



Yuanjia HU

Professor

Director of Centre for Pharmaceutical Regulatory
Sciences

Associate Head (Department of Public Health and
Medicinal Administration)

Academic Qualifications

- BSc, MSc, China Pharmaceutical University
- MSc, PhD (Hon), University of Macau
- Guest Researcher, Austrian Institute of Technology

Teaching

- Introduction to Research in Medical Administration (CMED7006-001)
- Research Methodology (CMED7021-001)
- Advanced topics in Medicinal Administration (CMED8011-001)
- Health Systems and Policy (HSCI7008)
- Pharmacy Administration (HSCI3014)

Research Interests

- Medical data mining
- Complex systems analysis
- Pharmaceutical innovation management

Dr. Hu has trained and supervised more than 50 PhD, MS and postdoctoral students. In terms of the increasing importance of multidisciplinary collaborations in a changing knowledge world, students and researchers majored in Pharmacy, Chinese Medicines, Biotechnology, Bioinformatics, Computer Science, Economics, Management, or related subjects are highly encouraged to apply for PhD program, Master program, Postdoctoral Fellow, or Research Assistantship to join our research team. For further information, please contact Dr. Hu at yuanjiahui@um.edu.mo.

Major Research Projects

- Patenting antibodies: toward the welfare-maximizing strategies for biomedical patents, MYRG-CRG2023-00007-ICMS-IAS, 2024-2025, PI.
- Global patent pattern analysis in optogenetics, Tianjin Institute of Industrial Biotechnology, Chinese Academy of Sciences, 2024, PI.
- Model based investigation on the quantitative relationship between the types of oral antidiabetic drugs and the improvement of BCF/S in people with diabetes and impaired glucose tolerance, Peking University Third Hospital, 2024, PI.
- Generating patent compound-based molecular libraries for drug discovery with recurrent neural networks, MYRG2022-00103-ICMS, 2023-2024, PI.
- Feasibility study for Macao medical devices to enter the EU market, Pharmaceutical Administration Bureau of Macau SAR, 2023, PI.
- Systematic identification of quality control markers of Chinese medicines by network pharmacology, State Key Laboratory of Quality Research in Chinese Medicine (UM), 2023, PI.
- Feasibility study on Macao's registered proprietary Chinese medicines entering the ASEAN market, Pharmaceutical Administration Bureau of Macau SAR, 2022-2023, PI.
- Generating natural product-like libraries for drug discovery with autoencoder based recurrent neural networks, State Key Laboratory of Quality Research in

Chinese Medicine (UM), 2022, PI.

- Data mining and molecular generation of small molecule inhibitor patent compounds, UM–Dr. Stanley Ho Medical Development Foundation, 2022, PI.
- HER2 target technology scan and drug launch trend analysis, Enterprise Project, 2021-2023, PI.
- Research on advanced development of Yuanhu Zhitong Koufuye and Gan Wei Kang Pian, Enterprise Project, 2021-2023, PI.
- Medical technological scanning and policy dynamics analysis, Enterprise Project, 2021-2024, PI.
- A network pharmacology-based study on the quality control markers of antithrombotic herbs: Using *Salvia miltiorrhiza* and its herbal pairs as examples, University of Macau, 2020-2021, PI.
- Research on access and regulation system of traditional Chinese medicine in Cape Verde, Enterprise Project, 2020-2021, PI.
- The development of new anti-ischemic indication of Liuqing Toutong Pian, Science and Technology Bureau of Shanxi, 2019-2022, Co-I.
- Simulation of regional knowledge creation in EU and China, Austrian Science Fund, 2019-2022, Co-I.
- Screening of antithrombotic natural products by network analysis and bio-affinity extraction, University of Macau, 2017-2019, PI.
- Research about material basis and combination principles of Zengye-Tang for the treatment of diabetes based on complex network system of "ingredient-target-effect", The National Natural Science Foundation of China, 2016-2019, Co-I.
- The cooperative construction of a big data platform for Chinese Medicine, Enterprise Project, 2017-2019, Co-I.

- Research on material basis and combination principles of Shengmai-San similar formulas for the treatment of coronary heart disease based on complex networks of "ingredient-target-effect", The Science and Technology Development Fund of Macao, 2016-2018, PI.
- Narrowing the gap between bench and bedside: Reexamining China's pharmaceutical innovation, University of Macau, 2015-2018, PI.
- Studies of active ingredients from anti-Alzheimer's Chinese herbal formulae by network analysis and pharmacological examinations, University of Macau, 2015-2018, PI.
- Finding communities in Chinese drug innovation networks: Characteristics, determinants and strategies, University of Macau, 2012-2015, PI.
- Global pharmaceutical innovation networks: A quantitative study based on U.S. drug patents, University of Macau, 2011-2012, PI.
- Innovation and economic value of pharmaceuticals: evidence from patent statistics, University of Macau, 2011, PI.

Selected Publications

- Over 200 peer-reviewed publications (* corresponding author)
- For more details, please see the linkage,
<https://scholar.google.com/citations?user=Xh2eRIMAAAAJ&hl=en>.

Journal Articles

- 1 D. Y. Zhang, L. Y. Lyu, S. H. J. Q. Xu, G. Hu, Q. Zhao, **Y. J. Hu***, Profiling targets and potential target pairs of CAR-T cell therapy in clinical trials.
International Immunopharmacology, 126: 11273, 2024
- 2 B. Q. He, W. Q. Guo, R. Z. Shi, R. D. Hoffman, Q. H. Luo, **Y. J. Hu***, J. L. Gao*, Ruyong formula improves thymus function of CUMS-stimulated breast cancer mice. *Journal of Ethnopharmacology*, 319(Pt 1), 117164, 2024.

- 3 Q. Li, J. Xu, Q. Sun, Z. Zhang, **Y. J. Hu***, H. Yao*, The global patent landscape of HER2-targeted biologics, *Nature Biotechnology*, 41(6):756-764, 2023.
- 4 J. Yang, J. Yang, **Y. J. Hu***, Characteristics of clinical trials of new oncology drugs approved in China. *Cancer*, Advance online publication. <https://doi.org/10.1002/cncr.35106>, 2023
- 5 G. Y. Chen, L. X. Chen, J. Gao, C. Y. Chen, J. L. Guan, Z. M. Cao, **Y. J. Hu***, F. Q. Yang*, A Novel Molecularly Imprinted Sensor Based on CuO Nanoparticles with Peroxidase-like Activity for the Selective Determination of Astragaloside-IV, *Biosensors*, 13(11):959, 2023
- 6 C. N. Liu, W. Y. Lai, M. D. Zhao, Y. X. Zhang, **Y. J. Hu***, Association between the Composite Dietary Antioxidant Index and Atherosclerotic Cardiovascular Disease in Postmenopausal Women: A Cross-Sectional Study of NHANES Data, 2013-2018. *Antioxidants*, 12(9):1740, 2023.
- 7 J. Yang, H. M. Kang, L. Y. Lyu, W. Xiong, **Y. J. Hu***, A target map of clinical combination therapies in oncology: an analysis of clinicaltrials.gov, *Discover Oncology*, 14(1):151, 2023.
- 8 D. Y. Zhang, W. Q. Cui, L. Hou, J. Yang, L. Y. Lyu, Z. Y. Wang, K. G. Linghu, W. B. He, H. Yu, **Y. J. Hu***, Expanding potential targets of herbal chemicals by node2vec based on herb-drug interactions, *Chinese Medicine*, 18(1):64, 2023.
- 9 J. Q. Xu, S. B. Su, C. Y. Chen, J. Gao, Z. M. Cao, J. L. Guan, L. X. Xiao, M. M. Zhao, H. Yu*, **Y. J. Hu***, Mechanisms of Ganweikang Tablets against Chronic Hepatitis B: A Comprehensive Study of Network Analysis, Molecular Docking, and Chemical Profiling, *Biomed Research International*, 2023:8782892, 2023.
- 10 Y. Zhao, S. P. Wang, **Y. J. Hu***, Y. T. Wang*, Investigating Key Targets of Dajianzhong Decoction for Treating Crohn's Disease Using Weighted Gene Co-Expression Network, *Processes*, 11(1):112, 2023.

- 11 X. J. Kong, H. L. Zuo, H. D. Huang, Q. R. Zhang, J. Y. Chen, C. W. He, **Y. J. Hu***, STING as an emerging therapeutic target for drug discovery: Perspectives from the global patent landscape, *Journal of Advanced Research*, 44:119-133, 2023.
- 12 C. N. Liu, M. D. Zhao, Y. H. Zhao, **Y. J. Hu***, Association between serum total testosterone levels and metabolic syndrome among adult women in the United States, NHANES 2011-2016, *Frontiers in Endocrinology*, 14:1053665, 2023.
- 13 S. Li*, J. X. Chen, **Y. J. Hu**, M. Ye, Editorial: Network pharmacology and AI, *Journal of Ethnopharmacology*, 307:116260, 2023.
- 14 Y. T. Lang, Q. Q. Chai, Y. H. Liao, X. Y. Liu*, **Y. J. Hu***, Comparison of evaluation system for clinical value of antineoplastic agents at home and abroad, *China Pharmacy*, 11:1287-1294, 2022. (in Chinese)
郎驊天, 柴青青, 廖雅慧, 劉曉琰, 胡元佳, 國內外抗腫瘤藥物臨床價值評估體系比較, *中國藥房*, 11:1287-1294, 2022.
- 15 Z. H. Chen, Y. Zhang, M. Wang, M. S. Islam, P. Liao, **Y. J. Hu**, X. Chen*, Humoral and Cellular Immune Responses of COVID-19 vaccines against SARS-Cov-2 Omicron variant: A systemic review, *International Journal of Biological Sciences*, 18(12):4629-4641, 2022.
- 16 C. O. L. Ung, **Y. J. Hu**, H. Hu, Y. Bian*, Investigating the intention to receive the COVID-19 vaccination in Macao: Implications for vaccination strategies, *BMC Infectious Diseases*, 22(1):218, 2022.
- 17 Q. Zhang, Y. X. Yang, Y. Xiao, F. Q. Wang, **Y. J. Hu**, Z. N. Xia, F. Q. Yang*, Combination of Platelet Bio-Specific Extraction and High-performance Liquid Chromatography with Diode-Array Detection/Liquid Chromatography-Mass Spectrometry Method for Analyzing Platelet-targeted Compounds in Rhizoma Chuanxiong, *Pharmacognosy Magazine*, 18(78):427-434, 2022.

- 18 J. W. Wang, X. J. Kong, L. F. Hu, **Y. J. Hu***, Dry powder inhalers: A patent review, *Journal of Drug Delivery Science and Technology*, 74:103540, 2022.
- 19 K. M. Liu, X. M. Zhang, **Y. J. Hu**, W. J. Chen, X. J. Kong, P. F. Yao, J. Y. Cong, H. L. Zuo, J. Wang, X. Li, B. Z. Wei*, What, Where, When and How of COVID-19 Patents Landscape: A Bibliometrics Review, *Frontiers in Medicine*, 9:925369, 2022.
- 20 K. M. Liu, J. Yang, J. Deng, X. H. Fan, **Y. J. Hu***, Global Patent Landscape of Benign Prostatic Hyperplasia Drugs, *Urology*, 166:209-215, 2022.
- 21 K. G. Linghu, Q. S. Ma, S. H. Xiong, M. M. Zhao, Q. L. Chen, W. Xu, M. W. Chen, J. Y. Zhang, **Y. J. Hu**, W. Xu*, H. Yu*, The "whole ingredients extract" of Astragali Radix improves the symptoms of dextran sulfate sodium-induced ulcerative colitis in mice through systemic immunomodulation, *Chinese Medicine*, 17(1):109, 2022.
- 22 X. Wang, **Y. J. Hu**, X. Z. Zhou, S. Li*, Network pharmacology and traditional medicine: Setting the new standards by combining In silico and experimental work, *Frontiers in Pharmacology*, 13:1002537, 2022.
- 23 Y. Chen, S. H. Xiong, F. Li, X. J. Kong, D. F. Ouyang, Y. Zheng, H. Yu*, **Y. J. Hu***, Delivery of therapeutic small interfering RNA: The current patent-based landscape, *Molecular Therapy-Nucleic Acids*, 29:150-161, 2022.
- 24 X. Hua, H. J. Hong, D. Y. Zhang, Q. Liu, F. Leong, Q. Yang, **Y. J. Hu***, X. J. Chen*, Rapid Screening of Lipase Inhibitors from Ophiopogonis Radix Using High-Performance Thin Layer Chromatography by Two Step Gradient Elution Combined with Bioautographic Method, *Molecules*, 27(4):1155, 2022.
- 25 Y. J. Zhao, J. Q. Xu, W. Bai, H. L. Sun, B. Shui, Z. X. Yang, J. B. Huang, R. D. Smith, **Y. J. Hu***, Y. T. Xiang*, COVID-19 prevention and control strategies: learning from the Macau model, *International Journal of Biological Sciences*,

18(14):5317-5328, 2022.

- 26 S. J. Yin, X. Zhou, L. J. Peng, F. Li, G. C. Zheng, F. Q. Yang*, **Y. J. Hu***, Preparation of Fe₃O₄@SW-MIL-101-NH₂ for selective pre-concentration of chlorogenic acid metabolites in rat plasma, urine, and feces samples, *Journal of Pharmaceutical Analysis*, 12(4), 617-626, 2022.
- 27 H. S. Gao, S. Kan, Z. Y. F. Ye, Y. C. Feng, L. Jin, X. D. Zhang, J. Y. Deng, G. Chan, **Y. J. Hu**, Y. J. Wang, D. S. Cao, Y. H. Ji, M. T. Liang*, H. F. Li*, D. F. Ouyang*, Development of in silico methodology for siRNA lipid nanoparticle formulations, *Chemical Engineering Journal*, 442:136310, 2022.
- 28 Z. Y. Wang*, X. Wang, D. Y. Zhang, **Y. J. Hu***, Li, S.*, Traditional Chinese medicine network pharmacology: development in new era under guidance of network pharmacology evaluation method guidance, *Zhongguo Zhongyao Zazhi*, 47(1): 7-17, 2022. (in Chinese)
王子怡, 王鑫, 張岱巖, **胡元佳**, 李梢, 中醫藥網絡藥理學: 《指南》引領下的新時代發展, *中國中藥雜誌*, 47(01):7-17, 2022.
- 29 X. Wang, **Y. J. Hu**, Z. X. Zhou, S. Li*, Editorial: Network pharmacology and traditional medicine: Setting the new standards by combining In silico and experimental work, *Frontiers in Pharmacology*, 13:1002537, 2022.
- 30 Z. W. Xiong*, W. K. Chan*, C. Y. Kuan, **Y. J. Hu**, D. Y. Zhang, A method of mechanism analysis about a traditional chinese medicine prescription on a disease based on PageRank algorithm and network pharmacology. *Pharmacological Research - Modern Chinese Medicine*, 3:100016, 2022.
- 31 X. J. Kong, K. M. Liu, H. L. Zuo, H. D. Huang, **Y.J. Hu***, The changing global landscape in the development of artemisinin-based treatments: A clinical trial perspective, *The American Journal of Chinese Medicine*, 1-16, 2022.
- 32 D.Y. Zhang, R.Q. Peng, X. Wang, H.L. Zuo, L.Y. Lyu, F.Q. Yang*, **Y.J. Hu***, A

- network pharmacology-based study on the quality control markers of antithrombotic herbs: Using *Salvia miltiorrhiza* - *Ligusticum chuanxiong* as an example, *Journal of Ethnopharmacology*, 292:115197, 2022.
- 33 Y. Feng, K.M. Liu, L.Y. Lyu, G.J. Sun, **Y.J. Hu***, The financial impact of patents on SMEs in China: Empirical evidence from pharmaceutical sector, *Science, Technology and Society*, 27(1):46-65, 2022.
 - 34 J. Yang, L. Hou, K.M. Liu, W.B. He, Y. Cai, F.Q. Yang*, **Y.J. Hu***, ChemGenerator: a web server for generating potential ligands for specific targets. *Briefings in Bioinformatics*, DOI: 10.1093/bib/bbaa407, [ChemGenerator \(tcmobile.org\)](https://tcmobile.org), 2021.
 - 35 T.T. Tao, R. Shao*, **Y.J. Hu***, The effects of childhood circumstances on health in middle and later life: Evidence from China, *Frontiers in Public Health*, 54, 2021.
 - 36 K.M. Liu, Z.X. Gu, M.S. Islam, T. Scherngell, X.J. Kong, J. Zhao, X. Chen, **Y.J. Hu***, Global landscape of patents related to human coronaviruses, *International Journal of Biological Sciences*, 17(6): 1588, 2021.
 - 37 H.L. Zuo, Q.R. Zhang, C. Chen, F.Q. Yang, H. Yu*, **Y.J. Hu***, Molecular evidence of herbal formula: A network-based analysis of Si-Wu decoction, *Phytochemical Analysis*, 32(2): 198-205, 2021.
 - 38 L.Y. Lyu, Y. Feng, X. Chen, **Y.J. Hu***, The global chimeric antigen receptor T (CAR-T) cell therapy patent landscape. *Nature Biotechnology*, 38:1387-1394, <https://rdcu.be/cbFIW>, 2020.
 - 39 H.L. Zuo, K.G. Linghu, Y.L. Wang, K.M. Liu, Y. Gao, H. Yu, F.Q. Yang*, **Y.J. Hu***, Interactions of antithrombotic herbal medicines with Western cardiovascular drugs. *Pharmacological Research*, 159:104963, 2020.
 - 40 K.M. Liu, H.L. Zuo, G.G. Li, H. Yu, **Y.J. Hu***, Global research on artemisinin

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- 41 R.L. Song, **Y.J. Hu**, Pharmaceutical patent term extension: Balancing innovation and imitation, *China Reform*, 3:21, 2020. (in Chinese)
宋瑞霖, 胡元佳, 藥品專利期限補償: 創新與仿製的平衡, *中國改革*, 3:21, 2020.
 - 42 **Y.J. Hu**, R.L. Song, Patent transformation: A key of Chinese medical innovation, *China Reform*, 5:61-63, 2020. (in Chinese)
胡元佳, 宋瑞霖, 專利轉化: 中國醫藥創新的關鍵, *中國改革*, 5:61-63, 2020.
 - 43 D.Y. Zhang, Y. Zhang, Y. Gao, X.Y. Chai, R.B. Pi, G. Chan*, **Y.J. Hu***, Translating traditional herbal formulas into modern drugs: a network-based analysis of Xiaoyao decoction, *Chinese Medicine*, 15(1): 1-11, 2020.
 - 44 S.Y. Hu, H.L. Zuo, J. Qi, **Y.J. Hu***, Yu Boyang*, Analysis of effects of Schisandra in the treatment of myocardial infarction based on three-mode gene ontology network, *Frontiers in Pharmacology*, 10: 232, 2019.
 - 45 G.Y. Li, Y. Zhou, D.M.Y. Sze, C. Liu, Q.R. Zhang, Z.H. Wang, H. Yu, G. Chan, Z.D. Wu, S.B. Su*, **Y.J. Hu***, Active ingredients and action mechanisms of Yi Guan Jian Decoction in chronic hepatitis B patients with liver fibrosis, *Evidence-Based Complementary and Alternative Medicine*, 2408126, 2019.
 - 46 Z.H. Wang, H.H. Lin, K.G. Linghu, R.Y. Huang, G.Y. Li, H.L. Zuo, H. Yu, G. Chan, **Y.J. Hu***, Novel compound-target interactions prediction for the herbal formula Hua-Yu-Qiang-Shen-Tong-Bi-Fang, *Chemical and Pharmaceutical Bulletin*, 67(8): 778-785, 2019.
 - 47 F.B. Xia, F.G. Xu, H.X. Su, C.W. He, **Y.J. Hu***, J.B. Wan*, Quantification of phospholipid fatty acids by chemical isotope labeling coupled with atmospheric pressure gas chromatography quadrupole-time-of-flight mass spectrometry

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- 48 Q.R. Zhang, Z.F. Zhong, W. Sang, W. Xiong, H.X. Tao, G.D. Zhao, Z.X. Li, Q.S. Ma, K.W.T. Anfernee, **Y.J. Hu***, H. Yu*, Y.T. Wang, Comparative comprehension on the anti-rheumatic Chinese herbal medicine Siegesbeckiae Herba: combined computational predictions and experimental investigations, *Journal of Ethnopharmacology*, 228: 200-209, 2019.
 - 49 H.L. Zuo, F.Q. Yang*, **Y.J. Hu***, Investigation of possible herb-drug interactions for the treatment of cardiovascular diseases, *Seminars in Thrombosis and Hemostasis*, 45(05): 548-551, 2019.
 - 50 J.W. Qv, J.H. Lu, **Y.J. Hu***, Research and development of anti-Parkinson's drugs: an analysis from the perspective of technology flows measured by patent citations. *Expert Opinion on Therapeutic Patents*, 29(2): 127-135, 2019.
 - 51 Z.F. Zhong, Q.R. Zhang, H.X. Tao, W. Sang, L. Cui, W.N. Qiang, W.S. Cheang, **Y.J. Hu***, H. Yu*, Y.T. Wang, Anti-inflammatory activities of Sigesbeckia glabrescens Makino: combined in vitro and in silico investigations, *Chinese Medicine*, 14: 35, 2019.
 - 52 R. Jiang, Y.Y. Sun, C.O.L. Ung, X.Y. Dong, X.J. Kong, **Y.J. Hu***, R. Shao*, Research and development of mAb drugs in China: a look from policy perspectives, *Human Vaccines & Immunotherapeutics*, 15(11): 2695-2705, 2019.
 - 53 J.Z. Yan, H. H Lin, D. Zhao, **Y.J. Hu***, R. Shao*, China's new policy for healthcare cost-control based on global budget: a survey of 110 clinicians in hospitals, *BMC Health Services Research*, 19(1): 84, 2019.
 - 54 S. Li, **Y.J. Hu**, Network pharmacology: An approach to the analysis of complex systems underlying traditional Chinese medicine, *World Journal of Traditional Chinese Medicine*, 4(4): 135, 2018.
 - 55 H.L. Zuo, Q.R. Zhang, S.B. Su, Q.L. Chen, F.Q. Yang*, **Y.J. Hu***, A network

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 - 57 K.M. Liu, H.H. Lin, R.B. Pi, S.H. Mak, Y.F. Han, **Y.J. Hu***, Research and development of anti-Alzheimer's disease drugs: an update from the perspective of technology flows, *Expert Opinion on Therapeutic Patents*, 28(4): 341-350, 2018.
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- 81 **Y.J. Hu**, Y. Bian, Y.T. Wang, Opening the “black box” of pharmaceutical patent value: An empirical analysis, *Drug Information Journal*, 42(6): 561-568, 2008.
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International Standard

- 85 Network Pharmacology Evaluation Methodology Guidance. 網絡藥理學評價方法指南. [International Standard of WFCMS](#)

Book Chapters

- 86 S.B. Su, **Y.J. Hu***, H.L. Zuo, Case Study of Network Pharmacology and Modernization of Traditional Chinese Medicine, in *Network Pharmacology*. Springer, Singapore, 2021.
- 87 I.L. Chio, K.M. Liu, G. Chan*, **Y.J. Hu***, Research and development of anti-cancer monoclonal antibodies in china: an analysis based on patents, in *Biotechnology in Hong Kong IV*, United States-China Intellectual Property Institute, Hong Kong, 2020.

- 88 Y.T. Wang, **Y.J. Hu**, A.W.K. Chan, *Innovation Value Chain of Chinese Pharmaceuticals*, *United States-China Intellectual Property Institute*, New York, 2017.
- 89 H.H. Lin, P.P. Li, X.J. Kong, J. Cai, S.B. Su, **Y.J. Hu***, An analysis of evolutionary conservation based on genomic orthology and protein-protein interaction networks, in *Biotechnology in Hong Kong III*, United States-China Intellectual Property Institute, Hong Kong, 2017.
- 90 K.W. Sitou, J.B. Wan, M.S.H. Mak, Y.F. Han, **Y.J. Hu***, Monitoring drug research on clinical neurology in China: an analysis of institutional leaders and community themes, in *Innovation Value Chain of Chinese Pharmaceuticals*, United States-China Intellectual Property Institute, New York, 2017, Chapter 3.
- 91 X.J. Kong, H. Lu, Q.R. Zhang, H.L. Zuo, **Y.J. Hu***, A.W. Chan*, Global landscape of research and development on antibiotics, in *Innovation Value Chain of Chinese Pharmaceuticals*, United States-China Intellectual Property Institute, New York, 2017, Chapter 5.
- 92 X.J. Kong, H.Y. Liang, Q.W. Yuan, **Y.J. Hu***, Entry inhibitors for AIDS therapy: a review of research and development projects, in *Innovation Value Chain of Chinese Pharmaceuticals*, United States-China Intellectual Property Institute, New York, 2017, Chapter 6.
- 93 T.H. Yin, X.J. Kong, Y.T. Wang, X. Chen, **Y.J. Hu***, R. Shao*, Collaboration networks for R&D of monoclonal antibodies: an analysis based on pipeline projects, in *Innovation Value Chain of Chinese Pharmaceuticals*, United States-China Intellectual Property Institute, New York, 2017, Chapter 7.
- 94 H.H. Lin, S.Q. Tian, M.S.H. Mak, Y.F. Han, **Y.J. Hu***, An analysis of technology flows of antidepressants based on patent citation network, in *Innovation Value Chain of Chinese Pharmaceuticals*, United States-China Intellectual Property

Institute, New York, 2017, Chapter 9.

- 95 J.Y. Ni, R. Shao, C.O.L. Ung, Y.T. Wang, **Y.J. Hu***, Y. Cai, Pharmaceutical patent valuation based on empirical models, in *Innovation Value Chain of Chinese Pharmaceuticals*, United States-China Intellectual Property Institute, New York, 2017, Chapter 10.
- 96 J.Y. Ni, **Y.J. Hu***, J.B. Wan, T. Scherngell, F. Kwan, Cross-regional pharmaceutical technology transfer in china: an empirical study based on spatial interaction model, in *Innovation Value Chain of Chinese Pharmaceuticals*, United States-China Intellectual Property Institute, New York, 2017, Chapter 11.
- 97 M. Wan, J.R. Zhao, B.Y. Zhang, D.N. Yao, **Y.J. Hu***, Changing pharmaceutical registration rules in china: latest updates and potential impacts, in *Innovation Value Chain of Chinese Pharmaceuticals*, United States-China Intellectual Property Institute, New York, 2017, Chapter 12.
- 98 P.P. Li, H.H. Lin, **Y.J. Hu***, Pharmaceutical innovation network: global patterns and the role of China. Innovation Value Chain of Chinese Pharmaceuticals, in *Innovation Value Chain of Chinese Pharmaceuticals*, United States-China Intellectual Property Institute, New York, 2017, Chapter 13.
- 99 H.W. Kuok, X.J. Kong, **Y.J. Hu***, Y.T. Wang, Discovering miRNAs in cancer: China's landscape and the role of Hong Kong, in *Biotechnology in Hong Kong*, United States-China Intellectual Property Institute, Hong Kong, 2015, Chapter 2.

Conference Proceedings

- 100 D. Y. Zhang, **Y. J. Hu**. (25/11/2023). Exploring potential therapeutic targets of DanShen and ChuanXiong for cardiovascular disease by node2vec algorithm. The 12th Pong Ding Yuen International Symposium on Chinese Medicine. Hongkong, China.

- 101 D. Y. Zhang, **Y. J. Hu**. (31/10/2023). Expanding potential targets of herbal chemicals by node2vec based on herb-drug interactions. Macau Symposium on Artificial Intelligence and Health. Macau, China. Oct 2023. (Poster presentation)
- 102 D. Y. Zhang, L. Y. Lyu, **Y. J. Hu**. (26/10/2023). Profiling targets and potential target pairs of CAR-T cell therapy in clinical trials. 1st International Symposium on Chinese Medicine and Natural Products and 1st International Symposium on Pharmaceutical Sciences. Macau, China.
- 103 C.R. Zhang, **Y.J. Hu**. (18/09/2023). Mechanism of Yuanhu Zhitong oral liquid in the treatment of primary dysmenorrhea based on network pharmacology. The 11th Annual Meeting of GP-TCM RA. <https://www.gp-tcm.org/?lang=zh>. Leiden, The Netherlands.
- 104 D. Y. Zhang, C. R. Zhang, **Y. J. Hu**. (01/04/2023). Network pharmacology study of quality control markers in Chinese medicine: an analysis based on the Network Pharmacology Evaluation Method Guidance. The First International Conference on Network Pharmacology and the 2023 WFCMS Network Pharmacology Specialty Committee. Huangshan, China.
- 105 R.Q. Peng, D. Y. Zhang, G. Chan, **Y. J. Hu**. (23/04/2021). A network pharmacology-based study on the quality control markers of antithrombotic herbal pair: Using Salvia miltiorrhiza-Chuanxiong Rhizoma as examples. 3rd International Conference on Intelligent Medicine and Image Processing. Tianjin, China.
- 106 Li, F., **Y.J. Hu**. (31/01/2021). The global patent landscape of small interference RNA delivery technology. AEIC Series Conferences. Xiamen, China.
- 107 Liu, K.M., Chan, G., **Y.J. Hu**. (10/05/2018). The influence of communication method among clinic doctors on satisfaction of patients in Traditional Chinese Medicine hospitals in Beijing. <http://www.ichsm.org>. Tsukuba, Japan.

- 108 Yuan, Q. W., **Y.J. Hu.**, Hu, H., Ging, C., Ouyang, D. (25/04/2018). Translational efficiency and clinical success rate of key drug delivery technologies: from bench to bedside. Translational efficiency and clinical success rate of key drug delivery technologies: from bench to bedside. Bali, Indonesia.
- 109 Geng, X. M., Kong, X. J., Chen, Q. L., Su, S. B., **Y.J. Hu.** (15/03/2017). Analysis of miRNA functional synergistic network in breast cancer. Analysis of miRNA functional synergistic network in breast cancer. Prague, Czech Republic.
- 110 Zhang, Q. R., Wang, Y. T., **Y.J. Hu.**, Yu, H. (22/11/2016). Comparative characterization for three plant origins of Siegesbeckiae Herba: a view from chemometrics, molecular docking and complex network analysis approaches. IX International Symposium on Natural Products Chemistry and Applications. Chile.
- 111 Borowiecki, M.B., Scherngell, T.S., **Y.J. Hu.** (09/2013). Effects of knowledge capital on total factor productivity in China: A spatial econometric perspective. 53rd ERS Congress. Palermo, Italy.
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Invited Speeches

- 1 Big data analysis of patents and its applications in pharmaceutical research and development. Macau Symposium on Artificial Intelligence and Health. Dr. Stanley Ho Medical Development Foundation. Invited Speaker and Chair. Macau, 2023.
- 2 International Forum in the First International Conference on Network Pharmacology. Specialty Committee on Network Pharmacology of World Federation of Chinese Medicine Societies, Chair, Huangshan, 2023.
- 3 Big data analysis of biomedical patents. Intellectual Property Forum GBA 2022. The University of Hong Kong. Invited Speaker, Online, 2022.
- 4 專利大數據分析及其在生物醫藥研發中的應用，西安交通大學抗疫雲課堂，

西安交通大學，主講嘉賓，2022。

- 5 一種突破性癌症療法的全球專利解碼以及對中國藥物創新的啟發，澳大學人研究講壇，澳門大學，主講嘉賓，澳門，2021。
- 6 “後疫情時代”的中國醫藥創新：基於專利轉化的分析，第五屆中國醫藥創新與投資大會，中國醫藥創新促進會，主講嘉賓，蘇州，2020。
- 7 生物醫藥專利——大數據資源及產業應用，第二十屆中國生物製品年會，中國疫苗行業協會，主講嘉賓，珠海，2020。
- 8 中藥網絡與網絡中藥，世界中醫藥學會聯合會網絡藥理專業委員會第四屆學術年會，世界中醫藥學會聯合會網絡藥理學專業委員會，主講嘉賓，福州，2019。
- 9 運用人工智慧促進大學技術轉移，內地與香港、澳門特別行政區知識產權研討會，國家知識產權局/香港知識產權署/澳門經濟局，主講嘉賓，敦煌，2018。
- 10 Pre-workshop: Big data analytics in patents. The 9th IP Seminar: Global Competitiveness and Business Value through Innovation. The Chinese University of Hong Kong. Invited Speaker and Chair, Hong Kong, 2017.
- 11 世界中醫藥學會聯合會網絡藥理學國際論壇暨專業委員會第二屆學術年會，世界中醫藥學會聯合會網絡藥理學專業委員會，主持人，中國合肥，2017。
- 12 國家知識產權局專利局處級幹部研修班，中國青年政治學院，研修班授課教師，珠海，2017。
- 13 首屆知識產權運營七弦琴高峰論壇，橫琴國際知識產權交易中心，特邀報告，中國珠海，2016。
- 14 Cross-regional pharmaceutical development in China: An empirical study based on technology transfer. The 14th Annual Meeting of CGCM. Consortium for Globalization of Chinese Medicine, Canada, 2015.
- 15 Network-based identification of therapeutic targets from traditional herbal formulae. The 7th AASP Conference. Asian Association of Schools of Pharmacy,

Taipei, Taiwan, 2015.

- 16 Patent: A powerful indicator to measure drug innovation. Mainland, Hong Kong SAR and Macao SAR intellectual property symposium. State Intellectual Property Office, Intellectual Property Department of Hong Kong, and Economic Services of Macao, Hong Kong, 2014.
- 17 Pharmaceutical patent valuation: Novel models and applications in industry. The 46th U.S. DIA Annual Meeting. U.S. Drug Information Association, Washington, D.C. USA, 2010 (**Session Chair and Conference Grant**).
- 18 A look at China's pharmaceutical market. A Workshop on New Paradigms in Life Sciences Marketing. European Business School INSEAD, Paris, France, 2007 (**Conference Grant**).
- 19 Secrets of blockbuster drugs: Data mining for oppositions against patents. The 43rd U.S. DIA Annual Meeting. U.S. Drug Information Association, Atlanta, USA, 2007 (**Conference Grant**).

Selected Awards

- 1 Outstanding Academic Staff, University of Macau, 2022.
- 2 Integrated Innovation and International Expansion of Frontier Technologies for Chinese Medicine Quality, **First Prize of International Award for Contribution to Chinese Medicine**, World Federation of Chinese Medicine Societies, 2020.
中藥質量前沿技術的集成創新和國際拓展，**中醫藥國際貢獻獎一等獎**，世界中醫藥學會聯合會，2020.
- 3 Macau Tertiary Education Professionals Training, **Training Grant**, Higher Education Bureau of Macau SAR, University of Cambridge, June 24 to July 3, 2019.

- 4 Patent valuation: Case study on pharmaceutical patents in China, **Training Grant**, WIPO-WTO Colloquium for IP Teachers, Geneva, June 13 to 24, 2016.
 - 5 Pharmaceutical patent valuation, **Scholarship** of Eurasia Pacific Uninet (EPU), Austria, 2008-2009.
 - 6 **The First Award**, 8th Challenge Cup of China, 2003.
中國第八屆挑戰杯，一等獎，2003.
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Selected News

- 1 澳大學人剖析癌症療法全球專利格局（2021）
<https://www.gov.mo/zh-hant/news/384541/>
- 2 CAR-T 專利格局：澳門大學胡元佳團隊利用專利大數據深入分析 CAR-T 全球研發生態（2021）
<https://3g.menet.com.cn/Article/Detail?aid=140837>
- 3 上市公司路演專場 | 15 家上市藥企齊聚一堂 共譜創新藥產業全新篇章（2021）
http://www.phirda.com/artilce_25506.html?cId=9
- 4 澳大調查：六成居民願種疫苗（2021）
http://www.macaodaily.com/html/2021-06/22/content_1524891.htm
- 5 第 37 屆全國醫藥工業信息年會分論壇舉行 助力粵港澳中醫藥產業發展（2020）
http://www.zhuhai.gov.cn/gkmlpt/content/2/2632/post_2632969.html#1638
- 6 China drug in-licensing opportunities expected to swell as local pharma focus on R&D (2019)
<https://www.pharmaceutical-technology.com/comment/china-in-licensing-deals/>
- 7 澳門高校教研人員赴海外瞭解各地高教情況；《澳門高等教育雜誌》（2019）
<https://es.dsedj.gov.mo/platform/shownews.asp?catid=1&newsid=137>
https://es.dsedj.gov.mo/hemagazine/index/index/book?id=29&lan=cn_mc（第 23 頁）

8 澳大學生獲全國藥學類論文一等獎（2017）

<https://www.gov.mo/zh-hans/news/148164/>

Academic Services

1. Member, The Task Force on Technology Industry Facilitation and Technology Application Promotion in the Science and Technology Committee of the Macao SAR Government, 2023 – Present
2. Commissioner, The Policy Committee in China Pharmaceutical Innovation and Research Development Association, 2023 – Present
3. Committee Member, The Talents Development Committee of the Macao SAR Government, 2022 – Present
4. Guest Researcher, Tianjin Institute of Industrial Biotechnology, Chinese Academy of Sciences, 2022 – Present
5. Member, Asia-Pacific Academy of Economics and Management, University of Macau, 2021 – Present
6. Executive Vice President, Consortium of 'Belt and Road' and Portuguese-Speaking Countries for Natural Medicine Innovation (Macao), 2021 – Present
7. Guest Editor, Journal of Ethnopharmacology, work on special issue of Network Pharmacology, 2021-2022
8. Guest Editor, Frontiers in Pharmacology, work on special issue of Network Pharmacology, 2020-2021
9. Guest Editor, Frontiers in Pharmacology, work on special issue of Network Pharmacology, 2019-2020
10. Director of Council, Macao Society for Medicinal Administration, 2020 – Present

11. Policy Expert, State Intellectual Property Operation Public Service Platform,
Financial Innovation Pilot Platform, 2018 – Present
 12. Arbitrator, Zhuhai Arbitration Commission, 2018 – Present
 13. Project Researcher, The Research Center of National Drug Policy & Ecosystem,
2015 – Present
 14. Deputy Secretary-General, Specialty Committee on Network Pharmacology,
World Federation of Chinese Medicine Societies, 2015 – Present
 15. Council Member, Specialty Committee of Information, World Federation of
Chinese Medicine Societies, 2015 – Present
 16. Founding Commissioner, Commission on Network Pharmacology, Chinese
Pharmacological Society, 2014 – Present
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Contact Details

Institute of Chinese Medical Sciences
University of Macau
Avenida da Universidade, Taipa,
Macao, China

Office: E12-1049

Telephone: (853) 8822-8507

Fax: (853) 2884-1358

E-mail address: yuanjiahu@um.edu.mo