

Curriculum Vitae

1) Personal information

Name: Yunan Hu, M.S.

2) Education

<u>Degree</u>	<u>Institution</u>	<u>Date conferred</u>	<u>Major</u>
Ph. D.	University of North Carolina at Chapel Hill (UNC-CH), USA	Present	Microbiology and Immunology
M.S.	University of North Carolina at Chapel Hill (UNC-CH), USA	May 2023	Nutrition
B.S.	China Agricultural University (CAU), China	May 2021	Food Science and Engineering

3) Bibliography and products of scholarship

Peer-reviewed publications

Career Total = 9 Google Scholar h-index = 5 Google Scholar citations=188

1. **Hu Y, Huang X, Yang B, Zhang X, Han Y, Chen X-X, Han B-Z.** *Contrasting the microbial community and metabolic profile of three types of light-flavor Daqu.* *Food Bioscience* 2021;44:101395. doi: <https://doi.org/10.1016/j.fbio.2021.101395>.
2. **Tian S, Hu Y, Chen X, Liu C, Xue Y, Han B.** *Green synthesis of silver nanoparticles using sodium alginate and tannic acid: characterization and anti-*S. aureus* activity.* *International Journal of Biological Macromolecules* 2022;195:515-22. doi: <https://doi.org/10.1016/j.ijbiomac.2021.12.031>.
3. 胡雨楠, 张钟晓, 陈小雪, 薛岩松, 韩北忠. 发酵时间对清香型白酒二茬基酒风味物质组成及含量的影响. *中国酿造* 2021;40(9):165-72.
4. **Kang J, Hu Y, Ding Z, Ye L, Li H, Cheng J, Fan L, Zhao H, Han B, Zheng X.** *Deciphering the Shifts in Microbial Community Diversity From Material Pretreatment to Saccharification Process of Fuyu-Flavor Baijiu.* *Front Microbiol* 2021;12:705967. doi: 10.3389/fmicb.2021.705967.
5. **Kang J, Hu Y, Jia L, Zhang M, Zhang Z, Huang X, Chen X, Han B-Z.** *Response of microbial community assembly and succession pattern to abiotic factors during the second round of light-flavor Baijiu fermentation.* *Food Research International* 2022;162:111915. doi: <https://doi.org/10.1016/j.foodres.2022.111915>.
6. **Chen X, Hu Y, Tian S, Han B.** *Understanding the Interactions between *Staphylococcus aureus* and the Raw-Meat-Processing Environment Isolate *Klebsiella oxytoca* in Dual-Species Biofilms via Discovering an Altered Metabolic Profile.* *Microorganisms* 2021;9.

7. Kang J, Li R, **Hu Y**, Huang X, Chen X-X, Han B-Z. Microbial interactions in mixed-species biofilms on the surfaces of Baijiu brewing environments. *Food Research International* 2024;191:114698. doi: <https://doi.org/10.1016/j.foodres.2024.114698>.
8. **Hu Y**, Aljumaah MR, Azcarate-Peril MA. Galacto-Oligosaccharides and the Elderly Gut: Implications for Immune Restoration and Health. *Advances in Nutrition* 2024;15(8):100263. doi: <https://doi.org/10.1016/j.advnut.2024.100263>.
9. Aljumaah MR, Roach J, **Hu Y**, Gunstad J, Azcarate-Peril MA. Microbial dipeptidyl peptidases of the S9B family as host-microbe isozymes. *Sci Adv.* 2025 Apr 4;11(14):eads5721. doi: 10.1126/sciadv.ads5721.

Publications in process

1. **Hu, Y.**, Arnold, J., et al. Mechanisms of Galectin 1 Induction by Galactooligosaccharides.
2. **Hu, Y.**, Arnold, J., et al. Modulation of gut permeability by galactooligosaccharides during aging process.
3. Aljumaah MR, Roach J., **Hu Y**, et al. Mapping the Microbial World Within: A Comprehensive Analysis of the Human Gut Microbiome from Organ Donors.

Posters and conference proceedings

Career Total = 7

1. Conference: *Gordon Research Conference (GRC): Lactic Acid Bacteria Biology, Symbioses and Applications*, 2025, CA: (Oral presentation and poster) **Yunan Hu**, Madison Moore, Jeff Roach, Jeena James, Jason W. Arnold, Rita Tamayo, José M. Bruno-Bárcena, M. Andrea Azcarate-Peril1. Pure prebiotics enable the persistence of probiotics and enhance their beneficial effects.
2. Conference: *North Carolina Branch of the American Society for Microbiology (NC-ASM)* 2024, NC: (Oral presentation) **Yunan Hu**: Galacto-oligosaccharides Enhance Intestinal Barrier Function.
3. Conference: *American Society for Nutrition (ASN) 2023, Boston*: (Poster) **Yunan Hu**, Jason Arnold, Johanna Smeekens, Michael Kulis, Ellyce San Pedro, Scott Magness, Andrea Azcarate-Peril. Immunomodulatory Effects of Galactooligosaccharides. 2023, Current Developments in Nutrition.
4. Conference: *International Scientific Association for Probiotics and Prebiotics (ISAPP) 2023, Denver*: (Poster) **Yunan Hu**, Jason Arnold, Johanna Smeekens, Michael Kulis, Ellyce San Pedro, Scott Magness, Andrea Azcarate-Peril. Immunomodulatory Effect of Galacto-oligosaccharide on Lgals-1 Gene Expression.
5. Conference: *American Society for Nutrition (ASN) 2024, Boston*: (Poster) Jeena M James, **Yunan Hu**, Mashael Aljumaah, Esmat Rousta, Nivedita Pareek, Jeff Roach, Jason Arnold, Rita Tamayo, José Bruno-Bárcena, Andrea Azcarate-Peril. The Beneficial Effects of a

Combination of Prebiotics and Bacterial Consortium on Clostridioides difficile Infection in a Mouse Model. 2024, Current Developments in Nutrition.

6. *NC Microbiome Consortium Annual Symposium, 2023, NC*: (Poster) **Yunan Hu**, Jason W. Arnold, Rebecca Zasloff, Anika Rueppell, Scott T. Magness, José M. Bruno-Bárcena, M. Andrea Azcarate-Peril. Galacto-oligosaccharides Enhance Intestinal Barrier Function.

7. *NORC Student Research Symposium, 2022, NC*: (Poster) **Yunan Hu**, Jason Arnold, Johanna Smeekens, Michael Kulis, Ellyce San Pedro, Scott Magness, Andrea Azcarate-Peril. Mechanism of Galectin-1 induction by Galactooligosaccharides.

4) Mentoring Activities

Undergraduate Student Supervised Research

The table below lists supervised undergraduates who gained research experience from me. The responsibilities of students include performing research on a defined project, demonstrating skills in standard scientific methods, evaluating scientific data, and scientific troubleshooting.

Student	Degree/activities	Dates	Currently at
Jin Ho Kim	Biology	May 2025-	UNC-Chapel Hill
Yoo Rim Lee	Nutrition - Honor Thesis	March 2025-	UNC-Chapel Hill
Weston Matthews	Biology	Aug. 2024- May 2025	UNC-Chapel Hill
Nehal Devpura	Nutrition - Honor Thesis	Feb. 2023-	UNC-Chapel Hill
Rebecca Zasloff	Biology - Honors Thesis	Aug. 2021 – Jun. 2022	Duke and Harvard school of public health

5) Professional Service

2024-Present President of UNC Microbiome Trainee club

2025-2027 Co-chair of Gordon Research Seminar (GRS): Lactic Acid Bacteria Biology, Symbioses and Applications

2023-2024 UNC Biological & Biomedical Science Program (BBSP)
Leadership Group

Member since:

2022 International scientific association for probiotics and prebiotics Students and Fellows Association (ISAPP-SFA)

2024 American Society for Nutrition (ASN)

2024 North Carolina Branch of the American Society for Microbiology (NC-ASM)

2024 American Society for Microbiology (ASM)