

## CURRICULUM VITAE

### PERSONAL PARTICULARS

Name Shilan Wang  
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### EDUCATION

Aug 2021 to Aug 2024 Ph.D. in Medical Sciences  
(Under One Provost's Strategic Allocation of Centrally-funded RPg Place for 2021-22 admission to Strategic Areas of Innovative Biomedicine)  
*Medicine & Therapeutics*  
Supervisor: Prof. Lin Zhang  
Co-Supervisor: Prof. Siew C. Ng  
The Chinese University of Hong Kong (CUHK)

Sep 2019 - June 2021 Master in Animal Husbandry (Hons)  
*Animal Nutrition and Feed*  
Supervisor: Prof. Junjun Wang  
China Agricultural University (CAU)

Sep 2015 - June 2019 Bachelor of Agriculture (Hons)  
*Animal Science*  
China Agricultural University (CAU)

### PROFESSIONAL EXPERIENCE

Oct 2024 to present Postdoctoral Fellow  
Supervisor: Prof. Lin Zhang  
Microbiota I-Center (MagIC), InnoHealth Hong Kong  
Department of Anaesthesia and Intensive Care  
Faculty of Medicine, The Chinese University of Hong Kong

Sep 2024 to Oct 2024 Research Assistant  
Supervisor: Prof. Lin Zhang  
Microbiota I-Center (MagIC), InnoHealth Hong Kong  
Department of Anaesthesia and Intensive Care  
Faculty of Medicine, The Chinese University of Hong Kong

### TRAININGS

Aug 2021 to Present Practices of Bioinformatics and High-Throughput Sequencing  
Microbiota I-Center (MagIC), InnoHK  
The Chinese University of Hong Kong

Mar 2019 - May 2019 International Internship  
Anatomy and Microscopy Lab

February 21, 2025

Supervisor: Prof. Alessia Di Giancamillo  
Milan University, Italy

## PRIZES & AWARDS

2024	Faculty Postdoctoral Fellowship Scheme (FPFS)
2021	Outstanding Graduate of Beijing
2020	National Scholarship, The Ministry of Education of the People's Republic of China
2020	Merit Student, China Agricultural University
2020	First-class academic scholarship, China Agricultural University
2019	Outstanding Graduate, China Agricultural University
2016-2017	Excellent Student Cadre, China Agricultural University
2015-2017	Excellent Student Scholarship, China Agricultural University
2015-2017	Merit Student, China Agricultural University

## CONFERENCE EXPERIENCE

1. Best Poster Presentation Award Winner  
(Sichuan Cellular and Nuclear Medicine Academic Conference, 2023)
2. KGFID Best Abstract & Best Presentation Award Winner  
(The 6<sup>th</sup> Korea Digestive Disease Week, 2022)
3. Poster presentation  
(The 9th International Human Microbiome Consortium (IHMC) Congress, 2022)
4. Attend International Digestive Disease Forum, 2021-2023

## OTHER SOCIAL ACTIVITIES

2024	HATCH Talent Development Programme 2024   Lecturer
2023	CUHK Health Exhibition 2023   Consultant
2021	MagIC-Volunteer Service with Heep Hong Society   Volunteer
2018	World Team Table Tennis Championships   Volunteer

## RESEARCH INTERESTS

As an undergraduate student, my research experience began at China Agricultural University's State Key Laboratory of Animal Nutrition under the supervision of Professor Junjun Wang. I focused on the interaction between probiotics, prebiotics, and gut health. In one of the studies, we found a probiotics combination (*Lactobacillus fermentum* and *Pediococcus acidilactici*) supplemented in diet alleviated inflammation and modulated intestinal microbiota in weaned pigs through enhancing Caecal acetic and propionic acid (**Wang, S., et al., BMC Vet Res, 2019**). During my master's research, I found that resistant maltodextrin, one of the water-soluble dietary fibers, alleviated dextran sulfate sodium-induced mice colon inflammatory injury by increasing butyric acid to inhibit proinflammatory cytokine levels (**Wang, S., et al., BIOMED Res Int, 2020**). However, as I progressed in my studies, I realized that compared to animal science, my passion lies in pressing health concerns affecting human beings. This could be addressed by investigating human gut health and the intricate interplay between the gut microbiome and various physiological systems.

Thanks to my supervisor, Prof. Lin Zhang, and Prof. Siew C. Ng, I joined the Microbiota I-Center (MagIC) of CUHK to start my Ph.D. journey. We established the MOther-infant Microbiota transmission and its link to long term health of the baby (MOMmy) in the Greater Bay Area to pinpoint disease-causing microbes, confirm their transmission to infants, discover health-promoting microbes to establish health in children, and innovate personalised and rationally designed microbiota therapeutics that could reshape/manipulate the dysbiotic microbiota to prevent diseases in early childhood. Initially, we described the demographic of the cohort from an epidemiological perspective (**Zhang, L<sup>^</sup>, Liu, Y<sup>^</sup>, Wang, S<sup>^</sup>, et al., 2024, Under submission**). Given the maternal gut microbiome is the major source of infant gut microbiome and gestational diabetes mellitus (GDM) is the most prevalent complication during pregnancy globally and in our cohort, interestingly, we investigated whether gut microbiota mediates the association between maternal GDM and child growth and interestingly found that GDM affects infant gut composition, which is

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implicated with infant head growth in a sex-dependent manner (**Wang, S., et al., Cell Host and Microbe, 2024**). Besides, I joined a collaboration work to establish the Metagenome-Assembled Genome Inventory for Children (MAGIC) database (**Peng, Y<sup>^</sup>., Zhu, J<sup>^</sup>., Wang, S<sup>^</sup>., Liu, Y<sup>^</sup>., et al., 2024, Under revision**). To conclude, my current research interest mainly concentrated on the impact of maternal health and disease on the infant gut microbiome and growth, and I will further study the mechanism of why GDM affects the offspring's neurodevelopment in sexual dimorphism and define the healthy early life gut microbiome.

## PUBLICATIONS

### 1. As the first or <sup>^</sup>co-first, \*corresponding author or senior author

1. **Wang, S.**, Liu, Y., Tam, W. H., Ching, J. Y. L., Xu, W., Yan, S., Qin, B., Lin, L., Peng, Y., Zhu, J., Cheung, C. P., Ip, K. L., Wong, Y. M., Cheong, P. K., Yeung, Y. L., Kan, W. H. B., Leung, T. F., Leung, T. Y., Chang, E. B., Rubin, D. T., Claud, E. C., Wu, W. K. K., Tun, H. M., Chan, F. K. L., Ng, S. C\*, & Zhang, L\*. (2024). Maternal gestational diabetes mellitus associates with altered gut microbiome composition and head circumference abnormalities in male offspring. *Cell Host Microbe*, 32(7), 1192-1206.e1195. [IF<sub>2023</sub> = 20.6]
2. Peng, Y<sup>^</sup>., Zhu, J<sup>^</sup>., **Wang, S<sup>^</sup>.**, Liu, Y<sup>^</sup>., Liu, X., DeLeon, O., Zhu, W., Xu, Z., Zhang, X., Zhao, S., Liang, S., Li, H., Ho, B., Ching, J. Y., Cheung, C. P., Leung, T. F., Tam, W. H., Leung, T. Y., Chang, E. B., Chan, F. K. L., Zhang, L\*, Ng, S. C\*, & Tun, H. M\*. (2024). A metagenome-assembled genome inventory for children reveals early-life gut bacteriome and virome dynamics. *Cell Host Microbe*. doi:10.1016/j.chom.2024.10.017 [IF<sub>2023</sub> = 20.6]
3. **Wang, S.**, Zhang, S., Huang, S., Wu, Z., Pang, J., Wu, Y., Wang, J., & Han, D. (2020). Resistant maltodextrin alleviates dextran sulfate sodium-induced intestinal inflammatory injury by increasing butyric acid to inhibit proinflammatory cytokine levels. *BioMed Research International*, 2020, 7694734. [IF<sub>2023</sub> = 2.6]
4. **Wang, S.**, Yao, B., Gao, H., Zang, J., Tao, S., Zhang, S., Huang, S., He, B., & Wang, J. (2019). Combined supplementation of *Lactobacillus fermentum* and *Pediococcus acidilactici* promoted growth performance, alleviated inflammation, and modulated intestinal microbiota in weaned pigs. *BMC Veterinary Research*, 15(1), 1-11. [IF<sub>2023</sub> = 2.3]

### Under review

5. Zhang, L<sup>^</sup>., Liu, Y<sup>^</sup>., **Wang, S<sup>^</sup>.**, Ching, J. Y. L., Tam, W. H., Leung, T. F., Leung, T. Y., Chan, P. K. S., Mak, J. W. Y., Cheung, C. P., Tun, H. M., Chang, E. B., DeLeon, O., Huang, Q., Chen, X., Huo, H., Miao, Y., Cheong, P. K., Ip, K. L., Yeung, Y. L., Chang, M. K., Lyu, C., Yang, H., Li, B., Fan, Y., Sun, Y\*, Jiang, S\*, Ng, S. C\*, & Chan, F. K. L\*. (2024). Overview of the MOther-infant Microbiota transmission and its link to long term health of baby (MOMMY) Study: The Integrative Early Life Microbiome Project in China. (**Under review**)

### 2. As co-author

6. Zhang, L., Xu, W., Meng, H. Y. H., Ching, J. Y. L., Liu, Y., **Wang, S.**, Yan, S., Lin, L., Cheong, P. K., Ip, K. L., Peng, Y., Zhu, J., Cheung, C. P., Leung, T. F., Leung, A. S. Y., Tam, W. H., Leung, T. Y., Chan, P. K. S., Chang, E. B., Rubin, D. T., Claud, E. C., Wu, W. K. K., Tun, H. M., Chan, F. K. L., & Ng, S. C. (2025). Impacts of COVID-19 pandemic on early life gut microbiome. *Gut Microbes*, 17(1), 2443117. doi:10.1080/19490976.2024.2443117. [IF<sub>2023</sub> = 12.2]
7. Xu, W., Zhang, Y., Chen, D., Huang, D., Zhao, Y., Hu, W., Lin, L., Liu, Y., **Wang, S.**, Zeng, J., Xie, Chuan., Chan, H., Li, Q., Chen, H., Liu, X., Wong, S.H., Chan, F. K. L., Chan, M.T.V., Ng, S. C., Wu, W. K. K\*, & Zhang, L\*. (2024). Elucidating the genotoxicity of Fusobacterium nucleatum-secreted mutagens in colorectal cancer carcinogenesis. *Gut Pathog*, 16(1), 50. doi:10.1186/s13099-024-00640-w. [IF<sub>2023</sub> = 4.3]
8. Peng, Y<sup>^</sup>., Zhang, L<sup>^</sup>., Mok, C. K. P., Ching, J. Y. L., Zhao, S., Wong, M. K. L., Zhu, J., Chen, C., **Wang, S.**, Yan, S., Qin, B., Liu, Y., Zhang, X., Cheung, C. P., Cheong, P. K., Ip, K. L., Fung, A. C. H., Wong, K. K. Y., Hui, D. S. C., Chan, F. K. L., Ng, S. C\*, & Tun, H. M\*. (2023). Baseline gut microbiota and metabolome predict

- durable immunogenicity to SARS-CoV-2 vaccines. *Signal Transduction and Targeted Therapy*, 8(1), 373. [IF<sub>2023</sub> = 40.8]
9. Wong, M. C. S<sup>^</sup>, Zhang, L<sup>^</sup>, Ching, J. Y. L., Mak, J. W. Y., Huang, J., Wang, S., Mok, C. K. P., Wong, A., Chiu, O. L., Fung, Y. T., Cheong, P. K., Tun, H. M., Ng, S. C<sup>\*</sup>, & Chan, F. K. L<sup>\*</sup>. (2023). Effects of Gut Microbiome Modulation on Reducing Adverse Health Outcomes among Elderly and Diabetes Patients during the COVID-19 Pandemic: A Randomised, Double-Blind, Placebo-Controlled Trial (IMPACT Study). *Nutrients*. 15(8):1982. doi: 10.3390/nu15081982. [IF<sub>2023</sub> = 4.8]
  10. Zhang, X., Wang, S. Wu, Y., Liu, X., Wang, J., & Han, D. (2022). Ellagic acid alleviates diquat-induced jejunal oxidative stress in C57BL/6 mice through activating Nrf2 mediated signaling pathway. *Nutrients*, 14(5), 1103. [IF<sub>2023</sub> = 4.8]
  11. Pang, J., Wang, S. Wang, Z., Wu, Y., Zhang, X., Pi, Y., ... & Wang, J. (2021). Xylo-oligosaccharide alleviates Salmonella induced inflammation by stimulating Bifidobacterium animalis and inhibiting Salmonella colonization. *The FASEB Journal*, 35(11), e21977. [IF<sub>2023</sub> = 4.4]
  12. Hu, J., Ye, H., Wang, S. Wang, J., & Han, D. (2021). Prophage activation in the intestine: insights into functions and possible applications. *Front. Microbiol.* 12, 785634. [IF<sub>2023</sub> = 4.0]
  13. Wu, Y., Zhang, X., Han, D., Pi, Y., Tao, S., Zhang, S., Wang, S. ... & Wang, J. (2021). Early life administration of milk fat globule membrane promoted SCFA-producing bacteria colonization, intestinal barriers and growth performance of neonatal piglets. *Anim. Nutr.* 7: 346–355. [IF<sub>2023</sub> = 6.1]
  14. Liu, C., Huang, S., Wu, Z., Li, T., Li, N., Zhang, B., Han, D., Wang, S. ... & Wang, J. (2021). Cohousing-mediated microbiota transfer from milk bioactive components-dosed mice ameliorate colitis by remodeling colonic mucus barrier and lamina propria macrophages. *Gut Microbes*, 13(1), 1903826. [IF<sub>2023</sub> = 12.2]
  15. Wu, Z., Huang, S., Li, T., Li, N., Han, D., Zhang, B., Xu, Z., Zhang, S., Pang, J., Wang, S. ... & Wang, J. (2021). Gut microbiota from green tea polyphenol-dosed mice improves intestinal epithelial homeostasis and ameliorates experimental colitis. *Microbiome*, 9, 1-22. [IF<sub>2023</sub> = 13.8]
  16. Huang, S., Wu, Z., Liu, C., Han, D., Feng, C., Wang, S. & Wang, J. (2019). Milk fat globule membrane supplementation promotes neonatal growth and alleviates inflammation in low-birth-weight mice treated with lipopolysaccharide. *BioMed research international*, 2019, 4876078. [IF<sub>2023</sub> = 2.6]
  17. Liu, T., Zuo, B., Wang, W., Wang, S. & Wang, J. (2018). Dietary supplementation of leucine in pre-mating diet improves the within-litter birth weight uniformity, antioxidative capability, and immune function of primiparous SD rats. *BioMed Research International*, 2018, 1523147. [IF<sub>2023</sub> = 2.6]

## CONFERENCE ABSTRACTS

18. Wang, S. Liu, Y., Ching, J. Y. L., Leung, T. F., Tam, W. H., Leung, T. Y., Tun, H. M., Chang, E. B., Rubin, D. T., Claud, E. C., Chan, F. K. L., Zhang, L., & Ng, S. C<sup>\*</sup>. Distinct gut microbiome in pregnancy vertically transmitted in infants: Host microbiome implication from MOMmy Cohort. **The 6th Korea Digestive Disease Week 2022, Korea**
19. Wang, S. Liu, Y., Ching, J. Y. L., Leung, T. F., Tam, W. H., Leung, T. Y., Tun, H. M., Chang, E. B., Rubin, D. T., Claud, E. C., Chan, F. K. L., Zhang, L., & Ng, S. C<sup>\*</sup>. Host refined gut microbiome during pregnancy favor bacteria vertical transmission to offspring: the implication from MOMmy Cohort. **The 9th International Human Microbiome Consortium (IHMC) Congress 2022, Kobe, Japan.**
20. Zhang, L<sup>^</sup>, Wang, S. Wong, M. C., Mok, C. K., Ching, J. Y., Mak, J. W., Chan, F. K<sup>\*</sup>, & Ng, S. C<sup>\*</sup>. (2024). 1072 Effect of gut microbiome modulation in enhancing immunogenicity after SARS-COV-2 vaccination in elderly and diabetes patients (IMPACT study). *Gastroenterology*, 166(5), S-252-S-253. **Digestive Disease Week 2024, Washington, D.C., USA**
21. Peng, Y<sup>^</sup>, Zhu<sup>^</sup>, J., Wang, S. Liu, Y<sup>^</sup>, Liu, X., DeLeon, O., Zhu, W., Shilin, Z., Liang, S., Li, H., Ho, B. W., Ching, J. Y., Cheung, C., Chang, E. B., Chan, F. K., Zhang, L<sup>\*</sup>, Ng, S. C<sup>\*</sup>, & Tun, H. M<sup>\*</sup>. (2024). Sa2039 Novel keystone species of gut bacteriome and virome in early life are altered in preterm infants and implicated in childhood diseases. *Gastroenterology*, 166(5), S-615. **Digestive Disease Week 2024, Washington, D.C., USA**
22. Liu, Y., Wang, S. Xu, W., Ching, J. Y., Cheung, C., Hu, J., Zhan, H., Ip, K. L., Cheong, P. K., Leung, T. F., Tam, W. H., Leung, T. Y., Tun, H. M., Chang, E., Rubin, D. T., Sun, Y., Luo, W., Miao, Y., Chen, G., Chan, F. K. L., Ng, S. C<sup>\*</sup>, & Zhang, L<sup>\*</sup>. (2024). 1158 The impact of food additive intake and altered gut microbiome on perinatal health: data from 3 regions in China from the MOMMY cohort. *Gastroenterology*, 166(5), S-272-S-273. **Digestive Disease Week 2024, Washington, D.C., USA**

23. Tun, H. M<sup>^</sup>, Zhang, L<sup>^</sup>, Zhu, J., Peng, Y., Lin, L., Ching, J. Y., Cheung, C., **Wang, S.**, Xu, W., Ip, K. L., Cheong, P. K., Liu, Y., Shuai, Y., Tam, W. H., Leung, T. F., Sun, Y., Luo, W., Agrawal, M., Peter, I., Colombel, J. F., Miao, Y., Chen, G., Chan, F. K., & Ng, S. C\*. (2024). Sa1854 Altered faecal and breastmilk microbiome and vertical bacteria strain sharing between pregnant women with inflammatory bowel disease and their infants (MOMMY-IBD). *Gastroenterology*, 166(5), S-552. **Digestive Disease Week 2024, Washington, D.C., USA**
24. Zhang, L<sup>^</sup>, Liu, Y<sup>^</sup>, Lin, L., Ching, J. Y., Cheung, C. P., Zhu, J., Ip, K. L., Cheong, P. K., **Wang, S.**, Xu, W., Hu, J., Leung, T. F., Tam, W. H., Leung, T. Y., Luo, W., Chen, G., Miao, Y., Sun, Y., Tun, H. M., Chan, F. K., & Ng, S. C\*. (2024). 659 Impact of maternal food additive on gut microbiome and vertical bacteria strain sharing between women with IBD and their infants (MOMMY-IBD study). *Gastroenterology*, 166(5), S-156-S-157. **Digestive Disease Week 2024, Washington, D.C., USA**
25. Zhang, L<sup>^</sup>, Xu, W<sup>^</sup>, Meng, H. Y. H<sup>^</sup>, Liu, Y., **Wang, S.**, Ching, J. Y., Cheung, C. P., Leung, T. F., Leung, A. S., Tam, W. H., Leung, T. Y., Chan, P. K., Tun, H. M., Chang, E. B., Rubin, D. T., Claud, E. C., Chan, F. K\*, & Ng, S. C\*. (2023). 874 The impact of COVID-19 on early life gut microbiome: implications from two independent mother-baby dyad cohorts in the greater bay area of China. *Gastroenterology*, 164(6), S-194. **Digestive Disease Week 2023, Chicago, USA**

#### ACADEMIC REFEREES

<p><b>Prof. Lin Zhang</b> Assistant Professor Department of Anaesthesia and Intensive Care, Faculty of Medicine, The Chinese University of Hong Kong</p> <p>Lead Scientist Microbiota I-Center (MagIC)</p> <p>Principal Investigator Li Ka Shing Institute of Health Sciences The Chinese University of Hong Kong</p> <p><b>Email:</b> linzhang@cuhk.edu.hk <b>Tel:</b> +852 3979-8631 (Office) <b>Fax:</b> +852 2637-2422 <b>Address:</b> Room 1307,17W, Science park Avenue, Shatin, NT, Hong Kong</p>	<p><b>Prof. Siew C. Ng</b> Professor Department of Medicine &amp; Therapeutics, Faculty of Medicine, The Chinese University of Hong Kong</p> <p>Director Microbiota I-Center (MagIC)</p> <p>Croucher Professor in Medical Sciences Assistant Dean (Development), Faculty of Medicine</p> <p><b>Email:</b> siewchiennng@cuhk.edu.hk <b>Tel:</b> + 852 3505-1506 (Office) <b>Fax:</b> + 852 2637-3852 <b>Address:</b> 9/F, Lui Che Woo Clinical Sciences Building, Prince of Wales Hospital, Shatin, NT, Hong Kong</p>
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