

## **Sze-chuan Suen**

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### **Research Interests**

Health policy modeling; dynamic systems modeling; infectious disease control; cost-effectiveness analysis; Markov decision processes (MDP/POMDP); micro- and agent-based simulation; medical decision making

### **Employment History**

- 2016-present WiSE Gabilan Assistant Professor, Daniel J Epstein Department of Industrial and Systems Engineering, Viterbi School of Engineering, University of Southern California (USC)
- 2016-present Fellow, USC Schaeffer Center for Health Policy and Economics
- 2017-present Faculty Member, USC Center for Artificial Intelligence in Society

### **Education: Stanford University**

- 2016 PhD, Management Science and Engineering  
*Dissertation:* Control of Drug-Sensitive and Drug-Resistant Tuberculosis in Resource-Constrained Settings  
*Advisors:* Professors Margaret Brandeau and Jeremy Goldhaber-Fiebert
- 2012 MS, Management Science and Engineering
- 2009 BA, Economics with Honors
- 2009 BS, Biological Sciences

### **Awards and Honors**

- 2023 National Science Foundation CAREER Award
- 2023 Speaker and attendee at the National Academy of Engineering 2023 US Frontiers of Engineering Symposium (Boulder, CO. Sept 10-13, 2023)
- 2021 Honorable Mention, Competition for the Best Application Paper in the 2021 IISE Transactions Focus Issue on Operations Engineering and Analytics
- 2020 USC Women in Science and Engineering (WISE) Gabilan Assistant Professor, a distinction that recognizes academic excellence (\$15,000/year for 3 years)
- 2019 Third Place, Junior Faculty Forum Paper Competition, INFORMS
- 2019 Finalist, Pierskalla Best Paper Award, INFORMS Health Applications Society
- 2017 Winner, Pierskalla Best Paper Award, INFORMS Health Applications Society
- 2014 Winner, Lee B. Lusted Award for Outstanding Student Research in Applied Health Economics at the Society for Medical Decision Making Annual Meeting
- 2012 Winner, Lee B. Lusted Award for Outstanding Student Research in Health Services and Policy at the Society for Medical Decision Making Annual Meeting
- 2012 National Science Foundation Graduate Research Fellowship

## Publications

Key: Graduate Students\*

### *Peer-Reviewed Journal Articles*

1. Liang C\*, **Suen SC**, Nguyen A\*, Moucheraud C, Hsu L, Holloway IW, Charlebois ED, Steward WT. The Impact of COVID-19 Response on the HIV Epidemic in Men Who Have Sex with Men in San Francisco County: The Importance of Rapid Return to Normalcy. *Journal of Acquired Immune Deficiency Syndromes (JAIDS)*. 2023 Apr; 92(5):370-377.
2. Nguyen A\*, **Suen SC**, Lin E. APOL1 Genotype, Proteinuria, and the Risk of Kidney Failure: A Secondary Analysis of the AASK (African American Study of Kidney Disease and Hypertension) and CRIC (Chronic Renal Insufficiency Cohort) Studies. *Kidney Medicine*. 2022 Nov; 4(12):100563.
3. Zhang S\*, Silverman A, **Suen SC**, Andrews C, Chen BK. Differential patterns of opioid misuse between younger and older adults – a retrospective observational study using data from South Carolina’s prescription drug monitoring program. *The American Journal of Drug and Alcohol Abuse*. 2022 Oct; 48:5, 618-628.
4. Nguyen A\*, Drabo EF, Moucheraud C, Garland W, Holloway I, Leibowitz A, **Suen SC**. Are Unequal Policies in Pre-Exposure Prophylaxis Uptake Needed to Improve Equality? An Examination Among Men Who Have Sex with Men in Los Angeles County. *AIDS Patient Care and STDs*. 2022 Aug; 36:8, 300-312.
5. Drabo E, Moucheraud C, Nguyen A\*, Garland W, Holloway I, Leibowitz A, **Suen SC**. Using Microsimulation Modeling to Inform County EHE Implementation Efforts in Los Angeles County. *Journal of Acquired Immune Deficiency Syndrome (JAIDS)*. 2022 Jul; 90 (S1): S167-S176.
6. Wei Y\*, Hay JW, Hay AR, **Suen SC**. Fexapotide trifluate vs oral pharmacotherapy as initial therapy for moderate-to-severe benign prostate hyperplasia patients: a cost-effectiveness analysis. *BMC Urology*. 2022 May; 22, 76.
7. Wu CC\*, **Suen SC**. Optimizing diabetes screening frequencies for at-risk groups. *Health Care Management Science*. 2022 Mar;25(1):1-23. **2<sup>nd</sup> Place at USC ISE Student Poster Competition Spring 2019; Semifinalist at the 2019 INFORMS Poster Session Competition.**
8. **Suen SC**, Negoescu D, Goh J. Design of Incentive Programs for Optimal Medication Adherence in the Presence of Observable Consumption. *Operations Research*. 2022 Feb. 70(3): 1691-1716. **2019 Pierskalla Best Paper Award Finalist; Won 3<sup>rd</sup> place in the 2019 Junior Faculty Forum Paper Competition.**
9. Kasajima M, Hashimoto H, **Suen SC**, Chen B, Jalal H, Eggleston K, Bhattacharya J. Future Projection of the Health and Functional Status of Older People in Japan: a Multistate

Transition Microsimulation Model With Repeated Cross-sectional Data. *Health Economics*. 2021 Nov;30 Suppl 1:30-51.

10. Zhang S\*, **Suen SC**, Gong CL, Pham J, Trebicka J, Duvoux C, Klein AS, Wu T, Jalan R, Sundaram V. Early transplantation maximizes survival in severe acute-on-chronic liver failure: results of a Markov decision process model. *JHEP Reports*. 2021 Sep 23;3(6):100367.
11. Wilder B\*, **Suen SC**, Tambe M. Allocating Outreach Resources for Disease Control in a Dynamic Population with Information Spread. *IISE Transactions*. 2021; 53(6): 629-642.
12. Salcedo J\*, Rosales M, Nuno D, **Suen SC**, Chang AH. Cost-Effectiveness of Artificial intelligence monitoring for active tuberculosis treatment: A modeling study. *PLoS One*. 2021 Jul 21;16(7):e0254950.
13. Jun H\*, Cho SK\*, Aliyev ER\*, Mattke S, **Suen SC**. How much value should a preventive treatment for Alzheimer's disease offer? Cost-effectiveness thresholds for pricing a disease-modifying therapy. *Current Alzheimer Research*. 2020; 17(9): 819-822.
14. Young L, Mayaud J\*, **Suen SC**, Tambe M, Rice E. Modeling the Dynamism of HIV Information Diffusion in Multiplex Networks of Homeless Youth. *Social Networks*. 2020 Oct; 63: 112-121.
15. Nguyen A\*, Young L, Beymer M, **Suen SC**. Developing Targeted HIV Risk Predictors for Young Black Men Who Have Sex With Men: a Two-city Comparative Study. *International Journal of STD & AIDS*. 2020 Feb; 31(4): 335-344.
16. Salcedo J\*, **Suen SC**, Bian SX. Cost-Effectiveness of Chemoradiation followed by Esophagectomy versus Chemoradiation Alone in Squamous Cell Carcinoma of the Esophagus. *Cancer Medicine*. 2020 Jan; 9(2): 440–446.
17. Yang HS\*, Beymer M, **Suen SC**. Chronic Disease Onset Among People Living with HIV and AIDS in a Large Private Insurance Claims Dataset. *Scientific Reports*. 2019 Dec; 9(18514)
18. **Suen SC**, Brandeau ML, Goldhaber-Fiebert JD. Optimal Timing of Drug Sensitivity Testing for Patients on First-line TB Treatment in India. *Health Care Management Science*. 2018 Dec; 21(4):632-646. **Winner of the 2017 Pierskalla Best Paper Award.**
19. **Suen SC**, Goldhaber-Fiebert JG, Basu S. Matching Microsimulation Risk Factor Correlations to Cross-Sectional Data: The Shortest Distance Method. *Medical Decision Making*. 2018 May;38(4):452-464.

20. **Suen SC**, Goldhaber-Fiebert JD, Brandeau ML. Distinguishing High-Risk versus Low-Risk Subgroups in Compartmental Epidemic Models: Where to Draw the Line? *Journal of Theoretical Biology*, 2017 Sept; 428: 1-17.
21. Chen BK, Jalal H, Hashimoto H, **Suen SC**, Eggleston K, Hurley M, Schoemaker L, Bhattacharya J. Forecasting Trends in Disability in a Super-Aging Society: Adapting the Future Elderly Model to Japan. *Journal of the Economics of Ageing*. 2016 Dec;8:42-51
22. Houben RMGJ, Menzies NA, Sumner T, Huynh GH, Arinaminpathy N, Goldhaber-Fiebert JD, Lin HH, Wu CY, Mandal S, Pandey S, **Suen SC**, Bendavid E, Azman AS, Dowdy DW, Bacaër N, Rhines AS, Feldman MW, Handel A, Whalen CC, Chang ST, Wagner BG, Eckhoff PA, Trauer JM, Denholm JT, McBryde ES, Cohen T, Salomon JA, Pretorius C, Lalli M, Eaton JW, Boccia D, Hosseini M, Gomez GB, Sahu S, Daniels C, Ditiu L, Chin DP, Wang L, Chadha VK, Rade K, Dewan P, Hippner P, Charalambous S, Grant AD, Churchyard G, Pillay Y, Mameitja LD, Kimerling ME, Vassall A, White RG. Feasibility of Achieving the 2025 WHO Global TB targets in South Africa, China and India: A Combined Analysis of 11 Models. *Lancet Global Health*. 2016 Oct; 4(10).
23. Menzies NA, Gomez GB, Bozzani F, Chatterjee S, Foster N, Baena IG, Laurence YV, Qiang S, Siroka A, Sweeney S, Verguet S, Arinaminpathy N, Azman AS, Bendavid E, Chang ST, Cohen T, Denholm JT, Dowdy DW, Eckhoff PA, Goldhaber-Fiebert JD, Handel A, Huynh GH, Lalli M, Lin HH, Mandal S, McBryde ES, Pandey S, Salomon JA, **Suen SC**, Sumner T, Trauer JM, Wagner BG, Whalen CC, Wu CY, Boccia D, Chadha VK, Charalambous S, Chin DP, Churchyard G, Daniels C, Dewan P, Ditiu L, Eaton JW, Grant AD, Hippner P, Hosseini M, Mameitja D, Pretorius C, Pillay Y, Rade K, Sahu S, Wang L, Houben RMGJ, Kimerling ME, White RG, Vassall A. Cost-effectiveness and Resource Implications of Aggressive Action on TB in China, India and South Africa: a Combined Analysis of Nine Models. *Lancet Global Health*. 2016 Oct; 4(10).
24. **Suen SC**, Goldhaber-Fiebert JD. An Efficient, Non-iterative Method of Identifying the Cost-effectiveness Frontier. *Medical Decision Making*. 2016 Jan;36(1):132-6
25. **Suen SC**, Bendavid E, Goldhaber-Fiebert JD. Cost-effectiveness of Improvements in Diagnosis and Treatment Accessibility for Tuberculosis Control in India. *International Journal of Tuberculosis and Lung Disease*. 2015 Sep;19(9):1115-24, i-xv
26. Babiarz KS, **Suen SC**, Goldhaber-Fiebert JD. Tuberculosis Treatment Discontinuation and Symptom Persistence: an Observational Study of Bihar, India's Public Care System Covering >100,000,000 Inhabitants. *BMC Public Health*. 2014 May;14:418.
27. **Suen SC**, Bendavid E, Goldhaber-Fiebert JD. Disease Control Implications of India's Changing Multi-drug Resistant Tuberculosis Epidemic. *PLoS One*. 2014 Mar; 9(3):e89822.

*Refereed Conference and Workshop Proceedings*

28. Ou H-C\*, Sinha A, **Suen SC**, Perrault A, Tambe M. Who and When to Screen: Multi-Round Active Screening for Recurrent Infectious Diseases Under Uncertainty. *Nineteenth International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2020)* [23% acceptance rate for full papers in year of submission]

29. Wilder B\*, **Suen SC**, Tambe M. Preventing infectious disease in dynamic populations under uncertainty. *Thirty-Second AAAI Conference on Artificial Intelligence (AAAI-18)* [24.6% acceptance rate in year of submission].
30. Wang K\*, Wilder B\*, **Suen SC**, Dilkina B, Tambe M. Improving GP-UCB Algorithm by Harnessing Decomposed Feedback. Workshop Proceeding at the 4th Workshop on Data Science for Social Good, at *ECML PKDD 2019*. Sept 2019. Würzburg, Germany.

#### *Edited Works*

1. **Suen SC**, Scheinker D, Enns E (Eds.). (2022). *Artificial Intelligence for Healthcare: Interdisciplinary Partnerships for Analytics-driven Improvements in a Post-COVID World*. Cambridge: Cambridge University Press. doi:10.1017/9781108872188

#### *Peer-Reviewed Book Chapters*

1. **Suen SC**. "Optimization in Infectious Disease Control and Prevention: Tuberculosis Modeling Using Microsimulation." *Decision Analytics and Optimization in Disease Prevention and Treatment*. Editors: Shengfan Zhang and Nan Kong. Wiley Series in Operations Research and Management Science. 2018.

#### *Manuscripts in Progress*

1. Sina Baharlouei\*, Kelechi Ogudu\*, **Sze-chuan Suen**, and Meisam Razaviyayn. "RIFLE: Robust Inference from Low Order Marginals." *Under 2<sup>nd</sup> round of review for the Journal of Machine Learning Research (JMLR)*.
2. Zhang S\*, **Suen SC**, Sundaram V, Gong CL. Quantifying the Benefits of Increasing Decision-Making Frequency in Health Applications Using a Markov Decision Process Framework. *Undergoing 2<sup>nd</sup> round of revisions for IISE Transactions*.
3. Wu CC\*, **Suen SC**, Lin E. Optimal Chronic Kidney Disease Screening Among Diabetics: A POMDP Approach. *Undergoing 2<sup>nd</sup> round of revisions for Health Care Management Science*.
4. Strickland M, Nguyen A\*, Wu S, **Suen SC**, Mu Y, Del Rio Cuervo J\*, Shin BJ, Kalakuntla T, Ghafil C, Matsushima K. Assessment of Machine Learning Methods to Predict Massive Blood Transfusion in Trauma. *Undergoing minor revisions for World Journal of Surgery*.
5. Dai P\*, **Suen SC**, Vardavas R, Nowak. Optimizing Social Distancing Policies: A Dynamic Programming Approach for Coupled High and Low Risk Populations. *Submitted*.

6. Yu H\*, Zhang S\*, **Suen SC**, Dessouky M, Ordonez F. Extending Dynamic Origin-Destination Estimation to Understand COVID-19 Traffic Patterns in Los Angeles. *Manuscript in Progress.*
7. Liang C\*, **Suen SC**, Hong C, Kim A, Singhal R, Simon P, Perez M, Holloway IW. A Microsimulation Model of Mpox in Los Angeles County: The Impact of Vaccination Strategies and Sexual Behavior Changes among Men Who Have Sex with Men (MSM). *Manuscript in Progress.*

## Grants

*National Science Foundation*  
2237959

4/1/23-3/31/28

PI: **Suen SC**

\$550,781 (candidate portion: 100%)

“CAREER: Advancing Disease Modeling for Decision Making in Healthcare.” I study methods to incorporate behavior and heterogeneity in infectious disease modeling for optimization, dynamic decision making, and cost-effectiveness.

*NIH National Library of Medicine*  
1R21LM013697

9/1/21-8/31/24

PI: **Suen SC**, Co-I: Dessouky M, Sood N.

\$309,105.00 (candidate portion: ~50%)

“Using Road Traffic Data to Identify COVID-19 Priority Testing Locations in Southern California.” We use traffic data to parameterize infectious disease models and optimize vaccine site locations.

*California Department of Public Health*

10/1/22-9/30/23

PI: Holloway I, Subaward PI: **Suen SC**

\$61,634 (candidate portion: 100%)

“Lens Social Determinants of Health and Human Immunodeficiency Virus (HIV) Application Augmentation and Related Syndemics -- Application Augmentation to address Human Monkeypox Virus (HMPXV).” We develop a microsimulation model of HMPXV infection for to support Los Angeles Department of Public Health decision making.

*NSF/NIH Joint Initiative on Generalizable Data Science Methods for Biomedical Research*  
1R01LM013315

9/01/19-8/31/23

PIs: Razavayan M, Stiles B, **Suen SC** (multi-PI grant, PIs listed in alphabetical order)

\$707,563 (candidate portion: ~33%)

“Robust Inference in the Presence of Data Heterogeneity and Structured Missing Data in Biological and Health Datasets.” We develop methods to merge and otherwise simultaneously analyze heterogeneous health datasets.

*Sutter Health System*

9/01/18-8/14/23

PI: Steven Fox. Co-I: **Suen SC**

\$72,326.06 (candidate portion: 100%)

"Sutter Fellowship." We use data analytics methods to analyze electronic health record data to improve understanding of Sutter hospital outcomes.

*NUS-Global Asia Institute NIHA Research Grant 2018*

7/01/19-12/31/21

PI: Goh J. Co-I: **Suen SC**

\$120,600 (candidate portion: 95%)

"Designing Incentives to Improve Tuberculosis Treatment Adherence in Resource Constrained Settings." We study an optimization framework for incentivizing treatment adherence given heterogeneous patient preferences.

*Office of the Provost at the University of Southern California, James H. Zumberge Faculty*

*Research and Innovation Fund at the University of Southern California*

8/1/20-9/30/21

PI: **Suen SC**, Co-PIs: Dessouky M, Sood N

\$85,000 (candidate portion: ~50%)

"Identifying Priority Testing Locations in Southern California for COVID-19 With Transmission Dynamics and Network Data." We analyze traffic data during COVID-19 to inform health resource allocation decisions.

*UC CA HIV/AIDS Research Program (CHRP)*

4/1/20-3/31/21

PI: Holloway I, Subaward PI: **Suen SC**

\$17,000 (candidate portion: 100%)

"California HIV/AIDS Policy Research Center at UCLA/APLA." We develop a microsimulation model of HIV/AIDS in Los Angeles County.

*UC San Francisco - California HIV/AIDS Policy Research Center (CHRP)*

4/01/20-3/31/21

PI: Steward W, Subaward PI: **Suen SC**

\$14,244 (candidate portion: 100%)

"AIDS Policy Research Center." We build a microsimulation model to understand how COVID-19 trends have changed the HIV/AIDS epidemiological trajectory in San Francisco.

*CFAR: UCLA AIDS Institute, UCLA Center for AIDS Research and USC Molecular*

*Microbiology and Immunology*

5/25/18-5/24/20

PI: Moucheraud C, Co-PI: **Suen SC**

\$50,000 (candidate portion: 50%)

"A Collaboration to Model the Impact and Cost-Effectiveness of Approaches to Meet the Los Angeles County HIV/AIDS Strategy for 2020 and Beyond." We develop a microsimulation model to understand the impact of LA County HIV/AIDS control policies.

*Zumberge Faculty Research & Innovation Fund: Diversity and Inclusion Award*

7/1/19-8/31/20

PI: Lin E. Co-PI: **Suen SC**

\$30,000 (candidate portion: ~95%)

"RECALC (Risk of ESRD in Chronic kidney disease and the Apolipoprotein L1 Calculator)." We develop statistical models to examine differences in ESRD risk given the presence of the APOL1 gene.

*NIH National Institute on Aging (NIA) Resource Centers for Minority Aging Research (RCMAR) Initiative*

9/15/18-6/30/19

PI: **Suen SC**

\$30,000 (candidate portion:100%)

“Assessing HIV Prevention Benefits Accrued in Old Age: Preventing Cognitive Decline.” We examine a large electronic medical record database to understand chronic disease acquisition among people living with HIV/AIDS.

*CHIPTS: Center for HIV Identification, Prevention and Treatment Services*

PI: Leibowitz A. Subaward-PI: **Suen SC**

\$8,914 (candidate portion:100% of subaward allocated to USC)

7/01/18-1/31/19

\$9,000 (candidate portion:100% of subaward)

2/01/21-1/31/22

“Cross-campus collaboration to model the cost-effectiveness of strategies to get to Zero in California for men who have sex with men (MSM).” We develop a microsimulation model in collaboration with UCLA, LA County Department of Public Health, and other researchers to understand HIV/AIDS trends among MSM.

### **Conference and Workshop Presentations** (Speaker, Graduate Student\*)

1. Liang C\*, **Suen SC**, Hong C, Kim A, Singhal R, Simon P, Perez M, Holloway I. A Microsimulation Model of Monkeypox (Mpox) in Los Angeles County (LAC): Implications for Future Disease Prevention and Control Strategies Among Men Who Have Sex with Men (MSM). INFORMS Healthcare Conference, Jul 26-28, 2023. Toronto, ON.
2. Maaz M\*, Leung KHB\*, Boutilier JJ, **Suen SC**, Chan T. Cost-Effectiveness of Drones for Cardiac Arrest Response. INFORMS Healthcare Conference, Jul 26-28, 2023. Toronto, ON.
3. Zhang S\*, Yu H\*, Dai P\*, **Suen SC**, Dessouky MM, Ordonez F. Using Dynamic Origin-Destination Estimation Using Road Traffic Sensor Data for Disease Control Insights. INFORMS Healthcare Conference, Jul 26-28, 2023. Toronto, ON.
4. Cao Y\*, **Suen SC**, Lin E, Woo K, Murea M. Improving Treatment Outcomes in Hemodialysis Patients: Personalized Vascular Access Recommendations While Considering Patient Frailty. INFORMS Healthcare Conference, Jul 26-28, 2023. Toronto, ON.
5. Cao Y\*, **Suen SC**. Practical Implementation of Predictive Models Considering Racial Disparities: Cost-Effectiveness Modeling of Risk Score Cutoffs. INFORMS Healthcare Conference, Jul 26-28, 2023. Toronto, ON.
6. Zhang S\*, **Suen SC**. Quantifying the Benefits of More Frequent Decision Making Opportunities. INFORMS Healthcare Conference, Jul 26-28, 2023. Toronto, ON.
7. Zhang S\*, **Suen SC**, Yu H, Nguyen A\*, Dessouky M. Understanding Quantifying the Health Impacts of COVID-19 Lockdown Policies in Los Angeles Using Traffic Data. 44th Annual North American Meeting of the Society for Medical Decision Making. Oct 23-26, 2022. Seattle, WA. *Lusted Competition Finalist* in Health Services, Outcomes and Policy Research (HSOP).
8. Cao Y\*, **Suen SC**. The Cost-Effectiveness of Pre-Screening for Chronic Kidney Disease (CKD) Using Machine Learning Among White and Black Americans. 44th Annual North



American Meeting of the Society for Medical Decision Making.” Oct 23-26, 2022. Seattle, WA. *Lusted Competition Finalist* in Applied Health Economics (AHE).

9. **Suen SC**. Calibration and Model Tuning. Opioid Simulation Modeling Workshop. Oct 22, 2022. Seattle, WA.
10. **Liang C\***, **Suen SC**, Nguyen A\*, Moucheraud C, Holloway I, Charlebois E, Steward W. Using a Microsimulation Approach to Understand Covid-19 Effects on the HIV Epidemic Among Men Who Have Sex with Men (MSM) in San Francisco County. INFORMS Annual Meeting. October 16-19, 2022. Indianapolis, IN.
11. **Cao Y\***, **Suen SC**. Towards Practical Implementation of Predictive Models: Cost-effectiveness Modeling of Risk Score Cutoffs. INFORMS Annual Meeting. October 16-19, 2022. Indianapolis, IN.
12. **Dai P\***, **Suen SC**, Goh J. Optimal Investments on HIV Intervention Portfolios when Future Budgets are Linked to past Performance. INFORMS Annual Meeting. October 16-19, 2022. Indianapolis, IN.
13. **Suen SC**. Using Simulations as Inputs. INFORMS Annual Meeting. October 16-19, 2022. Indianapolis, IN.
14. **Zhang S\***, **Suen SC**. An Approximate Algorithm for Optimizing Repeated Decisions in Infectious Disease Control. INFORMS Annual Meeting. October 16-19, 2022. Indianapolis, IN.
15. Wilder B\*, **Suen SC**, Tambe M. “Allocating outreach resources for disease control in a dynamic population with information spread,” IISE Annual Conference. May 2022. Seattle.
16. **Wu CC\***, **Suen SC**. “Using the Relationship between Screening Frequency and No-Show Costs to Overcome Barriers to Care.” POMS Annual Conference. Apr 2022. Virtual.
17. Nguyen A\*, **Suen SC**. “Modeling HIV/AIDS For Urban Centers in California to Inform Disease Control Goals.” INFORMS Annual Meeting. October 24-27, 2021. Anaheim, CA and Virtual.
18. **Zhang S\***, **Suen SC**. "Optimizing Repeated Decisions in Infectious Disease Control." INFORMS Annual Meeting. October 24-27, 2021. Anaheim, CA and Virtual.
19. **Nguyen A\***, **Suen SC**. "Using Simple Optimization Methods to Enhance the Development of Stratified Models for Infectious Disease." INFORMS Annual Meeting. October 24-27, 2021. Anaheim, CA and Virtual.
20. **Suen SC**, Negoescu DM, **Goh J**. "Optimizing Financial Incentives for Medication Adherence." INFORMS Annual Meeting. October 24-27, 2021. Anaheim, CA and Virtual.

21. Wu CC\*, **Suen SC**. "Finding the Optimal Screening Policy for Chronic Kidney Disease Among Diabetics Using A POMDP Framework." INFORMS Annual Meeting. October 24-27, 2021. Anaheim, CA and Virtual.
22. Dai P\*, **Suen SC**. "Optimizing Social Distancing Policies: A Dynamic Programming Approach for Coupled High and Low Risk Populations." INFORMS Annual Meeting. October 24-27, 2021. Anaheim, CA and Virtual.
23. Zhang S\*, **Suen SC**. "Optimizing Repeated Decisions in Infectious Disease Control." INFORMS Annual Meeting. October 24-27, 2021. Anaheim, CA and Virtual.
24. Dai P\*, **Suen SC**. Optimizing Social Distancing Policies for COVID-19: A Dynamic Programming Approach for Coupled High and Low Risk Populations. 43rd Annual North American Meeting of the Society for Medical Decision Making. Oct 18-20, 2021. Virtual. **Lusted Competition Finalist** in Quantitative Methods and Theoretical Developments (QMTD).
25. Nguyen A\*, Charlebois ED, Steward W, Drabo E, Moucheraud C, Holloway I, Leibowitz A, **Suen SC**. "Modeling Options for Ending the HIV Epidemic (EHE) Goals for San Diego County." 43rd Annual North American Meeting of the Society for Medical Decision Making. Oct 18-20, 2021. Virtual. **Lusted Competition Finalist** in Health Services, Outcomes and Policy Research (HSOP).
26. Nguyen A\*, Strickland M, Wu Y, Mu Y, Wu S, **Suen SC**, Matsushima K. "Development of a User-Friendly Tool for Massive Blood Transfusion Prediction in Trauma. 43rd Annual North American Meeting of the Society for Medical Decision Making." Oct 18-20, 2021. Virtual. **Lusted Competition Finalist** in Decision Psychology and Shared Decision Making (DEC).
27. Nguyen A\*, **Suen SC**, Lin E. "The Apolipoprotein L1 (APOL1) gene and the Long-term Risk of End-Stage Kidney Disease as Mediated by Proteinuria." Oct 18-20, 2021. Virtual. **Winner of the Bruce Schackman Award for Outstanding Presentation in Health Services, Outcomes, and Policy Research (HSOP) in the SMDM Lusted Competition.**
28. Wu CC\*, Lin E, and **Suen SC**. "Is Annual Screening for Chronic Kidney Disease among Diabetics Optimal? Evaluating All Policies for Cost-effectiveness." 43rd Annual North American Meeting of the Society for Medical Decision Making. Oct 18-20, 2021. Virtual. **Winner of the Milt Weinstein Award for Outstanding Presentation in Applied Health Economics (AHE) in the SMDM Lusted Competition.**
29. Wu CC\*, **Suen SC**. "Incorporating Adherence Behaviors in Optimal Screening Decisions: A Modified POMDP Approach." 43rd Annual North American Meeting of the Society for Medical Decision Making. Oct 18-20, 2021. Virtual. **Lusted Competition Finalist** in Quantitative Methods and Theoretical Developments (QMTD).

30. Zhang S\*, **Suen SC**, Yu H, Nguyen A, Dessouky M. "Modeling the Dynamics of Covid-19 in Los Angeles Using Traffic Information." 43rd Annual North American Meeting of the Society for Medical Decision Making. Oct 18-20, 2021. Virtual.
31. Nguyen A\*, **Suen SC**. "Reducing HIV Incidence and Racial Disparities Among Men Who Have Sex with Men in Los Angeles County." INFORMS Healthcare, July 2021. Virtual.
32. Dai P\*, **Suen SC**. "Conditions Under Which Raw Case Count May Not be a Good Metric of Intervention Effectiveness." INFORMS Healthcare, July 2021. Virtual.
33. Wu CC\*, **Suen SC**. "Optimal Chronic Kidney Disease Screening Frequency Among Diabetics." INFORMS Healthcare, July 2021. Virtual.
34. Zhang S\*, **Suen SC**. "Modeling the Dynamics of COVID-19 in Los Angeles using Traffic Information." INFORMS Healthcare, July 2021. Virtual.
35. Zhang S\*, **Suen SC**, Sundaram V, Gong C, Pham J. "Optimal Timing of Liver Transplantation for ACLF3 Patients." INFORMS Healthcare, July 2021. Virtual.
36. Chen B, Zhang S\*, **Suen SC**. "Differential Patterns of Potential Opioid Misuse Between Younger and Older Adults: Evidence from The South Carolina's SCRIPTS Database." American Public Health Association (APHA) Annual Meeting and Expo, Oct 24-27 2021. Denver, CO and online.
37. Zhang S\*, **Suen SC**. "Identifying the Optimal Timing of Liver Transplantation for ACLF-3 Patients." POMS 31st Annual Conference, Apr 30-May 5, 2021. Virtual.
38. Wu C\*, **Suen SC**. "Optimal Chronic Kidney Disease Screening Among Diabetics: A POMDP Approach." POMS 31st Annual Conference, Apr 30-May 5, 2021. Virtual.
39. Dai P\*, **Suen SC**. "Surprising Effects of Disease Control in the Presence of Population Dynamics." POMS 31st Annual Conference, Apr 30-May 5, 2021. Virtual.
40. Wu C\*, **Suen SC**. "Optimizing Diabetes Screening Frequencies for At-Risk Groups." POMS 31st Annual Conference, Apr 30-May 5, 2021. Virtual.
41. **Suen SC**, Negoescu D, Goh J. "Optimizing Incentives to Promote Treatment Adherence." POMS 31st Annual Conference, Apr 30-May 5, 2021. Virtual.
42. Wu CC\*, **Suen SC**. "Optimizing Chronic Kidney Disease Screening Frequencies for At-risk Groups." INFORMS 2020 Annual Meeting, Nov 7-13, 2020. Virtual.

43. Dai P\*, **Suen SC**. “Surprising Effects of Disease Control in the Presence of Population Dynamics.” INFORMS 2020 Annual Meeting, Nov 7-13, 2020. Virtual.
44. Zhang S\*, **Suen SC**. “Quantifying the Benefits of Increasing Monitoring Frequency in Health Applications Using a Markov Decision Process Framework.” INFORMS 2020 Annual Meeting, Nov 7-13, 2020. Virtual.
45. Wu CC\*, **Suen SC**. “Optimizing Diabetes Screening Frequencies for At-Risk Groups.” INFORMS 2020 Annual Meeting, Nov 7-13, 2020. Virtual.
46. Zhang S\*, **Suen SC**, Gong C, Pham J, Sundaram V. “Optimal Timing of Liver Transplantation for ALCF3 Patients Using a Dynamic Model.” 42nd Society for Medical Decision Making Annual Meeting, Virtual. 2020.
47. Wu CC\*, **Suen SC**. “Optimizing Diabetes Screening Frequency and Quantifying the Cost of Obesity Due to Diabetes in Individuals over Age 45.” 42nd Society for Medical Decision Making Annual Meeting, Virtual. 2020.
48. Nguyen A\*, **Suen SC**. “Assessing the Impact of Targeted PrEP Policies Among Men Who Have Sex with Men (MSM) in Los Angeles County.” 42nd Society for Medical Decision Making Annual Meeting, Virtual. 2020.
49. Dai P\*, **Suen SC**. “A Rule for Infectious Disease Modelers to Evaluate the Accuracy of Using Raw Case Counts to Evaluate Disease Control Effectiveness in the Presence of Population Dynamics.” 42nd Society for Medical Decision Making Annual Meeting, Virtual. 2020.
50. Zhang S\*, **Suen SC**, Gong CL, Pham J, Trebicka J, Duvoux C, Jalan R, Sundaram V. “Optimal Timing of Liver Transplantation for Acute on Chronic Liver Failure Grade-3 Patients Using a Dynamic Model.” American Association for the Study of Liver Diseases (AASLD). Nov 2020. Virtual Meeting. *Plenary Oral Presentation*.
51. **Suen SC**, Negoescu D, Goh J. "Incentivizing Adherence for Treatment of Infectious Diseases." INFORMS Healthcare, July 2019. Cambridge, MA.
52. Nguyen A\*, **Suen SC**. "The Impact of Transmission Patterns in Infectious Disease Simulations for Disease Control." INFORMS Healthcare, July 2019. Cambridge, MA.
53. Wu CC\*, **Suen SC**. "Optimizing Diabetes Screening Schedules." INFORMS Healthcare, July 2019. Cambridge, MA.

54. **Suen SC**. “Assessing HIV Prevention Benefits Accrued in Old Age: Preventing Cognitive Decline.” RCMAR Annual Meeting, June 2019. Los Angeles, CA.
55. **Suen SC**, Negoescu D, Goh J. “New Challenges in Mechanism Design: Applications to Tuberculosis Treatment.” IISE Annual Conference 2019, May 18-21. Orlando, FL.
56. **Suen SC**, Negoescu D, Goh J. “Socially Optimal Incentive Schedules for Public Health.” Tenth POMS-HK International Conference 2019, Jan 5-6. Hong Kong, China.
57. **Suen SC**, Negoescu D, Goh J. “Better Infectious Disease Control Through Patient Incentive Programs.” INFORMS Annual Meeting 2018, Nov 4-7. Phoenix, AZ.
58. Wilder B\*, **Suen SC**, Tambe M. “Allocating Resources for Outreach Programs in Infectious Disease Systems with Information Propagation.” INFORMS Annual Meeting 2018, Nov 4-7. Phoenix, AZ.
59. **Suen SC**, Negoescu D, Goh J. “Designing Incentives to Increase Treatment Adherence.” INFORMS International 2018, June 17-20. Taipei, Taiwan.
60. Wilder B\*, **Suen SC**, Tambe M. “Cost-effectiveness of Surgery After Chemoradiotherapy for Esophageal Cancer Patients.” INFORMS International 2018, June 17-20. Taipei, Taiwan.
61. **Suen SC**. “Synthesizing Data to Target Outreach Efforts for National Disease Control.” Conference on Health IT and Analytics (CHITA) 2017, Nov 3-4. Washington, D.C.
62. **Suen SC**, Brandeau M, Goldhaber-Fiebert JG. “Optimal timing of drug sensitivity testing for patients on first-line TB treatment In India.” INFORMS 2017, Oct 22-25. Houston, Texas.
63. Wilder B\*, **Suen SC**, Tambe M. “Prioritizing Treatment in a Tuberculosis Transmission Network.” INFORMS Healthcare 2017, July 26-28. Rotterdam, Netherlands.
64. **Suen SC**, Goldhaber-Fiebert JG, Basu S. “A Correlation-Preserving Method to Estimate Risk Factor Trajectories from Cross-sectional Data.” INFORMS Annual Meeting 2016, Nov 13-16. Nashville, TN.
65. **Suen SC**, Brandeau M, Goldhaber-Fiebert JG. “How Should Monitoring and Drug Sensitivity Testing Be Used for First-line TB Treatment in India?” 2nd Biennial Society for Medical Decision Making Asia-Pacific Conference in Shatin, New Territories, Hong Kong. 2016
66. **Suen SC**, Brandeau M, Goldhaber-Fiebert JG. “Optimal Monitoring and Testing for Detecting Drug Resistance in Patients on First-line TB Treatment in India”
  - a. INFORMS Annual Meeting, Philadelphia, PA. 2015.
  - b. 37th Society for Medical Decision Making Annual Meeting, St. Louis, MO. 2015.

67. **Suen SC**, Brandeau M, Goldhaber-Fiebert JG. “Distinguishing High-Risk versus Low-Risk Subgroups in Compartmental Epidemic Models: Where to Draw the Line?” 37th Society for Medical Decision Making Annual Meeting, St. Louis, MO. 2015.
68. **Suen SC**, Brandeau M, Goldhaber-Fiebert JG. “Optimal Timing of Drug Sensitivity Testing for Patients on First-line TB Treatment in India.” INFORMS Healthcare Conference, Nashville, TN. 2015.
69. **Suen SC**, Bendavid E, Goldhaber-Fiebert JG. “Microsimulation Modeling to Uncover Tuberculosis Epidemiology.” 2015 Institute for Disease Modeling 3<sup>rd</sup> Annual Modeling Symposium, Seattle, WA.
70. **Suen SC**, Bendavid E, Goldhaber-Fiebert JG. “Cost-Effectiveness of Rapid Diagnostics and Care Systems Improvements for Tuberculosis in India.”
  - a. INFORMS Annual Meeting, San Francisco, CA. 2014.
  - b. 36th Society for Medical Decision Making Annual Meeting, Miami, FL. 2014. **Lee B. Lusted Prize Winner for Applied Health Economics.**
71. **Suen SC**, Bendavid E, Goldhaber-Fiebert JG. “Synergies in Outcomes from Public and Private Sector TB and MDR TB Control Interventions: An Indian Microsimulation Modeling Study.”
  - a. 1st Society for Medical Decision Making Asia Meeting, Singapore, Singapore. 2014.
  - b. 35th Society for Medical Decision Making Annual Meeting, Baltimore, MD. 2013. **Lee B. Lusted Prize Finalist.**
72. **Suen SC**, Brayton KM, Patel VG, Owens DK, Goldhaber-Fiebert JD. “Cost-Effectiveness of Same-Day Discharge after Elective Percutaneous Coronary Intervention.” 35th Society for Medical Decision Making Annual Meeting, Baltimore, MD. 2013.
73. **Suen SC**, Bendavid E, Goldhaber-Fiebert JG. “Identifying Changes in India’s Tuberculosis Epidemic Using Calibrated Microsimulation.” INFORMS Annual Meeting, Minneapolis, MN. 2013.
74. **Suen SC**, Bendavid E, Goldhaber-Fiebert JG. “Dynamic Transmission Microsimulation of Tuberculosis in India to Assess the Future Impact of Treatment Programs.” 34th Society for Medical Decision Making Annual Meeting, Phoenix, AZ. 2012. **Lee B. Lusted Prize Winner for Health Services and Policy Research.**

*Peer Reviewed Conference Posters (Presenter, Graduate Student\*)*

75. **Dai P\***, **Suen SC**. Is it Possible to Delay and Reduce the Peak of an Epidemic by Increasing Clearance Rates? A Theoretical Analysis. 44th Annual North American Meeting of the Society for Medical Decision Making.” Oct 23-26, 2022. Seattle.
76. **Liang C\***, **Suen SC**, Nguyen A\*, Moucheraud C, Holloway I, Charlebois E, Steward W. The Influence of COVID-19 on the HIV Epidemic in San Francisco County: The Importance of Rapid Return to Normalcy. 44th Annual North American Meeting of the Society for Medical Decision Making.” Oct 23-26, 2022. Seattle.

77. Strickland M, Nguyen A\*, Wu S, **Suen SC**, Mu Y\*, Shin B, Kalakuntla T, Matsushima K. Assessment of machine learning methods to predict massive blood transfusion in trauma. 80th Annual Meeting of the American Association for the Surgery of Trauma and Clinical Congress of Acute Care Surgery. Atlanta, GA, September 29, 2021.
78. Nguyen A\*, **Suen SC**, Lin E. The Apolipoprotein L1 (APOL1) gene and the Long-term Risk of End-Stage Kidney Disease as Mediated by Proteinuria." 43rd Annual North American Meeting of the Society for Medical Decision Making. Oct 18-20, 2021. Virtual. **Winner of the Bruce Shackman Award for Outstanding Presentation in Health Services, Outcomes, and Policy Research at the SMDM Lusted Competition.**
79. Nguyen A\*, Strickland M, Wu Y\*, Mu Y\*, Wu S, **Suen SC**, Matsushima K. Development of a User-Friendly Tool for Massive Blood Transfusion Prediction in Trauma. 43rd Annual North American Meeting of the Society for Medical Decision Making. Oct 18-20, 2021. Virtual. **Lee B. Lusted Competition Finalist** in Decision Psychology and Shared Decision Making (DEC).
80. Dai P\*, **Suen SC**. Optimizing Social Distancing Policies for COVID-19: A Dynamic Programming Approach for Coupled High and Low Risk Populations. 43rd Annual North American Meeting of the Society for Medical Decision Making. Oct 18-20, 2021. Virtual. **Lee B. Lusted Competition Finalist** in Quantitative Methods and Theoretical Developments (QMTD)
81. Wei Y\*, Hay JW, Hay AR, **Suen SC**. Fexapotide Triflutate Versus Pharmacotherapy as Initial Therapy for Patients with Moderate-to-Severe Benign Prostate Hyperplasia: a Cost-Effectiveness Analysis. ISPOR 2020, Orlando, FL. 2020.
82. Jun H\*, Cho SK\*, Aliyev ER\*, Mattke S, **Suen SC**. How much value should a preventive treatment for Alzheimer's disease offer? Cost-effectiveness thresholds for pricing a disease-modifying therapy. ISPOR 2020, Orlando, FL. 2020.
83. Wu CC\*, **Suen SC**. "Personalized Diabetes Screening Recommendations with Consideration of HbA1c Test History, Age, and BMI." 41<sup>st</sup> Society for Medical Decision Making Annual Meeting, Portland, OR. 2019. **Lee B. Lusted Prize Finalist.**
84. Yang HY\*, **Suen SC**. "The Cost of Early Onset of Cognitive Impairment and Dementia Among People Living with HIV/AIDS." 41<sup>st</sup> Society for Medical Decision Making Annual Meeting, Portland, OR. 2019.
85. Wu CC\*, **Suen SC**. "Optimizing Diabetes Screening Frequency for At-Risk Individuals in the United States." Poster presented at 2<sup>nd</sup> Annual ICAIH Conference 2019, Los Angeles, CA.
86. Salcedo J\*, Rosales M, Nuno D, **Suen SC**, Chang A. Cost-effectiveness Evaluation of Artificial Intelligence Monitoring of Active Tuberculosis Treatment In Los Angeles County, California: A Pilot Study. Poster presented at ISPOR, May 18-22, 2019, New Orleans, LA.

87. Yang HY\*, Suen SC. "The Impact of Increased Chronic Disease Risk Among Medicare Advantage Beneficiaries Living With HIV/AIDS." Poster presented at the Society of Medical Decision Making 40th Annual Meeting, Oct 2018, Montreal, Quebec.
88. Salcedo J\*, Suen SC, and Bian S. "Cost-Effectiveness of Esophagectomy Post Chemoradiation Versus Chemoradiation Alone in Squamous Cancer of the Esophagus." Poster presented at the Society of Medical Decision Making 40th Annual Meeting, Oct 2018, Montreal, Quebec.
89. Salcedo J\*, Rosales M, Nuno D, Suen SC, Chang A. "Cost-Effectiveness of Novel Artificial Intelligence Platform AiCure for Active Tuberculosis Treatment in Los Angeles County." Poster presented at the Society of Medical Decision Making 40th Annual Meeting, Oct 2018, Montreal, Quebec.
90. Suen SC, Goldhaber-Fiebert JG. "Using a Shortest Distance Method to Match Microsimulations to Risk Factor Correlations in Cross-sectional Data." Poster presented at the Society of Medical Decision Making 38th Annual Meeting 2016, Oct 24, 2016. Vancouver, BC.
91. Suen SC, Goldhaber-Fiebert JG. "A Quick, Non-iterative Method of Identifying the Cost-Effectiveness Frontier Using Net Monetary Benefits: Graphical Insights" Poster presented at the 37th Society for Medical Decision Making Annual Meeting, St. Louis, MO. 2015.

### Invited Talks

1. "Considering Human Behavior in Disease Control Policies." **National Academy of Engineering** 2023 US Frontiers of Engineering Symposium. Boulder, CO. Sept 10-13, 2023.
2. "Models for Health Care Improvement." Technological Innovation in Health Care Delivery Workshop in the Mathematics, Statistics, and Innovation in Medical and Health Care Program. Institute for Mathematical and Statistical Innovation (IMSI). Chicago, IL and Virtual. May 15-18, 2023.
3. "Optimal Control in Dual Compartmental Model Systems for Disease and Information Spread." Operations Research and Engineering Management Department Seminar, Southern Methodist University. March 10, 2023. Virtual.
4. "A Small Selection of Models for Health Policy and Medical Decision Making." Engineering for Mental Health Symposium. University of Southern California, Los Angeles. Jan 27, 2023.
5. "Modeling for infectious disease control in the context of information spread." University of Hong Kong, Hong Kong. Dec 15, 2022.
6. Panelist Speaker at the Opioid Use Disorder Modeling Workshop. Oct 22, 2022. Seattle, WA.
7. "MPX Modeling." MPX Scientific Advisory Committee (SAC) Meeting, California Department of Public Health (CDPH). Sept 13, 2022. Virtual.
8. "Adaptation of an HIV prevention microsimulation model to MPX." California Department of Public Health (CDPH) Modeling Consortium. Sept 7th, 2022. Virtual.
9. "Forecasting Effects of the COVID Pandemic on the San Francisco HIV Epidemic." San Francisco Department of Public Health. Virtual. Mar 11, 2022.



10. "Assessing Ending the HIV Epidemic (EHE) Goals for San Diego (SD) County." Strategies & Standards Committee Meeting of the HIV, STD and Hepatitis Branch of Public Health Services, County of San Diego Health & Human Services Agency. Virtual. Jun 1, 2021.
11. "Incentivizing Adherence for Treatment of Infectious Diseases." Epstein Institute Seminar Series, University of Southern California, CA. Sept 2020.
12. "Using Road Traffic Data to Identify COVID-19 Priority Testing Locations in Southern California." USC Research During COVID-19. University of Southern California, CA. Aug 2020.
13. "Modeling for Improving Tuberculosis Control." National University of Singapore, Singapore. Dec 2019.
14. "Use of Data and Models to Optimize Health Systems." TB MAC WHO Annual Meeting 2019, Istanbul, Turkey. Oct 2019.
15. "Assessing HIV Prevention Benefits Accrued in Old Age: Preventing Cognitive Decline." RCMAR Annual Meeting, UCLA, CA. June 2019.
16. "A Data-Driven Approach to Getting to Zero: Modeling Cost-Effectiveness of HIV Prevention and Treatment Strategies in Los Angeles County." CHPRC and APLA Health, Los Angeles, CA. Mar 2019.
17. "Health Policy Modeling Using Simulations: Cost-Effectiveness Analysis of Pre-exposure Prophylaxis (PrEP) for the Prevention of HIV Among Men Who Have Sex with Men (MSM) in Los Angeles County." Center for HIV Identification, Prevention, and Treatment Services (CHIPTS), UCLA. Nov 2018.
18. "Accounting for Individual Heterogeneity in Population Models for Infectious Disease Control." National Tsing-Hua University (NTHU), Taiwan. June 2018.
19. "Models for Epidemic Control: Targeting Tuberculosis Patients for Treatment." University of Hong Kong, Hong Kong. Dec 12, 2017.
20. "A POMDP Model for Drug Resistant Tuberculosis Screening." USC Center for Artificial Intelligence in Society. USC, Oct 26, 2017.
21. "Modeling Disease for Effective Control: Tuberculosis in India." Microsoft Research India Workshop on Artificial Intelligence and Social Good. Indian Institute of Science, Bangalore. Oct 16-17, 2017
22. "Identifying the Optimal Time to Screen for Drug Resistance: a POMDP Model." Southern California OR/MS Day, USC, 2017
23. "Modeling to Inform Health Policy: Using Simulation and Optimization for Tuberculosis Control." Chinese University of Hong Kong, Shatin, China. Dec 21, 2016
24. "Challenges in Representing Preferences in Health Policy Modeling." DECIDE Symposium: Next Generation Ethics. USC, Oct 28, 2016
25. Suen SC, Bendavid E, Basu S. "Food Price Fluctuations and Child Mortality in Sub-Saharan Africa" Poster presented at the Stanford Data Science Initiative 2015 Retreat, Stanford, CA. 2015

## **Teaching Experience**

### *University of Southern California*

- 2018-22 Introduction to Operations Research: Stochastic Models (Lecturer)
- 2017-23 Modeling for Health Policy and Medical Decision Making (Developed course; lecturer)
- 2020-22 Principal Research Approaches and Scientific Writing, School of Pharmacy (Guest Lecturer)
- 2018-22 Introduction of Industrial and Systems Engineering (Guest Lecturer)

2017-19 Artificial Intelligence for Social Good (Guest Lecturer)

*Stanford University*

- 2016 Methods and Models for Policy & Strategy Analysis (Lecturer)
- 2014 Fundamental Concepts in Management Sci. and Engineering (Guest Lecturer)
- 2014 Health Operations and Policy: Thought Leaders Seminar (Teaching Assistant)
- 2014 Healthcare Operations Management (Teaching Assistant)
- 2014, 15, 16 Health Policy Modeling (Guest Lecturer)
- 2013 Analysis of Costs, Risks, and Benefits of Health Care (Teaching Assistant)
- 2012, 14, 15 Outcomes Analysis (Teaching Assistant)
- 2012, 16 Research in Progress Seminar (Speaker)
- 2010 Economic Policy Analysis (Teaching Assistant)
- 2008 Bing Overseas Studies Program: Beijing Seminar on Chinese Education and Health (Teaching Assistant)

*Mentorship*

Current Doctoral Students (Sole-Advisor):

- Suyanpeng Zhang (Completed DR & Screening Aug 2020)
- Peng Dai (Completed DR & Screening Aug 2020)
- Citina Liang (Completed DR & Screening Aug 2022)
- Yiwen Cao (Completed DR & Screening Aug 2022)

Past Doctoral Students:

- Anthony Nguyen (Primary co-advisor. Graduated 2022; McKinsey Consulting.)
- Chou-Chun Wu (Sole-advisor; Graduated Dec 2022)

Research Mentor, Proposal and Dissertation Committee Member for Pharmacy Graduate Students:

- Jonathan Salcedo (Graduated 2020)
- Hsin-Yun Yang (Graduated 2020)

Masters, Undergraduate, and High School Student Mentorship

Independent Research Master's Students: Ajay Anand, Kent Byun, Pallavi Aytha Swathi, Yiwen Cao, Ankith Mohan, Yifan Wu, Yanda (Steven) Mu, Juan Del Rio Cuervo, Kunyu Yu, Pengfei Hu, Jing Jin.

Undergraduate Research Advisees: Will Congbalay\*, Jack Cagney\*, Cameron Hohl\*, Jorge Rojas-Ortega, Zujun (Aileen) Peng, Christopher Doehring\*, Ying Hong, Lily Shah, Austin Froelich<sup>+</sup>

\*Student received funding from the USC Provost's Undergraduate Research Fellowship

<sup>+</sup>Student from USC Viterbi Summer Undergraduate Research Experience (SURE)

High School Mentees: Ashley Park\*\*, Joy Cheng\*\*, Aileen Stiles, Sarah Brown\*\*

\*\*Through USC Viterbi's Summer High School Intensive in Next-Generation Engineering (SHINE) research program

Exam Committee Membership

Doctoral Committee Member for: Anthony Nguyen (ISE), Chou-Chun Wu (ISE), Jing Voon Chen (ISE), Oliva Evanson (ISE), Shahrzad Gholami (CS), Libin Liu (Electrical Engineering)

Qualification Exam Committee member for: Jing Voon Chen (ISE), Yang Cao (ISE), Michael Hintlian (ISE), Oliva Evanson (ISE), Han Ching (CS), Kai Wang (CS), Shahrzad Gholami (CS), Libin Liu (ECE), Zhengyu Zhang (ISE), Luke Haravitch (ISE), Jonathan Salcedo (School of Pharmacy), Hsin-Yun Yang (School of Pharmacy), Wei-Han (Wendy) Cheng (Dept of Pharmaceutical Economics & Policy), Sang Kyu Cho (Health Economics), Luke Haravitch (ISE), Maximilian Zellner (ISE), Ahmed Alzanki (ISE), Chou-Chun Wu (ISE), Babak Barazandeh (ISE), Zhengyu Zhang (ISE), Anthony Nguyen (ISE), Mingdong Lyu (ISE), Han Yu (ISE)

### **Professional and Service Activities**

#### *USC and USC Viterbi School of Engineering*

- Office for the Protection of Research Subjects Human Protection Council (HPC) member (2021-2023)

#### *USC Industrial and Systems Engineering (ISE) Dept*

- Explore USC Faculty Breakout Sessions (2017, 2018, 2022, 2023): Introducing prospective freshmen to ISE in a breakout session
- USC ISE Senior Faculty Search Committee (2022-2023)
- Four-Unit conversion committee member for Master of Science in Health Systems Management Engineering degree (2021)
- USC ISE Search committee for the Director of the MS in Healthcare Systems Management Engineering Program (2020)
- USC ISE Graduate Student Admissions Committee (2016, 2017, 2019, 2020)
- USC ISE Faculty Search Committee (2018)
- ISE Spotlight Event presenter (2017): Three demonstrations/presentations to middle/high school students

#### *USC Women in Science and Engineering (WiSE)*

- Viterbi Women in Science and Engineering (WiSE) Committee (2018 - 2022)
- Panelist for the WiSE Undergraduate Research Program Faculty Panel (Oct 28, 2021)
- Speaker for USC Women in Science and Engineering (WiSE) Research Horizons Symposium: A Showcase of Cutting Edge Research in Health, Nano Science, and Sustainability: “Modeling to Inform Public Health.” Fri Mar 23, 2018.
- WiSE/Viterbi PhD Preview Day Presentation, Nov 4, 2016
- Undergraduate WiSE fellows Lunch Q&A Nov 9, 2017 answered student questions and discussed the experience of women in graduate school and academia

#### *Additional engagement with K12 Education to foster interest in STEM*

- *The Discovery Project at USC* speaker for the 2022 Discovery Project Summer Sessions. Presentation to 140 students in 5th-9th grade on “Engineering for Public Health and Disease Control” (June 29th, 2022)

- Mirman School's fifth *Women in Science, Technology, Engineering, Arts, and Math* (STEAM) Conference (March 15, 2017). Presentations to three sessions of middle school students.

*Institute for Operation Research and the Management Sciences (INFORMS)*

- 2023 INFORMS Healthcare Conference Public Health Policy Cluster Co-Chair, 2023
- INFORMS Annual Conference, Session Chair (2015, 2019-2022)
- INFORMS Annual Conference, Flash Talk Session Chair, 2022
- Treasurer and Board Member of the Health Application Society Committee, 2020-2021
- INFORMS Healthcare Conference, Session Chair (Rotterdam 2017, Virtual 2021)
- Member of the Health Application Society Committee on Strategic Initiatives with Academic Journals, 2019
- 2019 INFORMS Poster Session Judge
- 2019 INFORMS Health Application Society Student Paper Competition Judge
- 2023 INFORMS Health Application Society Pierskalla Best Paper Award Competition Judge
- INFORMS Health Application Society Pierskalla Best Paper Award Co-Chair, 2018
- Stanford Chapter Research Chair (2012-2014), INFORMS
- Member (2013-present)

*Institute of Industrial and Systems Engineers (IISE)*

- IISE Annual Conference, Orlando FL, 2019, Session Chair

*Production and Operations Management Society (POMS)*

- POMS Annual Conference, Virtual 2020, Session Chair

*Society for Medical Decision Making (SMDM)*

- SMDM Awards Committee Board Member (2017-2019)
- Lusted Student Competition Co-Chair (2017, 2018, 2019)
- Member (2012-present)

*International Microsimulation Association (IMA)*

- Host committee member for the 8<sup>th</sup> World Congress at the University of Southern California (2020-2021)

*Research Community*

- Associate Editor for *Health Care Management Science* (2021-present)
- Member of the editorial board for *Health Care Management Science* (2019-2020)
- NSF CMMI Grant Review Panel Member, 2018 and 2023
- Reviewer for:
  - *Operations Research* (3)
  - *Management Science* (3)
  - *Medical Decision Making* (4)
  - *Health Care Management Science* (6)
  - *INFORMS Journal on Computing* (3)
  - *Production and Operations Management (POMS)* (3)
  - *Decision Analysis* (2)
  - *Manufacturing and Service Operations Management* (1)

- *Advances in Medicine (1)*
- *Applied Mathematics and Computation (1)*
- *European Journal of Operations Research (1)*
- *IIE Transactions on Healthcare System Engineering (1)*
- *International Journal of Environmental Research and Public Health (1)*
- *Omega (1)*
- *PLoS One (1)*
- *Stochastic Systems (1)*
- *Value in Health (1)*