CURRICULUM VITAE

SHEN CHENG, PH.D.

Assistant Professor in Pharmacometrics
Department of Experimental and Clinical Pharmacology
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Summary

In my current role as an Assistant Professor in Pharmacometrics, I leverage knowledge and experience in pharmacometric and statistical modeling to:

- Investigate, identify and quantify the source of variability (i.e., genetics, environment, etc) in dose-exposure-response relationship of therapeutics.
- Develop innovative biomarkers (e.g., microbiome communities, disease status, etc) and optimize drug properties (e.g., dosing regimens, administration routes, etc) for the improved therapeutic effectiveness in special populations (e.g., pediatrics, patients with obesity, etc).
- Inform future study design to evaluate drug safety and efficacy for the efficient drug development.

My research training and experience is in the intersection of pharmacometrics and biostatistics. My expertise lies in the implementations of quantitative pharmacological modeling approach (e.g., pharmacokinetic/pharmacodynamic (PK/PD), disease progression, exposure-response (ER), etc) to inform precise dosing of medicines (i.e., Model-Informed Precision Dosing, MIPD) and to facilitate efficient drug development (i.e., Model-Informed Drug Development, MIDD). Additionally, my research interest involves evaluating and developing innovative methodologies for more efficient pharmacometric analyses. With my graduate training background spanning from pharmacology to quantitative sciences, my journey reflects a deep commitment to understanding and optimizing drug therapy through sophisticated modeling techniques. The successful implementation of my research will move us one step forward towards the realization of precision medicine.

Experience

Assistant Professor - Department of Experimental and Clinical Pharmacology, University of Minnesota College of Pharmacy, Twin Cities, MN — Feb. 2024 - Present

- 40% Conduct pharmacometric (PMx) research
- 40% Teaching and advising graduate students
- 20% Professional services (e.g., develop and maintain PMx computational facility)

Research Scientist I - Metrum Research Group, Tariffville, CT — Jul. 2022 - Feb. 2024

- 80% scientific consultation with clients in pharmaceutical industry
- 20% involved in internal research and training

Research Associate II - Metrum Research Group, Tariffville, CT — Jan. 2022 - Jul. 2022

- 50% scientific consultation with clients in pharmaceutical industry
- 50% involved in internal research and training

Education

Ph.D. in Experimental and Clinical Pharmacology (minor in Biostatistics) - University of Minnesota, Twin Cities, MN

Aug. 2017 - Dec. 2021

- Thesis: Understanding the Impact of Pharmacogenetic Differences in Drug-drug Interactions (DDIs): a Model-based Approach to Predict Differences in Drug Exposure centrality.

M.S. in Pharmacology - University of Michigan, Ann Arbor, MI

Sep. 2015 - May. 2017

- Thesis: Preparation and characterization of the complexes of cytochrome P450 2B4 and its redox partners in Amphipol A8-35.

B.S. in Biological Sciences - Soochow University, Suzhou, China

Sep. 2010 - Jun. 2014

- Undergraduate researcher in toxicology.

Internships

Pharmacometric Intern - Novartis, Boston, MA

Jun. 2021 - Aug. 2021

- Translational PK-PD modeling of CAR-T cell therapies.

Biomolecule PK-PD Intern - Eli-Lilly and Company, Indianapolis, IN

Jun. 2020 - Aug. 2020

- Retrospective analysis on CL and V of mAbs in various animals species to identify allometric scaling exponents.

Workshops

FREM in practical use implementation and interpretation, Pharmetheus - Pharmetheus at American Conference of Pharmacometrics (ACOP) 16, Denver, CO

2025

UMN MATLAB SimBiology Workshop - College of Pharmacy at the University of Minnesota, Twin Cities, MN

2025

Write Winning NIH Grant Proposals - Clinical and Translational Science Institute at the University of Minnesota, Twin Cities, MN

2025

(R)TTE analysis: MIDD applications, concept, methodology and NONMEM hands-on, Pharmetheus - Pharmetheus at American Conference of Pharmacometrics (ACOP) 15, Phoenix, AZ

2024

Efficient reproducible Bayesian population PK modeling with NONMEM and Stan/Torsten - Metrum Research Group at American Conference of Pharmacometrics (ACOP) 15, Phoenix, AZ

2024

Pharmacokinetics and pharmacodynamics of protein therapeutics-principles and pharmacometric approaches - The College of Pharmacy, University of Tennessee Health Science Center (UTHSC), Virtual

2024

An introduction to probabilistic decisions support in drug development - Pharmetheus at American Conference of Pharmacometrics (ACOP) 14, National Harbor, MD

2023

Intermediate and Advanced NONMEM and PDx-Pop Workshop - NONMEM and PDx-Pop develoment team, ICON Clinical Research LLC, Virtual

2020

Introductory NONMEM and PDx-Pop Workshop - NONMEM and PDx-Pop develoment team, ICON Clinical Research LLC, Virtual

2020

Bayesian Statistics: From Concept to Data Analysis - University of California, Santa Cruz, Coursera, Online course

2020

Machine Learning - Stanford University, Coursera, Online course　　　　　　　2019

Introduction to bayesian pharmacometric data analysis with NONMEM - Metrum Research Group at American Conference of Pharmacometrics (ACOP) 10, Orlando, FL　　2019

Pharmacometric statistics workshop - Taca training, Dublin, Ireland　　　　2019

Simcyp UMN 2-day workshop - College of Pharmacy at University of Minnesota, Minneapolis, MN　　2018

Advanced R Workshop in mrgsolve - College of Pharmacy at University of Minnesota, Minneapolis, MN　　2017

Tutorials

Multi-Institutional NIH Mock Study Section - Clinical and Translational Science Institute　　2025

Bayesian Thinking in Clinical Research - UCSF-Stanford CERSI, Virtual　　2025

Model-Based Meta-Analysis: towards more precisely predicted clinical scenarios - Tutorial at American Conference of Pharmacometrics (ACOP) 15, Phoenix, AZ　　2024

Pharmacometrics Spring School: Modeling using MonolixSuite - Lixoft (SimulationsPlus), Virtual　　2021

An open-source Pharmacometrician's workflow in R: from exploration (xGx) to model building (nlmixr) and diagnostics (ggPMX) - American Conference of Pharmacometrics (ACOP) 11 Trainee Tutorial, Virtual　　2020

Pumas DDMoRe Bootcamp - Pumas development team, Pumas-AI Inc, Virtual　　2020

Quantitative Systems Pharmacology in Translational Drug Development - American Conference of Pharmacometrics (ACOP) 10 Trainee Tutorial, Orlando, FL　　2019

Minnesota Pharmacometrics Summer Workshop (MPSW) - College of Pharmacy at University of Minnesota, Minneapolis, MN　　2019

Skills

- Pharmacometric skills

    - Nonlinear mixed-effect modeling using `NONMEM` (GUI: `bbr-bbi`, `FinchStudio`, `Pirana` and `PDx-Pop`), `Monolix`, `Phoneix NLME`, `STAN` and `SAAM 2`.
    - Concepts and implemetations of pharmacometric simulations: deterministic simulations, stochastic simulations, and simulations with parameter uncertainty.
    - Proficient in pharmacometric toolbox, including `MetrumRG expo` and `PsN`.
    - Concepts and implementations of pharmacometric modeling using various algorithms (e.g., maximum likelihood estimations, EM-based algorithm and Bayesian approach).
    - Physiological-based PK (PBPK) modeling concepts and skills with `Simcyp` and `mrgsolve`.
    - PK non-compartmental analysis (NCA).

- Statistical and programming skills

    - Data wrangling, function writing, data set management, data visualization and statistical analysis and modeling using R (`baseR`, `tidyverse`, `data.table`, etc).
    - R package version control (`renv` and `pkgr`) and R package development.
    - Familiarize with IDE, such as `Rstudio` and `VScode`.
    - Proficient in using version control tools `Github` and `Subversion`.
    - Experience working with high-performance cluster (HPC) using command line tools and `SLURM` for job submission and scheduling.
    - Familiarize with `Python` and `Julia`.
    - Biological data analysis using software such as *GraphPad Prism* and *Sigmaplot*.

- Scientific communication skills

- Scientific writing and presentation using `Latex`, `Quarto`, `Rmarkdown` and *MS office*.
- Experience working as a scientific consultant in pharmaceutical industry.

Honors and Awards

- 2021 Award Winner, Trainee Communication Challenge, American Conference of Pharmacometrics (ACoP)
- Doctoral Dissertation Fellowship, University of Minnesota
- Honorable Mention, Rho Chi Research Day, University of Minnesota College of Pharmacy
- Fellowship, Experimental & Clinical Pharmacology Department, University of Minnesota College of Pharmacy
- Recruitment Fellowship, Experimental & Clinical Pharmacology Department, University of Minnesota
- Outstanding Graduate, Soochow University, Medical College, Suzhou, China
- Technology Innovation Scholarship, Soochow University, Suzhou, China
- College Merited Student Scholarship, Soochow University, Suzhou, China
- 3rd place, Undergraduate Science & Technology Contests, Jiangsu Province, China

Professional Services

- Editorial
    - Editorial Board Member, CPT: Pharmacometrics and System Pharmacology (2025 June-present)
    - 2025 ASPET Editorial Fellowship for Journal Drug Metabolism and Disposition (DMD)
- Journal reviewer
    - ACS Omega
    - Advances in Pharmacological and Pharmaceutical Sciences
    - Antibiotics
    - Biomedicine and Pharmacotherapy
    - Clinical and Experimental Pharmacology and Physiology
    - Clinical Pharmacology and Therapeutics
    - CPT: Pharmacometrics and System Pharmacology
    - Current Issues in Molecular Biology
    - Drug Metabolism and Disposition
    - European Journal of Drug Metabolism and Pharmacokinetics
    - International Journal of Molecular Sciences
    - Journal of Clinical Pharmacology
    - Journal of Pharmacology and Experimental Therapeutics
    - Journal of Pharmacokinetics and Pharmacodynamics
    - Mathematics
    - Polymers
    - Toxics
- Abstract reviewer
    - American Conference of Pharmacometrics (ACoP) 14
    - American Society of Clinical Pharmacology and Therapeutics (ASCPT) 2024 Annual Meeting
- Proposal reviewer

– American Society of Clinical Pharmacology and Therapeutics (ASCPT) 2024 Annual Meeting

- Fellowship reviewer

  – Clinical and Translational Science Institute (CTSI) Pathways to Research Program (PReP) 2025

- Professional societies

  – Member of International Society of Pharmacometrics (ISoP) award committee (Jan. 2025-present)
  – Member of workshop working group, American Conference of Pharmacometrics (ACoP) 2025 (Dec. 2024)
  – Trainee lunch mentor, American Conference of Pharmacometrics (ACoP) 15 (Nov. 2024)
  – Member of International Society of Pharmacometrics (ISoP) (Sept. 2019 - present)
  – Member of American Society of Clinical Pharmacology and Therapeutics (ASCPT) (Sept. 2020 - present)
  – Member of American College of Clinical Pharmacology (ACCP) (Sept. 2021 - present)
  – Member of American College of Clinical Pharmacology (ACCP) Early-stage Professionals (ESP) Committee (Sept. 2024 - present).
  – Member of International Society of Pharmacometrics (ISoP) student committee communication group (Aug. 2019 - Dec. 2021).

Teaching

- Course director

  – ECP8500 Advanced Topics in Pharmacometrics (aka. Pharmacometric Coffee Break, 2025 - present) University of Minnesota
  – ECP8503 Intermediate popPKPD (2026 - present) University of Minnesota
  – ECP8506 Clinical Trial Simulations (2024 - present) University of Minnesota

- Lecture contributor

  – ECP8982 Inter-Institutional Journal Club in Translational Research
  – ECP8440 Modeling Biologics (2020) University of Minnesota: Implementation of target-mediated drug disposition (TMDD) model

- Teaching assistantship

  – PHAR6786 Acute Patient Care Pharmacotherapy (2019-2020) University of Minnesota
  – PHAR6732 Medicinal Chemistry and Pharmacology of Cardiovascular Agents (2019) University of Minnesota
  – PHAR6756 Kidney, Fluid and Electrocytes (2017-2018) University of Minnesota
  – PHAR7401 and PHAR7433 Advanced Pharmacy Practice Experience (2017-2018) University of Minnesota

Publications

1. **Cheng, S.**, Flora, D.R., Jaber, M.M., Rettie, A.E., Brundage, R.C., Tracy, T.S. A Model-Based Analysis of the CYP2C9 Genotype Effects on Fluconazole Inhibition Using Flurbiprofen, Ketoprofen and Tolbutamide as Probe Drugs. *British Journal of Pharmacology*, 2026. DOI: 1111/bph.70337

2. Borgatti A., Husbands B.D., Sarver A.L., Chacón J.M., DeFor T.E., Rendahl A., Henson M.S., Modiano J.F., Stuebner K.M., Winter A.L., Scavello H., Pracht S., Chehadeh A., Bergsrud K., Feiock C., Anderson B., Kenney S., Atherton M.J., **Cheng, S.**, Salah P.C., Mahoney J., Brown D.R., Childress M.O., Dickerson E.B. Younger Age is Associated with Favorable Outcomes in Adult Dogs with Hemangiosarcoma Receiving Adjuvant Doxorubicin Chemotherapy: Results from the PRO-DOX Study. *Veterinary Oncology*, 2025. DOI: 10.1186/s44356-025-00049-w

3. Al Yacoub O., **Cheng S.**, Fayed M., Fisher J., Brooks J., Seaquist E., Kumar A., Moheet A., Eberly L., Coles L. Intranasal Naloxone During Recurrent Exercise in Patients with Type-1 Diabetes Mellitus: Evaluation of the Clinical Predictors on Pharmacokinetics and Exposure-Response. *Journal of Clinical Pharmacology*, 2025. DOI: 10.1002/jcph.70067

4. Saqr A., **Cheng S.**, Al-Kofahi M., Staley C., Jacobson P.A. Microbiome-Informed Dosing: Exploring Gut Microbial Communities Impact on Mycophenolate Enterohepatic Circulation and Therapeutic Target Achievement. *Clinical Pharmacology and Therapeutics*, 2025. DOI: 10.1002/cpt.3740

5. Rascher J., **Cheng S.**, Johnston C., Härtter S., JanGeorg W., Marquard J., Tartakovsky I., Laffel L. M. B. Pharmacokinetics and Pharmacodynamics of Empagliflozin in Paediatric Patients Aged 1017 Years with Type 2 Diabetes Mellitus. *British Journal of Clinical Pharmacology*, 2025. DOI: 10.1002/bcp.70096

6. Garcia R., **Cheng S.**, Glassman F., Sharma A., De Miguel-Lillo B., Wiens M., Johnston C., Lawo J.-P., Pragst I., French J., Polhamus D. and Nandy P. Population Pharmacokinetic/Pharmacodynamic and ExposureResponse Modeling of Garadacimab in Healthy Volunteers and Patients With Hereditary Angioedema. *CPT: Pharmacometrics & Systems Pharmacology*, 2025. DOI: 10.1002/psp4.70009

7. **Cheng S.**, Al-Kofahi M., Leeder S., Brown J. Population Pharmacokinetic Analysis of Atomoxetine and its Metabolites in Children and Adolescents with Attention-Deficit/Hyperactivity Disorder (ADHD). *Clinical Pharmacology and Therapeutics*, 2024. DOI: 10.1002/cpt.3155.

8. **Cheng S.**, Flora D.R., Rettie A.E., Brundage R.C., Tracy T.S. A Physiological-Based Pharmacokinetic Model Embedded with A Target Mediated Drug Disposition Mechanism Can Characterize Single Dose Warfarin Pharmacokinetic Profiles in Subjects with Various CYP2C9 Genotypes under Different Co-Treatments. *Drug Metabolism and Disposition*, 2023. DOI: 10.1124/dmd.122.001048

9. Sahasrabudhe S.A., **Cheng S.**, Al-Kofahi M., Jarnes J.R., Weinreb N.J., Kartha R.V. PBPK Model Development, Validation and Application for Prediction of Eliglustat Drug-Drug Interactions. *Clinical Pharmacology and Therapeutics*, 2023. DOI: 10.1002/cpt.2738.

10. **Cheng S.**, Flora D.R., Rettie A.E., Brundage R.C., Tracy T.S. Pharmacokinetic Modeling of Warfarin I-Model-Based Analysis of Warfarin Enantiomers with A Target Mediated Drug Disposition Model Reveals CYP2C9 Genotype-Dependent Drug-Drug Interactions of S-Warfarin. *Drug Metabolism and Disposition*, 2022. DOI: 10.1124/dmd.122.000876

11. **Cheng S.**, Flora D.R., Rettie A.E., Brundage R.C., Tracy T.S. Pharmacokinetic Modeling of Warfarin II-Model-Based Analysis of Warfarin Metabolites following Warfarin Administered either Alone or Together with Fluconazole or Rifampin. *Drug Metabolism and Disposition*, 2022. DOI: 10.1124/dmd.122.000877

12. **Cheng S.** Understanding the Impact of Pharmacogenetic Differences in Drug-Drug Interactions (DDIS): A Model-Based Approach to Predict Differences in Drug Exposure. *University of Minnesota ProQuest Dissertations Publishing; [Order No. 28870041]*. 2021

13. Jaber M. M., **Cheng S.**, Brundage R.C. Evaluation of Bias in Weighted Residual Calculations When Handling BLQ Data Using Beals M3 Method. *CPT: Pharmacometrics & Systems Pharmacology*, 2021. DOI: 10.1002/psp4.12616

14. **Cheng S.**, Bo Z., Hollenberg P.F., Osawa Y., and Zhang H. Amphipol-Facilitated Elucidation of the Functional Tetrameric Complex of Full-length Cytochrome P450 CYP2B4 and NADPH-Cytochrome-P450 Oxidoreductase. *J Biol Chem*, 2021. DOI: 10.1016/j.jbc.2021.100645

15. **Cheng S.**, Nethi S.K. Al-Kofahi M., Prabha S. Pharmacokinetic-Pharmacodynamic (PK-PD) Modeling of Tumor Targeted Drug Delivery using Nano-engineered Mesenchymal Stem Cells (Nano-MSCs). *Pharmaceutics*, 2021. DOI: 10.3390/pharmaceutics13010092

16. **Cheng S.**, Nethi, S. K., Rathi, S., Layek, B., Prabha, S. Engineered Mesenchymal Stem Cells for Targeting Solid Tumors: Therapeutic Potential beyond Regenerative Therapy. *J Pharmacol Exp Ther*, 2019. DOI: 10.1124/jpet.119.259796

17. Zhang, H., Yokom, A. L., **Cheng S.**, Su, M., Hollenberg, P. F., Southworth, D. R., Osawa, Y. The Full-Length Cytochrome P450 Enzyme CYP102A1 Dimerizes at Its Reductase Domains and Has Flexible Heme Domains for Efficient Catalysis. *J Biol Chem*, 2018. DOI: 10.1074/jbc.ra117.000600

18. Su J., Li B., **Cheng S.**, Zhu Z., Sang X., Gui S., Xie Y., Sun Q., Cheng Z., Cheng J., Hu R., Shen W., Xia Q., Zhao P., Hong F. Phoxim-Induced Damages of Bombyx mori Larval Midgut and Titanium Dioxide Nanoparticles Protective Role under Phoxim-Induced Toxicity. *Environ Toxicol*, 2014. DOI: 10.1002/tox.21866

19. Sheng L., Wang L., Sang X., Zhao X., Hong J., **Cheng S.**, Yu X., Liu D., Xu B., Hu R., Sun Q., Cheng J., Cheng Z., Gui S., Hong F. Nano-Sized Titanium Dioxide-Induced Splenic Toxicity: A Biological Pathway Explored using Microarray Technology. *J Hazard Mater*, 2014. DOI: 10.1016/j.jhazmat.2014.06.005

Manuscripts Submitted

1. Dabour M., Blaes A., Jacobson P.A., Kirstein M., Zordoky B., **Cheng, S.** Evaluation of Growth Differentiation Factor 15 as an Early Biomarker of Anthracycline-Induced Cardiotoxicity Using an Integrated PK/PD Model.

Manuscripts in Preparation

1. Pulsatile Delivery of Subcutaneous Hydrocortisone in Children with Congenital Adrenal Hyperplasia: A Proof-of-Concept Study.

2. Model-Based Evaluation of Vicadrostat Alone and in Combination with Empagliflozin for Improved Renal and Cardio-vascular Outcomes in Patients with CKD.

Contributed and Invited Talks

1. Model-Based Approaches to Elucidate the Impact of CYP2D6 Activity on Atomoxetine Exposures in Children and Adolescents with ADHD. *ASCPT Network & Community Experience 2024 PGx community: Recent Developments in Pharmacogenomics Research and Access to Care for Children and Adolescents.* 2024 (virtual)

2. Application of a target-mediated drug disposition (TMDD) model for warfarin. *Certara UMN webinar.* 2020 (virtual)

Conference Proceedings

1. Mohamed M., Saqr A., **Cheng S.**, Onyeaghala G., Staley C., Remmel R., Dorr C., Teigen L., Guan W., Gupta K., El-Rifai R., Oetting W., Matas A., Israni A., Jacobson P. Identification of Plasma Bacterial Metabolites Predictive of Mycophenolate Pharmacokinetics (PK) in Kidney Transplant (tx) Recipients. American Transplant Congress (ATC) Annual Meeting 2026, Boston, MA. (Submitted)

2. Mohamed M., **Cheng S.**, Staley C., Jacobson P. Microbiome Association with Tacrolimus Pharmacokinetics in Adult Hematopoietic Stem Cell Transplantation; A Population Pharmacokinetics and Machine Learning Approach. American Society for Clinical Pharmacology and Therapeutics (ASCPT) Annual Meeting 2026, Denver, CO. (Accepted)

3. Dabour M., Blaes A., Jacobson P., Kirstein K., Zordoky B., **Cheng S.** Model-Based Evaluation of GDF15 as an Early Biomarker of Anthracycline-Induced Cardiotoxicity using a PK/PD model. American Society for Clinical Pharmacology and Therapeutics (ASCPT) Annual Meeting 2026, Denver, CO. (Accepted)

4. Mohamed M., **Cheng S.**, Staley C., Jacobson P. Identification of Potential Gut Microbial Taxa Associated with the Oral Tacrolimus Pharmacokinetics in Adult Hematopoietic Stem Cell Transplantation. American College of Clinical Pharmacy (ACCP) Annual Conference, Minneapolis, MN.

5. Suriyapakorn B., **Cheng S.**, Rosenthal E., Cloyd J., Kapur J., Silbergleit R., Chamberlain J., Zehtabchi S., Bleck T., Quigg M., Coles L. Designing Optimal Pharmacokinetic Sampling Strategies for Ketamine in Established Status Epilepticus: A Model-Based Simulation Study to Support the KESETT Trial. American Conference of Pharmacometrics (ACOP) 16 2025, Denver, CO.

6. Yan D., Jaber M.M., Liu W., Gao Z., Munoz Y.M., Lightman S.L., Gunnar M., Brundage R.C., Sarafoglou K., **Cheng S.**. An Integrated PK-PD Model to Characterize Circadian-Driven ACTH-Cortisol Interactions in Patients with Congenital Adrenal Hyperplasia. American Conference of Pharmacometrics (ACOP) 16 2025, Denver, CO.

7. **Cheng S.**, Yan D., Mohamed M., Kaiser-Powers T., Kiweewa F.M., Jacobson P., Staley C., Nicol M. Pharmacometrics and Machine Learning-Based Modeling to Assess the Impact of Vaginal Microbiome on Tenofovir Exposures in the Female Genital Tract of African Women. American Conference of Pharmacometrics (ACOP) 16 2025, Denver, CO.

8. Sarafoglou K., Jaber M.M., Liu W., Hodges J.S., Gao Z., Munoz Y.M., Lightman S.L., Gunnar M., Golob L., Brundage R.C., **Cheng S**. Pulsatile Delivery of Subcutaneous Hydrocortisone in Children with Classic Congenital Adrenal Hyperplasia due to 21-Hydroxylase Deficiency: A Proof-of-Concept Study. Pediatric Endocrine Society (PES) Annual Meeting 2025, National Harbor, MD.

9. Golob L., Liu W., Munoz Y.M., **Cheng S.**, Hodges J.S., Gao Z., Brundage R.C., Sarafoglou K. Sleep Health and Fatigue in Children with Congenital Adrenal Hyperplasia (CAH) Due To 21OHD on Pulsatile Administration of Subcutaneous Hydrocortisone Via Infusion Pump Versus Oral Hydrocortisone Therapy. Pediatric Endocrine Society (PES) Annual Meeting 2025, National Harbor, MD.

10. Mohamed, M.E., **Cheng S.**, Staley, C; Holtan, S.G., Jacobson, P.A. Factors influencing pharmacokinetics of tacrolimus in hematopoietic stem cell transplantation; The integration of microbiome and pharmacogenomics. Association for Clinical and Translational Science (ACTS) 2025, Washington, DC.

11. Mohamed, M.E., **Cheng S.**, Staley, C; Holtan, S.G., Jacobson, P.A. Factors influencing pharmacokinetics of tacrolimus in hematopoietic stem cell transplantation; The integration of microbiome and pharmacogenomics. The integration of microbiome and pharmacogenomics". Clinical and Translational Science Institute (CTSI) Translational Science Symposium & Poster Session 2024, Minnesapolis, MN.

12. Suriyapakorn B., **Cheng S.**, Rosenthal E., Cloyd J., Kapur J., Silbergleit R., Chamberlain J., Zehtabchi S., Bleck T., Quigg M., Coles L. A Model-based Approach to Evaluate Pharmacokinetic Sampling Strategies for Ketamine in the Ketamine Add-on Therapy for Established Status Epilepticus Treatment Trial (KESETT). American Epilepsy Society (AES) Annual Meeting 2024, Los Angeles.

13. Saqr A., Al-Kofahi M., **Cheng S.**, Staley C., Jacobson P.A. Incorporating High Dimensional Gut Microbiome Data into Population Pharmacokinetic Modeling of Mycophenolate Mofetil. American Conference of Pharmacometrics (ACOP) 15 2024, Phoenix, AZ.

14. Khatri A., Cobbina E., **Cheng S.**, Abutarif M., Garimella T. Population Pharmacokinetics of Trastuzumab Deruxtecan (T-DXd) in Subjects with HER2-mutant and HER2-overexpressing Non-Small Cell Lung Cancer (NSCLC). American Society of Clinical Oncology (ASCO) 2024, Chicago, IL.

15. Glassman F., Sharma A., **Cheng S.**, Johnston C., DeMiguelLillo B., Lawo J., Jacobs I., Polhamus D., Nandy P. Population Pharmacokinetic / Pharmacodynamic Analysis of Garadacimab, in Patients with Hereditary Angioedema. American Academy of Allergy Asthma & Immunology (AAAAI) 2024, Washington, DC.

16. **Cheng S.**, Green S., Marinelli R., Baron K.T. simpar: an R Package for Parameter Uncertainty Simulations in Pharmacometric Modeling. American Conference of Pharmacometrics (ACOP) 14 2023, National Harbor, MD.

17. **Cheng S.**, Lennie J., Reilly B., Kawakatsu S., Kay K., Wang X., Johnston C., Tartakovsky I., Nock V. Population Pharmacokinetic (PK) and Exposure-Response (ER) Analysis of Empagliflozin in Pediatric Patients with Type 2 Diabetes Mellitus (T2DM). American Conference of Pharmacometrics (ACOP) 14 2023, National Harbor, MD.

18. Reilly B., Kawakatsu S., Baron K.T., **Cheng S.**, Lennie J., Kay K., Johnston C., Wang X., Tartakovsky I., Nock V. Population Pharmacokinetic (PK) and Exposure-Response (ER) Analysis of Linagliptin in Pediatric Patients with Type 2 Diabetes Mellitus (T2DM). American Conference of Pharmacometrics (ACOP) 14 2023, National Harbor, MD.

19. AlKofahi M., **Cheng S.**, Leeder S., Brown J. Population pharmacokinetics of atomoxetine and its metabolites in children and adolescents with attention-deficit/hyperactivity disorder (ADHD). American Society for Clinical Pharmacology and Therapeutics (ASCPT) Annual Meeting 2022, Virtual.

20. **Cheng S.**, Flora D.R., Tracy T. S., Rettie A.E., Brundage R.C. A physiological-based pharmacokinetic (PBPK) model embedded with a target mediated drug disposition (TMDD) mechanism can characterize S-warfarin pharmacokinetic (PK) profiles in subjects with various CYP2C9 genotypes under different co-treatments. American Conference of Pharmacometrics (ACOP) 12 2021, Virtual.

21. **Cheng S.**, Jaber M. M., Flora D.R., Tracy T. S., Rettie A.E., Brundage R.C. Model-based analysis of the CYP2C9 genotype impact on the fluconazole inhibition of the commonly prescribed drugs flurbiprofen, ketoprofen, and tolbutamide. American College of Clinical Pharmacology (ACCP) Annual Meeting 2021, Virtual.

22. **Cheng S.**, Flora D.R., Tracy T. S., Rettie A.E., Brundage R.C. Population based pharmacokinetic analysis of the S-Warfarin metabolites following warfarin administered alone and together with fluconazole and rifampin. University of Minnesota College of Pharmacy Annual Research Day 2021, Virtual.

23. **Cheng S.**, Flora D.R., Tracy T. S., Rettie A.E., Brundage R.C. Genotype-dependent changes in warfarin clearance upon co-administration of an inhibitor (fluconazole) and an inducer (rifampin): A model-based analysis. American Conference of Pharmacometrics (ACOP) 11 2020, Virtual.

24. **Cheng S.**, Tracy T. S., Brundage R.C. Evaluation of the impact of CYP2C9 genetic polymorphism on S-warfarin drug-drug interactions using a pharmacometric approach. University of Minnesota College of Pharmacy Annual Research Day 2020, Minneapolis, MN.

25. **Cheng S.**, Layek B., Al-Kofahi M., Brundage R. C., Prabha S. Elucidating the disposition of nano-engineered mesenchymal stem cells using pharmacokinetic modeling. 9th Annual Masonic Cancer Center (MCC) Cancer Research Symposium 2019, Minneapolis, MN.

26. **Cheng S.**, Layek B., Al-Kofahi M., Brundage R. C., Prabha S. Development of pharmacokinetic model for chemotherapeutics delivered by nano-engineered mesenchymal stem cells. University of Minnesota College of Pharmacy Annual Research Day 2019, Minneapolis, MN.

27. **Cheng S.**, Layek B., Al-Kofahi M., Brundage R. C., Prabha S. Elucidating the disposition of nano-engineered mesenchymal stem cells using pharmacokinetic modeling. American Conference of Pharmacometrics (ACOP) 10 2019, Orlando, FL.

28. Nethi S.K., Sehgal D., **Cheng S.**, Panyam J. and Prabha S. Synthetic antigen receptor mesenchymal stem cells (SAR-MSCs) targeting perlecan for drug delivery to ovarian cancer. American Association for Cancer Research (AACR) Annual Meeting 2019, Atlanta, GA.

29. **Cheng S.**, Yokom A. L., Hollenberg P. F., Southworth D. R., Osawa Y., Zhang H. Preparation and characterization of the complex of cytochrome P450 2B4 and cytochrome P450 oxidoreductase incorporated into Amphipol A8-35. 12th Great Lake Drug Metabolism and Disposition Group (GLDMDG) Annual Meeting 2017, Kalamazoo, MI.

Mentoring Activities

- Postdoctoral mentorship

  - Nikolaos Memmos, Ph.D., Department of Experimental and Clinical Pharmacology, University of Minnesota (2026-present).

- Graduate student mentorship

  - Diqin Yan, M.S., Graduate student in Experimental and Clinical Pharmacology Program, University of Minnesota (2024-present).

- Fellowship mentorship

  - Moataz Mohamed, M.S., Graduate trainee in Translational Research Development Program (TRDP), Clinical and Translational Science Institute (CTSI), University of Minnesota (2024-present).

- Thesis or preliminary exam committee

  - Bovornpat Suriyapakorn, Pharm.D., BCPS., BCGP., Graduate student in Experimental and Clinical Pharmacology Program, University of Minnesota.
  - Mohamed Dabour, M.S., Graduate student in Experimental and Clinical Pharmacology Program, University of Minnesota.
  - Moataz Mohamed, M.S., Graduate student in Experimental and Clinical Pharmacology Program, University of Minnesota.
  - Zheng Xue, B.S., Graduate student in Pharmaceutics Program, University of Minnesota.