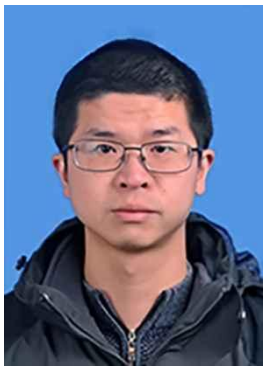
Resume of Prof. Kao WU

Basic Information



School :	School of Life and Health Sciences
Gender：	Male
Date of Birth：	1988.02
Title：	Professor
Education：	Ph. D
Tutor：	Master degree
Interest of research:	Food soft matter structure and function

Academic Background

2011.01-2015.11	The University of Hong Kong	**Ph. D** in *Food Nutrition and Sciences*, Supervisor: Prof. Harold Corke
2006.09-2010.06	Huazhong Agricultural University	**Bachelor** in *Food Science and Engineering*, Supervisor: Prof. Siming Zhao

Oversea visiting

2014.07-2014.09	The University of Auckland	**Visiting Ph. D student** Supervisor: Dr. Fan Zhu
2013.09-2013.11	Kuwait University	**Visiting Ph. D student** Supervisor: Prof. Peter Lucas

Enrollment Information

Enrollment Discipline：	**M.Sc.** in *Food Science* and **M.Eng.** in *Biology and Medicine*
Research direction：	Food soft matter structure and function
Enrollment Year：	2023-2024

Representative Projects

Funding Agency	Project Title	Role
NSFC Young Scientist Fund	Investigation on water activity responsiveness of mechanical properties of konjac glucomannan-based	**Principal Investigator**

	self-assembled composites	
Hubei Provincial Department of Human Resources and Social Security	Study on the water activity response of the konjac glucomannan - curdlan - collagen structural assembly composites	**Principal Investigator**
Hubei University of Technology	Study on the water activity response of konjac glucomannan - protein composite film	**Principal Investigator**
Wuhan Danyaxiang Biotechnology co., Ltd	Study on environmental-friendly lining paper with high barrier property based on small molecule diffusion theory	**Principal Investigator**
NSFC General Program	Study on evaluation method and instrument for the characterization of compatibility and self-assembly structural stability of soft matters in food	Participator
NSFC General Program	Study on the analysis method of water content and dynamic water transfer in food systems with complex composition and structure	Participator
NSFC Young Scientist Fund	Effects of interfacial tension on the construction process and core-shell structure of monodisperse microcapsules	Participator
Key Research and Development Program of Hubei province	Research and development of nutritious food for people with dysphagia	Participator
Technology Innovation Project of Hubei Province (Major program)	Study on the preparation and adsorption properties of plant polysaccharides air-purifying aerogel	Participator

Representative publications (* represents corresponding author(s))

[1] **Wu, K.**, Zhu, D., Zeng, Y., Cheng, J., Wang, R., Peng, B., Chen, K., Deng, P., Jiang, F.*, &

Zhao, X. (2024). Impact of anthocyanin extract sources on the physical properties and pH sensitivity of konjac glucomannan/zein composite film. *Food and Bioprocess Technology*, in press.

[2] **Wu, K.**, Tao, Y., Cheng, J., Zeng, Y., Wang, R., Yan, X., Jiang, F.*, Chen, S.*, & Zhao, X. (2024). Impacts of konjac glucomannan on the pasting, texture, and rheological properties of potato starch with different heat–moisture treatments. *Starch - Stärke*, in press.

[3] Zeng, Y., Li X., **Wu, K.***, Xiao, M., Jiang, F. (2024). Research progress in enhancing hydrophobicity of polysaccharide-based degradable film, *Journal of Wuhan Insititute of Technology*, 46(01), 55-60.

[4] **Wu, K.**, Yan, X., Zhu, D., Tao, Y., Zeng, Y., Li, X., Sun, W., Qian, H., Jiang, F.*, & Chen, S.* (2023). Formation and characterization of konjac glucomannan/ethyl cellulose films by using ethanol and water as the solvents. *International Journal of Biological Macromolecules*, 241, 124629.

[5] **Wu, K.**, Ye, Z., Cheng, J., Zeng, Y., Wang, R., Sun, W., Kuang, Y., Jiang, F.*, Chen, S.*, & Zhao, X. (2023). Excellent thermal insulation and flame retardancy property of konjac glucomannan/sodium alginate aerogel reinforced by phytic acid. *Industrial Crops and Products*, 205, 117495.

[6] **Wu, K.**, Wang, R., Ye, Z., Tao, Y., Wu, H., Sun, W., Cheng, J., Kuang, Y., Jiang, F.*, & Chen, S.* (2023). The optimization of thermal insulation-related properties of polysaccharide-based aerogel by the multi-layer combination method. *Journal of Porous Materials*, 30(5), 1449-1458.

[7] **Wu, K.***, & Xu, Z. (2023). Microwave Treatment. In Z. Sui & X. Kong (Eds.), *Physical Modifications of Starch,* (pp. 145-167). Singapore: Springer Nature Singapore.

[8] **Wu, K.**, Wu, H., Wang, R., Yan, X., Sun, W., Liu, Y., Kuang, Y., Jiang, F.*, & Chen, S.* (2022). The use of cellulose fiber from office waste paper to improve the thermal insulation-related property of konjac glucomannan/starch aerogel. *Industrial Crops and Products*, 177, 114424.

[9] **Wu, K.,** Li, X., Yan, X., Wan, Y., Miao, L., Xiao, M., Jiang, F.*, & Chen, S.* (2022). Impact of curdlan addition on the properties of konjac glucomannan/ethyl cellulose composite films. *Starch - Stärke*, 74(1-2), 2100194.

[10] Xiao, M., Luo, L., Tang, B., Qin, J., **Wu, K.***, & Jiang, F.* (2022). Physical, structural, and water barrier properties of emulsified blend film based on konjac glucomannan/agar/gum Arabic incorporating virgin coconut oil. *LWT*, 154, 112683.

[11] Yan, X., Tao, Y., Ye, Z., Zhu, D., Xiao, M., **Wu, K.*** (2022)**.** Preparation and characterization of konjac glucomannan/ethyl cellulose/zein composite film， *Science and Technology of Food Industry*, 44(02), 285-292.

[12] **Wu, K.**, Wan, Y., Li, X., Qian, H., Xiao, M., Ni, X., Jiang, F.*, & Chen, S.* (2021). Impact of heating and drying temperatures on the properties of konjac glucomannan/curdlan blend films.

International Journal of Biological Macromolecules, 167, 1544-1551.

[13] **Wu, K.,** Fang, Y., Wu, H., Wan, Y., Qian, H., Jiang, F.*, & Chen, S.* (2021). Improving konjac glucomannan-based aerogels filtration properties by combining aerogel pieces in series with different pore size distributions. *International Journal of Biological Macromolecules*, 166, 1499-1507.

[14] Fang, Y., Wang, W., Qian, H., **Wu, K.***, Xiao, M., Ni, X., Jiang, F., & Chen, S*. (2020). Regular film property changes of konjac glucomannan/mung bean starch blend films. *Starch - Stärke*, 72(5-6), 1900149.

[15] W**u, K.**, Zhu, Q., Qian, H., Xiao, M., Corke, H., Nishinari, K., & Jiang, F.* (2018). Controllable hydrophilicity-hydrophobicity and related properties of konjac glucomannan and ethyl cellulose composite films. *Food Hydrocolloids*, 79, 301-309.

[16] **Wu, K.**, Gunaratne, A., Gan, R., Bao, J., Corke, H., & Jiang, F.* (2018). Relationships between cooking properties and physicochemical properties in brown and white rice. *Starch - Stärke*, 70(5-6), 1700167.

[17] **Wu, K.**, Dai, S., Gan, R., Corke, H., & Zhu, F.* (2016). Thermal and rheological properties of mung bean starch blends with potato, sweet potato, rice, and sorghum starches. *Food and Bioprocess Technology*, 9(8), 1408-1421.

[18] **Wu, K.**, Gan, R., Dai, S., Cai, Y. Z., Corke, H., & Zhu, F.* (2016). Buckwheat and millet affect thermal, rheological, and gelling properties of wheat flour. *Journal of Food Science*, 81(3), E627-636.

[19] **Wu, K.***, Lucas, P. W., Gunaratne, A., Collado, L. S., Corke, H., Almusallam, A. S., & Thai, L. A. (2016). Indentation as a potential mechanical test for textural noodle quality. *Journal of Food Engineering*, 177, 42-49.

[20] **Wu, K.***, Gunaratne, A., Collado, L. S., Corke, H., & Lucas, P. W. (2015). Adhesion, cohesion, and friction estimated from combining cutting and peeling test results for thin noodle sheets. *Journal of Food Science*, 80(2), E370-E376.