



**Dr. Navdeep Thakur**  
**Assistant Professor, Dept. of Biotechnology**  
**St. Bede's College, Shimla**



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**Assistant Professor**

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**Google Scholar :** <https://scholar.google.com/citations?user=5H-UQWIAAAJ&hl=en>

**EDUCATIONAL QUALIFICATIONS:** M.Sc., M.Phil. (Gold Medal),, Ph.D. Biotechnology

<b>Sr. No.</b>	<b>Degree</b>	<b>Subject</b>	<b>College/University</b>	<b>Year of Passing</b>
1	B.Sc	Medical	Govt Degree College, Kullu	1997
2	M.Sc	Microbiology	UHF, Nauni, Solan	2000
3	M.Phil	Biotechnology	HPU, Summer hill, Shimla	2006
4	Ph.D	Biotechnology	HPU, Summer hill, Shimla	2014
5	ARS- NET	Microbiology	ARSB, ICAR	2018
6	Specialization	Food Fermentation& Food Biotechnology		

**TOTAL TEACHING EXPERIENCE:**

Teaching Experience at St. Bede's College: 7 Years

**SUBJECTS TAUGHT**

**UG:** Genetics, Biochemistry, Bioinformatics, Enzymology, Food Biotechnology, Ecology, Industrial - Micro, Proteomics & Genomics, IPR, Biofertilizers & Biopesticides, General Microbiology.

## **OTHER RESPONSIBILITIES**

**Member:** Criteria 1: NAAC Steering Committee, **Convener:** Red Ribbon Club

## **RESEARCH EXPERIENCES**

### **1. Ph. D Thesis Title**

**‘Characterization of traditional fermentation processes used for the production of some alcoholic beverages (*Chhang, Sura* and *JauChhang*) in Himachal Pradesh’.**

#### **Abstract of Ph. D Thesis**

In Himachal, fermentation is practiced in nearly all the districts. Most of the fermented beverages are cereal based but some fruit based beverages are also common in the state. Out of these fermented beverages three most popular foods viz. *Chhang*, *Sura* and *Jau Chhang* were analyzed for various parameters. Microbiological analysis and 16S and 26S rDNA sequencing revealed that *Saccharomyces cerevisiae*, *Saccharomyces fibuligera*, *Lactobacillus plantarum* and *Enterococcus* sp. are the most common microorganisms involved in various cereal based alcoholic fermentations. A significant increase in protein, some water soluble vitamins and essential amino acids were also observed during fermentation.

## **PROJECTS:**

1. Worked as JRF in the DBT sponsored project on “**Microbial diversity of fermented foods of Himachal Pradesh**” (July 2001- August 2003) under the supervision of **Prof T.C. Bhalla**, Coordinator, Department of Biotechnology HPU, Shimla, from July 2001-December 2003.
2. **Project Undertaken in M. Sc ‘Antimicrobial activity of *Bacillus* spp. isolated from the rhizosphere soil of medicinal plants’.**
3. Six months training on “**Creation of database of fermented foods and beverages of Himachal Pradesh**” Centre for Bioinformatics, Department of Biotechnology, Himachal Pradesh University, Shimla. (December 2001 to June 2002).

## **SCHOLARSHIPS/ FELLOWSHIPS RECEIVED**

1. **Finnish Govt. Scholarship** for Indian Nationals for Ph.D. work from 1<sup>st</sup> Sept, 2011- 31<sup>st</sup> May, 2012 at Division of Microbiology, Dept. of Food and Environmental Sciences, Vikki Bio Centre, University of Helsinki, Finland.
2. **Junior Research Fellow:** UGC- RFSMS fellow for Ph.D. work from 2008-2013 at H.P. University, Shimla
3. **Senior Research Fellow:** UGC- RFSMS from 2011-2013 at H.P. University, Shimla
4. **Studentship** at Sub Distributed Information Centre (SDIC), H. P. University, Shimla from Nov, 2003 to Dec, 2004.

## **MEMBERSHIP OF PROFESSIONAL ASSOCIATIONS AND SCHOLARLY SOCIETIES**

- Founder member of SASNET (Swedish South Asian Network of Fermented Foods, Sweden)
- Member of Probiotic association of India
- Member of ABHI (Association of Biotechnologists of Himachal Pradesh).

## **RESEARCH EXPERIENCE: Major/Minor Projects**

- Worked as JRF in the DBT sponsored project on “Microbial Diversity of Fermented Foods of Himachal Pradesh” (July 2001- August 2003) under the supervision of Prof T.C. Bhalla, Department of Biotechnology HPU, Shimla, from July 2001-December 2003.
- Six months training on “**Creation of database of fermented foods and beverages of Himachal Pradesh**” Centre for Bioinformatics, Department of Biotechnology, Himachal Pradesh University, Shimla. (December 2001 to June 2002).

## **➤ ACHIEVEMENTS**

## **PUBLICATIONS**

### **Chapter in Book**

- Bhalla TC and Thakur N, Kumari Anila and Mehta PK (2013). Probiotic organisms: Role in Health and Nutrition. In: Emerging areas in Biotechnology, pp 365-387.
- **Navdeep Thakur**, Savitri and Tek Chand Bhalla (2011). Cultivation of wine yeast and bacteria. In: Handbook of enology: Principles, Practices and recent Innovations, Asiatech Publishers, New Delhi, Chapter 15, vol-II., pp 502-525.
- Bhalla TC and **Thakur N** (2011) Traditional fermented cereal based alcoholic beverages In: Bioprocessing of Foods. Panesar PS, Sharma H K and Sarkar BC (eds), Asiatech Publishers Inc, Delhi, pp 29-38.
- Bhalla TC, **Thakur N**, Seth A and Pratosh A (2014). Cereal based alcoholic beverages. In: Fundamentals of Food Biotechnology: principles and practices, I.K International Publisher, New Delhi, pp 495-524.
- Mehta PK, Bhatia SK, **Thakur N** and Pratosh A (2014). Microorganisms for food and feed. In: Fundamentals of Food Biotechnology: Principles and Practices, I.K. International Publisher, New Delhi, pp 233-267.
- Bhalla TC, Thakur N and Savitri (2021). Culture of wine yeast and bacteria. In: Concise Encyclopedia of Science and Technology of Wine, CRC Press, Chapter 26, ISBN 9781138092754

## **LIST OF RESEARCH PAPERS**

- **Thakur N**, Kumar D, Savitri and Bhalla TC (2003) Traditional fermented foods and beverages of Himachal Pradesh. Invention Intelligence, July-August 2002: 173-178
- **Thakur N**, Savitri and Bhalla TC (2004). Characterization of some traditional fermented foods and beverages of Himachal Pradesh. Indian Journal of Traditional Knowledge, 3: 325-335.

- Kumar D, Savitri, **Thakur N**, Verma R and Bhalla T C (2008). Microbial proteases and application as laundry detergent additive. *Research Journal of Microbiology*, 3(12), 661-672.
- Savitri, Thakur N, Kumar D and Bhalla TC (2012) Microbiological and biochemical characterization of Seera: A traditional fermented food of Himachal Pradesh. *International Journal of Food and Fermentation Technology* 2(1):49-56
- **Thakur N**, Savitri, Saris PEJ and Bhalla TC (2015). Microorganisms associated with amylolytic starters and traditional fermented alcoholic beverages of North Western Himalayas in India. *Food Bioscience*, 92-96.
- **Thakur N**, Savitri and Bhalla TC (2015). Microbiological and biochemical characterisation of *Sura*-a traditional fermented millet based alcoholic beverage of Kullu Distt of Himachal Pradesh, India. *International journal of Food and Fermentation Technology*, 5 (2), 129-135
- Bhalla TC, Bhansuli, Savitri and **Thakur N** (2017). Invertase of *Saccharomyces cerevisiae* SAA-612: Production, characterization and application in synthesis of fructooligosaccharides Invertase of *Saccharomyces cerevisiae*. *LWT-Food Science and Technology*, 178-185.
- Savitri, **Thakur N** and Bhalla TC (2019). ‘Present Status and Future Prospects of Traditional Fermented Beverages of Himachal Pradesh, India’. *International Journal of Food Fermentation and Technology*, 9(2):67-72

## REPORTS PUBLISHED

- Bhalla TC, Savitri and **Thakur N** (2006). Status report on Traditional fermented foods and beverages of Himachal Pradesh. Submitted to: Integrated Institute of Himalayan Studies, Himachal Pradesh University, Shimla.

## ABSTRACT PUBLISHED

- **Thakur N**, Prasad S and Bhalla TC (2003). Scanning Electron Microscopic study on *Saccharomyces cerevisiae* isolated from local fermented beverage of Himachal Pradesh in abstracts of XXVI Annual Conference on Electron Microscopy and Allied Fields organized by Electron Microscopic Society of India, Central Potato Research Institute(ICAR), Shimla: p150.
- Bhalla TC, Savitri and **Thakur N** (2008). Traditional fermented foods: A case study of microbiological and biochemical characterization of *bhatooru*, *seera* and *siddu* of Himachal Pradesh, India. *Journal of Biotechnology* 136S:S743-S750.
- TC Bhalla, Savitri and **Navdeep Thakur** (2005). Traditional fermented foods and beverages of Himachal Pradesh. National seminar on “Recent trends in Biotechnology”, under UGC SAP DRS Programme, Department of Biosciences, Prasantha Nilayam Campus, Vidyagiri, puttaparthi, Andhra Pradesh, February, 9-11, pp89.

- **Bhalla T C** and Thakur N (2011) Traditional fermented cereal based alcoholic beverages. In: National Conference on New Horizons in Bio-Processing of Foods at SantLongowal Institute of Engineering & Technology, Longowal (Punjab) Feb25-26, 2011 (Abstract No.IL-05)
- **Thakur N** and Bhalla TC (2012) Molecular characterization of yeast and lactic acid bacteria isolated from traditional fermented beverages of Himachal Pradesh. 1<sup>st</sup> Annual Conference of Probiotic Association of India (PAi) and International Symposium on Probiotics for Human Health New Innovations and Emerging Trends August 27-28, 2012.
- **POSTER PRESENTATION:**
- A national XXVI Annual Conference on ‘Electron Microscopy and Allied Fields’ (2003) organized by Electron Microscopic Society of India, Central Potato Research Institute (ICAR), Shimla.
- An International Seminar and Workshop on ‘Fermented foods, health status and social wellbeing’ (Nov 13-14, 2003) at IRMA, Anand, Gujarat, India.
- 1<sup>st</sup> Annual Conference of Probiotic Association of India (PAi) and International Symposium on Probiotics for Human Health New Innovations and Emerging Trends August 27-28, 2012

#### **PARTICIPATION IN CONFERENCES AND SEMINARS**

- “Tools and techniques to Access Biological databases” From June 20-22, 2002 at Bioinformatics Centre, Himachal Pradesh University, Shimla -171 005.
- Workshop cum training programme on “Recent Trends in Genomics and Proteomics” organized by Bioinformatics Centre, (SUBDIC), Himachal Pradesh University, Shimla-171 005 from October 24-26, 2002.
- Participated as student delegate in “Yeast 2003”, an International Meeting on Yeast Biology, at Institute of Microbial Technology, Chandigarh-160 036, India from Feb 20-22, 2003.
- Participated in “Patent Awareness Programme” workshop/seminar held at Himachal Pradesh University, Shimla-5 on 26-27 June, 2003 organized by Patent Office, New Delhi in cooperation with Himachal Pradesh University, Shimla, India.
- Attended the International Seminar and Workshop on “Fermented foods, health status and social well- being” organized during Nov 13-14, 2003 at IRMA, Anand, Gujarat, India.
- Participated in All India Council for Technical Education sponsored workshop on the programme of “Environment and Pollution Awareness” organized by N.C. College of Engineering on 19<sup>th</sup> June, 2004.
- Attended National Roving Seminar on “Patenting in Biotechnology” organized by Department of Biotechnology, Himachal Pradesh University, Summer Hill, Shimla held on Nov 21, 2005.
- Attended 1<sup>st</sup> Annual Conference of Probiotic Association of India (PAi) and

International Symposium on Probiotics for Human Health New Innovations and Emerging Trends August 27-28, 2012, India Habitat Centre, New Delhi.

- Attended National Workshop on ‘Mammalian Cell Culture Techniques’ organized by Department of Biotechnology, Himachal Pradesh University, Summer Hill, Shimla held from May 20-23, 2015.
- Participated in a two-day Faculty Development Program on Online Teaching Tools from August 4-5, 2020, organized by Dept. of Computer Science, St. Bede’s College, Shimla
- Participated in Workshop on “Intellectual Property Rights: The Way Ahead to Protect Ideas” on 17/11/2021 organized by Centre of Excellence, Govt. College Sanjauli-Shimla in collaboration with Biotechnology Incubation Centre (BIC-HPU), Dept. of Biotechnology HP University, Summer Hill, Shimla.

#### **FACULTY DEVELOPMENT PROGRAM**

Dr. Navdeep Thakur attended a five-day online faculty development program on ‘Design and Development of MOOCs’ from 1<sup>st</sup> January, 2022 to 5<sup>th</sup> January, 2022.