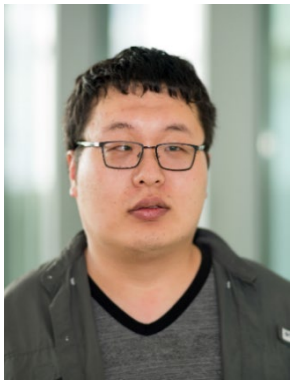
Xun Tao, Ph.D.



Education:

2008: B.Sc. in Biotechnology
2019: Ph.D in Pharmaceutical Sciences (graduated in record time, <3.5 years)

Positions:

2008/03 to 2016/07: Team Leader, Shanghai ChemPartner, China.
2016/08 to 2019/12: Ph.D. Student, College of Pharmacy, Univ. of Florida
Since 2020/02: PKPD scientist in Genentech, Inc.

Research: Dr. Tao is developing novel and efficient multiplex LC-MS/MS assays to characterize the outer membrane permeability of β-lactam antibiotics and β-lactamase inhibitors in Gram-negative bacterial 'superbugs'. These assays are a core part of our permeability R01 (R01 AI136803). These assays will generate novel and urgently needed data that Dr. Tao is implementing in his Quantitative and Systems Pharmacology (QSP) models. The latter will establish, for the first time, mass balance kinetic equations for receptor binding of β-lactam antibiotics at their periplasmic target site. By implementing both target site penetration and receptor binding data, Dr. Tao is playing an integral role in developing the *next generation of antibiotic QSP models* to rationally optimize synergistic combination therapies. These models will inform dosing strategies which Dr. Tao is evaluating in latest dynamic *in vitro* infection models (including the hollow fiber system) as well as animal infection models within our NIH R01s program. To further elucidate the mechanisms of synergistic bacterial killing and prevention of resistance, Dr. Tao is integrating latest transcriptomic and proteomic data from collaborators; he is further significantly contributing to population pharmacokinetic modeling projects of clinical data on antibiotics. The first paper of these novel assays was published in MBio, one of the best journals of pre-clinical antimicrobial research (IF: 6.75). His work substantially contributed to 3 awarded and multiple submitted R01s.

To gain translational research experience in other therapeutic areas, Dr. Tao is employing latest QSP modeling to identify and rationally optimized efficacious combination therapies to combat viral infections (incl. those by Zika virus) under the mentorship of Dr. Ashley Brown (UF College of Medicine) and Dr. Bulitta. Dr. Tao already published his first triple-drug combination QSP model in this area. In addition, he have developed a novel LC-MS/MS based assay to measure the intracellular concentration of triphosphate metabolites associated with several anti-viral drugs. This work is playing a critical role in combating the emerging virus outbreak (ZIKV, Chikungunya, Dengue, etc.). Dr. Tao is future utilizing these LCMS based data to predict the clinical outcome via the latest QSP modeling approach.

Before joining UF's Center for Pharmacometrics & Systems Pharmacology, Dr. Tao worked for 8 years in the DMPK department of Shanghai ChemPartner, a preclinical CRO. In this company, he served as the team leader of study directors, and supervised / mentored over 20 study directors. While working as independent study director and DMPK representative, his team completed over 5,000 preclinical PK and exploratory safety studies in 8 years. He assisted his pharmaceutical partners in identifying 11 candidates from discovery screening and filing IND enabling packages. To date, Dr. Tao has published 11 peer-reviewed original research papers and 15 international conference abstracts. This track-record will undoubtedly continue to grow. He was chair-elect of the AAPS student chapter at UF and is now a member of ASCPT and ISoP. After graduation, Dr. Tao joined the Preclinical and translational PKPD department in Genentech as a PKPD scientist.

Publications from PhD *(as of 6/08/2020)*	**Published**
Peer-reviewed research papers	11
All papers	11
International conference abstracts	15

PubMed Bibliography:
https://www.ncbi.nlm.nih.gov/myncbi/1l9wxfoK8uokQQ/bibliography/public/

Google Scholar Citations:
https://scholar.google.com/citations?user=LtKzTkwAAAAJ&hl=en