with Ficoll Hypaque Density Centrifugation. Journal of International Research in Medical and Pharmaceutical Sciences 14(1):17-20.
4. Gupta A, Kaur S, **Gill Prabhjot Kaur** (2018). Combination drug treatment in *Tinea* infections of cutaneous soft tissues. Journal of Medicine and Health Research 3(1): 16-23**.**
5. Singh J, **Gill Prabhjot Kaur**, Singh GPI, Kaur I (2017). Effect of Radiotherapy on Oral Microflora of Patients with Head and Neck Malignancies. International Journal of Science and Research 6(12): 977-985. (Review article).
6. Kaur K, Gill AK, **Gill Prabhjot Kaur**, Heyar AK (2017). Antibiotic Resistance and Biofilm Formation among Nosocomial pathogens in a Tertiary care Hospital. Journal Evolution Medical & Dental Sciences 6(84): 5835-5840.
7. Singh S, **Gill Prabhjot Kaur**, Dhaliwal HS, Kumar V (2017). Life cycle and effectiveness of *Zygogramma bicolorata* pallister (Chrysomelidae: Coleoptera) on *Parthenium hysterophorus* eradication. Journal of Global Agriculture and Ecology 7(2): 60-65. Cited in 01.
8. Kaur T, Singh GP, Kaur G, Kaur S, **Gill Prabhjot Kaur (**2016). Synthesis of biogenic Silicon/Silica(Si/SiO_2) Nano composites from rice husks and wheat bran through different Microorganisms. Materials Research Express 3(8): 085026. Cited in 04
9. Mishra T, Dhaliwal HS, **Gill Prabhjot Kaur** (2015). Characterization of Humic acid synthesized from Wheat Bran through Microbial strains associated with *Shilajit*. Trends in Life sciences 4(4): 458-466.
10. Mishra T, Singh B, **Gill Prabhjot Kaur** (2015). *Ectropis deodarae* and fungal pathogen: A potential threat to *Cedrus deodara* in the Himalayan forestry. International Journal of Agricultural Science Research 4(7):146-149. Impact factor-0**.583**
11. Mishra T, **Gill Prabhjot Kaur**, Dhaliwal HS, Sharma AD, Ram G (2015). Identification of Bacterial Isolates, PCR Amplification and In-Silico Analysis of Nitroreductase and Rubrerythrin Responsive Genes from Shilajit. International Journal of Innovative Research and Development 4(6): 270-282.
12. Schenk M, **Kaur-Gill Prabhjot,** Königsrainer A (2008). Determination of Cytotoxic T Lymphocyte Activity Against Human Spleen Cells and Estimation of Microchimerism for Tolerance Measurement: Transplantation 86(2S):728-729. Impact factor-**3.78**
13. Sharma AD**,** Singh J, **Gill Prabhjot Kaur** (2007). Ethanol mediated enhancement in bacterial transformation. Electronic Journal of Biotechnology 10: 166-168. Impact factor-**0.83** cited in 10
14. Sharma AD**, Gill Prabhjot Kaur (**2007). Purification and characterization of heat stable exo-inulinase from S*treptomyces* sp. Journal of Food Engineering 79: 1172-1178. Impact factor-**2.28** cited in 55
15. Singh Prabhjeet, **Gill Prabhjot Kaur** (2006). Production of inulinases: Recent Advances. Food Technology and Biotechnology 44: 151-162. (Invited review). Impact factor-**0.98** cited in 136
16. Sharma AD, Kainth S, **Gill Prabhjot Kaur** (2006). Inulinase production using garlic (*Allium sativum*) powder as a potential substrate in *Streptomyces* sp. Journal of Food Engineering 77: 486-491. Impact factor-**2.28** cited in 78.
17. **Gill Prabhjot Kaur**, Manhas RK, Singh P **(**2006). Hydrolysis of inulin by immobilized thermostable extracellular inulinase from *Aspergillus fumigatus.* Journal of Food Engineering 76: 369-375. Impact factor-**2.28** cited in 110

18. **Gill Prabhjot Kaur**, Manhas RK, Singh P (2006). Purification and properties of a heat-stable exoinulinase isoform from *Aspergillus fumigatus.* Bioresource Technology 97: 894-902. Impact factor-**4.75** cited in 71
19. **Gill Prabhjot Kaur**, Manhas RK, Singh P (2006). Comparative analysis of thermostability of extracellular inulinase activity from *Aspergillus fumigatus* with commercially available (Novozyme) inulinase. Bioresource Technology 98: 355-358. Impact factor-**4.75** cited in 50
20. Sharma AD, **Gill Prabhjot Kaur**, Bhullar SS, Singh P (2005). Improvement in inulinase production by simultaneous action of physical and chemical mutagenesis in *Penicillium purpurogenum*. World Journal of Microbiology and Biotechnology 21: 929-932. Impact factor-**1.26** cited in 11
21. **Gill Prabhjot Kaur**, Manhas RK, Singh J, Singh P **(**2004). Purification and characterization of an exo-inulinase from *Aspergillus fumigatus*. Applied Biochemistry and Biotechnology 117: 19-32. Impact factor-**1.89** cited in 56
22. **Gill Prabhjot Kaur**, Sharma AD, Harchand RK, Singh P (2003). Effect of media supplements and culture conditions on inulinase production by an Actinomycete strain. Bioresource Technology 87: 359-362. Impact factor-**4.75** cited in 77
23. Sharma AD, **Gill Prabhjot Kaur**, Singh P (2003). RNA Isolation from Plant Tissues Rich in Polysaccharides. Analytical Biochemistry 314: 319-321. Impact factor-**2.58** cited in 82
24. **Gill Prabhjot Kaur**, Sharma AD, Singh P, Bhullar SS (2003). Changes in germination, growth and soluble sugar contents of *Sorghum bicolor* (L.) Moench seeds under various abiotic stresses. Plant Growth Regulation 40: 157-162. Impact factor-**1.67** cited in 137
25. Sharma AD, **Gill Prabhjot Kaur**, Singh P (2002). DNA Isolation from Dry and Fresh Samples of Polysaccharide-Rich Plants. Plant Molecular Biology Reporter 20: 415a-415f. Impact factor-**5.32** cited in 169.
26. **Gill Prabhjot Kaur,** Sharma AD, Singh P, Bhullar SS (2002). Osmotic stress-induced changes in germination, growth and soluble sugar content of *Sorghum bicolor* (L.) Moench seeds. Bulgarian Journal of Plant Physiology 28: 12-25. Cited in 93
27. **Gill Prabhjot Kaur**, Sharma AD, Singh P, Bhullar SS (2001). Effect of various abiotic stresses on growth, soluble sugars and water relations of sorghum seedlings grown in light and darkness. Bulgarian Journal of Plant Physiology 27: 72-84. Cited in 87
28. Sharma AD, Nanda JS, **Gill Prabhjot Kaur**, Bhullar SS, Singh P, Vyas D (2002). Enhancement in Inulinase production by mutagenesis in *Penicillium purpurogenum*. Indian Journal of Biotechnology 1: 270-274. Impact factor-**0.48** cited in 8

Book Chapters

29. Kaur H, **Gill Prabhjot Kaur** (2019). Engineering Tools in the Beverage Industry**; Ist Edition,** Volume 3: The Science of Beverages; **Chapter 9:** Microbial Enzymes in Food and Beverages Processing, Elsevier: **Paperback ISBN**: 978-0-12-815258-4.00009-3. **eBook ISBN:** 9780128156988; **Copyright:**©Woodhead Publishing 2019.
30. Sangwan P, **Gill Prabhjot Kaur**, Singh D, Kumar V (2015). Ameliorative approaches for management of chromium phytotoxicity: Current promises and future directions, Applied Environmental Biotechnology: Present Scenario and Future Trends 77-95. Cited in 03.
31. Kumar V, Singh D, Sangwan P, **Gill Prabhjot Kaur** (2015). Management of environmental phosphorus pollution using phytases: Current challenges and future prospects. Applied Environmental Biotechnology: Present Scenario and Future Trends 97-114. Cited in 09.
32. Kumar V, Singh D, Sangwan P, **Gill Prabhjot Kaur** (2014). Global Market Scenario of Industrial Enzymes. Industrial Enzymes: Trends, Scope and Relevance, Nova Science Publishers, Inc. New York, 173-196. Cited in 08.

Book Published

1. **Gill Prabhjot Kaur (2017).** Biosynthesis of Silicon/Silica (Si/SiO_2) Nanoparticles: Rice husk and Wheat bran explored for biosynthesis of silicon/silica (Si/SiO_2) nanocomposites. **LAP Lambert Publishing,** ISBN: 978-3-330-33689-6.

2. **Laboratory Manual:** Kumar V, Singh D, Chugh V, **Gill Prabhjot Kaur**, Vyas P, Dhaliwal HS: Laboratory manual on Techniques in Molecular Biology and Biotechnology, Published by Department of Biotechnology, Akal College of Agriculture, Eternal University, Baru Sahib, HP. 2015, Pages: 1-158.

Workshops Attended

1. Train, Teach and Transfer Integrated Bioethics in Health Sciences (3T-IBHSc) training course under the UNESCO Chair in Bioethics Haifa for health Science Faculty held at Adesh University, Bathinda from 5th to 7th March, 2018.
2. Attended 8 days Teachers' Orientation Programme on "**Universal Human Values and Ethics**" organized by Adesh University in collaboration with International Resource Center, Universal Human Values and Ethics IKG Punjab Technical University, Kapurthala from April 27 to May 4, 2017.
3. Attended One day workshop on "**Sanger sequencing and Applications**" jointly organized by the Central University of Punjab, Bathinda and Thermo Fisher Scientific on 18 February 2017.
4. Attended 2 days workshop on "**Clinical Trial and Good Clinical Practice guidelines**" held at Adesh University Bathinda, during Nov. 2-3, 2016.
5. Attended 3 days workshop on "**Universal Human Value Education**" during August 29-31, 2016 held at Adesh University, Bathinda.
6. Attended 15 days training course in "**Medical Genetics and Bioinformatics**" during March 9-23, 2016 sponsored by DBT New Delhi and organized by Centre for Human Genetics and Molecular Medicine School of Health Sciences Central University of Punjab, Bathinda.
7. Participated in DBT sponsored "**Tools for Data Mining**" held at Department of Biotechnology, Guru Nanak Dev University, Amritsar, Punjab during 07-08, Oct. 2003.

Honors/Awards

- DBT fellowship during Ph.D. (2001-2003)
- Postdoctoral fellowship from Germany (2007-2009)

Memberships

- Association of Microbiologist of India (AMI)
- European Society of Clinical Microbiology and Infectious Diseases (ESCMID)

Reviewer of Journals

1. Pacesetter Journal of Agricultural Science Research, ISSN 2058-5578.
2. International Journal of Agricultural Policy and Research ISSN 2350-1561
3. Basic Research Journal of Agricultural Science and Review (BRJASR) ISSN 2315-6880
4. International Journal of Agricultural Science Research (IJASR) (**ISSN 2327-3321**).
5. Current Bioactive Compounds ISSN: 1573-4072 (Print) ISSN: 1875-6646 (Online)
6. Editorial Board Member of Science Research Association (SCIREA) Journal of Health.

Summary of Thesis/Project work

Sr.No.	Thesis/ Project work	Title	Achievements
1.	**M.Sc. Thesis (1999)**	Inulinase enzyme from *Streptomycetes* spp.	Isolated novel strain of *Streptomycete* which produced high level of Inulinase enzyme and Published article in high impact Journal (Bioresource Technology).
2.	**Ph.D. Thesis (2005)**	Purification and Characterization of Inulinase enzyme from *Aspergillus fumigatus.*	During the Ph.D. I have purified two different isoforms of inulinase from the extracellular extract of *A. fumigatus* for the first time and was a very good attempt to develop a biocatalyst for the production of fructose from inulin. The purified isoforms were exo-acting enzymes, which hydrolysed inulin to produce fructose mononmer. The isoform I (200kDa) was apparently a heterotrimer, whereas the isoform II is a monomeric enzyme of 62 kDa. The isoelectric points of isoforms I and II were 8.8 and 4.5, respectively. As compared to isoform II, the isoform I had lower Km, higher Kcat/Km, lower pH optimum and broader pH stability range, thus signified better kinetic properties.

			However, the thermostability of isoform II was significantly higher (even higher than the commercial enzyme from Novozyme), thus making it a better choice for production of fructose from inulin. The optimum temperature (60°C) of both the isoforms were higher than the optimum temperature for the commercial enzyme. The immobilization of partially purified inulinase of *A. fumigatus* further resulted in an increased in thermostability. Therefore, the inulinase of *A. fumigatus*, in the immobilized form can be employed for large scale production of high purity fructose syrups.
3.	**Postdoctoral Research Project (2007-2009)**	Tolerance measurement after Liver Transplantation.	Clinical organ transplantation between genetically disparate individuals presently requires nonspecific immunosuppressive agents to prevent rejection. However, the use of immunosuppressive drugs caused side effects and does not always guarantee success of the graft. Therefore, there is a need to establish methods of "donor specific transplantation tolerance" and that could not achieved directly in patients after liver transplantation. Therefore, *in-vitro* mixed lymphocytes culturing was established by mixing peripheral blood mononuclear cells from recipient and spleen cells from donor. The Microchimerism studies conducted on the mixed lymphocytes culture with fluorescence activated cell sorting based cytotoxic T lymphocytes assay using $DiOC_{18}(3)$ labelling of target cells, which was stable and a very sensitive assay. Futhermore, the $DiOC_{18}(3)$ assay was established as quantitative methods for the detection of cell-mediated cytotoxicity which provided a greater insight into the mechanisms of cell-mediated cytolysis by different effector (PBMC) populations.

Declaration: I hereby declare that the details furnished above are true and correct to the best of my knowledge and belief and in case any of the above information is found to be false or untrue, I shall be solely responsible.

Place: Adesh University, Bathinda **Date**: August 10, 2019 **Signature**: