

Ahmad Ud Din, Ph.D.
Assistant Professor of Biology
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Research Focus and Background

Assistant Professor of Biology and microbiome researcher with over seven years of experience in food microbiology, microbiome science, probiotics, nutrition, and host-microbe interactions. My research focuses on how dietary bioactives, particularly plant-derived polyphenols and probiotic interventions, modulate microbial metabolism (TMA, TMAO, and SCFAs) and influence gut barrier function, inflammation, and metabolic health. My expertise integrates in vivo models, anaerobic microbial fermentation, molecular biology, LC-MS metabolomics, and 16S rRNA microbiome profiling, with growing experience in microbiome bioinformatics and multi-omics data interpretation.

Education

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| • PhD Biology (Microbiology) Chongqing University, China. | 2019 |
| • M.Phil. Microbiology Hazara University, KP Pakistan. | 2015 |
| • M.Sc. Biology Gomal University, D.I. Khan Pakistan. | 2011 |
| • B.Sc. Biological Sciences UST Bannu KP Pakistan. | 2009 |

Academic and Research Experience (7+ Years)

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| • Assistant Professor of Biology | Louisburg College, Louisburg, NC, USA | 08/2026 to Present |
| • Postdoctoral Fellow | North Carolina State University, NC, USA | 06/2023 to 07/2026 |
| • Postdoctoral Fellow | University of Maryland, Baltimore, MD, USA | 10/2022 to 06/2023 |
| • Associate Professor | Southwest Medical University, Luzhou, China | 09/2019 to 05/2022 |

Assistant Professor of Biology

Louisburg College, Louisburg, North Carolina, USA

August 2026 – Present

- Teach undergraduate biology courses through lectures, laboratory instruction, discussion, and student-centered learning activities.
- Design and organize course content, assignments, quizzes, examinations, laboratory activities, and other assessments aligned with course learning objectives.
- Use **Canvas Learning Management System (LMS)** for course administration, including posting instructional materials, managing assignments and quizzes, recording attendance, grading, monitoring student progress, and maintaining course records.
- Communicate with students through Canvas regarding course announcements, assignments, deadlines, academic progress, feedback, and other course-related matters.
- Monitor student performance throughout the semester and provide timely feedback and academic support to improve learning outcomes.
- Develop and apply grading rubrics, evaluate student assignments and assessments, and maintain accurate grade records through Canvas.
- Mentor and advise undergraduate students in biological sciences, academic development, and preparation for advanced study and science-related careers.
- Integrate current concepts in microbiology, molecular biology, nutrition, gut microbiome, and host-microbe interactions into undergraduate teaching where appropriate.
- Maintain an active scholarly agenda focused on gut microbiome, probiotics and prebiotics, microbial metabolites, host-microbe interactions, and nutrition-related metabolic health.
- Support undergraduate development in scientific literature evaluation, experimental design, data interpretation, laboratory skills, and scientific communication.
- Contribute to departmental and college academic activities, curriculum development, student engagement, and institutional service.

Postdoctoral Researcher

Plants for Human Health Institute, NC State University

Jun 2023 – July 2026

- Developed and validated a *Proteus mirabilis*-based anaerobic fermentation model to study microbial trimethylamine (TMA) formation. Established detailed SOPs and assay protocols for ongoing microbial fermentation projects. This work was presented as an oral abstract at the Probiotics, Prebiotics & New Foods Conference, Rome, Italy (September 14–16, 2025), titled “Chlorogenic Acid Inhibits Microbial Trimethylamine Formation in a Defined *Proteus mirabilis* Fermentation Model.”
- Investigated reliable blood biomarkers of trimethylamine N-oxide (TMAO) status in rodents, including the effects of oral choline challenge, dietary choline, and fasting conditions DOI: <https://doi.org/10.1016/j.jnutbio.2025.109905>
- Conducted dietary intervention studies using in vitro fermentation models with OpenBiome human fecal samples and in vivo rat models for phenolic-based dietary interventions. Performed DNA/RNA extraction and processed urine, blood, fecal, and tissue samples for metabolite identification and molecular analyses.
- Performed RT-qPCR, including primer design and validation, and ELISA for target gene and protein quantification.
- Developed and validated a qPCR method to investigate microbial genes associated with TMA/TMAO biosynthesis in rat fecal samples.
- Used the Opentrons OT-2 liquid-handling robot for sample extraction and preparation for targeted metabolite analysis.
- Operated the Waters ACQUITY UPLC I-Class system, including standard preparation, calibration curves, data acquisition using MassLynx, and targeted metabolite analysis.
- Performed data analysis and prepared scientific presentations using Microsoft Excel and GraphPad Prism.

Postdoctoral Research Fellow University of Maryland, Baltimore.

Oct 2022 - Jun 2023

- Evaluation of engineered microbial species in a Streptozotocin (STZ) Diabetic Model.
- Mice gavage, handling, collecting feces, making dilution from fecal samples to culture on Petri plates, and look for specific focused microbial growth related to the project. Weight mice every 2 days, follow water and food intake.
- Euthanized mice for various tissues collection for follow-up experiments.
- RNA/DNA extraction from mice tissues, follow up RT-qPCR for gene expression analysis.
- Performed RT-qPCR for disease-specific target genes, MSD assays to evaluate proteins and antibodies associated with the administered engineered microbial strains, and ELISA for cytokine analysis.
- Performed daily oral gavage of the designated probiotic/engineered microbial strain and corresponding control treatment.
- Report and present updates weekly and advise/make conclusions based on outcomes.

Associate Professor Southwest Medical University Luzhou, Sichuan China.

Sep 2019 - May 2022

Work was on Multiple Aspects: Research, Teaching, Grant Writing, Publications and Supervision

- Developed a dextran sodium sulfate (DSS)-based ulcerative colitis (UC) animal model using C57BL/6 mice. Performed oral gavage, daily health check and disease activity index data collection.
- At end of experimental time, euthanized mice, collected various tissues and process for follow up experiments.
- RNA/DNA extraction, RT-qPCR for looking various gene expressions related to colitis
- Follow-up identification of miRNA expression through RT-qPCR, Western Blot & ELISA for cytokines quantification.
- Confocal microscopy and evaluation of Images and writing reports and manuscripts. Some unpublished data and some published. DOI: 10.3389/fmicb.2024.1343891
- Microbes isolation and characterization from MaoTai Starter Culture; related paper published in Foods Journal (DOI: 10.3390/foods12010025) has related unpublished data for isolated strain (Whole Genome Sequence); Paper in Preparation.
- # Wrote and applied for Grant to China National Natural Science Foundation (NSFC)
- Developed and Taught Course of CVD and Microbiome

- Supervised a PhD Student and fellow Postdocs; 1 paper doi mentioned above and PhD student paper published in peer Reviewed journal (10.1016/j.biopha.2023.114562).

Mentorship and Supervision

- Co-supervised a Ph.D. Student of Prof Jianbo Wu. A related paper has been published. (doi: [10.1016/j.biopha.2023.114562](https://doi.org/10.1016/j.biopha.2023.114562)).
- Supervised **Shafiu A. Umar Shinge**, published 1 article, and worked on some others, and he has started his Ph.D. journey. (doi: [10.7150/ijbs.63819](https://doi.org/10.7150/ijbs.63819)).
- Guided **Dr. Waqar Ahmad** in initiating his project on probiotics and the gut microbiome using the DSS mice model. A related article has been published. (doi: [10.3389/fmicb.2024.1343891](https://doi.org/10.3389/fmicb.2024.1343891)).
- Trained and supervised **Dr. Taj Malook Khan** for executing a project related to probiotics and microbiome; A related manuscript is in preparation.
- Mentoring **Ameer Luqman** in his Ph.D. research, and worked on various articles; few published, and some in review process in various journals. ([10.3389/fimmu.2024.1321395](https://doi.org/10.3389/fimmu.2024.1321395); [10.3389/fpsyt.2024.1295766](https://doi.org/10.3389/fpsyt.2024.1295766))

Peer Review and Professional Service (Reviewer per ORCID record [0000-0001-9879-2023](https://orcid.org/0000-0001-9879-2023))

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| • iScience (1) | • Journal of clinical medicine (1) |
| • FEMS microbes (1) | • Current research in nutrition and food science (1) |
| • mBio (1) | • Foods (1) |
| • Human Nutrition & Metabolism (2) | • Cells (1) |
| • Microbiology Spectrum (4) | • Antibiotics (2) |
| • Journal of medical Microbiology (3) | • Frontiers in Nutrition (7) |
| • Microbial genomics (1) | • Frontiers in Microbiology (4) |
| • Nutrients (4) | • Frontiers in Microbiome (1) |
| • Microorganisms (1) | |
| • Molecules (1) | |

Honors, Awards and Fellowships

- Fully Funded Fellowship, Human Microbiome Data Discovery Short Course, OHSU, 2026
- Received a cash award for a highly cited article at Southwest Medical University.
- Chinese Government Scholarship for Ph.D. Program (2015-2019).
- Recipient of the Prime Minister's Laptop Scheme, Government of Pakistan.
- Recipient of a fee reimbursement scholarship for students from less-developed areas.

Invited Talks

- Microbiome Seminar; UNC Microbiome Core and Carolina Seminars, University of North Carolina at Chapel Hill (UNC-CH). "*Targeting Gut Microbial Metabolites through Prebiotics and Polyphenols: Insights from Probiotic and Fermentation-Based Approaches*". 11AM-12 PM, September 5th, 2025.
- Invited Talk, One day International Seminar "Immunization and Probiotics: a Winning Combination for Global Health. "*Shaping Host Health through the Gut microbiome: Probiotics, Prebiotics and Plant Based Dietary Interventions*". Sarhad University Islamabad Campus, Pakistan. April 30, 2025 10:30-12:00 PM.
- "*Probiotics, Prebiotics, and Polyphenols: Dietary Strategies to Shape the Gut Microbiome and Mitigate Disease Risks*". 11:00 am, Tuesday 29th April 2025 J Block auditorium ABASYN University Islamabad Campus, Pakistan.
- Talks for General Audience Postdocs Series, University of Maryland Baltimore, February 2, 2023. "Role of the Gut Microbiota in Human Health".
- 1st One Day International Conference on Genomics of Beneficial Microbes" (20th of December 2021). National Agricultural Research Center (NARC), Islamabad Pakistan. Talk Title: "*Gut microbiome, probiotics and miRNA*".
- Mammalian Microbiome Seminar November 12th – 13th, 2020. Title of Talk "*Gut microbiome, probiotics and miRNA*".

Workshops/Professional Development

- "Postdoctoral Readiness to Enter the Professorship" program (i.e., The PREPP) "After the Grant Submission: Managing Expectations". October 17, 2024. Professional Development, the Graduate School, NC State

University.

- Professional Development Workshop NCSU Graduate office: Session Name :-The PREPP: Managing a Lab (Session 4) Date :- 04/18/24 Timing :- 12:00PM - 1:00PM
- Professional Development NCSU Graduate Office: Writing a Teaching Philosophy (Online) (Apr 19 2024).
- Teaching Certificate, Graduate School, NC State. (<https://grad.ncsu.edu/professional-development/teaching-programs/teaching-certificate/>).
- NPA Smart Skills: Managing Yourself and Others: A Leadership Crash Course (Tuesday, June 25 3 p.m. ET)
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- NC TraCS Data Science Seminar Series: Deploying local LLMs as a tool for research on Tuesday, May 21 at 12:30 p.m. via Zoom.
- (NC TraCS (Translational and Clinical Sciences) Institute: NIH CTSA at UNC-C); NC TraCS Data Science Seminar Series: ChatGPT as your research assistant Tuesday, April 16 at 12:30 p.m
- Attended "NSF Grant Workshop for Early Career Researchers" University of Maryland, Baltimore County (UMBC), Commons 331 - UMBC, Commons Bldg, 331 - 1000 Hilltop Circle - Baltimore, MD 2125
- Hosted a Discussion Table; "Dietary Interventions (Prebiotics/Probiotics) and Microbiome". 2025 North Carolina Microbiome Symposium. Friday, May 23, at the North Carolina Biotechnology Center.

Computational Training

- *Nutrigenomics and Precision Nutrition in Clinical Practice Short Course* (May 13-16, 2024) <https://uncnri.org/ngx/>
- 2024 Next Generation Sequencing Certificate Program (10 Days Hand on Workshop at Catawba College and Eremid® Genomic Services (<https://eremid.com/news/next-generation-sequencing-certificate-program/>)).
- *Human Microbiome Data Discovery Short Course*. The Knight Cancer Institute. Oregon Health & Science University. September; 2026.

Conferences

- 13th Probiotics, Prebiotics & New Foods, Rome 2025, Italy; 14-16 September, 2025
- Microbiome Virtual International Forum. Tuesday, December 3, 2024 8:00 PM. *My Digital Gut: a tool set for microbiome-mediated precision nutrition* – By Sean Gibbons, Institute for Systems Biology.
- 2024 North Carolina Microbiome Symposium, North Carolina Biotechnology Center; 15 T.W. Alexander Drive, Research Triangle Park, NC (May 22, 2024)
- ASM Microbe 2024, Atlanta, USA (June-13-17).
- April First Friday Microbiome Seminar! Microbiome Core Facility UNC Chapel Hill. April 5, 2024
- 12th Annual NCRC Catalyst Spring Symposium. Friday, March 22nd, 2024. Kannapolis City Hall 401 Laureate Way Kannapolis, NC, 28081.
- Microbial Ecology & Evolution MEE Virtual 12-14 August 2020. (<https://www.meevirtual.org/scientific-programme/>).
- China Gut Festival 2019, Beijing Etrong International Exhibition & Convention Center, Beijing, China (June 4-6, 2019).
- The 13th National Atherosclerosis Disease Academic Conference China (October 16-18, 2015).
- 2nd National Conference on Current Approaches in Microbiology Nathia Gali, Abbottabad, Pakistan (June 27-28, 2013).

Publications

Google Scholar: 1866, h-index 22

1. Conference Abstract / Oral Communication **Ahmad Ud Din**, Michael G. Sweet, Ashley M. McAmis, Juanita G. Ratliff, Andrew P. Neilson; Oral Communication. "Chlorogenic Acid Inhibits Microbial Trimethylamine Formation in a Defined *Proteus mirabilis* Fermentation Model." 13th Probiotics, Prebiotics & New Foods, Rome 2025, Italy; 14-16 September, 2025.
2. Tariq Shah, Xusheng Guo, Gulraiz Ahmad, Muhammad Ishaq, **Ahmad Ud Din**, Sadia Sardar & Luming Ding. Exploring age-related changes in gut bacterial community composition of yak: insights from different age groups (2025). [10.1186/s12866-025-04011-6](https://doi.org/10.1186/s12866-025-04011-6)
3. **Ahmad Ud Din**, Michael G Sweet, Ashley M McAmis, Juanita G Ratliff, Anandh Babu Pon Velayutham, Andrew Peter Neilson. Establishing reliable blood biomarkers for trimethylamine N-oxide status in rodents: effects of oral choline challenge, dietary choline and fasting conditions. Journal of Nutritional Biochemistry DOI. [10.1016/j.jnutbio.2025.109905](https://doi.org/10.1016/j.jnutbio.2025.109905)
4. Published Conference Abstract. Brian Piccolo, Leslie Tabor-Simecka, Nicole Knox, Ashley M. McAmis, **Ahmad Ud Din**, Andrew P. Neilson, D. Keith Williams, Jerry Simecka and Mario G. Ferruzzi. 469 Identification of gut barrier protective fruits and vegetables for Latin American infants (2025). Journal of Clinical and Translational Science. [10.1017/cts.2024.1062](https://doi.org/10.1017/cts.2024.1062)

5. Asma Bibi, Famin Zhang, Famin Zhang, Jilong Shen, Jilong Shen, **Ahmad Ud Din**, Yuanhong Xu*. Behavioral alterations in antibiotic-treated mice associated with gut microbiota dysbiosis: insights from 16S rRNA and metabolomics (2025). *Frontiers in Neuroscience*. [10.3389/fnins.2025.1478304](https://doi.org/10.3389/fnins.2025.1478304)
6. Niyaz Ali, Izhar Ali, **Ahmad Ud Din**, Kashif Akhtar, Bing He and Ronghui Wen,*. Integrins in the age of antibiotic resistance: evolution, mechanisms, and environmental implications: a review. [10.3390/microorganisms12122579](https://doi.org/10.3390/microorganisms12122579)
7. Syed Rafiq Hussain Shah, Anwar Ullah, Shahid Aziz, Faisal Rasheed, Azka Syed, **Ahmad Ud Din**, ... and Majid Alhomrani. Computational Comparative Analysis of Esophageal Microbial Communities and Metabolic Profiles in Erosive and Nonerosive Phenotypes of Gastroesophageal Reflux Disease (2025) *Journal of Computational Biophysics and Chemistry*. doi [10.1142/S2737416525500176](https://doi.org/10.1142/S2737416525500176)
8. Adil Hassan, Ameer Luqman, Kun Zhang, Mehtab Ullah, **Ahmad Ud Din**, Liao Xiaoling, Guixue Wang. Impact of Probiotic *Lactobacillus plantarum* ATCC 14917 on atherosclerotic plaque and its mechanism (2024). *World Journal of Microbiology and Biotechnology*, doi [10.1007/s11274-024-04010-1](https://doi.org/10.1007/s11274-024-04010-1)
9. Muhammad Junaid, Hongyu Lu, **Ahmad Ud Din**, Bin Yu, Yu Liu, Yixiang Li, Kefei Liu, Jianhua Yan,*and Zhongquan Qi. Deciphering Microbiome, Transcriptome, and Metabolic Interactions in the Presence of Probiotic *Lactobacillus acidophilus* against *Salmonella Typhimurium* in a Murine Model (2024). *Antibiotics* doi: [10.3390/antibiotics13040352](https://doi.org/10.3390/antibiotics13040352)
10. Muhammad Junaid, Hongyu Lu, Yixiang Li, Yu Liu, **Ahmad Ud Din**, Zhongquan Qi, Yi Xiong 3,*and Jianhua Yan. Novel Synergistic Probiotic Intervention: Transcriptomic and Metabolomic Analysis Reveals Ameliorative Effects on Immunity, Gut Barrier, and Metabolism of Mice during *Salmonella typhimurium* Infection (2024). *Genes*. [10.3390/genes15040435](https://doi.org/10.3390/genes15040435)
11. Waqar Ahmad, **Ahmad Ud Din (Co-1st)**, Taj Malook Khan, Mujeeb Ur Rehman, Adil Hassan, Tariq Aziz, Metab Alharbi, Jianbo Wu* *Lactocaseibacillus paracasei* BNCC345679 Revolutionises DSS Induced-Colitis and Modulates Gut Microbiota (2024). *Frontiers in Microbiology*. [10.3389/fmicb.2024.1343891](https://doi.org/10.3389/fmicb.2024.1343891)
12. Ameer Luqman, Mei He, Adil Hassan, Mehtab Ullah, Liyuan Zhang, Muhammad Rashid Khan, **Ahmad Ud Din**, Kamran Ullah, Wei Wang* and Guixue Wang*. Mood and Microbes; A Comprehensive Review of Intestinal Microbiota Impact on Depression. (2024). *Frontiers in Psychiatry*. [10.3389/fpsyt.2024.1295766](https://doi.org/10.3389/fpsyt.2024.1295766)
13. Ameer Luqman, Adil Hassan, Mehtab Ullah, Sahar Naseem, Mehraj Ullah, Liyuan Zhang, **Ahmad Ud Din** Kamran Ullah, Waqar Ahmad, Guixue Wang*. Role of the intestinal microbiome and its therapeutic intervention in cardiovascular disorder. (2024) *Frontiers in Immunology*. [10.3389/fimmu.2024.1321395](https://doi.org/10.3389/fimmu.2024.1321395)
14. Amin Ullah, **Ahmad Ud Din**, Wen Ding, Zheng Shi, Sadaf Pervaz, Bairong Shen*. A narrative review: CXC Chemokines influence immune surveillance in obesity-related diseases: Type 2 diabetes and nonalcoholic fatty liver disease (2023). *Reviews in Endocrine and Metabolic Disorder* [10.1007/s11154-023-09800-w](https://doi.org/10.1007/s11154-023-09800-w)
15. Ke Sheng, **Ahmad Ud Din**, Bairong Shen*, Translational informatics for human microbiota: data resources, models and applications (2023). *Briefings in Bioinformatics*. [10.1093/bib/bbad168](https://doi.org/10.1093/bib/bbad168)
16. Jin Xu, Chuankang Tang, **Ahmad Ud Din**, Yu Lu, Xiaoyu Ma, Tao Zhang, Jiaqi Wu, Du Zuoqin, Pei Luo, Jianbo Wu. Oligosaccharides of *Polygonatum Cyrtoneuma* Hua ameliorates dextran sulfate sodium-induced colitis and regulates the gut microbiota (2023). *Biomedicine & Pharmacotherapy*. [10.1016/j.biopha.2023.114562](https://doi.org/10.1016/j.biopha.2023.114562)
17. Ling Xue, Yinglong Ding, Qiong Qin, Linsheng Liu, Xiaoliang Ding, Yi Zhou, Kun Liu, Rajeev K. Singla, Ke Shen, **Ahmad Ud Din**, Yan Zhang, Zhenya Shen*, Bairong Shen* and Liyan Miao. Assessment of the impact of intravenous antibiotics treatment on gut microbiota in patients: Clinical data from pre-and post-cardiac surgery. (2023) *Frontiers in Cellular and Infection Microbiology*. [10.3389/fcimb.2022.1043971](https://doi.org/10.3389/fcimb.2022.1043971)
18. **Ahmad Ud Din**, Waqar Ahmad, Taj Malook Khan, Jun Wang and Jianbo Wu*. Metagenomic Analysis of Liquor Starter Culture Revealed Beneficial Microbes' Presence. *Foods* (2022) [10.3390/foods12010025](https://doi.org/10.3390/foods12010025)
19. Mahpar Zafara, Sadia Alam, Maimoon Sabir, Nusrat Saba, **Ahmad Ud Din**, Rafiq Ahmad, Muhammad Rafiullah Khan, Ali Muhammad, Kenan Sinan Dayisoyle*. Isolation, characterization, bacteriocin production and biological potential of Bifidobacteria of ruminants (2022) *Analytical Biochemistry*. [10.1016/j.ab.2022.114926](https://doi.org/10.1016/j.ab.2022.114926)
20. Asma Sadiq, Jadoon Khan*, Irfan.....Imtiaz Ali Khan, **Ahmad Ud Din**, Ijaz Ali Arshad Farid, Muddaser Shah, Mohamed Abdel-Daim, Ghadeer M. Albadrani. Seroprevalence of anti-tTg-IgA among symptomized celiac disease patients and their co-relation with Rotavirus infection (2022) *Biomed Research International*. [10.1155/2022/6972624](https://doi.org/10.1155/2022/6972624)
21. Tariq Shah, Luming Ding, **Ahmad Ud Din**, Faiz-ul Hassan, Haiyan Wei, Xianju Wang, Liangqin Yang, Muhammad Ishaq, Niaz Ali, Yougui Fang. Differential Faecal Microbiome in Yaks Fed on Natural Grazing pasture and Feedlot (2022). *Frontiers in Veterinary Science*. [10.3389/fvets.2022.791245](https://doi.org/10.3389/fvets.2022.791245)
22. S. hafiu A. Umar Shinge, Daifang Zhang, **Ahmad Ud Din**, Yong Mei Nie, Feng Xu Yu. Emerging Piezo1 signaling in inflammation and atherosclerosis; a potential therapeutic target. (2022). *International Journal of Biological Sciences*. [10.7150/ijbs.63819](https://doi.org/10.7150/ijbs.63819)
23. Maryam Mazhar, **Ahmad Ud Din** (1st co-author), Hamid Ali, Guoqiang Yang, Wei Ren, Li Wang, Xiaohui Fan, Sijin Yang. Implication of Ferroptosis in Aging. (2021) *Cell Death Discovery*. [10.1038/s41420-021-00553-6](https://doi.org/10.1038/s41420-021-00553-6)
24. Faiz-ul Hassan, Muhammad Adeel Arshad, Muhammad Saif-ur Rehman, Sharon Ann Huws, Yanfen Cheng and **Ahmad Ud Din***. Gut microbiome colonization and development in farm animals: Strategies, prospects and opportunities. (2021) *Animal Nutrition*. [10.1016/j.aninu.2021.03.004](https://doi.org/10.1016/j.aninu.2021.03.004)
25. Ishaq Muhammad, Ashiq Khan, Ali Sher Bacha, Anum Hanif, Wencan Ke, Tariq Shah, Fuhou Li, Anum Ali Ahmad, **Ahmad Ud Din**, Zitong Ding *, Xusheng Guo *. Microbiota Targeted Interventions of Probiotic *Lactobacillus* as an Anti-Ageing Approach. (2021) *MDPI Antioxidants*. [10.3390/antiox10121930](https://doi.org/10.3390/antiox10121930)
26. (Book Chapter) Muhammad Farrukh Nisar, **Ahmad Ud Din**, Kamal Niaz, Shaikat Hussain, Munawar, and Ahmad Farooq. Ultraviolet Radiation A (UVA): Modulates the Production of Nitric Oxide (NO) to Combat COVID-19 Production of Nitric Oxide (NO) Coronavirus Disease. (Book Chapter) 2021. Bentham Science Publishers Pte. Ltd. Singapore.
27. Kun Zhang, Xian Qin, Juhui Qiu, Tong Sun, Kai Qu, **Ahmad Ud Din**, Wenhua Yan, Tianhan Li, Yidan Chen, Wei Gu, Xiancai Rao, Guixue Wang*. *Desulfovibrio desulfuricans* Aggravates Atherosclerosis by Enhancing Intestinal Permeability and endothelial TLR4/NF- κ B pathway in Apoe Mice. (2021) *Genes and Disease*. [10.1016/j.gendis.2021.09.007](https://doi.org/10.1016/j.gendis.2021.09.007)

28. Noor Bahadar, Hanif Ullah, Salah Adlat, Rajiv Kumar Sah, May Zun Zaw Myint, Zin Mar Oo, Fatoumata Binta Bah, Farooq Hayel Nagi, Hsu Htoo, **Ahmad Ud Din**, Xuechao Feng, Yaowu Zheng*. Analyzing differentially expressed Genes and Pathways of Bex2-deficient mouse lung via RNA-seq. (2021) Turkish Journal of Biology. doi [10.3906/biy-2104-4](https://doi.org/10.3906/biy-2104-4)
29. **Ahmad Ud Din**, Maryam Mazhar, Muhammad Wasim, Waqar Ahmad, Asma Bibi, Adil Hassan, Niaz Ali, Wang Gang, Gao Qian, Razi Ullah, Tariq Shah, Mehraj Ullah, Israr Khan, Muhammad Farrukh Nisar & Jianbo Wu* SARS-CoV-2 Microbiome Dysbiosis Linked Disorders and Possible Probiotics Role. (2020). Biomedicine & Pharmacotherapy. [10.1016/j.biopha.2020.110947](https://doi.org/10.1016/j.biopha.2020.110947)
30. **Ahmad Ud Din**, Adil Hassan, Yuan Zhu, Kun Zhang, Yi Wang, Tianhan Li, Yang Wang, Guixue Wang*. Journal of Nutritional Biochemistry (2020). Inhibitory Effect of *Bifidobacterium Bifidum* ATCC 29521 on Colitis and its Mechanism [10.1016/j.jnutbio.2020.108353](https://doi.org/10.1016/j.jnutbio.2020.108353)
31. Adil Hassan, **Ahmad Ud Din (1st co-author)**, Yuan Zhu, Kun Zhang, Tianhan Li, Yi Wang, Shangcheng Xu, Haik Le, Xian Yu & Guixue Wang*. Anti-atherosclerotic effects of *Lactobacillus plantarum* ATCC 14917 in ApoE^{-/-} mice through modulation of proinflammatory cytokines and oxidative stress. Applied Microbiology and Biotechnology (2020). [10.1007/s00253-020-10693-x](https://doi.org/10.1007/s00253-020-10693-x)
32. Ouyang Li, Huijian Zhang, Wenjing Wang, Yuxin Liang, Wenbi Chen, **Ahmad Ud Din**, Li Li Yingshun Zhou*. Complete genome sequence and probiotic properties of *Lactococcus petauri* LZys1 isolated from healthy human gut. Journal of Medical Microbiology [10.1099/jmm.0.001397](https://doi.org/10.1099/jmm.0.001397)
33. **Ahmad Ud Din**, Adil Hassan, Yuan Zhu, Tiye Ying, Hans Gregersen and Guixue Wang*. Amelioration of TMAO Through Probiotics and its Potential Role in Atherosclerosis Applied Microbiology and Biotechnology (2019) [10.1007/s00253-019-10142-4](https://doi.org/10.1007/s00253-019-10142-4)
34. Adil Hassan, **Ahmad Ud Din**, Yuan Zhu, Kun Zhang, Tianhan Li, Yi Wang, Yang Luo, Guixue Wang*. Updates In Understanding the Hypocholesterolemia Effect Of Probiotics On Atherosclerosis. Applied Microbiology and Biotechnology. (2019) [10.1007/s00253-019-09927-4](https://doi.org/10.1007/s00253-019-09927-4)
35. Yuan Zhu, Tianhan Li, **Ahmad Ud Din**, Adil Hassan, Yeqi Wang & Guixue Wang*. Beneficial effects of *Enterococcus faecalis* in hypercholesterolemic mice on cholesterol transportation and gut microbiota. Applied Microbiology and Biotechnology. (2019) [10.1007/s00253-019-09681-7](https://doi.org/10.1007/s00253-019-09681-7)
36. Tian-hao Liu; Chen-yang Zhang; **Ahmad Ud Din**; Ning Li; Qian Wang; Jing-ze Yu; Zhen-yuan Xu; Chen-xi Li; Xiao-mei Zhang; Jia-li Yuan; Li-guo Chen; Zhong-shan Yang*. Bacterial association and comparison between lung and intestine in rats. Bioscience Reports. (2019) [10.1042/BSR20191570](https://doi.org/10.1042/BSR20191570)
37. Xiangjin Yana, Jing Zeng, Xinyao Li, Zhikun Zhang, **Ahmad Ud Din**, Kelei Zhao & Yingshun Zhou High incidence and characteristic of PRRSV and resistant bacterial Co-Infection in pig farms. Microbial Pathogenesis (2020). [10.1016/j.micpath.2020.104536](https://doi.org/10.1016/j.micpath.2020.104536)
38. Niyaz Ali, Yinfu Lin, Zhen Qing, Dan Xiao, **Ahmad Ud Din**, Izhar Ali, Tengxiang Lian, Baoshan Chen and Ronghui Wen. The Role of Agriculture in the Dissemination of Class1 Integrins, Antimicrobial Resistance, and Diversity of Their Gene Cassettes in Southern China. Genes. (2020). [10.3390/genes11091014](https://doi.org/10.3390/genes11091014)).
39. Kun Zhang, Da Sun*, Chuanren Duan*, Hang Chen, **Ahmad Ud Din**, Xiangjun Kong, Xian Qin & Baoyun Zhang. Application of a *Faecalibacterium* 16S rDNA genetic marker for species identification of dog fecal waste. Environmental Science and Pollution (2020). [10.1007/s11356-020-09369-w](https://doi.org/10.1007/s11356-020-09369-w)
40. Manlin Ding, Jiao Shi, **Ahmad Ud Din**, Yao Liu, Feiyang Zhang, Xiangjin Yan, Qin Li, JiaWei Bai, Wenbi Chen, Yingshun Zhou. Co-infections of two carbapenemase-producing *Enterobacter hormaechei* clinical strains isolated from the same diabetes individual in China. Journal of Medical Microbiology. [10.1099/jmm.0.001316](https://doi.org/10.1099/jmm.0.001316)

Experimental and Computational Skills

- Mice/Rats handling and follow up surgeries etc
- Microbes culturing and isolation, prepare probiotic daily diet for mice gavage.
- RNA/DNA Extraction, cDNA and RT-qPCR
- miRNA Quantification through RT-qPCR
- ELISA & MSD
- Confocal Microscopy
- Automated robot and OT-2 liquid handler (Opentrons, NY, USA)
- Anaerobic fermentation and anaerobic culture
- Histological analysis of H&E Stain images
- Oil Red Staining
- 16S Microbial Diversity using Cloud Platform.
- GraphPad Prism and ImageJ
- R Language (Basic)
- LC-MS Waters
- QIIME 2 (Basics) for 16S rRNA microbiome analysis

Languages: Pashto, Urdu, English (Fluent); Chinese (Working proficiency); Arabic (Basic).

References

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