HONGJIE QIAN

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EDUCATION

China Pharmaceutical University & University of Strathclyde   2019–present

- B.Sc in Biochemistry & Pharmacology
- GPA: 89.26/89.37 (Overall/Compulsory), 3.84/4.00 (WES)

PUBLICATIONS

- Lan Sang, Zhengying Zhou, Shizheng Luo, Hongjie Qian, Hua He, and Ku Hao, 2022. Predicting cardiac dysfunction risk of anti-tumor drugs with hiPSC-CMs based in vitro-in vivo translational platform. *CPT: Pharmacometrics & Systems Pharmacology* (under review).

RESEARCH EXPERIENCES

Bachelor Thesis: OGD Astrocyte Mitochondria Imaging Analysis   2022.09–present

- *Investigator.* Supervised by Dr Susan CHALMERS, Strathclyde Institute Of Pharmacy And Biomedical Sciences, University of Strathclyde.
- Utilizing FIJI-affiliated ImageJ, aided with Mitochondria Analyzer & KymoAnalyzer plugins, to analyze the shape, size, and localisation of astrocyte mitochondria under oxygen/glucose deprivation (OGD) conditions.
- Statistical analysis of acquired data provides insights into astrocyte mitochondria state in ischaemic stroke.

Doxorubicin & Trastuzumab Cardiotoxicity Modeling   2022.04–present

- *Investigator.* Supervised by Dr Hua HE, Center of Drug Metabolism and Pharmacokinetics, School of Pharmacy, China Pharmaceutical University.
- Using hiPSC-CMs (human induced pluripotent stem cell-derived cardiomyocytes) for *in vitro-in vivo* exploration, a QSP-PBPK-PD (quantitative system pharmacology - physiologically-based pharmacokinetics - pharmacodynamics) triple model of doxorubicin in combination with trastuzumab therapy is established.
- Relaying on the obtained virtual drug toxicity clinical trial platform, according to the patient variation in previous clinical trials, we can receive the incidence of cardiovascular events in specific patients.

PBPK Modeling of Meropenem in Premature Infants   2021.10–2022.03

- *Investigator.* Supervised by Dr Hua HE, Center of Drug Metabolism and Pharmacokinetics, School of Pharmacy, China Pharmaceutical University.
- Built a physiologically-based pharmacokinetics (PBPK) model based on healthy adults. It expanded it to premature infants and focused on time points during preterm birth, organ development and abnormal drug transporter OAT3 expression due to organ maturity.
- Adapted the constructed model to common preterm infant diseases (pneumonia, sepsis, and meningitis).

CRISPR/dCas9-based MnP-AAO-HFB1 PE-Degradator   2020.12–2021.11

- *Key member.* Supervised by Dr Meiling LU, Department of Biochemistry, School of Life Science and Technology, China Pharmaceutical University.
- Simulated the enzyme production in our polyethylene (PE) degradation system, calculated function proteins' predicted outputs and proposed industrial manufacturing improvements.

- Applied statistical methods, including support vector machine, k-nearest neighbouring, random forest and principle component analysis, to optimize manganese peroxidase (MnP).

Arctiin Biosynthesis Pathway with High-Throughput Sequences   2020.10–2021.08

- *Investigator.* Supervised by Dr Yucheng ZHAO, Department of Chinese Medicine Resource Science, School of Traditional Chinese Medicine, China Pharmaceutical University.
- Utilized high-throughput sequencing to conduct *Arctium lappa* L. genome research.
- Explored the biosynthesis pathway of arctiin in *Arctium lappa* L. by means of multi-omics (genome, transcriptome, and metabolome) of *Arctium lappa* L., and carried out the preliminary wet experiment.

AWARDS, CERFTIFICATES & SUPPLEMENT COURSES

Statistical reasoning and algorithms in pharmacovigilance, Uppsala Monitoring Center	2022.07
Linear Algebra, School of Intl' Pharmaceutical Business, China Pharmaceutical University	2022.06
1st Prize, Scholarship of Exploring World Plan	2022.06
STATX10-051 Introduction to Statistics, UC Berckley Extension	2022.04
Good Clinical Practice (GCP-E6(R2) 2016)	2021.12
Gold Medal, International Genetically Engineered Machine (iGEM)	2021.11
Best Target Molecule Award, International Directed Evolution Competition (iDEC)	2021.10
Prov. 3rd Prize (15%), Contemp. Undergraduate Mathematical Contest in Modeling (CUMCM)	2021.10
Principles of Clinical Pharmacology, National Health Institute (NIH), the US	2021.07
Meritorious (9%), Mathematical/Interdisciplinary Contest in Modeling (MCM/ICM)	2021.05

- Both mathematical modeling competitions are supervised by Dr Yingbo LIU, Department of Medical Informatics & Biostatistics, School of Science, China Pharmaceutical University.

Model of Triple-A student	2020.11
Two-time 2nd-class Scholarship for Merited Students	2020 & 2021

TECHNICAL SKILLS

- Laboratory: PCR, Plasmid transformation, SDS-PAGE, Chromatography (Column, HPLC, GC & Preparative), Genetic identification.
- Programming: LaTeX, MATLAB, R, HTML/CSS, Markdown.
- Software: SnapGene, MEGA, BLAST, PK-Sim, EndNote, SPSS, ChemDraw, Adobe PS & VE, GraphPad.

EXTRACURRICULAR ACTIVITIES

Ministry of Foreign Affair of Sino-UK Specialty, CPU   2019.09–present

- *Head.* Aids communication between students and teachers in CPU Sino-UK speciality.

Network Publicity Department, College Students Art Troupe, CPU   2019.09–2020.06

- *Member.* Organised activities and community service activities and designed posters, icons and tickets in the CPU College Students Art Troupe.