

Curriculum Vitae

Name: Dr. Ashok Kumar Yadav
Designation: Associate Professor
Department: Department of Zoology
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Area of research

- Gut Microbiology, Probiotics, Cross-talk between the gut microbiome and different parts of the body including Brain, Skin etc., Extracellular vesicles, Antimicrobial resistance, Human health

Educational qualifications

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

Present Designation

- **Associate Professor & Head**, Department of Zoology, Central University of Jammu, J&K, India 181143.

Details of Employment

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

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

- **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 the management and prevention of 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 in 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.

Book chapters

1. Rai, S., Yadav, P., Debnath, N., Arora, S., & Yadav, A. K. (2023). Role of Probiotics in Gut Micro-Flora. *Frontiers in Food Science and Food Process Engineering: Novel Technologies, Safety, Packaging, Nanotechnology and Human Health.*
2. Debnath, N., Yadav, P., Arora, S., & Yadav, A. K. (2023). Detection and Management of Ergot Alkaloids and Their Therapeutic Applications. In *Mycotoxins in Food and Feed* (pp. 189-212). CRC Press.
3. Yadav, P., Debnath, N., Arora, S., & Yadav, A. K. (2023). Occurrence, Detection, and Management of T-2 Toxin and HT-2 Toxin in Food and Feed. In *Mycotoxins in Food and Feed* (pp. 157-187). CRC Press.
4. Yadav, P., Debnath, N., Tyagi, A., Yadav, A.K. (2022). Detection of Myeloperoxidase Activity by Enzyme Linked Immunosorbent Assay. In: Dwivedi, M.K., Amaresan, N., Sankaranarayanan, A., Begum, R. (eds) *Biosafety Assessment of Probiotic Potential.*

Methods and Protocols in Food Science. Humana, New York, NY.
https://doi.org/10.1007/978-1-0716-2509-5_38

5. Debnath, N., Yadav, P., Tyagi, A., Yadav, A.K. (2022). In Vivo Evaluation of Adhesion Properties of Probiotics. In: Dwivedi, M.K., Amaresan, N., Sankaranarayanan, A., Begum, R. (eds) Biosafety Assessment of Probiotic Potential. Methods and Protocols in Food Science . Humana, New York, NY. https://doi.org/10.1007/978-1-0716-2509-5_29
6. Gupta, I. AK Yadav *et al.* (2022). Recent Advances and Use of Tools for Functional Foods and Nutraceuticals. In: Kumar, A., Patruni, K., Singh, V. (eds) Recent Advances in Food Biotechnology. Springer, Singapore. https://doi.org/10.1007/978-981-16-8125-7_16
7. Debnath, N., Yadav, A. K., & Kumar, A. (2022). Modulation of gut microbiota by probiotic interventions: A potential approach toward alleviating food allergy. In *Human-Gut Microbiome* (pp. 139–157). Elsevier. <https://doi.org/10.1016/b978-0-323-91313-3.00004-0>
8. Debnath, N., Yadav, A.K. (2021). Potential Correlation Between Homeostasis Control and Tumor Microenvironment Regulation of Probiotic as a Therapeutic Agent to Manage Gastrointestinal Cancer. In: Pawar, S.V., Rishi, P. (eds) Probiotic Research in Therapeutics. Springer, Singapore. https://doi.org/10.1007/978-981-33-6236-9_7
9. Debnath, N., Kumar Yadav, A., & Tyagi, A. (2021). Probiotic Microorganism: A Promising and Innovative Tool for Cancer Prevention and Therapy. In *Advances in Probiotics* (pp. 187–201). Elsevier. <https://doi.org/10.1016/b978-0-12-822909-5.00012-5>
10. Debnath, N., Yadav, A.K. (2021). Indigenous Probiotic *Lactobacillus* Strains to Combat Gastric Pathogen *Helicobacter pylori*: Microbial Interference Therapy. In: Pawar, S.V., Rishi, P. (eds) Probiotic Research in Therapeutics. Springer, Singapore. https://doi.org/10.1007/978-981-33-6236-9_9
11. Jain, S., Chatterjee, A., Panwar, S., Yadav, A.K., Majumdar, R.S., Kumar, A. (2021). Indigenous Fermented Foods as a Potential Source of Probiotic Foods. In: Goel, G., Kumar, A. (eds) Advances in Probiotics for Sustainable Food and Medicine. Microorganisms for Sustainability, vol 21. Springer, Singapore. https://doi.org/10.1007/978-981-15-6795-7_3
12. Jain, S., Chatterjee, A., Panwar, S., Yadav, A.K., Majumdar, R.S., Kumar, A. (2021). Metabolic Engineering Approaches for Improvement of Probiotics Functionality. In: Goel, G., Kumar, A. (eds) Advances in Probiotics for Sustainable Food and Medicine. Microorganisms for Sustainability, vol 21. Springer, Singapore. https://doi.org/10.1007/978-981-15-6795-7_10
13. PK Mehta, AK Yadav, D Kumar (2018). Secondary Metabolites from Microorganisms. Nova Science publishers. ISBN: 9781536131864.

14. Kumar M Shubham S, Sharma DK **Yadav AK** et al. (2019). Dissemination of antibiotic resistance genes as an environmental contaminant: A public health threat. Recent trends and advances in environmental health. ISBN 9781536156614.
15. Panwar, S, Jain S, KS Duggirala AK Yadav A Kumar (2019). Development of Probiotic Functional Foods as Novel Attentiveness for Human Health and Disease Management using Fermentation Technology. Microbes for Huankind and Applications. ISBN: 9789389569018.

Posters/Conferences/Workshops:

1. 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”.
2. 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
3. Poster presentation in the 44th All India Cell Biology Conference held at the University of Kashmir, Srinagar from September 2-3, 2022.
4. 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
5. 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”
6. 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.
7. Workshop on Probiotic in Clinical Practice 20-21 April 2017 at National Dairy Research Institute, Karnal, Haryana.
8. 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.

9. 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
10. 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.
11. International workshop on “Transcriptomics, proteomics and structural biology” from 27-29 Feb 2012 at Animal Biotechnology Center, NDRI, Karnal.
12. 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.
13. Yadav AK. Participated in National conference on “Current trends in Biotechnology-2012.
14. 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.
15. 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.
16. 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.
17. 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
18. 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.