

Professor JIA Wei 賈偉教授

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Professor Jia Wei obtained his M.S. in Radiopharmaceutical Science from University of Missouri, Columbia, USA, in 1991, and his Ph.D. from the same institution in 1996. He served as Full Professor and Executive Vice Dean at College of Pharmaceutical Science of Tianjin University in 2001, and as Full Professor and Associate Dean for Research at School of Pharmacy of Shanghai Jiao Tong University in 2003. He subsequently held tenured Full Professor positions at The University of North Carolina in 2008 and University of Hawaii in 2013. In 2019, he was appointed Chair Professor and Director of the Hong Kong Traditional Chinese Medicine Phenome Research Centre at School of Chinese Medicine of Hong Kong Baptist University. In 2023, he was elected as a member of Academia Europaea in the Physiology and Neuroscience Section. He currently serves as Chair Professor in Department of Pharmacology and Pharmacy of Li Ka Shing Faculty of Medicine at The University of Hong Kong, and concurrently as Professor and Director of the Translational Medicine Center at Shanghai Sixth People's Hospital.

Professor Jia's research focuses on metabolomics and gut microbiome-host metabolic interactions in translational medicine, including metabolic diseases, tumor metabolism, and drug discovery. Since 2003, he has established an internationally leading mass spectrometry-based metabolomics platform and directed multiple NIH-funded projects on gut microbiome and liver diseases. In 2007, he served as Chief Scientist for the National 973 Program on "Protein Function and Metabolomics Research in Metabolic Diseases". In 2013, his research on melamine-gut bacteria interactions causing renal toxicity was selected as one of the top ten global scientific breakthroughs by *Science*. In 2021, he developed the world's first quantitative, automated metabolite array for high-throughput profiling, now widely adopted globally. In 2023, his metabolite-based diagnostic test for liver fibrosis received NMPA approval and is extensively used across China. He has published extensively in high-impact journals and led numerous translational medicine research programmes.

賈偉教授於 1991 年在美國密蘇里大學哥倫比亞分校獲放射藥學碩士學位，1996 年獲同校博士學位。2001 年任天津大學藥學院正教授及常務副院長，2003 年任上海交通大學藥學院正教授及科研副院長。2008 年及 2013 年先後在美國北卡羅來納大學及夏威夷大學任終身正教授。2019 年任香港浸會大學中醫藥學院講座教授及香港中醫藥表型組學研究中心主任。2023 年當選歐洲科學院生理學與神經科學部院士。現任香港大

學李嘉誠醫學院藥理及藥劑學系終身講席教授，兼任上海交通大學醫學院附屬第六人民醫院教授及轉化醫學中心主任。

賈教授主要從事代謝組學及腸道微生物－宿主代謝作用的技術研發，並致力於其在轉化醫學中的應用，包括代謝性疾病和腫瘤的代謝機制，以及新藥發現。自 2003 年起，賈教授建立了國際領先的基於質譜代謝組學技術分析平台，並主導多項由美國國家衛生院資助的腸道微生物與肝病研究項目。2007 年擔任國家科技部重大科學研究 973 計劃「代謝性疾病的蛋白質功能和代謝組學研究」首席科學家。2013 年，其關於三聚氰胺與腸道細菌相互作用致腎毒性的突破性研究獲《科學》期刊評為年度全球十大科技突破之一。2021 年，賈教授成功研發全球首個用於高通量分析的定量自動化代謝物晶片陣列，並在全球廣泛應用。2023 年，其基於代謝物的肝纖維化診斷檢測獲國家藥品監督管理局批准，現已在中國廣泛使用。賈教授在國際高影響力期刊發表大量學術論文，主導眾多轉化醫學研究項目。

Selected Publications 精選出版物

1. Zheng ZM, Yuan FW, Li JM, Zhu XX, Jia R, Wei J, Jia FJ, Hou XX, Zhang ZZ, Wang Y, Ma YL, **Jia W***, Zhao L*. Gut Microbiota-Bile Acid Axis Regulates Colorectal Cancer Liver Metastasis via TIMP1-mediated Neutrophil Recruitment. *Cancer Research* (IF = 16.6), 2025.
2. Zhao ML, Ren ZX, Zhao AH, Tang YJ, Kuang JL, Li MC, Chen TL, Wang SL, Wang JY, Zhang HH, Wang JJ, Zhang TH, Zeng JH, Liu XH, Xie GX, Liu PH, Sun N, Bao TH, Nie TT, Lin JC, Liu P, Zheng YY, Zheng XJ*, Liu TM*, **Jia W***. Gut bacteria-driven homovanillic acid alleviates depression by modulating synaptic integrity. *Cell Metabolism* (IF = 29.0), 36(5), 1000-1012, 2024.
3. Zhu YH, Jian XX, Chen SP, An G, Jiang DF, Yang Q, Zhang JY, Hu J, Qiu Y, Feng XL, Guo JJ, Chen X, Li ZJ, Zhou RQ, Hu C, He NH, Shi FM, Huang SQ, Liu H, Li X, Xie L, Zhu Y, Zhao L, Jiang YC, Li J, Wang JN, Qiu LG, Chen X, **Jia W***, He YJ*, Zhou W*. Targeting gut microbial nitrogen recycling and cellular uptake of ammonium to improve bortezomib resistance in multiple myeloma. *Cell Metabolism* (IF = 29.0), 39(1), 159-175.e8, 2024.
4. Zheng D, Zhang HH, Zheng XJ, Zhao AH, **Jia W***. Novel Microbial Modifications of Bile Acids and Their Functional Implications. *iMeta* (IF = 23.7), 2024; e243. doi.org/10.1002/imt2.243.
5. Kuang JL, Zheng XJ, **Jia W***. Investigating Regional-Specific Gut Microbial Distribution: An Uncharted Territory in Disease Therapeutics. *Protein & Cell* (IF = 13.6), 10.1093/procel/pwae058, 2024.
6. Wang CQ, Wang L, Zhao Q, Ma J, Li YT, Kuang JL, Yang XT, Bi HC, Lyu AP, Cheung KCP*, Melino G*, **Jia W***. Exploring Fructose Metabolism as a Potential Therapeutic Approach for Pancreatic Cancer. *Cell Death and Differentiation* (IF = 13.7), doi.org/10.1038/s41418-024-01394-3, 2024.
7. Zhao Q, Han B, Wang L, Wu J, Wang SL, Ren ZX, Wang SL, Yang HN, Carbone M, Dong CS, Melino G*, Chen WL*, **Jia W***. AKR1B1-dependent fructose

- metabolism enhances malignancy of cancer cells. *Cell Death and Differentiation* (IF = 13.7), doi.org/10.1038/s41418-024-01393-4, 2024.
8. Xing Jin, Lei Liu, Dan Liu, Jia Wu, Congcong Wang, Siliang Wang, Fengying Wang, Guanzhen Yu, Xiaoxia Jin, Yu-Wen Xue, Dan Jiang, Yan Ni, Xi Yang, Ming-Song Wang, Zhi-Wei Wang, Yuriy L. Orlov, **Jia W***, Melino G*, Liu JB*, Chen WL*. Unveiling the methionine cycle: a key metabolic signature and NR4A2 as a methionine-responsive oncogene in esophageal squamous cell carcinoma. *Cell Death and Differentiation* (IF = 13.7), Pub Date: 2024-04-03, DOI:10.1038/s41418-024-01285-7, 2024.
 9. Chen TL, Wang L, Xie GX, Kristal BS, Zheng XJ, Sun T, Arnold M, Louie G, Li MC, Wu LR, Mahmoudiandehkordi S, Sniatynski MJ, Borkowski K, Guo QH, Kuang JL, Wang JY, Nho K, Ren ZX, Kueider-Paisley A, Blach C, Kaddurah-Daouk R, **Jia W***, Alzheimer's Disease Neuroimaging Initiative (ADNI) and the Alzheimer Disease Metabolomics Consortium (ADMC). Serum Bile Acids Improve Prediction of Alzheimer's Progression in a Sex-Dependent Manner. *Advanced Science* (IF = 17.521), 11(9), 2306576, 2024.
 10. Ren ZX, Zhao L, Zhao ML, Bao TH, Chen TL, Zhao AH, Zheng XJ, Gu XR, Sun T, Guo YH, Tang YJ, Xie GX, **Jia W***. Increased intestinal bile acid absorption contributes to age-related cognitive impairment. *Cell Reports Medicine* (IF = 16.988), 101543, 2024.
 11. Chen TL, Pan FF, Huang Q, Xie GX, Chao XW, Wu LR, Wang J, Cui L, Sun T, Li MC, Wang Y, Guan YH, Zheng XJ, Ren ZX, Guo YH, Wang L, Zhou KJ, Zhao AH, Guo QH, Xie F, **Jia W***. Metabolic dysregulation in Alzheimer's disease: emerging role of ammonia abnormality. *Nature Communications* (IF = 17.694), 15(1), 3796, 2024.
 12. Li DP, Wan MJ, Xue LF, Zhang ZL, Qiu YF, Mei FY, Tang NX, Chen CX, Yu Y, Chen TQ, Gu P, **Jia W***, Chen Y*, Chen P*. Zinc promotes microbial p-coumaric acid production and protects against cholestatic liver injury. *Cell Host & Microbe* (IF = 20.1), 32(12), 2195-2211.e9, 2024.
 13. Han B, Shi L, Bao MY, Yu FL, Zhang Y, Lu XY, Wang Y, Li DX, Lin JC, **Jia W***, Li X*, Zhang Y*. Dietary ellagic acid therapy for CNS autoimmunity: Targeting on *Alloprevotella rava* and propionate metabolism. *Microbiome* (IF = 13.8), 12(1), 114, 10.1186/s40168-024-01819-8, 2024.
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 15. Zhai LX, Xiao HT, Lin CY, Wong HLX, Lam YY, Gong MX, Wu GJ, Ning ZW, Huang CH, Zhang YJ, Yang C, Luo JY, Zhang L, Zhao L, Zhang CH, Lau JYN, Lu AP, Lau LT, **Jia W***, Zhao LP*, Bian ZX*. Gut microbiota-derived tryptamine and phenethylamine impair insulin sensitivity in metabolic syndrome and irritable bowel syndrome. *Nature Communications* (IF = 17.694), 14(1), 4986, 2023.
 16. Li JX, Chen YQ, Li R, Zhang XL, Chen T, Mei FY, Liu RF, Chen ML, Ge Y, Hu HB, Wei RJ, Chen ZF, Fan HY, Zeng ZH, Deng YQ, Luo HH, Hu SW, Cai SM, Wu F, Shi NX, Wang Z, Zeng YN, Xie M, Jiang Y, Chen ZQ, **Jia W***, Chen P*. Gut microbial metabolite hyodeoxycholic acid targets TLR4/MD2 complex to

- attenuate macrophage pro-inflammatory activity and protect against sepsis. *Molecular Therapy* (IF = 12.40), 10.1016/j.ymthe.2023.01.018, 2023.
17. Li MC, Wang SL, Li YT, Zhao ML, Kuang JL, Liang DD, Wang JY, Wei ML, Rajani C, Ma XR, Tang YJ, Ren ZX, Chen TL, Zhao AH, Hu C, Shen CX, Jia WP, Liu P, Zheng XJ, **Jia W***. Gut microbiota-bile acid crosstalk contributes to the rebound weight gain after calorie restriction in mice. *Nature Communications* (IF = 17.694), 13(1), 2060, doi.org/10.1038/s41467-022-29589-7, 2022.
 18. Wang SL, Kuang JL, Zhang HW, Chen WL, Zheng XJ, Wang JY, Huang FJ, Ge K, Li MC, Zhao ML, Rajani C, Zhu JS, Zhao AH, **Jia W***. Bile acid-microbiome interaction promotes gastric carcinogenesis. *Advanced Science* (IF = 17.521), 9(16), 10.1002/advs.2200263, 2022.
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Nature Communications (IF = 12.353), 10, 4971, 10.1038/s41467-019-12896-x, 2019.

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28. Chen, W.L., Wang, Y.Y., Zhao, A.H., Xia, L., Xie, G.X., Su, M.M., Zhao, L.J., Liu, J.J., Qu, C., Wei, R.M., Rajani, C., Ni, Y., Cheng, Z., Chen, Z., Chen, S.J., **Jia, W.*** Enhanced fructose utilization mediated by SLC2A5 is a unique metabolic feature of acute myeloid leukemia with therapeutic potential. *Cancer Cell* (IF = 27.407), 30(5), 779-791, 2016.
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31. Nicholson, J.K., Holmes, E., Kinross, J., Burcelin, R., Gibson, G., **Jia, W.**, Pettersson, S. Host-Gut Microbiota Metabolic Interactions. *Science* (IF = 31.364), 336(6086): 1262-7, 2012.