Yuezhe Li

yuezheli@gmail.com | New York, NY | (309) 531-8051 | www.linkedin.com/in/yuezheli

Summary

- Hands-on experience in building quantitative system pharmacology (QSP) and physiologically based pharmacokinetic (PBPK) models for antibody-drug conjugates (ADCs), T-cell engagers (TCEs), and gene therapies.
- Extensive experience in client-facing roles, crafting presentation to key decision makers to facilitate model-informed drug development (MIDD)

Skills

- **Applied and Computational Mathematics**: Differential equations, Monte Carlo simulations, agent-based models, machine learning
- **Model-Informed Drug Development (MIDD)**: Quantitative system pharmacology (QSP) models, Physiologically based pharmacokinetic (PBPK) models, First-in-human (FiH) dose selection, Exposure-response (E-R) analysis
- **Programming**: R, Julia, Python, MATLAB, SQL (basic), SAS (basic), HTML5 (basic), C/C++ (basic)
- **Laboratory**: Fluorescence microscopy, Immunofluorescence, Optogenetics, Molecular cloning, Mammalian cell culture, Western blot
- **Language**: Mandarin (native), English (fluent)

Relevant Work Experience

Metrum Research Group   *Boston, MA*
Research Associate → Research Scientist I & II → Senior Scientist I   *May 2021 – current*

- Predicted toxicities (hematological, ocular, etc) of novel ADCs based on toxicity of ADC with the same payload; developed physiologically based pharmacokinetic (PBPK) models to predict the ADC and free payload exposure in ocular, bone marrow, and other organs; crafted exposure-response (E-R) analysis that linked payload/ ADC exposure in tissue to toxicity
- Performed dose optimization for antibody-drug conjugate (ADC)-T cell engager (TCE) combination therapies; developed QSP model to predict the tumor growth inhibition for ADC and T cell dependent bispecific antibodies
- Performed dose selection for a novel ADC and TCE first-in-human (FiH) study; developed QSP models based on *in vitro* and mouse studies to identify a minimal efficacious dose or pharmacologically active doses (PAD) for human
- Informed patient selection, dose optimization, and miscellaneous hypotheses testing for client's ADC assets; developed PBPK-QSP models for ADC molecules to address client's concerns in target selection and toxicities
- Developed novel, agent-based model (ABM) for AAV-based gene therapy and prepared corresponding regulatory report; predicted the durability of liver-targeting AAV-based gene therapy
- Predicted and validated the immune cell recovery after 7 years post receiving ex-vivo gene therapy; developed QSP models for hematopoietic stem cell differentiation
- Conducted population pharmacokinetic (popPK) analysis and prepared reports for regulatory filings

Yale Graduate Consulting Club   *New Haven, CT*
Pro Bono Consultant   *February 2021 - May 2021*

- Conduct market analysis for a local biotech startup; conduct Voice of Customers (VOC) research by interviewing key opinion leaders in proteomics research in collaboration with a team of 5

Impact Consulting   *London, UK*
Pro Bono Consultant   *January 2021 - May 2021*

- Conducted market analysis and identified an addressable market for a university startup based in Austria

Education

Ph.D., Biomedical Science, University of Connecticut (GPA 3.9/4.0)	*2016 - 2021*
MS, Mathematics, Illinois State University (GPA 3.9/4.0)	*2014 - 2016*
BS, Statistics, Huazhong University of Science and Technology (GPA 3.6/4.0)	*2010 - 2014*

Certifications

Drug Commercialization, University of California San Diego/ Coursera	*2021*
Business Foundation Specialization, Wharton Business School/ Coursera	*2020*
Deep Learning Specialization, DeepLearning.AI/ Coursera	*2018*

Selected Publications

- **Li, Y.**, Nandy, P., Jordie, E., Peppel, K., Wilkins, A. K., Nuthalapati, S., "Development of an agent-based model to investigate the long-term outcome of a gene therapy targeting a self-renewing organ." (manuscript submitted)
- **Li, Y.**, Wilkins, A. K., Davis, J., Knab, T., Kirouac, D. C., Toukam, M., Boni, J. P., "Quantitative Systems Pharmacology Modeling of Loncastuximab Tesirine-lpyl Combined with T Cell–Dependent Bispecific Antibodies Bridges Knowledge and Dose Regimen Strategy for Patients with Diffuse Large B-Cell Lymphoma (DLBCL)." NPJ Syst. Biol. Appl. 11, 63 (2025).
- **Li, Y.**, Yann, T., Vera-Licona, P., "Benchmarking Time-Series Data Discretization on Inference Methods." Bioinformatics (2019).
- **Li, Y.**, Chang, Y., & Lin, H. "Statistical Machine Learning in Brain State Classification using EEG Data." Open Journal of Big Data (OJBD) (2015).

Presentations & Workshops

- Harnessing QSP-based virtual populations to optimize novel oncology combination regimens: Antibody Drug Conjugates (ADC) and T Cell Engagers (TCE). International Society of Pharmacometrics (ISoP) 2025 MIDD Series. May 2025.
- Hands-On Tutorial: Introduction to Immuno-Oncology (IO) Quantitative Systems Pharmacology (QSP) Modeling Using the Open-Source Julia Computing Language. American Conference on Pharmacometrics (ACoP) 14. November 2023; National Harbor, MD.

Selected Posters

- **Li Y**, Nandy P, Jordie E, Peppel K, Knab T, Kirouac DC, Wilkins AK, Nuthalapati S. A Novel Agent-based Computational Model for Liver-targeting, AAV-based Gene Therapies Could Predict Response Durability in Hemophilia B Patients Treated with Etranacogene Dezaparvovec. American Society of Gene & Cell Therapy (ASGCT) 2025. May 2025; New Orleans, LA.
- **Li Y**, Wilkins AK, Knab T, Boni JP. Quantitative Systems Pharmacology Modeling of Loncastuximab Tesirine Combined With Mosunetuzumab and Glofitamab Helps Guide Dosing for Patients with DLBCL. American Association for Cancer Research (AACR) Annual Meeting 2024. April 2024; San Diego, CA.
- **Li Y**, Jordie E, Knab T. A multi-organ integrated QSP model for hematopoietic stem cell differentiation to predict the immune cell reconstitution in ex-vivo gene therapy. American Conference on Pharmacometrics (ACoP) 14. November 2023; National Harbor, MD.
- Elmokadem A, Knab T, Jordie E, **Li Y**. Deep QSP modeling: Leveraging Machine Learning for QSP Model Development and Evaluation. American Conference on Pharmacometrics (ACoP) 14. November 2023; National Harbor, MD.
- **Li Y,** Wilkins A. K. Towards the development of a platform PBPK-QSP model in the Julia programming language for evaluating potential toxicities caused by antibody-drug-conjugate therapies. International Conference on Systems Biology (ICSB) 2023. October 2023; Hartford, CT.