

Bio-data

Personal Details:

Name : **Dr. Prakash M. HALAMI**

Date of Birth : 1st January, 1968

Designation : Chief Scientist & Professor-AcSIR
Head of the Department

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Major Awards/ Fellowship

- * Fellow, FIAAM, FIAMSc, FNABS, RSB, BSA, AFSTi,
- * Fellow, National Academy of Biological Sciences- India;
- * Raman Research Fellow, USA &

Educational Qualifications:

Sl. No.	Degree/Certificate	Year of passing	University/Institute*	Subjects
1	B. Sc. Agriculture	1991	Punjabrao Krishi Vidyapeeth, AKOLA, Maharashtra State	Agricul. Sciences; Plant Breeding and Genetics
2	M. Sc. Molecular Biology & Biotechnology	1993	Indian Agricultural Research Institute (IARI), PUSA, NEW DELHI	Microbial Genetics, Genetic Engineering, Fermentation Techn, rDNA Technology
3	Ph.D.	2005	University of Mysore, MYSORE	Biotechnology

*Part of PhD research at the University of Frankfurt am Main; Germany

Overseas training received:

S N	Overseas programme	University/Institute	Duration
1.	Group training course in Biotechnology	Japan International Cooperation Agency and Kobe University, JAPAN	March-July, 1998
2.	German Academic Exchange Services (DAAD) Sandwich program PhD studies	University of Frankfurt/M GERMANY	June 2000-March 2002
3.	Indo-Italian POC fellowship programme of DST & MAE	University of Milano, Milan; ITALY	March-May 2006
4.	DAAD re-invitation programme	University of Frankfurt/M GERMANY	July-Aug. 2007
5.	CSIR-DAAD exchange of Academic programme	Karlsruhe Institute of Technology, Karlsruhe GERMANY	Oct-Dec. 2009
6.	DST-JSPS exchange programme	University of Hokkaido, Hakodate, JAPAN	Nov-Dec. 2010
7.	INSA New Delhi and German Research Foundation (DFG)	University of Frankfurt/M GERMANY	July. 2012
8.	Raman Research Fellow	University of Minnesota, St Paul; USA	Nov. 2012-Feb. 2013
9.	CSIR-DAAD exchange of Academics	University of Frankfurt/M GERMANY	Sept. Oct. 2015

Research Experience/Employment:

SI. No.	Duration	Position held	Summary of the work
1.	Jan. 1993 to Jan. 1994	Position held Junior & Senior Research Fellow	Molecular Characterization of somatic hybrids of <i>Brassica</i> by using 5S-18S rRNA, <i>cox I</i> & <i>rbc L</i> gene probe
2.	Feb. 1994 to Feb. 1999	Scientist-B	Molecular cloning and characterization of antifungal proteins from sorghum a) Biotechnological approaches for the production of bacteriocin as a bio-preservatives b) Production and utilization of microbial catalase c) Rapid detection of Food-borne pathogens
3.	Feb. 1999 to Feb. 2003	Scientist -C	Microbial production of PHA, screening and characterization of PHA producing bacteria by Molecular Biology techniques
4.	Feb. 2003 to Feb. 2007	Scientist -E1	Probiotics from fermented food sources, Microbial enzymes, lipase and food borne pathogen detection using nano technology.

5.	Feb.2007 to Feb 2012	Principal Scientist	Microbial enzymes such as fibrinolytic enzymes, functional food. Lactic fermentation of fish and leather waste. Antibiotic resistance in lactic acid bacteria, their transferability, genomics of lactobacilli and bifidobacteria,
6.	Feb. 2012-to-feb 2017	Senior Principal Scientist	Aminoglycoside and vancomycin resistance in lactic acid bacteria, Evaluation of mode of action of antibiotics of bacilli; Bifidobacteria encapsulation, <i>Lactobacillus fermentum</i> , <i>Lb plantarum</i> and <i>Bacillus licheniformis</i> for probiotic functionalities.
7.	Feb. 2017 till date	Chief Scientist	Genome editing in probiotic bacteria, mechanism of colistin resistance, Molecular studies on RNA inhibiting peptide antibiotics etc

Area of specialization:

- ✓ Molecular Biology & Omics Sciences
- ✓ Biotechnology & Bioinformatics
- ✓ Microbial metabolite & Nutraceutical

Honours/Awards received:

SN	Year	Awarding organization	Name of the award/honour
1.	Aug. 1991 to Aug. 1993	IARI, New Delhi	Junior Research Fellowship
2.	Sept. 1993 to Jan. 1994	IARI, New Delhi	Senior Research Fellowship
3.	June. 1993	CSIR, New Delhi	CSIR/UGC Junior research fellowship and National Eligibility Test exam in Life Sciences
4.	2006 / 2016	University of Mysore, Mysore as well as University of Mangalore, Mangalore, Karnataka	Recognized as a guide for PhD in Biotechnology & Microbiology
5.	Nov. 2006	DST, New Delhi	Awarded FAST-TRACK young Scientist project
6.	July 3-5, 2009	National University of Singapore (Travel grant from CSIR New Delhi)	Invited speaker at 5 th Asia federation conference on lactic acid bacteria
7.	July 25-27, 2010	University Putra Malaysia (Travel grant from CSIR New Delhi)	Invited speaker for plenary lecture at International symposium of lactic acid bacteria
8.	Nov. 2013	Travel grant from ICMR New Delhi	Deputation to Mauritius to deliver invited talk at BTBT2013
9.	2013	CSIR-CFTRI Mysore	Foundation day award-2013 for individual contribution in R & D among Group IV Scientists

10.	2013	AFST-I Mysore	Awarded Laljee Godhoo Smarak Nidhi award of AFSTi-2013 for R & D contribution
11.	2016	Indian Association of Applied Microbiologists	Fellow, Indian Association of Applied Microbiologists.
12.	2017	CSIR-CFTRI Mysore	Alternate member, technical committee of FAD 15.1 Microbiology subcommittee of the BIS
13.	2019	AFST I	Editor, Journal of Food Science & Technology- India
14.	2019	DST- New Delhi	International travel grants of SERB-DST New Delhi to visit Indonesia for invited talk in 10 th ACLAB Conference
15.	2018	NABS, Chennai	Dr GS Venkataraman Memorial National Academy of Biological Sciences-Best Scientist Award
16.	2019	CSIR-CFTRI Mysore	CSIR-CFTRI Foundation day award (Best Scientist award)
17.	2020, 2022	FSSAI New Delhi	Member, Scientific panel on Antibiotic residue
18.	2021	Royal Society of Biology, UK	Fellow
19.	2021	Biotech Research Society of India	Fellow
20.	2021	National Environmental Science Academy	Fellow
21.	2021	AFSTi	Fellow
22.	2021	Drinking water and carbonated beverages subcommittee of Bureau of Indian Standards	Member & Convenor
23.	2022	University of Mysore	Member, Advisory Committee, Institute of Excellence
24.	2022	JSS Academy of higher Education, Mysore	Member, BOS in Life Sciences
25.	2022	Department of Biotechnology, University of Mysore	Board member
26.	2022	Board of Studies in Food Science Technology, St Joseph University, Bangalore	Member
27.	2022	Board of Studies in Microbiology, St Philomena's College, Mysore.	Member
28.	2022	Microbiologist Society India	Fellow

29.	2023	Bureau of Indian standards FAD29 alcoholic drink	Chairperson
30.	2023	AMI	Dr. G. B. Manjrekar award (Biennial)
31.	2024	Sanjivani Arts, Commerce, and Science College	Excellence in Research Award

Awarded following prizes for the best papers:

- A) Five first prizes for abstract F11 in the 4th IFCON-1998, FM 45 in the 5th IFCON 2003, FB11 in the 16th ICFOST 2004, FB-11 in the 6th IFCON 2008 and abstract FM-29 in the 6th IFCON 2008.
- B) Four best paper awards for the Abstract No D-0404 in the 7th IFCON 2013, APPN AFB02 in BTBT2013, FB15 in ICFOST2014 and Foodomics'2016.
- C) Second best paper award for the abstract OP4 at 11th NABS-2019
- D) One third prize for Abstract M38 in the 15th ICFOST 2002 and Abstract OP1 of 11th NABS-2019
- E) First prize for Abstract FHW-066 in the 9th IFCoN 2023
- F) First prize for Abstract FM-009 in the 9th IFCoN 2023

Professional Affiliations:

7.1 Teaching:

- ✚ Faculty member for the training programme since 1996 till date
- ✚ Faculty member for MSc Food Technology since 2002 till date

7.2 Course coordinator for the following institute sponsored courses -

- 1) Course coordinator and faculty of the short-term course on "Molecular techniques in Microbiology" Sept. 2006 and June 2007.
- 2) Molecular Biology approaches for Microbiological Studies and Application, Institute's short-term training course, Sept 22-26, 2009.
- 3) Molecular Biology techniques in Microbiology, STC, CFTRI; Aug. 2010.
- 4) Molecular biology techniques in Microbiology during Oct 04-18, 2012.
- 5) 2013 Institute's training programme on 'Advance techniques in Molecular Biology'. Oct 08-19, 2013.
- 6) Advanced techniques in Mol. Biology 2014.
- 7) Advance Molecular Biology Techniques. Aug. 24-28, 2015.
- 8) Analytical methods in Microbiology. Aug. 2018 & Oct 2019.
- 9) Strategies for probiotic product development Jan. 2020. & 2022
- 10) Short term course on 'Development of pour over millet beverage and curd through probiotic bacteria' was conducted on Sep. 28-30th 2023 and 20-24 Nov. 2023. (No. of participants- 25 & 7, respectively)

7.3 Course Director for the DBT Govt of India; New Delhi sponsored courses -

- 1) Molecular biology techniques in Microbiology, March 4-19, 2010.
- 2) Molecular biology techniques in Microbiology. Nov 16 -Dec. 02; 2011, &
- 3) Molecular biology techniques in Microbiology for lecturers Sept 2-19, 2014.

Research and Development work:

8.1 Journal publications:

Total publications: 134 (as of 01.06.2024)

✓ No of publications in SCI foreign journals	= 100
✓ In Non-SCI foreign journals	= 18
✓ In SCI Indian journals	= 15
✓ In Non-SCI Indian journals	= 01
✓ Popular articles	= 08
✓ Book Chapter	= 20
✓ Books	= 01

Total Google Scholar Citations	4252
h-Index	37
i-10-index	94

List of important SCI publications of last 5 years

S N	Title of the paper	Journal name/volu me/page nos.	Year & Name of the authors	Impact Factor	Citat ion
1	Improved production of RNA inhibiting antimicrobial peptide by <i>Bacillus licheniformis</i> MCC 2514 facilitated by a genetic algorithm optimized media	<i>Bioprocess and Biosystems Engineering</i> 47(5), 683-695.	Ishrat J. P, Sarma MVRK and Halami P. M*	3.8	
3	Dark chocolate: delivery medium for probiotic <i>Bifidobacterium breve</i> NCIM 5671	<i>Journal of Food Science and Technology</i> , 1-5.	2024; Achi, S. C., Chetana, R., Asha, M. R., Raphel, S., & Halami, P. M* .	3.1	2
4	Genome mining of <i>Bacillus licheniformis</i> MCC2514 for the identification of lasso peptide biosynthetic gene cluster and its characterization	<i>Archives of Microbiology</i> , 206(4), 143.	2024; Raphel, S., & Halami, P. M* .	2.8	
5	<i>Lactiplantibacillus plantarum</i> MCC5231 enriched carrot (<i>Daucus carota</i>) nectar: a value-added beverage with enhanced vitamin A	<i>Journal of Food Measurement and Characterization</i> , 1-15.	2023; Goel, A., Chauhan, A. S., & Halami, P. M.*	3.4	3

6	Structural characteristics and functional properties of a fucose containing prebiotic exopolysaccharide from <i>Bifidobacterium breve</i> NCIM 5671.	<i>Journal of Applied Microbiology</i> , 134(11), 1xad262.	2023; Baruah, R., Kumar, P. P., Gangani, S., Prashanth, K. H., & Halami, P. M.*	4	
7	<i>In vitro</i> fermentation of glycosaminoglycans from mackerel fish waste and its role in modulating the antioxidant status and gut microbiota of high fat diet-fed C57BL/6 mice.	<i>Food & Function</i> 14 (15), 7130-7145	2023; Geetha, V., Chathur, K. N., Ramkumar, S., & Halami, P. M.*	6.1	3
8	Structural and biosynthetic diversity of plantaricins from <i>Lactiplantibacillus</i> .	<i>Applied Microbiology and Biotechnology</i> , 1-15	2023; Goel, A., & Halami, P. M.*	5	
9	Probiotic <i>Bacillus licheniformis</i> MCC2514 and <i>Bifidobacterium breve</i> NCIM 5671 Regulates GATA3 and Foxp3 Expression in the Elevated Disease Condition	<i>Probiotics and Antimicrobial Proteins</i> , 1-17	2023; Rohith, H. S., Peddha, M. S., & Halami, P. M.*	4.9	1
10	Effect of probiotics as an immune modulator for the management of COVID-19	<i>Archives of Microbiology</i> , 205(5), 182	2023; Ray, M., Manjunath, A., & Halami, P. M.*	2.8	1
11	Prevalence of macrolide–lincosamide–streptogramin resistant lactic acid bacteria isolated from food sample	<i>Journal of Food Science and Technology</i> 60(2), 630-642	2023; Ashwini, M., Ray, M., Sumana, K., & Halami, P. M.	3.1	2
12	Probiotic Chewing Gums for Adjuvative Treatment of Periodontitis in Diabetics	<i>Cumhuriyet Dental Journal</i> 26(3), 220-226.	2023; Durga, K. R., Ravindra, S., & Halami, P. M.		
13	<i>Lactobacillus fermentum</i> MCC2760 abrogate high-fat induced perturbations in the enterohepatic circulation of bile acids in rats	<i>Life Sciences</i> , 320, 121563.	2023; Nair, D., Zarei, M., Halami, P. M. , & Talahalli, R.	6.1	
14	Conjugal transfer of macrolide–lincosamide–streptogramin resistance from lactic acid bacteria isolated from food materials	<i>Materials Today: Proceedings</i> , 51, 707-714	2022; Ashwini, M., Ray, M., Halami PM. , & Sumana, K.		3
15	Prevalence of polymyxin resistance through the food chain, the global crisis.	<i>The Journal of Antibiotics</i> , 75(4), 185-198	2022; Ray, M., Manjunath, A., & Halami, PM*.	2.8	3

16	<i>Lactobacillus plantarum</i> MCC2034, a novel isolate from traditional Indian lactic fermented preparation: molecular identification and evaluation of its <i>in vitro</i> probiotic potential	Journal of Microbiology, Biotechnology and Food Sciences, 4(4), 328-331	2021; Henry, D. E., Halami PM* & Prapulla, S. G.		7 7
17	The antimicrobial efficacy of a novel nisin variant lantibiotic against periodontal pathogens- An <i>in vivo</i> pilot study	Bulletin Monumental - ISSN / e-ISSN 0007-473X. 22: 210-217	2021; Nair MB, Halami PM , Ravindra S, and Suman B		
18	<i>Bacillus licheniformis</i> MCC 2514 genome sequencing and functional annotation for providing genetic evidence for probiotic gut adhesion properties and its applicability as a biopreservative agent.	<i>Gene</i> , 840, 146744.	2022; Dindhoria K, Kumar S, Baliyan N, Raphel, S, Halami PM* and Kumar R	3.5	9
19	A machine learning-based approach to determine infection status in recipients of BBV152 whole virion inactivated SARS-CoV-2 vaccine for serological surveys.	<i>Computers in Biology and Medicine</i> , 146, 105419	2022; Singh, P., Ujjainiya, R., Prakash, S., Naushin, S., Gupta, D & Halami, PM et al.	7.7	11
20	Genome editing of probiotic bacteria: present status and future prospects	<i>Biologia</i> , 77(7), 1831-1841	2021; Sundararaman, A., & Halami, P. M* .	1.5	6
21	Characterization of dual bacteriocins producing <i>Bacillus subtilis</i> SC3.7 isolated from fermented food	LWT, 154, 112854.	2022; Epparti, P., Eligar, S. M., Sattur, A. P., Kumar, B. G., & Halami PM* .	6	14
22	Preventive and therapeutic aspects of fermented foods	<i>Journal of Applied Microbiology</i> , 132(5), 3476-3489	2022; Baruah, R., Ray, M., & Halami PM* .	4	38
23	Novel pathways in bacteriocin synthesis by lactic acid bacteria with special reference to ethnic fermented foods	<i>Food Science and Biotechnology</i> , 1-16.	2021; Sharma, B. R., Halami PM. , & Tamang, J. P	2.9	20
24	Bacterial heteroresistance: an evolving novel way to combat antibiotics.	<i>Biologia</i> , 76(10), 3029-3041.	2021; Manjunath, A., Thumu, S. C. R., Kumar, S., & Halami PM* .	1.5	3
25	The combined effect of potential probiotic <i>Bacillus licheniformis</i>	<i>Probiotics and Antimicrobial</i>	2021; Rohith, H. S., & Halami	4.9	15

	MCC 2514 and <i>Bifidobacterium breve</i> NCIM 5671 towards anti-inflammatory activity on HT-29 cell lines.	<i>Proteins</i> , 1-12	PM* .		
26	Insights from a Pan India Sero-Epidemiological survey (Phenome-India Cohort) for SARS-CoV2	<i>Elife</i> , 10, e66537	2021; Naushin S, Sardana V,and Halami PM et al.	7.7	29
	Distribution and diversity of nisin producing LAB in fermented food	<i>Current Microbiology</i> , 78, 3430-3438	2021; Sharma, B. R., Jayant, D., Rajshee, K., Singh, Y., & Halami PM*	2.6	7
27	<i>In vitro</i> validation studies for adhesion factor and adhesion efficiency of probiotic <i>Bacillus licheniformis</i> MCC 2514 and <i>Bifidobacterium breve</i> NCIM 5671 on HT-29 cell lines	<i>Archives of Microbiology</i> , 203, 2989-2998	2021; Rohith, H. S., & Halami PM	2.8	17
28	Effect of <i>Lactobacillus fermentum</i> MCC2760-based probiotic curd on hypercholesterolemic C57BL6 Mice.	<i>ACS omega</i> , 6(11), 7701-7710.	2021; Palani Kumar, M. K., Halami PM. , & Serva Peddha, M	4.1	15
29	<i>Lactobacillus fermentum</i> MCC2759 and MCC2760 alleviate inflammation and intestinal function in high-fat diet-fed and streptozotocin-induced diabetic rats	<i>Probiotics and Antimicrobial Proteins</i> , 13(4), 1068-1080.	2021; Archer, A. C., Muthukumar, S. P., & Halami PM.	4.9	39
30	<i>Genome of Bifidobacterium longum</i> NCIM 5672 provides insights into its acid-tolerance mechanism and probiotic properties	<i>Archives of Microbiology</i> 203, 6109-6118	2021; Sundararaman, A., Bansal, K., Sidhic, J., Patil, P., & Halami, P. M.*		9
31	Immune-boosting, antioxidant and anti-inflammatory food supplements targeting pathogenesis of COVID-19	<i>Frontiers in Immunology</i> , 11, 2337.	2020; Mrityunjaya, M., Pavithra, V., Neelam, R., Janhavi, P., Halami PM. , & Ravindra, P. V.	7.3	341
32	Role of probiotics to combat viral infections with emphasis on COVID-19.	<i>Applied Microbiology and Biotechnology</i> , 104, 8089-8104.	2020; Sundararaman, A., Ray, M., Ravindra, P. V., & Halami PM* .	5	194

33	Genome Analysis of <i>Lactobacillus plantarum</i> isolated from Some Indian Fermented Foods for Bacteriocin Production and Probiotic Marker Genes	<i>Frontiers in Microbiology</i> , 11, 40	2020; Goel, A. Halami PM & Tamang, J. P	5.2	81
34	Evaluation of growth and cereulide production by <i>Bacillus cereus</i> isolated from cooked rice	<i>International Journal of Food Studies</i> , 9(1).	2020; Seyi-Amole, DO, Onilude, AA, Rani, SD and Halami, P. M.*		4
35	<i>In vivo</i> safety assessment of <i>Lactobacillus fermentum</i> strains, evaluation of their cholesterol lowering ability and intestinal microbial modulation	<i>J Sci Food Agril.</i> 100 (2):705-713	2020; Thumu SCR and Halami PM*	4.1	24
36	Conjugal transfer of <i>erm(B)</i> and multiple tet genes from <i>Lactobacillus</i> spp. to bacterial pathogens in animal gut, <i>in vitro</i> and during food fermentation	<i>Food Res Int.</i> 116: 1066–1075	2019; Thumu SCR and Halami PM*	8.1	43
37	<i>In vitro</i> comparative analysis of probiotic and functional attributes of indigenous isolates of <i>Bifidobacteria</i>	<i>Current Microbiol</i> 6(3):304-311	2019; Achi SA and Halami PM*	2.6	21
38	Characterization and mode of action of a potent bio-preservative from food-grade <i>Bacillus licheniformis</i> MCC 2016	<i>Preparative Biochem and Biotechnol.</i> 49, (4): 334–343	2019; Nithya V and Halami PM*	2.9	16
39	Prophylactic effects of probiotic <i>Bifidobacterium</i> spp in the resolution of inflammation in arthritic rats	<i>Appl Microbiol Biotechnol.</i> 103 : 6287-6296	2019; Achi SA, Ramaprasad TR and Halami PM*	5	24
40	Heterogeneity of macrolide-lincosamide-streptogramin phenotype and conjugal transfer of <i>erm(B)</i> in <i>Pediococcus pentosaceus</i>	<i>Ind J Med Res</i> 149(2):270-275	2019; Thumu SCR and Halami PM*	1.7	5
41	Presence of extracellular DNA and protein in biofilm formation by gentamicin resistant <i>Lactobacillus plantarum</i>	<i>Ind J Med Res.</i> 149: 257-262	2019; Jaimee G and Halami PM*	1.7	13
42	Genetic variation of plantaricin bacteriocin among probiotic <i>Lactobacillus plantarum</i> group strains with anti-oxidant and cholesterol lowering ability.	<i>Probio and Antimicrobial Prot.</i> 11(1):11-22	2019; Devi SM and Halami PM*	4.9	21

*Publication as a corresponding author

List of publications as a single author

SN	Title of the paper	Journal name year/vol/page	Impact Factor	Citation
1.	Production of poly-hydroxyalkanoate from starch by the native isolate <i>Bacillus cereus</i> CFR06	<i>World J. Microbiol. Biotechnol.</i> 24: 805-812	1.2	131
2.	Isolation and characterization of a nitrosoguanidine- induced <i>Enterococcus faecium</i> MTCC 5153 mutant defective in enterocin biosynthesis	<i>Res Microbiol.</i> 161: 590-594	2.154	3
3.	Sublichenin, a new subtilin-like lantibiotics of probiotic bacterium <i>Bacillus licheniformis</i> MCC 2512T with antibacterial activity. <i>Microbial Pathogenesis</i>	<i>Microbial Pathogenesis.</i> 128:139-146	2.58	5

Book chapter/s publications:

I. Total number of book chapters published: **20**

II. List of book chapter publications in the last 5 years:

- 1) Vrinda Ramchandran, Bhaskar N and **Halami PM*** (2019) Lipase of Lactic Acid Bacteria: diversity and application. A book chapter in *Microbes for sustainable development and Bioremediation*. CRC press. ISBN. 9780367226008: page. 313-324.
- 2) Jayant Dharana and **Halami PM*** (2020) Industrial perspective of food preservatives from microbial origin. A book chapter in *Current Developments in Biotechnology and Bioengineering: Sustainable Bioresources for Emerging Bioeconomy*. Elsevier publisher. ISBN: 9780444643094 page. 243-261.
- 3) Devaraj Yogesh and **Halami PM*** (2020) Fibrinolytic enzymes in fermented food products. *Bioactive compounds in Fermented Foods: Health aspect*. CRC press ISBN 9780367136000. Page. 120-140.
- 4) Baruah Rwivoo, Appaiah KA Anu and **Halami PM*** (2020) Ethnic Fermented Foods and Beverages of Karnataka. A book chapter in *History, Culture and Science of Ethnic Fermented Food and Alcoholic Beverages of India*. Elsevier publisher Springer publisher ISBN 978-981-15-1485-2 page 209-230.

- 5) Baruah R, Rajshree K. and **Halami PM*** (2021) Exopolysaccharides producing microorganism for functional food industry. In book: Bioprocess technologies for production of nutraceuticals and functional food products. . Elsevier. ISBN: 978-0-12-823506-5. Page. 337-354.
- 6) Baruah R and **Halami PM*** (2021) Microbial gums: Current trends and application. In book: Bioprospecting of microorganism based industrial molecules. Wiley. ISBN: 1119717249 page. 31-46. 2021
- 7) Aravind S., Shetty K, **Halami PM*** (2022). Role of probiotics in autoism spectrum disorders. In the book, Microbiome, gut brain axis. ISBN 978-981-16-1625-9 Page. 355-366.
- 8) Ray, M., Manjunath, A., Baruah, R., & **Halami, PM*** (2023). Enzymes from Lactic Acid Bacteria for Nutraceuticals Production. In *Microbial Enzymes in Production of Functional Foods and Nutraceuticals* (pp. 25-44). CRC Press.
- 9) Warghane, Ashish, Rashmi Saini, Neena K. Dhiman, Khushdil Khan, Meena Koche, Aditya Sharma, R. M. Gade, **Halami PM**, and Anunava Das. "Value-addition in citrus processing industry waste through enzyme technology." In *Value-Addition in Agri-food Industry Waste Through Enzyme Technology*, pp. 177-190. Academic Press, 2023.
- 10) Steji R and Halami PM*. Genome editing in *Bacillus licheniformis*: Current Approaches and Applications, a book chapter in *Genome Editing in Bacteria* (Part 1), 2024, 156-179
- 11) Bathula S and Halami PM*. Genome editing in Cyanobacteria, a book chapter *Genome Editing in Bacteria* (Part 2), 2024, 142-157
- 12) Aravind S and Halami PM*. Metabolic engineering of *Bifidobacterium* sp. Using genome editing techniques, a book chapter *Genome Editing in Bacteria*(Part 1), 2024, pg88

Patents obtained:

SI. No.	Title	Country	Granted on (Patent No. & Year)	Name of the other Inventors
1.	An improved process for catalase production	India	Patent No. 1264, 1997	Basappa, S. C., Venkateshwaran, G., Halami, PM. , Renu Agrawal and Somshekar, D
2.	A process for preparation of polyhydroxyalkanoate co-polymer	India	Patent No. 512/DEL/2004	Shamala, TR, Anil-kumar, PK, Kshama lakshman, Halami PM , Joshi GJ, Chandrashekar A
3.	A process for the production of anti-listerial bacteriocin	India	Patent No.1237/DEL/2008 A	Halami PM and Chandrashekar A
4.	A process for the preparation of a novel bio-curd	India	Patent No 745/DEL/2005 (publication date 12/11/2010)	Renu Agrawal and Halami PM

Papers presented in symposium/conference:

I. National:		
Total number of papers presented:		94
II. International:		
Total number of papers presented:		97

List of papers presented in international conferences in the last 4 years:

- 1) Baruah R, Harish Prashant KV and **Halami PM***. Structural elucidation of capsular heteropolysaccharide from probiotic *Bifidobacterium breve* NCIM 5671 30.01 to 1.02.2020 27th ICFIST Tezpur University, Assam OP
- 2) Rohith H.S., and **Halami PM**. Immunomodulatory effect of *Bacillus licheniformis* MCC 2514 and *Bifidobacterium breve* NCIM 5671 on HT-29 cell line. 5th Biennial Conference of Probiotics Association of India & International Symposium on Probiotics & Immunity: Way forward to Microbial Therapy. November 19-20, 2020.
- 3) Sundararaman A, Sajan Achi, **Halami PM**. Genomic analysis and *In vivo* effect of probiotic *Bifidobacterium longum* NCIM 5672 for its immunomodulatory properties in arthritis induced wistar rats. 5th Biennial conference of Probiotics Association of India & Intl Symposium on Probiotics & Immunity: Way forward to Microbial Therapy. November 19-20, 2020
- 4) Aditi Goyel and **Halami PM**. Characterization of *Lactobacillus plantarum* DHCU70as a potential immunomodulatory. 5th Biennial conference of Probiotics Association of India & Intl Symposium on Probiotics & Immunity: Way forward to Microbial Therapy. November 19-20, 2020

- 5) Ashwini M, **Halami PM** and Sumana K. Prevalence of macrolide-streptogramin-lincosamide resistance among food producing animals. 1st International E-Conference on Microbiology: COVID-19 & Current Issues held at Department of Microbiology, Primeasia University, Bangladesh. 31st January, 2021.
- 6) Ashwini M, **Halami PM** and Sumana K (2021). Molecular characterization and conjugal transfer of macrolide -lincosamide-streptogramin resistance in lactic acid bacteria isolated from food samples. One-Day International E-Conference on "Recent Research and Innovations in Life Sciences 2021" held at Department of Microbiology, MMK & SDM Mahila maha Vidyalyaya Mysore. February 19, 2021
- 7) Ishrat Jahan, Rohith H. S., C. S. Vivek Babu and **Halami PM**. Molecular interaction of cry protein toxic to stored grain pest" in International Virtual Conference on Emerging Trends in Food Protectants and Infestation Control [ET- FPIC 2021] by Pesticide Science Study Group (PSSG) & Food Protectants and Infestation Control Department, CSIR-Central Food Technological Research Institute, Mysuru. February 24-25, 2021.
- 8) Jameema Sidhic, C. S. Vivek Babu and **Halami PM**. ITS marker based genomic mining of *Aspergillus* spp. in perspective of stored grain management International Virtual Conference on Emerging Trends in Food Protectants and Infestation Control [ET- FPIC 2021] by Pesticide Science Study Group (PSSG) & Food Protectants and Infestation Control Department, CSIR-Central Food Technological Research Institute, Mysuru on 24-25 February, 2021.
- 9) Ashwini M, Mousumi Ray, Sumana K and **Halami PM**. Gene expression of Lactic Acid Bacteria isolated from food samples against macrolide - Lincosamide-Streptogramin antibiotics. Two days International Conference on "Gut Brain Health Connections", CSIR - CFTRI, Mysuru. 28 -29 Oct. 2021 (Third prize)
- 10) Kusuma NP, Rwivoo Baruah, and **Halami PM**. Characterization of EPS gene cluster from *Bifidobacterium breve* NCIM 5671. Two days International conference on "Gut-brain health connection" CSIR-CFTRI, Mysuru, Karnataka, India, 28 – 29 Oct. 2021 (Consolation prize)
- 11) Kusuma NP, Rwivoo Baruah, and **Halami PM**. *In Silico* comparative analysis of *Bifidobacterium breve* NCIM 5671 for its probiotic marker genes. IcFOST, Aurangabad, Maharashtra, India. 22 Jan. 2022
- 12) Aditi Goel, Muthukumar S P and **Halami PM**. Anti-obesity effect of probiotic *Lantiplantibacillus plantarum* DHCU70 in high fat diet fed C57BLP mice. Abstract no. PPI-036. 62nd annual international conference of AMI, University of Mysore, Mysuru. 21-23 Sep. 2022
- 13) Peerzade I J and **Halami PM**. Purification, characterization, and antimicrobial spectra of the antimicrobial peptide produced by *Bacillus licheniformis* MCC2514. Abstract no. 317-PXX-78. 62nd annual international conference of AMI, University of Mysore, Mysuru. 21-23 Sep. 2022

- 14) Kusuma NP and **Halami PM**. Genomic characterization of *Bifidobacterium breve* NCIM 5671 for probiotic functionalities. Abstract no. PPI-039. 62nd annual international conference of AMI, University of Mysore, Mysuru. 21-23 Sep. 2022
- 15) Raphel S and **Halami PM**. Genome mining and comparative analysis of *Bacillus licheniformis* MCC 2514 for the characterization of antibiotic biosynthetic gene cluster. Abstract no. PPI-041. 62nd annual international conference of AMI, University of Mysore, Mysuru. 21-23 Sep. 2022
- 16) Dhanasekaran D and Halami P M. Exopolysaccharides as a postbiotics: production and characterization from lactobacilli and bifidobacteria. 6th Biennial Conference of PAI & International Symposium on Psychobiotics and Gut: Potential in Neurological Disorders. ICAR-National Dairy Research Institute, Karnal & DUVASU, Mathura. December 5-6, 2022
- 17) Aditi Goel, Atter Singh Chauhan, and **Halami PM**. *Lactiplantibacillus* DHCU70 enriched carrot nectar: A boon to healthy life. IcFOST, Aurangabad, Maharashtra, India. 22 Jan. 2022
- 18) Vyshali Ramesh K, Anjali PM, **Halami PM**, Ramaprasad TR. *Lactobacillus fermentum* MCC2760 beneficially modulate oxidized oil induced perturbations in brain oxidative stress and inflammation in rats. Abstract No. FHW-070. 9th IFCoN, CSIR-CFTRI, Mysuru. Dec. 07-10. 2023
- 19) Varsha H S, Sridevi Annapurna Singh, Ramaprasad T R, Madan Kumar Perumal, **Halami PM***. *In-vitro* alpha-amylase inhibition activity by postbiotic extracts obtained from probiotic bacteria. Abstract No. FHW-066. 9th IFCoN, CSIR-CFTRI, Mysuru. Dec. 07-10. 2023
- 20) Ishrat Jahan Peerzade, Muthukumar Serva Peddha , **Halami PM***. Efficacy of Antimicrobial peptide from probiotic *Bacillus licheniformis* MCC 2514 in *Salmonella typhimurium* challenged mice. Abstract No. FM-009. 9th IFCoN, CSIR-CFTRI, Mysuru. Dec. 07-10. 2023
- 21) Krishna Komatwar Aravind Sundararaman, **Halami PM***. Analysis of the whole genome of *Limosilactobacillus fermentum* MCC0552 for probiotic functionalities and comparative genomic study with reference strains. Abstract No. FM-002. 9th IFCoN, CSIR-CFTRI, Mysuru. Dec. 07-10. 2023
- 22) Steji Rapheland **Halami PM***. RNA biosynthesis inhibiting novel lasso peptide-like antibiotic of probiotic *Bacillus licheniformis* MCC 2514. Abstract No. FM-017. 9th IFCoN, CSIR-CFTRI, Mysuru. Dec. 07-10. 2023
- 23) Kusuma N P and **Halami PM***. Probiotic *Bifidobacterium breve* NCIM 5671 produces RNA biosynthesis inhibiting antimicrobial peptide. Abstract No. FM-018. 9th IFCoN, CSIR-CFTRI, Mysuru. Dec. 07-10. 2023
- 24) Maithili Banginwar, Aditi Goel, **Halami PM***. Optimization of parameters for the formulation of starter cultures required for probiotic dairy product preparation. Abstract No. DAF-011. 9th IFCoN, CSIR-CFTRI, Mysuru. Dec. 07-10. 2023

- 25) Pramila Epparti and **Halami PM***. Studies on prebiotic activity of barnyard millet fraction by using probiotic *Lactobacillus* and *Bacillus* spp. Abstract No. MNC-014. 9th IFCoN, CSIR-CFTRI, Mysuru. Dec. 07-10. 2023
- 26) Annapoorna B, Kusuma N P and **Halami PM***. *In-vitro* prebiotic activity of Barnyard millet by probiotic bifidobacteria and lactic acid bacteria and its functional study. Abstract No. MNC-030. 9th IFCoN, CSIR-CFTRI, Mysuru. Dec. 07-10. 2023
- 27) Ms. Mounika Reddy Munagala, Akhilasri P, Saravanan M, Ashwath kumar, Roopavathi C, **Halami PM**, Prabhashankar, Vikas Singh Chauhana. Impact of the Incorporation of red seaweed biomass on the dough rheology, and physico-chemical, and bioactive profile of the buns prepared thereof. Abstract No. FF-023. 9th IFCoN, CSIR-CFTRI, Mysuru. Dec. 07-10. 2023

Invited lecture/s, Technical seminar:

I. National

✚ Total number:

71

✚ List of invited lecture/s, technical seminar in the last 5 years:

- 1) Probiotic *Lactobacillus fermentum*: a functional-food approach for inflammatory related diseases. Abstract page 48-49 of invited talk by **Halami PM** during 106th Indian Science Congress Jan. 3-7; 2019.
- 2) Phylogeny of probiotic bacteria, abstract page No. 36-38 of invited talk by **Halami PM** during Workshop on 'Probiotics – Ambassadors of Human health, sponsored by Probiotics Association of India, Dairy Sci College, Bengaluru. Feb. 14-15, 2019
- 3) Exploring fermented food as a source of new probiotics: Molecular characterization and delivery' invited talk by **Halami PM** organized by AMI Allahabad chapter and Society of Microbiology – SHUATS at Sam Higginbottom University of Agriculture, Technology and Sciences, Allahabad (UP) March 08, 2019.
- 4) Translational Research in Microbiology: a case study, abstract pg. 22 of invited talk by Halami PM during UGC sponsored National conference On Current Status and Future Prospects in Life Science Research (CSFPLR-2019), Dravidian University, Kuppam (AP), March 28-29, 2019.
- 5) Gut microbiota and human health: Current status and future perspective, a Special lecture at the Dept of BTBM and IQAC at SBRR Mahajan First Grade College Mysore 13.07.2019. The uses of bacteriocins for human welfare an invited talk at National Conference on Phytochemicals and Microbial bioactive compounds – role in agriculture and human welfare; Bangalore University Dept Microbiol & Biotechnol. Oct. 04, 2019 Bangalore.
- 6) Supplementation of probiotic through fermented dairy products. Invited lecture in the seminar at Dept Dairy Technology; SG Inst of Dairy Technol. Bihar Animal Sciences University, Patna; Bihar 30.01.2019

- 7) Diversity, distribution and functionalities of lactic microflora obtained from fermented food of North East India. An invited talk at 27th Indian Convention of Food scientists and Technologist 'RAINBOW Tezpur University Assam 30.01 to 01.02.2020.
- 8) Modulation of gut microbiota by probiotics and bacteriocin, an invited lecture at UGC sponsored programme for enrichment of teachers under CPE scheme; JSS College of Arts, Comm & Sci. 26.02.2020.
- 9) Participated and delivered a lecture as Resource person National seminar on 'foods for gut immunity' St Alosius College Mangalore in collaboration with Karnataka Science and Technology Academy, 22.04.2022.
- 10) Delivered invited lecture on Efficiency of probiotic bacteria on Th1 and Th2 induced immune response at National conference on Advances in Microbial Biotechnology: Current trends and future prospects (AMBT22) at Bangalore University on 29.04.2022
- 11) Invited talk (online) on the topic 'Value addition in agricultural commodity through food processing' at Institute of Directors, Bengaluru, in association with MSME; Development Institute, Government of India, Bengaluru. 13.05.2022.
- 12) Delivered lecture on Rejuvenation of gut microbiota through probiotics: A CSIR-CFTRI initiatives at Pooja Bhagwat PG Centre, Mysore. 27.05.2022
- 13) Delivered a lecture on Background of FPIC dept. STC1088: Fumigation, prophylaxis and pest management techniques for stored food commodities. 10.06.2022
- 14) Delivered lecture to the participants STC1088: Microbial infestation of stored food commodities. 13.06.2022
- 15) Delivered a lecture on Health benefits of probiotics : preclinical studies at National conference on Integrated Microbial technology for sustainable future (IMTSF-2022) Jnana Kaveri campus, Coorg; Mangalore University 7-8.07.2022
- 16) Delivered lecture in National Conference on Integrated Microbial Technology for Sustainable Future (IMTSF-2022) Alosuis College, Coorg. 7-8, July 2022,
- 17) **Halami PM** and Padmaja RJ. Nano-immunosensor for the detection of subclinical mastitis in bovine population. National Invited talk at Conference on Innovations in Biomaterials and Bionanotechnology: Applications in Agriculture, Biology and Health Care. MGR College, Honsur, Tamilnadu. 10-11. 11. 2022
- 18) **Halami PM** and Kusuma NP. Healthy living through tribal foods: Indian gut microbiota studies. Invited talk at 108th Indian Science Congress - Science and Technology for sustainable. Rashtrasant Tukadoji Maharaj University, Nagpur, Maharashtra. 3-7. 01. 2023

- 19) Rohith H S and **Halami PM**. Probiotic spore forming *Bacillus licheniformis* MCC 2514 elevate Foxp3 and modulate NFkB in rat model invited talk in National seminar on Advance microbiological perspectives for sustainable future. 15-16. 02. 2023, Warangal
- 20) **Halami PM**. Health benefits of probiotics: preclinical trails-A CSIR-CFTRI initiatives. Invited talk at National Conference on Recent Trends in Biotechnology, Mohanlal Sukhadia University, Udaipur, Rajasthan, India. 3-4 March 2023
- 21) Microorganisms: novel source of food additives and safety concern of AMR in Food Chain Invited talk at ational Symposium On “Multi-Disciplinary Trends in Food Technology & Nutrition Safety, Department of Food Technology,, MS Ramaiah University of Applied Sciences Bengaluru, 3 Nov. 2023
- 22) Microbiome modulation through probiotics A CSIR CFTRI initiative. Invited talk at wo Day National Seminar on The Microbiome Revolution: From Fundamental Science to Therapeutic Innovations, Bhavans Vivekananda College of Sceince, Humanities and Commerce, Sainikpuri, Secuderab, 24 & 25 Jan 2024
- 23) Guest lecture on the topic Gut microbiota and probiotic at MMK & SDM College For Women, Mysuru, 22 May 2023
- 24) Gut microbiota and dietary fibers of millets. A invited talk at national symposium on “Revisiting millets for food and nutrition securitiy, JSS Academy of Higher Education and Research, Mysuru 19-20th May 2023
- 25) Probiotics-Application in food and dairy products invited lecture in National workshop on Probiotics-Application in food and dairy products, Sanjivani Arts, Commerce, and Science College, Kopargon, 8th July 2023 (online)
- 26) Gut microbiota, a invited talk at Refresher course on Biosciense and Biotechnology, organized by UGC-MMTTC, JNVC, Jodhpur. 02-15 Feb 2024

Webinar delivered during last two year

- 1) UGC-HRDC, BU-R.C in Synthetic Biology. Two weeks webinar on “Synthetic biology approaches for the development of innovative food preservatives’ organized by UGC-HRDC, HRDC-Bharathiar Univeristy, Coimbatore, 2 - 15 February 2021
- 2) Bioprospecting and genome editing in microorganisms for drug development. TAL Academy Sponsored Faculty development programme on Drug Engineering through Bioprospecting Organized by Department of Biotechnology, Dr NGP Arts and Sci College, Coimbatore, TN, 12 July 2021
- 3) Food-grade microorganisms. Microbiologists Society, India, Jharkhand Unit international Microorganisms Day: Ranchi, 17th September 2021.
- 4) Biotech Foods-Panacea to Cure Lifestyle Diseases. Department of Biotechnology; Govt of India sponsored popular lecture series on ‘Biotech

Foods- Panacea to Cure Human Diseases' Organized by Department of Home Science, V.V.Vanniaperumal College for Women (Madurai Kamaraj University); Virudhunagar, Tamil Nadu, 06 October 2021.

- 5) Probiotics through fermented foods: a CSIR-CFTRI approach. International Conference on Advances in Food Sci & Technology (AFSTeCh-202) a part of CONIAOS-XXVII Organized by SASNET-FF and North East Hill University Tura Campus Meghalaya India; Anand, Gujarat & NE Hill University; Tura campus, Meghalaya, 26-28 October 2021.
- 6) How antibiotic usage in food and feed threaten our food chain? Two days national workshop on antimicrobial resistance organized by Department of Microbiology and Fermentation Technology, CSIR-CFTRI, Mysuru, 25-26th November 2021.
- 7) Fighting malnutrition through bio-fortification. Centre for Society & Policy and Digital health project. Centre for Society & Policy & digital health project, IISc Bangalore, 10 December 2021.
- 8) Natural microbial metabolites as novel drugs AICTE-ISTE Sponsored One Week Online Induction / Refresher Program organized by SWVSM's Tatyasaheb Kore College of Pharmacy, Warananagar, 13 - 18 December 2021.
- 9) Novel foods: feeding billions. Traditional foods vs processed foods (modern foods) organised by Department of biotechnology, Dayananda sagar College of engineering, Bengaluru, 22 December 2021.
- 10) Recent advances in microbiology. In the conference, Recent advances in Microbiology organised by Department of microbiology, Telangana social welfare residential Degree College, Mehabubnagar, 27 December 2021.
- 11) Bacteriocins as an emerging and Adoptable Biopreservation Technologies for Sustainable Agro-Food products during Covid-19 health emergencies. 8th ICFoST (emerging and adoptable technologies for sustainable Agro-food) Industries & Economy at Aurangabad/Mumbai/Mysore (virtual mode); AFST (I), 20-22 January 2022.
- 12) Role of probiotics on gut and brain health. Recent Advances and Current Trends in Biological Sciences, organised by Department of Studies in Botany, Davanagere University, Davanagere, 14 - 19 February 2022.
- 13) Bifidobacterial probiotics: supplementation through fermented foods: a bird eye view. At National workshop on Bifidobacterial probiotics sponsored by PAi at CSIR-CFTRI Mysore March 24-25, 2022.
- 14) Halami PM and Dhanasekaran D Probiotics and postbiotics: recent advances & future challenges. 2 -Day Webinar on Fermentation: Interplay of Microbes, Immunity & Nutrition, North-Eastern Hill University, Tura, Meghalaya. 03-04 Feb. 2023
- 15) Halami PM Probiotics and postbiotics: recent advances & future challenges. Invited talk at -Day Webinar on Fermentation: Interplay of

Microbes, Immunity & Nutrition, North-Eastern Hill University, Tura, Meghalaya, 3-04 Feb. 2023

II. International:

✚ **Total number:** **19**

List of invited lecture/s, technical seminar in the last 5 years:

- 1) Potentiality of *Lactobacillus plantarum* group for probiotic functionality. An invited talk at 10th Asian Conference on lactic acid bacteria Yogyakarta Aug. 29-31. 2019.
- 2) **Halami PM** and Ray M. Antibiotic resistance in food chain: an unnoticed global threat invited talk at 29th ICFoST, the Al Saj Convention Centre, Kazhakoottam, Thiruvananthapuram, Kerala. 5 - 7 Jan 2023
- 3) **Halami PM.** Antimicrobial resistance in food chain: an emerging pandemic. Invited talk at 52nd International annual conference of Indian Pharmacological Society, JSS College of Pharmacy, Mysuru 22-25th Feb 2023
- 4) Fermentative transformation of food industry Bioresources for better economy invited talk at International Conference on Innovations on biotechnology research for sustainable bioresources and bioeconomy: challenges and practices, Sanjivani Arts, Commerce, and Science College, Kopargon, 5-16 Feb 2024.
- 5) Wonder of kodo and barnyard millet based probiotic product. Invited talk at International conference on "Reviving ancient grains: millet on global stage, Feb 8-9 2024, Kolar

Research Supervised:

I. PhD:

a) In the field of Biotechnology

SN	Thesis title	Year of award/ Name of the candidate
1.	Molecular Characterization of <i>Enterococcus faecium</i> MTCC 5153 for probiotic properties.	2012/ Dr V Badarinath
2.	Biotechnological studies on phytate degrading lactic acid bacteria: screening, isolation, characterization and application	2012/ Dr. P Raghavendra
3.	Antibacterial peptides of <i>Bacillus</i> species active against food borne pathogens	2013/ Dr. Nithya Vadakedath
4.	Molecular genetic studies of pediocin like bacteriocin in <i>Pediococcus</i> , <i>Lactobacillus</i> and <i>Enterococcus</i>	2013/ Dr. Sundru Manjulata Devi
5.	Characterization of lipase from lactic acid bacteria	2015/ Dr. Vrinda

6.	isolated from fish processing waste	Ramakrishnan
7.	Studies on erythromycin resistance in lactic acid bacteria in fermented foods	2015/ Dr. Surya Chandra Rao Thumu
8.	Efficacy of probiotic bacteria in alleviating T helper cell associated immune response	2022 / Dr. Rohith HS
8.	Genetic and molecular evidence of plantaricin produced by <i>Lactobacillus plantarum</i> isolated from fermented milk & their probiotic properties	2023/Ms. Aditi Goel (sumbmitted)

b) In the field of Microbiology

	Thesis title	Year of award/ Name of the candidate
7	Characterization of leukotoxin producing <i>Staphylococcus aureus</i> and development of antibody-based method for leukotoxin detection in bovine milk samples	2015/ Dr. Padmaja RJ
8	Characterization of fibrinolytic enzyme of <i>Bacillus</i> species isolated from food source	2018/ Dr. Yogesh D
9	Molecular assessment of aminoglycoside resistance in <i>Enterococcus</i> sp.	2018/ Dr. Jaimee George
10.	Immunomodulatory effects of <i>Lactobacillus</i> spp. from dairy and human origin	2018 / Dr. Ann Archer Catherine

c) In the field of Biological Sciences

SN	Thesis title	Year of award/ Name of the candidate
11.	Effect of bifidobacterial probiotics on alleviation of inflammation.	2020 / Dr. Sajjan C Achi
12.	Evaluation of structural and functional properties of subtilin-like lantibiotics produced by <i>Bacillus</i> species	2022 / Dr. Pramila Epparti&

II. PDF:

	Name of the candidate & duration	Title of the work	Name of the program
1	Dr Shobha Rani P, 2011	Molecular characterization of bioactive compounds obtained from lactic acid bacterial fermented sea weed	CSIR-RA
2	Dr Shobha Rani P, 2012-2015	Development and application of <i>Bacillus</i> sp as a probiotics	SERB-DST FAST track project
3	Dr Manjulata Devi S, 2014-2017	Detection and expression of immune-modulatory and probiotic genetic loci among <i>Lactobacillus</i> sp.	SERB-DST Young Scientist project
4	Dr. Aravind Sundararaman; Sept 2018 til date	Recombinering of bifidobacteria using CRISPR Cas9	CSIR Nehru post doc fellow
5.	Dr. Rwivoo BARUA; April 2019 till date	Elucidation of structural and functional properties of heteropolysaccharide from probiotic <i>Bifidobacterium breve</i> NCIM 5671	CSIR-RA
6.	Ms. Mousumi Ray; Sept 2019 till date	Elucidation of molecular mechanism of colistin resistance among food- borne pathogens and food bacteria	ICMR RA

III. Overseas researchers trained

SN	Name of the candidate & duration	Title of the work	Name of the program
1	Ms Seyi Amole Damilola Omobowale (Nigeria); Nov. 2014-Jan. 2015	Studies on production and characterization of emetic toxin by <i>Bacillus cereus</i> in cooked rice.	INSA-JRD TATA Fellow
2	Dr. Obakpororo Ejiro Agbagwa (Nigeria); Jan 2015 – April 2015	Detection and identification of antibiotic residue and <i>Bacillus</i> sp in honey	JNCSR fellowship

Post-Graduation:

a) Total number of post-graduation dissertations supervised:	103
✚ B.Tech:	7
✚ M.Tech:	8
✚ B.Sc.:	1
✚ M.Sc.:	87

Technology Developed & ready for commercialization

- I. **Bifidocurd:** Bifidocurd is a probiotic curd prepared by fermenting market milk exclusively using bifidobacteria as a starter culture. This health promoting bacteria can replenish bifidobacterial count in colon and provide microbial homeostasis. High viability is ensured satisfying the Minimum Biological Value (MBV) for probiotic product (289th PDRU meeting 18/01/2018; CFTRI Ref No. TTBD/PDRU/CFL-34/SVR/ 2018; dated 28/03/2018).
- II. **Bifidobacteria enriched soya curd:** Soya curd is a unique product prepared using single bifidobacterial culture for fermenting soya milk. It is a food supplement containing viable count of >10⁷ CFU/gm of a saccharolytic bifidobacterial pure culture exhibiting several health benefits. It replenishes the bifidobacterial count in the colon along-with nutritional benefits of soyabean ((289th PDRU meeting 18/01/2018; CFTRI Ref No. TTBD/PDRU/CFL-34/SVR/ 2018 dated 28/03/2018).

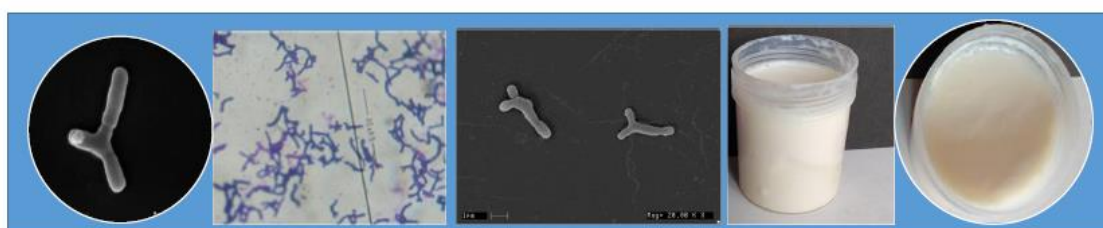


Figure: Pictorial representation of native isolate of probiotic bifidobacteria and the fermented product developed as a part of translational research.

Research Projects completed:

S. N.	Title of the project and role	Funding agency	Amount (Rs in lakhs)	Date of completion
1.	Microbial synthesis of polyhydroxyalkanoate copolymer (member)	DBT	24	March 2006
2.	Molecular characterization of novel bacteriocin producing bacterial strains and development of applications for food-bio preservation process (PI)	DST	3.5	April 2006 to April 2009
3.	Molecular characterization of Pediocin PA-1 producing lactic acid bacteria and their application in biopreservation (PI)	DST	7.5	Feb. 2007 to Feb. 2010
4.	Screening & evaluation of different lactic acid bacterial cultures for their	DBT	21.0	Jan. 2008 to Jan. 2011

proteolytic and fermentation ability for further application in lipid recovery			
5. Bioactive molecules from sea weeds: antioxidative, antimicrobial, antihypertensive and anti-cancerous properties of polyphenols and polysaccharides (Co-PI)	DST-JSPS	-	July 2009 to July 2011
6. Diversity and Genetic relatedness of lactic acid bacteria in fermented vegetables of North-East India (PI)	DBT	29.00	Sept 2011-2014
7. Rapid detection of probiotic lactic acid bacteria and their suitability <i>in vivo</i> system (PI)	ICMR	15	May 2012-2015
8. Characterization and transferability of Antibiotic resistance genes in Lactic Acid Bacteria from poultry and meat products (PI)	ICMR	27	May 2012-2015
9. Health promoting Exopolysaccharide producing Lactic acid bacteria from indigenous fermented foods: Application in the management of gastrointestinal health (Co-PI)	DBT	47	Dec 2012-June 2016
10. Novel pathway specific reporter assays for the characterization of anti-microbial compound produced by food-fermenting bacteria (PI of the project)	DBT New Delhi	26	Oct 2016 to Oct. 2019
11. Gene organization, mechanism of action and food application of novel RNA biosynthesis inhibiting peptide antibiotics of probiotic bacteria (PI of the project)	DST New Delhi	34	March 2017 to March 2021
12. Translation of pre-clinically tested probiotic formulation to human population with emphasis on immune-modulation and gut microflora (PI of the project)	CSIR-New Delhi	30	Jan 2018 till Dec. 2020
13. Shelf life studies of aseptically packed tea extract for M/s Tata Global Beverages ltd Munnar, Kerala (team member of the project)	SSP-254	5	Sep.2018 till March 2020
14. Establishment of a new Covid testing laboratory and development of innovative techniques/protocols for the detection of Covid virus	CSIR	100	Apr 2020 to March 2021
15. Supporting COVID testing centre set up by CSIR-CFTRI along with Karnataka Government (Project Coordinator)	RBI Mysore	50	Oct 2020 to July 2021
16. Scale up studies on immunity boosting shelf-stable probiotic curd	Institute proect	02	July 2020 to April 2022

	enriched with bifidobacteria (PI)			
1	Covid-19 sample testing project (PI)	CSIR	50	April 2021 to April 2022
1	Development of synbiotic fruit beverage for healthy aging (member)	Institute	01	April 2021 to Mar 2022
1	Phenome India- long term longitudinal observational cohort study of health outcome (PI)	Institute	2.5	2021-22

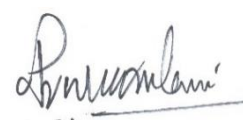
Ongoing Research Projects

SN	Project title & funding agency	Role (PI/member)	Duration & milestone to be achieved
1	Phenome India CSIR-health cohort knowledge base; CSIR New Delhi (HCP 0047)	PI (institute level)	Aug. 2022 to Aug. 2027; Biomarker identification on Cardio-metabolic disorders
2	Targeting improved gut health with underutilized Indian berries/pseudoberries as source of prebiotics and nutraceuticals	Team member	2021-2024; phytochemicals and polyphenol identification
3	Identification of potential locations across India for seaweed cultivation and their valorisation; CSIR New Delhi (HCP0024)	Team member	March 2021 to March 2024 Nutraceuticals from sea weed
4	Post-biotics for gut microbiome eubiosis in different terrain DRDO-DFRL Mysore.	Team member	2022-2025 Postbiotic formulation for diabetes and hyperlipidemia: preclinical trials
5	Millet mission project; Development and validation of gerobiotic enriched millet beverage and curd (HCP0054)	PI	Jul-2023 to Mar. 2025 Gerobiotic enriched millet formulation for anti-aging
6	Study of neutral spirits for alcoholic drinks for their quality and safety parameters (FAD 0015)	PI	June 2024-Oct. 2024 Validation of methods for the analysis of neutral spirits.

I hereby declare that the information furnished as above is true to the best of my knowledge and belief

Dated: 07/06/2024

CFTRI Mysore



Prakash M HALAMI