

Faculty

Dr. Ashok Kumar Yadav
Associate Professor



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Educational qualifications

- **PhD (Biotechnology)** - 2013, HNB Garhwal University, Srinagar, Uttarakhand/NDRI, Karnal, Haryana, India.
- **M.Sc. (Biotechnology)** - 2005, Kumaun University, Nainital, Uttarakhand, India.
- **B.Sc. (Biology)** - 2000, VBS Purvanchal University Jaunpur, Uttar Pradesh, India.

Academic profile

Research areas: Gut Microbiology, Probiotics, Cross-talk between the gut microbes and different parts of the body including Brain, Skin etc., Extracellular vesicles, Human health.

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|---|--|
| July 26 th 2023 – Present | Associate Professor, Department of Zoology, Central University of Jammu, J&K, India |
| July 22 nd 2016 – July, 25 th 2023 | Assistant Professor, Centre for Molecular Biology, Central University of Jammu, J&K, India |
| December 2 nd 2015 - 21 st July 2016, | Scientist (R&D), Sarvotham Care Limited, Hyderabad, - 500003, Telangana, India |
| June 26 th 2013 - December 1 st 2015 | ICMR-Postdoctoral Fellow, Division of Microbiology and Immunology, National Institute of Nutrition, Hyderabad, India |
| July 2 nd 2012 – June 21 st 2013 | DBT-Research Associate: Animal Biotechnology Centre, National Dairy Research Institute, Karnal, India |

Teaching and Research Experience

- More than 10 years of research and teaching experience

Other information

✓ **Technology Transfer :** **02**

✓ **Fellowship/Award/Membership**

- ECRA-SERB Early Career Research Award 2017
- ICMR-Postdoctoral Fellowship – 2013
- DBT-Research Associate Award - 2012
- Lifetime member of Probiotic Association of India, NDRI, Karnal.
- Lifetime member of Nutrition Society of India, NIN, Hyderabad.

✓ **Research project completed/ongoing**

| Sr. No. | Title of project | PI/Co-PI | Amount sanctioned | Funding Agency | Status |
|---------|--|----------|-------------------|-----------------|-----------|
| 1 | To investigate the protective role of extracellular vesicles derived from probiotic strain of lactobacilli against Atopic Dermatitis and Acne Vulgaris | PI | 56,07 Lakhs | ICMR, New Delhi | Ongoing |
| 2 | Comparative Gut microbiome profiling of colorectal cancer patients and healthy human gut of Jammu and Kashmir Population | PI | 10 Lakhs | UGC, New Delhi | Completed |
| 3 | Cell Surface Display of Divalent Hsbp-OmpA protein on Indigenous Probiotic lactobacillus to Counter Gut Pathogens Helicobacter pylori and Salmonella typhimurium | PI | 37.65 Lakhs | SERB, New Delhi | Completed |
| 4 | Surface expression of Glucagon like peptide-1 on indigenous probiotic Lactobacillus for management of type 2 diabetes | Co-PI | 46.56 Lakhs | SERB, New Delhi | Completed |

Publications

- **Debnath, N., Yadav, P. & Yadav, A.K (2023)**. Assessment of Probiotic and Antioxidant Potential of Indigenous Lactobacillus Strains Isolated from Human Faecal Samples. *Indian journal of microbiology*. 10.1007/s12088-023-01129-x. 0973-7715. ((**IF: 3.10**).
- Debnath N, Yadav P, Mehta PK, Gupta P, Kumar D, Kumar A, Gautam V, Yadav AK. (2023). Designer probiotics: Opening the new horizon in diagnosis and prevention of human diseases. *Biotechnology and bioengineering*. 10.1002/bit.28574. (**IF: 4.50**).
- **AK Yadav**, SR Varikuti, A Kumar, M Kumar, N Debanth, R Hemalatha (2023). Expression of heterologous heparan sulphate binding protein of Helicobacter pylori on the surface of *Lactobacillus rhamnosus* GG. *3 Biotech* 13 (1), 19. (**IF: 2.96**).
- A Kumar, R Shahul, R Singh, S Kumar, AK Yadav, PK Mehta (2022). *Geobacillus thermoleovorans* MTCC 13131: An Amide-Hydrolyzing Thermophilic Bacterium Isolated from a Hot Spring of Manikaran. *Ind. J Microbiol*. 62(4):618-626. (**IF: 3.10**).
- N. Debnath, A. Kumar, AK Yadav (2022) Probiotics as abiotherapeutics for themanagement and preventionof respiratory tract diseases. *Microbiology and Immunology*.66(6):277-291. doi: 10.1111/1348-0421.12980.(**Impact factor: 2.96**).
- S. Panwar, P Yadav, N. Debnath, AK Yadav, A Kumar. (2022) Advanced diagnostic methods for identification of bacterial foodborne pathogens: Contemporary and upcoming challenges. *Crit Rev Biotechnol*. 22;1-19. doi: 10.1080/07388551.2022.2095253. (**IF: 9.02**)
- N. Debnath, M. Thakur, Khushboo, NP Negi, Vibhav Gautam, **AK Yadav**, and D. Kumar. (2021) Insight of oral vaccines as an alternative approach to health and disease management: An innovative intuition and challenges. *Biotechnology and Bioengineering*. 119(2):327-346. doi: 10.1002/bit.27987. (**IF: 4.43**).
- N. Debnath, R. Kumar, A. Kumar, PK Mehta, **AK Yadav**. (2021) Gut-microbiota-derived bioactive metabolites and their functions in host physiology. *Biotech. Genetic engg review*.10.1080/02648725.2021.1989847. (**IF: 4.50**)
- AK Yadav, A Tyagi, A Kumar, S Grover, AC Saklani, VK Batish. Adhesion of Indigenous Lactobacillus plantarum to Gut Extracellular Matrix and its Physico-chemical Characterization. *Arch Microbiol*. 2015 Mar;197(2):155-164. (**IF: 2.52**)
- AK Yadav, A Tyagi, A Kumar, S Panwar, S Grover, AC Saklani, R Hemalatha, VK Batish (2017). Adhesion of Lactobacilli and their anti-infectivity potential. *Critic. Rev. Food Sc. Nutri*. 57(10): 2042–2056. (**IF: 11.17**).
- Kumar M, Yadav AK, Verma V, Singh B, Mal G, Nagpal R, Hemalatha R (2016). Bioengineered probiotics as a new hope for health and diseases: an overview of potential and prospects. *Future Microbiol*. (11(4), 585–600). (IF: 3.55).

- A Tyagi, A. Kumar, AK. Yadav, AC Saklani, S. Grover, VK. Batish. (2016). Functional expression of recombinant goat chymosin in *Pichia pastoris* bioreactor cultures: A commercially viable alternate. *LWT - Food Science and Techn.* 69: 217-224. (IF: 6.05).
- R. Nagpal, M. Kumar, AK Yadav, R. Hemalatha, H. Yadav, F. Marotta, Y. Yamashiro. (2015). Gut Microbiota and health disease: An overview focused on metabolic inflammation. *Benef. Microbes.* 2016; 7(2): 181- 94. (IF: 5.05).
- AK Yadav, A Tyagi, JK Kaushik, AC Saklani, S Grover, VK Batish. (2013) Role of surface layer collagen binding protein from indigenous *Lactobacillus plantarum* 91 in adhesion and its anti-adhesion potential against gut pathogen. *Microbiol. Res.* 168(10):639-645. (IF: 5.07).
- AK Yadav, A. Tyagi, AC. Saklani, S. Grover, VK. Batish (2014). Molecular Cloning and Sequence characterization of Collagen Binding Protein from *Lactobacillus plantarum* Strain of Human Origin. *Int. J. Probiot. Prebiot.* 9(3): 101-108. (IF: 0.50)
- P.K. Dubey, S. Goyal, S.K. Mishra, A.K. Yadav, P. Kathiravan, R. Arora, R. Malik, R.S. Kataria (2015). Association analysis of polymorphism in thyroglobulin gene promoter with milk production traits in riverine buffalo (*Bubalus bubalis*). *Meta Gene* 5 (2015) 157–161. (IF: 2.02)
- P K Dubey, S Goyal, AK Yadav, BR Sahoo, N Kumari, SK Mishra, SK Niranjana, R Arora, M Mukesh, RS Katari. (2014). Genetic diversity analysis of the thyroglobulin gene promoter in buffalo and other bovines. *Livestock Science.* 167: 65–72. (IF: 1.92)
- R Hemalatha, M Kumar, AK Yadav, SR. Varikuti, R Nagpal, Y Yamashiro, F Marotta (2014). Potential of probiotics as a versatile remedy for women's urogenital health: An optimistic perspective. *Int. J. Probiot. Prebiot.* 9(1): ISSN 1555-1431. (IF: 0.50)
- AK Yadav, K. Kumar, M. Verma, M Kumar, M Kumar (2014). Designing of Species-specific inhibition: The cysteine residues of triosephosphate isomerase. *Basic Res. J. Medi. Clinic. Sc.* 3(6): 62-66.
- K Kumar, M Kumar, M Verma, AK Yadav, Q Uddin (2013). Anti-wolbachia: A herbal approach to treatment of Filariasis. *Spatula DD.* 4(2):101-108.
- NCBI gene submitted: Accession nos (10): GQ373153, GQ340730, GQ922598, JF730128, JF730127, JQ782408, JQ782409, JQ782410, JQ782411.

Posters/Conferences/Workshops:

- Poster presentation at the National conference on Emerging trends in genetic engineering molecular biology on 28th- 29th September 2022, held at Centre for Molecular Biology, Central University of Jammu on the title "Evaluation of antimicrobial potential *Lactobacillus* isolates against skin pathogens".

- Oral presentation at the National conference on Emerging trends in genetic engineering molecular biology on 28th- 29th September 2022, held at Centre for Molecular Biology, Central University of Jammu on the title “Evaluation of the antioxidative potential of indigenous probiotic isolates from Jammu, J&K
- Poster presentation in the 44th All India Cell Biology Conference held at the University of Kashmir, Srinagar from September 2-3, 2022.
- Oral presentation in National Conference on Natural Sciences-Exploration through Innovations (NCNSEI) on 27th-28th May 2022 held at Maharaja Agrasen University on the title “Evaluation of the antioxidative potential of indigenous probiotic isolates from Jammu, J&K
- Oral presentation in National Conference on Natural Sciences-Exploration through Innovations (NCNSEI) on 27th-28th May 2022 held at Maharaja Agrasen University on the title “Characterization of antimicrobial potential of Probiotic isolates against *S.aureus*”
- Oral presentation of the paper entitled “Genetic Engineering of Probiotic *Lactobacillus* for Surface Displaying Heterologous Hsbp Protein to Counter Gut Pathogen *Helicobacter pylori*” 12th J&K Science congress. Science and Technology: Emerging trends and Innovations. from 2-4 March, 2017. University of Jammu, Jammu.
- Workshop on Probiotic in Clinical Practice 20-21 April 2017 at National Dairy Research Institute, Karnal, Haryana.
- Oral presentation of the paper entitled “Display of heterologous HSBP protein of *H. pylori* with modified pSIP503 vector on surface of food grade *L. rhamnosus* GG strain. 47th Annual National Conference of Nutrition Society of India “Nutrition and Agriculture- The Connect and disconnect” from 9-10 October 2015 at National Institute of Nutrition, Hyderabad.
- Yadav AK participated in National seminar/workshop on “Recent practices for the improvement of animal welfare” during World Laboratory Animal Day Celebration on 25 April, 2015 at National Institute of Nutrition, Hyderabad
- 45th Annual National Conference of Nutrition Society of India “Inter-sectoral Application to Pramote Food and Nutrition Security” from 21-22 November 2013 at National Institute of Nutrition, Hyderabad.
- International workshop on “Transcriptomics, proteomics and structural biology” from 27-29 Feb 2012 at Animal Biotechnology Center, NDRI, Karnal.

- Ashok K Yadav, R. Kumar, R. Bajaj, R.R.B. Singh, A.K. Mohanty, Jai K. Kaushik 2012. Molecular cloning, expression and characterization of aminopeptidase (*pepx and pepq*) from *lactobacilli strains*. November, 16-19, ICFDF-2012, NDRI Karnal.
- Yadav AK. Participated in National conference on “Current trends in Biotechnology-2012.
- A.K. Yadav, A. C. Saklani, S. Grover, V.K. Batish. 2011. Adhesion properties of lactobacilli strains to the components of extra cellular matrix (ECM). Recent advance in chemical and environmental sciences. Feb 28-1 march.
- Ashok Yadav, P.K. Dubey, N.K. Yadav, P. Kathiravan, B.P. Mishra, R.S. Kataria, 2010. Sequence Characterization and detection of Polymorphism in IGF1 and CAST gene regulating Meat quality and muscle growth in Indian Buffalo (*Bubalus bubalis*). 1–4 January, 2010 NASC, New Delhi, India.
- Tyagi, A., Yadav AK., Kaushik JK., Mohanty, AK., Grover, S., and Batish, VK. 2008. Screening of lactobacilli for probiotic attributes and their molecular characterization. 2nd International Conference on Trends in Cellular and Molecular Biology held from 5th to 7th January, 2008 at School of Life Sciences, Jawaharlal Nehru University, New Delhi, India.
- A.K. Yadav., Panday V. 2006. Fluorescence Studies of DNA and Biological Probe Molecules in Polymer and Gels. Kumaon University, Uttarakhand, India. Workshop on IPR at Kumaun university, Nainital, India
- A.K. Yadav 2005. Participated in National conference on “Recent trends in fluorescence spectroscopy and its application” on December 1-3, 2005 Kumaon University, Nainital, India.