Zehua Wang

+86 18354253276 ZehuaWang_CPU@163.com
No. 639 Longmian Avenue, Jiangning District, Nanjing, Jiangsu, P. R. China 211198

Education

China Pharmaceutical University (CPU) Nanjing, Jiangsu
Master's Degree in Pharmacokinetics GPA: 3.8/4.0 IELTS: 6.5 CET-6: 567 09/2022-07/2025
Shandong First Medical University (Shandong Academy of Medical Sciences, SDFMU) Jinan, Shandong
Bachelor of Engineering in Pharmaceutical Engineering 09/2018-06/2022
Arithmetic average: 83.5/100

Research

1. Physiologically-Based Pharmacokinetic and Pharmacodynamic Modeling for ADCs 03/2023- Present
Supervised Prof. Kun Hao in Guangji Wang's lab, State Key Laboratory of Natural Medicines, CPU
Research Focus:

- **Project Overview:** Developed whole-body PBPK models, Semi-PBPK models and PD (TGI) models across different species. Analyzed data from both preclinical and clinical experiments to identify key factors influencing the pharmacokinetics, pharmacodynamics, and toxicology of ADC drugs. Conducted sensitivity analyses to provide insights for the development of new ADC drugs and combined with clinical outcomes such as progression-free survival to optimize clinical dosing strategies for precision medicine.
- **Software Utilization:** Established PKPD models and fitted parameters using Monolix, conducted simulations with Berkeley Madonna and R, and performed data visualization, sensitivity analysis, and developed web applications using R and GraphPad.

2. Clinical Antibody Therapy for Alzheimer's Disease: Population PKPD Modeling 06/2024- Present
Collaboration with Dr. Jacqueline Hannam and Prof. Nick Holford, Faculty of Medical and Health Sciences, The University of Auckland
Research Focus:

- **Project Overview:** Concentrated on developing and applying population PKPD models for Alzheimer's disease patients receiving antibody therapy by analyzing the relationship between drug exposure and clinical outcomes changes, exploring the effects on disease progression to inform and optimize dosing strategies, thereby enhancing personalized treatment regimens and ultimately improving therapeutic outcomes. The current stage is data collection.

3. Study on Transporters, Enzymes, Signaling Pathways, and CNS Disorders 09/2022-Present
Supervised by Prof. Li Liu in Xiaodong Liu's lab, Jiangsu Provincial Key Laboratory of Drug Metabolism and Pharmacokinetics
Research Focus:

- **Main Responsibilities:** Exploring the relationship between changes in transporters, metabolic enzymes, and signaling pathways caused by different pathological conditions and drug use, and their impact on central nervous system disorders and drug addiction. Bred and maintained experimental animals, performed surgical procedures and other preclinical trials, collected samples, and conducted both behavioral and quantitative pharmacological assessments. Cultured various cell lines and conducted molecular biology experiments such as Western Blot, PCR, HPLC-MS, ELISA, immunofluorescence, SPR, etc. Drafted and revised manuscripts and answer the reviewer's questions.

Outcome:

- 1. Zehua Wang, Jinwei Zhu, Lan Sang, Linxiu Tang, Sasa Zhang, Hao Zhi, Yongmei Tan, Xiaodong Liu, Kun Hao, Li Liu. "Physiologically-Based Pharmacokinetic and Pharmacodynamic Model for Topo Inhibitor ADCs in Mice and Humans," 2024, currently under revision and submission to Pharmaceutics.
- 2. Zhu, Xiaoqiang, Weimin Kong, Zehua Wang, Xiaodong Liu, Li Liu. "Prediction of SPT-07A pharmacokinetics in Rats, Dogs and Humans using a Physiologically-Based Pharmacokinetic Model and in vitro data." *Pharmaceutics*, 5 Nov 2024. Manuscript ID: pharmaceutics-3325695.

- 3. Zhi, Hao, Yidong Dai, Lin Su, Lu Yang, Wenhan Wu, Zehua Wang, Xinyue Zhu, Li Liu, Jiye Aa, and Hanyu Yang. 2023. "Thioacetamide-Induced Acute Liver Injury Increases Metformin Plasma Exposure by Downregulating Renal OCT2 and MATE1 Expression and Function." Biomedicines 11, no. 12: 3314. https://doi.org/10.3390/biomedicines11123314.
- 4. Liqiang Qian, Hanyu Yang, Qianli Ye, Zijun Xu, Yanlin Liu, Zehua Wang, Wenhan Wu, Li Liu, Xiaodong Liu. "Venlafaxine Induces Psychiatric Disorders Due to Upregulation of Cerebral Catechol-O-Methyltransferase via the PI3K/AKT/mTOR Pathway." Preprint, Research Square, 27 September 2023. https://doi.org/10.21203/rs.3.rs-3206277/v1. Submitted to Biochemical Pharmacology.
- 5. Hao Zhi, Zhongyan Wang, Xinyue Zhu, Wenhan Wu, Lu Yang, Yidong Dai, Zehua Wang, Ling Jiang, Yongmei Tan, Xiaodong Liu. "Chronic Liver Injury Decreases Levels of Cerebral Carnitine and Acetylcarnitine in Rats Partly Due to Downregulation of OCTs and OCTN2 at Blood-Brain Barrier." Submitted to Metabolism and Disposition. Manuscript Number: DMD-AR-2024-001925.

4. School-Enterprise Cooperation: Phase I Clinical Study of New NSAI Drugs 10/2023-02/2024

Research Focus:

- **Project Overview:** Conducted modeling and simulation to explore adjustments in administration methods, dosage, and frequency to meet clinical requirements for specific indications based on clinical research data.
- **Leading Responsibilities:** Participated in data cleaning, modeling, parameter estimation, and simulation. Additionally, contributed to model evaluation and optimization, and authored the project report.

5. Preparation and Performance Testing of Antibacterial MOF-Derived Carbon Materials 09/2021-07/2022

Supervised by Prof. Jiahui Yu in Prof. Chenwei Li's Lab, Medical Science and Technology Innovation Center, SDFMU

Research Focus:

- **Project Overview:** Prepared various types of MOF-derived carbon materials for water purification tests and compared their performance under different light conditions. Investigated the effects of targeted MOF-derived carbon materials on microorganisms and their surrounding environment.

Interdisciplinary Online Course

Artificial Intelligence and Cloud Computing *by Prof. Maheswaran and Prof. Franchitti* 07/2023-09/2023
Emerging Biotechnology Development and Global Governance *by Prof. Liu and Prof. Wang* 10/2023-12/2023
Big Data and Public Health *by Prof. Ramezani* 10/2023-12/2023
Application of Artificial Intelligence in Public Health *by Prof. Ramezani* 01/2024-03/2024
Data Science and Business Analytics *by Prof. Zhang Foutz* 07/2024-09/2024

Honors and Awards

Exploring the World Scholarship, CPU, 2024
Outstanding League Member, CPU, 2022-2024
Scholarship of Academic Excellence, CPU, 2022-2024
Outstanding Graduate, SDFMU, 2022
Second Prize Scholarship, SDFMU, 2020-2021

Skills & Hobbies

Computer Skills	Pharmacokinetics and Statistical Software: Proficient in Monolix, R, SPSS, Berkeley Madonna, NONMEM, and Phoenix WinNonlin for pharmacokinetic modeling and statistical analysis. Adobe Creative Suite: Experienced in Photoshop, Premiere, Audition, and After Effects for advanced graphic design, video editing, audio production, and motion graphics.
Experiment Skills	Expertise in animal and cell culture, Western Blot, PCR, ELISA, HPLC-MS, laser confocal microscopy, high-content imaging and quantitative analysis, surface plasmon resonance (SPR), microscale thermophoresis (MST), biolayer interferometry (BLI), biomolecular interaction analysis, and cellular energy metabolism assessment using the Seahorse XFe96 analyzer.
Hobbies	Photography and Filmmaking: Experienced in photography and micro-movie production, with multiple provincial and school-level awards. Skilled in new media management and content creation. Chess: Over 10 years of experience, with a history of winning various provincial chess competitions. Sports: Proficient in swimming, table tennis and badminton.