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Education

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| 1991-1994 | Harvard University, Cambridge, MA
Ph.D. Division of Engineering and Applied Sciences
Major: Decision and Control |
| 1987-1989 | National Taiwan University, Taiwan
M.S. Department of Electrical Engineering |
| 1983-1987 | National Chiao-Tung University, Taiwan
B.S. Department of Control Engineering |

Academic Experience

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| 2007 - | Professor of Systems Engineering & Operations Research, George Mason University |
| 2015 - 2019 | Coordinator, Graduate Program of Systems Engineering & Operations Research, George Mason University (and 2006-11) |
| 2014 | Visiting Professor, Department of Industrial Engineering & Management, Peking University, Beijing, China |
| 2011 - 2014 | Professor, Department of Electrical Engineering, National Taiwan University, Taipei, Taiwan |
| 2011 - 2014 | Professor, Institute of Industrial Engineering, National Taiwan University, Taipei, Taiwan |
| 2011 - 2013 | Coordinator, Molecular Imaging Center, National Taiwan University, Taipei, Taiwan |
| 2006 - 2011 | Coordinator, Graduate Program of Systems Engineering & Operations Research, George Mason University |
| 2009 | Visiting Scholar, Microsoft Research Asia Laboratory, Beijing, China |

2006	Visiting Professor, Department of Electrical Engineering, National Taiwan University, Taipei, Taiwan
2000 - 2007	Associate Professor of Systems Engineering & Operations Research, School of Information Technology & Engineering, George Mason University
1999	Acting Chairman, Graduate Group of Systems Engineering School of Engineering and Applied Science, University of Pennsylvania
1994 - 2000	Assistant Professor of Systems Engineering School of Engineering and Applied Science, University of Pennsylvania

Honors and Awards

2019	Best Paper Award, 2019 IEEE International Conference on Automation Science and Engineering (CASE)
2019	Best Paper Award, 2019 International Conference on Logistics and Maritime Systems (LOGMS)
2017	K.D. Tocher Medal for the best paper in the Journal of Simulation during 2015-16
2015	IEEE Fellow
2003	"Kayamori Best Automation Paper Award" from the 2003 IEEE International Conference on Robotics and Automation (total 1176 papers submitted for review)
1994	Harvard University Eliahu I. Jury Award for The Best Thesis in Decision and Control
1992	MasPar Parallel Computer Challenge Award, Highest Speedup in the Realized Performance
1989	Chinese Institute of Electrical Engineering Graduation Thesis Contest Award

Research

Publications

A. Journals

- A1 Zhou, C., J. Xu, E. Miller-Hooks, W. Zhou, C. H. Chen, L. H. Lee, E. P. Chew, H. Li, "Analytics with Digital-Twinning: A Decision Support System for Maintaining a Resilient Port", to appear in *Decision Support Systems*, 2021.
- A2 Shi, Z., Y. Peng, L. Shi, C. H. Chen, and M. Fu, "Dynamic Sampling Allocation under Finite Simulation Budget for Feasibility Determination," to appear in *Inform's Journal on Computing*, 2021.

- A3 Xiao, H., D. J. Morrice, L. H. Lee, and C. H. Chen, "Ranking and Selection for Terminating Simulation under Sequential Sampling," to appear in *IISE Transactions*, 2021.
- A4 Gao, S., L. H. Lee, C. H. Chen, L. Shi, "A Sequential Budget Allocation Framework for Simulation Optimization," to appear in *IEEE Transactions on Automation Science and Engineering*, 2021.
- A5 LaPorte, G. J., J. Branke, and C. H. Chen, "Adaptive Parent Population Sizing in Evolution Strategies," to appear in *Evolutionary Computation*, 2021.
- A6 Li, H., X. Xu, Y. Peng, and C. H. Chen, "Efficient Learning for Selecting Important Nodes in Random Network," *IEEE Transactions on Automatic Control*, 66(3), 1321-1328, 2021.
- A7 Peng, Y., C. H. Chen, M. C. Fu, J. Q. Hu, and I. O. Ryzhov, "Efficient Sampling Allocation Procedures for Optimal Quantile Selection," *Informs Journal on Computing*, 33:230-245, 2021.
- A8 Lin, J., and C. H. Chen, "Asymptotic Meta Learning for Cross Validation of Models for Financial Data," *IEEE Intelligent Systems*, 35(2), 16-24, 2020.
- A9 Pedrielli, G, K. S. Candan, X. Chen, L. Mathesen, A. Inanalouganji, J. Xu, C. H. Chen, and L. H. Lee, "Generalized Ordinal Learning Framework (Golf) for Decision Making with Future Simulated Data," *Asia-Pacific Journal of Operational Research*, 36(6), December 2019.
- A10 Liu, Y., G. Pedrielli, H. Li, L. H. Lee, C. H. Chen, and J. F. Shortle, "Optimal Computing Budget Allocation for Stochastic N-k Problem in the Power Grid System," *IEEE Transactions on Reliability*, 68(3), 778-789, 2019.
- A11 Peng, Y., J. Xu, L. H. Lee, J. Q. Hu, and C. H. Chen, "Efficient Simulation Sampling Allocation Using Multi-Fidelity Models," *IEEE Transactions on Automatic Control*, 64(8), 3156-3169, 2019.
- A12 Peng, Y., E. Huang, J. Xu, Z. Shi, and C. H. Chen, "A Coordinate Optimization Approach for Concurrent Design," *IEEE Transactions on Automatic Control*, 64(7), 2913-2920, 2019.
- A13 Zou, M., F. Ocker, E. Huang, C. H. Chen, and B. Vogel-Heuser, "Efficient Initialization of Control Parameters for Cyber-Physical Production Systems by Use of Multi-Fidelity-Optimization," *Automation Technology* (in German: Automatisierungstechnik), 67(6), 477-489, 2019.
- A14 Peng, Y., C. H. Chen, M. C. Fu, and J. Q. Hu, "Gradient-Based Myopic Allocation Policy: An Efficient Sampling Procedure in a Low-Confidence Scenario," *IEEE Transactions on Automatic Control*, 63(9), 3091-3097, 2018.
- A15 Peng, Y., E. Chong, C. H. Chen, and M. C. Fu, "Ranking and Selection as Stochastic Control," 63(8), 2359-2373, *IEEE Transactions on Automatic Control*, 2018.
- A16 Bastani, M., A. E. Thanos, H. Damgacioglu, N. Celik, and C. H. Chen, "An Evolutionary Simulation Optimization Framework for Interruptible Load

- Management in the Smart Grid,” *Journal of Sustainable Cities and Society*, 41, 802-809, 2018.
- A17 Li, H., L. H. Lee, E. P. Chew, and C. H. Chen, “GO-POLARS: A Steerable Stochastic Search on the Strength of Hyper-Spherical Coordinates,” *IEEE Transactions on Automatic Control*, 62(12), 6458-6465, 2017.
- A18 Zhang, S., J. Xu, L. H. Lee, E. P. Chew, W. P. Wong, and C. H. Chen, “Optimal Computing Budget Allocation for Particle Swarm Optimization in Stochastic Optimization,” *IEEE Transactions on Evolutionary Computation*, 21(2), 206-219, 2017.
- A19 Hsieh, L., E. Huang, and C. H. Chen, "Equipment Utilization Enhancement in Photolithography Area through a Dynamic System Control Using Multi-fidelity Simulation Optimization with Big Data Technique," *IEEE Transactions on Semiconductor Manufacturing*, 30(2), 166-175, 2017.
- A20 Aristotelis, T., M. Bastani, N. Celik, and C. H. Chen, “Dynamic Data Driven Adaptive Simulation Framework for Automated Control in Microgrids,” *IEEE Transactions on Smart Grid*, 8(1), 209-218, 2017.
- A21 Peng, Y., C. H. Chen, M. C. Fu, and J. Q. Hu, “Dynamic Sampling Allocation and Design Selection,” *Infoms Journal on Computing*, 28(2), 195-208, 2016.
- A22 Zhu, C., J. Xu, C. H. Chen, L. H. Lee, J. Q. Hu, “Balancing Search and Estimation in Random Search Based Stochastic Simulation Optimization,” *IEEE Transactions on Automatic Control*, 61(11), 3593-3598, 2016.
- A23 Xu, J., E. Huang, L. Hsieh, L. H. Lee, Q. S. Jia, and C. H. Chen, “Simulation optimization in the era of Industrial 4.0 and the Industrial Internet,” 10(4), 310-320, *Journal of Simulation*, 2016.
- A24 Huang, E., S. Zhang, L. H. Lee, E. P. Chew, and C. H. Chen, “Improving Analytic Hierarchy Process Expert Allocation Using Optimal Computing Budget Allocation,” *IEEE Transactions on Systems, Man, and Cybernetics: Systems*, 46(8), 1140-1147, 2016.
- A25 Koizumi, N., M. Gentili, R. Ganesan, D. DasGupta, A. Patel, C. H. Chen, N. Waters, and K. Melancon, “Mathematical Optimization and Simulation Analyses for Optimal Liver Allocation Boundaries,” *Healthcare Data Analytics*, 2016.
- A26 Xu, J., S. Zhang, E. Huang, C. H. Chen, L. H. Lee, and N. Celik, “MO²TOS: Multi-fidelity Optimization with Ordinal Transformation and Optimal Sampling,” *Asia-Pacific Journal of Operational Research*, 33(3), 1-27, 2016.
- A27 Hsieh, L., E. Huang, S. Zhang, K. H. Chang, C. H. Chen, “Application of Multi-Fidelity Simulation Modeling to Integrated Circuit Packaging,” *International Journal of Simulation and Process Modelling*, 28(2), 195-208, Spring 2016.
- A28 Zhang, S., L. H. Lee, E. P. Chew, J. Xu, and C. H. Chen, “A Simulation Budget Allocation Procedure for Enhancing the Efficiency of Optimal Subset Selection,” *IEEE Transactions on Automatic Control*, 61(1), 62-75, January 2016.

- A29 Wang, S. B., A. Chen, C. W. Liu, C. H. Chen, J. Shortle, and J. Y. Wu, "Efficient Splitting Simulation for Blackout Analysis," *IEEE Transactions on Power Systems*, 30(4), 1775-1783, July 2015.
- A30 Xiao, H., L. H. Lee, and C. H. Chen, "Optimal Budget Allocation Rule for Simulation Optimization Using Quadratic Regression in Partitioned Domains," *IEEE Transactions on Systems, Man, and Cybernetics: Systems*, 45(7), 1047-1062, July 2015.
- A31 Xu, J., E. Huang, C. H. Chen, and L. H. Lee, "Simulation Optimization: A Review and Exploration in The New Era of Cloud Computing and Big Data," *Asia-Pacific Journal of Operational Research*, 32 (3), June 2015.
- A32 Tian, Y., L. Wan, C. H. Chen, and Y. Yang, "Safety Assessment Method of Performance-based Navigation Airspace Planning," *Journal of Traffic and Transportation Engineering*, 2(5), 338-345, 2015.
- A33 Chen, C. H., S. E. Chick, L. H. Lee, and N. A. Pujowidianto, "Ranking & Selection: Efficient Simulation Budget Allocation," Chapter 3 in *Handbook on Simulation Optimization*, (M. Fu, Ed), 45-80, Springer, 2014.
- A34 Pasupathy, R., S. R. Hunter, N. A. Pujowidianto, L. H. Lee, and C. H. Chen, "Stochastically Constrained Ranking and Selection via SCORE," *ACM Transactions on Modeling and Computer Simulation*, 25(1), August 2014.
- A35 Brantley, M. W., L. H. Lee, C. H. Chen, and J. Xu, "An Efficient Simulation Budget Allocation Method Incorporating Regression for Partitioned Domains," *Automatica*, 50(5), 1391-1400, 2014.
- A36 Chen, W., S. Gao, C. H. Chen, and L. Shi, "An Optimal Sample Allocation Strategy for Partition-based Random Search," *IEEE Transactions on Automation Science and Engineering*, 11(1), 177-186, 2014.
- A37 Lee, L. H., C. H. Chen, E. P. Chew, S. Zhang, J. X. Li, and N. A. Pujowidianto, "Some Efficient Simulation Budget Allocation Rules for Simulation Optimization Problems," *International Journal of Services Operations and Informatics*, 8(1), 1-18, 2013.
- A38 Horng, S. C., S. Y. Lin, L. H. Lee, and C. H. Chen, "Memetic Algorithm for Real-Time Combinatorial Stochastic Simulation Optimization Problems with Performance Analysis," *IEEE Transactions on Cybernetics*, 43(5), 1495-1509, 2013.
- A39 Jia, Q. S., E. Zhou, and C. H. Chen, "Efficient Computing Budget Allocation for Finding Simplest Good Designs," *IIE Transactions*, 45(7), 736-750, 2013.
- A40 Lee, L. H., E. P. Chew, P. I. Frazier, Q. S. Jia, and C. H. Chen, "Advances in Simulation Optimization and Its Applications," *IIE Transactions*, 45(7), 683-684, 2013.
- A41 Peng, Y., C. H. Chen, M. C. Fu, and J. Q. Hu, "Efficient Simulation Resource Sharing and Allocation for Selecting the Best," *IEEE Transactions on Automatic Control*, 58(4), 1017-1023, 2013.

- A42 Brantley, M. W., L. H. Lee, C. H. Chen, and A. Chen, "Efficient Simulation Budget Allocation with Regression," *IIE Transactions*, 45(3), 291-308, 2013.
- A43 Chen, C. H., J. Shortle, "Efficient Rare-event Simulation and Decision Making," *Transactions of the American Nuclear Society*, 109, 1895-1896, January 2013.
- A44 Yan, S., E. Zhou, and C. H. Chen, "Efficient Selection of a Set of Good Enough Designs with Complexity Preference," *IEEE Transactions on Automation Science and Engineering*, 9(3), 596-606, 2012.
- A45 Lee, L. H., N. A. Pujowidianto, L. W. Li, C. H. Chen, and C. M. Yap, "Approximate Simulation Budget Allocation for Selecting the Best Design in the Presence of Stochastic Constraints," *IEEE Transactions on Automatic Control*, 57(11), 2940-2945, 2012.
- A46 Li, L.W., L. H. Lee, C. H. Chen, and B Guo, "On Unbiased Optimal L-statistics Quantile Estimators," *Statistics and Probability Letters*, 82(11), 1891-1897, 2012.
- A47 Li, L.W., L. H. Lee, C. H. Chen, B Guo, and Y. J. Liu, "Optimal L-statistics Quantile Estimator for a Set of Location-scale Populations," *Statistics and Probability Letters*, 82(10), 1853-1858, 2012.
- A48 Farley, S., A. Brodsky, and C. H. Chen, "A Regression Dependent Iterative Algorithm for Optimizing Top-K Selection in Simulation Query Language," *International Journal of Decision Support System Technology*, 4(3), 12-24, 2012.
- A49 Shortle, J., C. H. Chen, B. Crain, A. Brodsky, and D. Brod, "Optimal Splitting for Rare-event Simulation," *IIE Transactions*, 44(5), 352-367, 2012.
- A50 Chen, C. H., M. Fu, L. Shi, and L. H. Lee, "Stochastic Systems Simulation Optimization," *Frontiers of Electrical and Electronic Engineering in China*, 6(3), 468-480, 2011.
- A51 He, D. and C. H. Chen, "Antithetic Variates," *Encyclopedia of Operations Research and Management Science*, 2011.
- A52 Lee, L. H., C. H. Chen, E. P. Chew, J. Li, N. A. Pujowidianto, and S. Zhang, "A Review of Optimal Computing Budget Allocation Algorithms for Simulation Optimization Problem," *International Journal of Operations Research*, 7(2), 19-31, 2010.
- A53 He, D., L. H. Lee, C. H. Chen, M. Fu, and S. Wasserkrug, "Simulation Optimization Using the Cross-Entropy Method with Optimal Computing Budget Allocation," *ACM Transactions on Modeling and Computer Simulation*, 20(1), 2010.
- A54 Chen, C. H., E. Yücesan, L. Dai, and H. C. Chen, "Efficient Computation of Optimal Budget Allocation for Discrete Event Simulation Experiment," *IIE Transactions*, 42(1), 60-70, 2010.
- A55 Chen, C. H., D. He, M. Fu, and L. H. Lee, "Efficient Simulation Budget Allocation for Selecting an Optimal Subset," *Inform Journal on Computing*, 20(4), 579-595, 2008.

- A56 Chen, C. H., M. Fu, and L. Shi, "Chapter 11. Simulation and Optimization," *Tutorials in Operations Research*, 247-260, Informs, Hanover, MD, 2008.
- A57 Le, L., G. L. Donohue, K. Hoffman, and C. H. Chen, "Optimum Airport Capacity Utilization under Congestion Management at NY LaGuardia Airport," *Transportation Planning and Technology Journal*, 31(1), 93-112, 2008.
- A58 Hsieh, B. W., C. H. Chen, and S. C. Chang, "Efficient Simulation-based Composition of Scheduling Policies by Integrating Ordinal Optimization with Design of Experiment," *IEEE Transactions on Automation Science and Engineering*, 4(4), 553-568, 2007.
- A59 He, D., S. E. Chick, and C. H. Chen, "The Opportunity Cost and OCBA Selection Procedures in Ordinal Optimization," *IEEE Transactions on Systems, Man, and Cybernetics--Part C*, 37(5), 951-961, 2007.
- A60 Romero, V. J., and C. H. Chen, "Refinements in a New Adaptive Ordinal Approach to Continuous-Variable Probabilistic Optimization," *AIAA Journal*, 45(7), 1630-1641, 2007.
- A61 Fu, M. C., J. Q. Hu, C. H. Chen, and X. Xiong, "Simulation Allocation for Determining the Best Design in the Presence of Correlated Sampling," *Informs Journal on Computing*, 19(1), 101-111, 2007.
- A62 Chen, C. H., D. He, and M. Fu, "Efficient Dynamic Simulation Allocation in Ordinal Optimization," *IEEE Transactions on Automatic Control*, 51(12), 2005-2009, 2006.
- A63 Romero, V. J., D. V. Ayon, and C. H. Chen, "Demonstration of Probabilistic Ordinal Optimization Concepts to Continuous-Variable Optimization Under Uncertainty," *Optimization and Engineering*, 7(3), 343-365, 2006.
- A64 Chen, C. H. and E. Yücesan, "An Alternative Simulation Budget Allocation Scheme for Efficient Simulation," *International Journal of Simulation and Process Modeling*, 1/2, 49-57, 2005.
- A65 Chen, C. H. and D. He, "Intelligent Simulation for Alternatives Comparison and Application to Air Traffic Management," *Journal of Systems Science and Systems Engineering*, 14(1), 37-51, 2005.
- A66 Le, L., G. L. Donohue, and C. H. Chen, "Auction-Based Slot Allocation for Traffic Demand Management at Hartsfield Atlanta International Airport: A Case Study," *Journal of the Transportation Research Board*, 1888, 50-58, 2005.
- A67 Shortle, J., R. Xie, C. H. Chen, and G. L. Donohue, "Simulating Collision Probabilities of Landing Airplanes at Non-towered Airports," *Simulation: Transactions of the Society for Modeling and Simulation International*, 80(1), 21-31, 2004.
- A68 Tyler, D., C. A. Pasquariello, and C. H. Chen, "Determining Optimum Operating Room Utilization," *Anesthesia and Analgesia*, 96, 1114-1121, 2003.

- A69 Chen, C. H., K. Donohue, E. Yücesan, and J. Lin, "Optimal Computing Budget Allocation for Monte Carlo Simulation with Application to Product Design," *Journal of Simulation Practice and Theory*, 11(1), 57-74, 2003.
- A70 Chen, C. H., "Chapter 7. Very Efficient Simulation for Engineering Design Problem," *Modeling and Simulation-Based Life Cycle Engineering*, (K. Chong, S. Saigal, S. Thynell, Ed's), 291-302, Spon Press, London, 2002.
- A71 Luo, Y. C., C. H. Chen, and M. Guignard-Spielberg, "An Efficient Approach Integrating Genetic Algorithm, Linear Programming, and Ordinal Optimization for Linear Mixed Integer Programming Problems," *International Journal of Smart Engineering System Design*, 3, 279-287, 2001.
- A72 Hsieh, B. W., C. H. Chen, and S. C. Chang, "Scheduling Semiconductor Wafer Fabrication by Using Ordinal Optimization-Based Simulation," *IEEE Transactions on Robotics and Automation*, 17(5), 599-608, 2001.
- A73 Luo, Y. C., M. Guignard-Spielberg, and C. H. Chen, "A Hybrid Approach for Integer Programming Combining Genetic Algorithms, Linear Programming and Ordinal Optimization," *Journal of Intelligent Manufacturing*, 12(5-6), 509-519, 2001.
- A74 Yücesan, E., Y. C. Luo, C. H. Chen, and I. Lee, "Distributed Web-Based Simulation Experiments For Optimization," *Journal of Simulation Practice and Theory*, 9, 73-90, 2001.
- A75 Dai, L., C. H. Chen, and J. R. Birge, "Large Convergence Properties of Two-Stage Stochastic Programming," *Journal of Optimization Theory and Applications*, 106(3), 489-510, 2000.
- A76 Shi, L. and C. H. Chen, "A New Algorithm for Stochastic Discrete Resource Allocation Optimization," *Journal of Discrete Event Dynamic Systems: Theory and Applications*, 10, 271-294, 2000.
- A77 Chen, C. H., J. Lin, E. Yücesan, and S. E. Chick, "Simulation Budget Allocation for Further Enhancing the Efficiency of Ordinal Optimization," *Journal of Discrete Event Dynamic Systems: Theory and Applications*, 10, 251-270, 2000.
- A78 Chen, H. C., C. H. Chen, and E. Yücesan, "Computing Efforts Allocation for Ordinal Optimization and Discrete Event Simulation," *IEEE Transactions on Automatic Control*, 45(5), 960-964, 2000.
- A79 Ho, Y. C., C. G. Cassandras, C. H. Chen, and L. Dai, "Ordinal Optimization and Simulation," *Journal of Operational Research Society*, 51(4), 490-500, 2000.
- A80 Inoue, K., S. E. Chick, and C. H. Chen, "An Empirical Evaluation of Several Methods to Select the Best System," *ACM Transactions on Modeling and Computer Simulation*, 9(4), 381-407, 1999.
- A81 Chen, C. H., V. Kumar, and Y. C. Luo, "Motion Planning of Walking Robots in Environments with Uncertainty," *Journal of Robotic Systems*, 16(10), 527-545, 1999.

- A82 Chen, C. H., S. D. Wu, and L. Dai, "Ordinal Comparison of Heuristic Algorithms Using Stochastic Optimization," *IEEE Transactions on Robotics and Automation*, 15(1), 44-56, 1999.
- A83 Chen, C. H., V. Kumar, and Y. C. Luo, "Motion Planning of Walking Robots Using Ordinal Optimization," *IEEE Robotics and Automation Magazine*, 22-32, 1998.
- A84 Dai, L. and C. H. Chen, "Rate of Convergence for Ordinal Comparison of Dependent Simulations in Discrete Event Dynamic Systems," *Journal of Optimization Theory and Applications*, 94(1), 29-54, 1997.
- A85 Patsis, N. T., C. H. Chen, and M. E. Larson, "SIMD Parallel Discrete Event Dynamic System Simulation," *IEEE Transactions on Control Systems Technology*, 5(3), 30-41, 1997.
- A86 Chen, C. H. "A Lower Bound for the Correct Subset-Selection Probability and Its Application to Discrete Event System Simulations," *IEEE Transactions on Automatic Control*, 41(8), 1227-1231, 1996.
- A87 Chen, C. H. and Y. C. Ho, "An Approximation Approach of the Standard Clock Method for General Discrete Event Simulation," *IEEE Transactions on Control Systems Technology*, 3(3), 309-317, 1995.
- A88 Chang, S. C., W. L. Yang, I. K. Fong, and C. H. Chen, "Two Effective Approaches for Hydroelectric Generation Scheduling," *Lecture Notes in Control and Information Sciences*, 133-142, Springer-Verlag, 1990.
- A89 Chang, S. C., C. H. Chen, I. K. Fong, and P. B. Luh, "Hydroelectric Generation Scheduling with An Effective Differential Dynamic Programming Algorithm," *IEEE Transactions on Power Systems*, 5(3), 737-743, 1990.

B. Books

- B1 Chen, C. H., Q. S. Jia, and L. H. Lee, *Stochastic Simulation Optimization for Discrete Event Systems – Perturbation Analysis, Ordinal Optimization, and Beyond*, 246 pages, World Scientific Publishing Co., ISBN: 978-981-4513-00-5, 2013.
- B2 Chen, C. H. and L. H. Lee, *Stochastic Simulation Optimization: An Optimal Computing Budget Allocation*, World Scientific Publishing Co., ISBN: 981-4282-64-2, 2010.
- B3 *Proceedings of 2002 Winter Simulation Conference*, Co-Editor (with E. Yücesan), Piscataway, New Jersey: Institute of Electrical and Electronics Engineer, ISBN: 0-7803-7614-5.

C. Refereed Conference Proceedings

- C1 Cheng, H., B. L. Mark, Y. Ephraim, and C. H. Chen, "Multiband Spectrum Sensing with Non-exponential Channel Occupancy Times," *Proceedings of 2020 IEEE International Conference on Communications*, 2021.
- C2 Yavuz, A., J. M. Darville, N. Celik, J. Xu, C. H. Chen, B. Langhals, and R. Engle, "Advancing Self-healing Capabilities in Interconnected Microgrids via Dynamic

- Data Driven Application Systems with Relational Database Management,” *Proceedings of 2020 Winter Simulation Conference*.
- C3 Gao, S., J. Du, and C. H. Chen, “A Simulation Optimization Approach for Precision Medicine,” *Proceedings of 2020 INFORMS Service Science Conference*, 2020.
- C4 Gongbo Zhang, Chun-Hung Chen, Qing-Shan Jia, Yijie Peng, “Dynamic Sampling Allocation for Selecting a Good Enough Alternative,” *Proceedings of 2020 IEEE Conference on Automation Science and Engineering*.
- C5 Zou, M., E. Huang, B. Vogel-Heuser, and C. H. Chen, “Efficiently Learning a Distributed Control Policy in Cyber-Physical Production Systems via Simulation Optimization,” *Proceedings of 2020 IEEE Conference on Automation Science and Engineering*.
- C6 Cheng, H., J. Bruno, B. L. Mark, Y. Ephraim, and C. H. Chen, “Multiband Parameter Estimation for Spectrum Sensing from Noisy Measurements,” *Proceedings of 2020 IEEE International Conference on Communications*.
- C7 Li, H., Y. Peng, X. Xu, C. H. Chen, and B. F. Heidergott, “Dynamic Sampling Procedure for Decomposable Random Networks,” *Proceedings of 2019 Winter Simulation Conference*, 2019.
- C8 Gao, S., J. Du, and C. H. Chen, “Selecting the Optimal System Design under Covariates,” *Proceedings of 2019 IEEE Conference on Automation Science and Engineering*, 2019.
- C9 Gao, S., J. Du, and C. H. Chen, “Rate-Optimal Contextual Ranking and Selection,” *Proceedings of 9th International Conference on Logistics and Maritime Systems*, 2019.
- C10 Gao, S., J. Du, and C. H. Chen, “Rate-Optimal Contextual Ranking and Selection for Personalized Decision Making,” *Proceedings of 2019 POMS International Conference in China*, 2019.
- C11 Li, H., X. Xu, Y. Peng, and C. H. Chen, “Efficient Sampling for Selecting Important Nodes in Random Network,” *Proceedings of the 38th Chinese Control Conference*, 2019.
- C12 Peng, Y., C. H. Chen, E. Chong, and M. C. Fu, “A Review of Static and Dynamic Optimization for Ranking and Selection,” *Proceedings of 2018 Winter Simulation Conference*, 2018.
- C13 Zou, M., F. Ocker, E. Huang, B. Vogel-Heuser, and C. H. Chen, “Design Parameter Optimization of Automated Production Systems,” *Proceedings of 2018 IEEE Conference on Automation Science and Engineering*, Munich, Germany, 2018.
- C14 Li, H., X. Xu, Y. Peng, and C. H. Chen, “Efficient Sampling Procedure for Selecting the Largest Stationary Probability of a Markov Chain,” *Proceedings of 2018 IEEE Conference on Automation Science and Engineering*, Munich, Germany, 2018.

- C15 Ganesan, R., W. C. Hung, T. Y. Peng, and C. H. Chen, “A Hybrid Liver-Candidate Transportation System to Improve Accessibility and Extend Organ Life in Liver Transplantation,” *Proceedings of 2018 INCOSE International Symposium*, 2018.
- C16 Lin, J., H. Xiang, J. Li, and C. H. Chen, “Best Investment Strategy Selection Using Asymptotic Meta Learning,” *Proceedings of 2017 IEEE/SICE International Symposium on System Integration*, 2017.
- C17 Zhang, S., L. H. Lee, E. P. Chew, and C. H. Chen, “Efficient Computing Budget Allocation for Optimal Subset Selection with Correlated Sampling,” *Proceedings of 2017 IEEE/SICE International Symposium on System Integration*, 2017.
- C18 Peng Y., E. Huang, J. Xu, and C. H. Chen “Concurrent Engineering: An Optimization Approach for Team Coordination Through Information Sharing,” *Proceedings of 2017 IEEE Conference on Automation Science and Engineering*, 282 - 287, Xi’an, China, 2017.
- C19 Bruno, J. M., B. L. Mark, Y. Ephraim, and C. H. Chen, “A Computing Budget Allocation Approach to Multiband Spectrum Sensing,” *Proceedings of 2017 IEEE Wireless Communications and Networking Conference*, San Francisco, CA, 2017.
- C20 Pujowidianto, N., L. H. Lee, C. H. Chen, L. Haobin, and G. Pedriell “Efficient Simulation-based Optimization for Hospital Bed Allocation,” *Proceedings of 2016 Winter Simulation Conference*, 1916-1925, Arlington, VA, 2016.
- C21 Li, H., G. Pedrielli, L. H. Lee, and C. H. Chen, “V-shaped Sampling Based on Kendall-Distance to Enhance Optimization with Ranks,” *Proceedings of 2016 Winter Simulation Conference*, 671-681, Arlington, VA, 2016.
- C22 Zhang, S., J. Xu, E. Huang, C. H. Chen, “A New Optimal Sampling Rule for Multi-Fidelity Optimization via Ordinal Transformation,” *Proceedings of 2016 IEEE Conference on Automation Science and Engineering*, 670-674, 2016.
- C23 Zhang, S., J. Xu, E. Huang, C. H. Chen, and S. Gao, “Improving Ordinal Transformation Through Optimal Combination of Multi-model Predictions,” *Proceedings of 2016 IEEE International Conference on Industrial Technology*, 1545-1549, 2016.
- C24 Huang, Z., J. Ding, J. Song, L. Shi, and C. H. Chen, “Simulation Optimization for the MRO Scheduling Problem Based on Multi-fidelity Models,” *Proceedings of 2016 IEEE International Conference on Industrial Technology*, 1556-1561, 2016.
- C25 Li, H., Y. Li, G. Pedrielli, L. H. Lee, E. P. Chew, and C. H. Chen, “Multi-Objective Multi-Fidelity Optimization with Ordinal Transformation and Optimal Sampling,” *Proceedings of 2015 Winter Simulation Conference*, 3737-3748, Huntington Beach, CA, 2015.
- C26 Peng, Y. J., C. H. Chen, M. Fu, and J. Q. Hu, “Non-Monotonicity of Probability of Correct Selection,” *Proceedings of 2015 Winter Simulation Conference*, 3678-3689, Huntington Beach, CA, 2015.

- C27 Chen, R. J. Xu, C. H. Chen, and L. H. Lee, “An Effective Learning Procedure for Multi-fidelity Simulation Optimization with Ordinal Transformation,” *Proceedings of 2015 IEEE Conference on Automation Science and Engineering*, 702-707, Gothenburg, Sweden, 2015.
- C28 Huang, C., S. Zhang, J. Xu, C. and C. H. Chen, “Multi-Fidelity Model Integration for Engineering Design,” *Proceedings of Conference on Systems Engineering Research*, Hoboken, NJ, 2015.
- C29 Xu, J., S. Zhang, C. C. Huang, C. H. Chen, and L. H. Lee, “Multi-fidelity Optimization with Ordinal Transformation and Optimal Sampling,” *Proceedings of 2015 INFORMS Computing Society Conference*, Richmond, VA, 2015.
- C30 Xu, J., S. Zhang, C. C. Huang, C. H. Chen, L. H. Lee, and N. Celik, “Efficient Multi-Fidelity Simulation Optimization,” *Proceedings of 2014 Winter Simulation Conference*, Savanna, 3940-3951, GA, 2014.
- C31 Bastani M., A. E. Thanos, N. Celik, and C. H. Chen, “Efficient Design Selection in Microgrid Simulations,” *Proceedings of 2014 Winter Simulation Conference*, 2762-2773, Savanna, GA, 2014.
- C32 Xu, J., S. Zhang, C. C. Huang, C. H. Chen, L. H. Lee, and N. Celik, “An Ordinal Transformation Framework for Multi-Fidelity Simulation Optimization,” *Proceedings of 2014 IEEE Conference on Automation Science and Engineering*, 385-390, Taipei, Taiwan, 2014.
- C33 Wu, D., Q. S. Jia, and C. H. Chen, “Sample Path Sharing in Simulation-Based Policy Improvement,” *Proceedings of 2014 IEEE International Conference on Robotics and Automation*, 3291-3296, Hong Kong, China, 2014.
- C34 Zhu, C., J. Xu, C. H. Chen, L. H. Lee, and J. Q. Hu, “Determining the Optimal Sampling Set Size for Random Search,” *Proceedings of 2013 Winter Simulation Conference*, 1016-1024, Washington, DC, 2013.
- C35 Peng, Y. J., C. H. Chen, M. Fu, and J. Q. Hu, “Policy Perspective of Statistics Selection Procedure,” *Proceedings of 2013 Winter Simulation Conference*, 908-921, Washington, DC, 2013.
- C36 Pujowidianto, N. A., L. H. Lee, and C. H. Chen, “Minimizing Opportunity Cost in Selecting the Best Feasible Design,” *Proceedings of 2013 Winter Simulation Conference*, 898-907, Washington, DC, 2013.
- C37 Shortle, J., and C. H. Chen. “Sensitivity Analysis of Rare-Event Splitting on Cascading Blackout Models,” *Proceedings of 2013 Winter Simulation Conference*, 745-754, Washington, DC, 2013.
- C38 Ren, L., P. S. Chang, J. Sheng, S. C. Gu, and C. H. Chen, “Arbitrary Biped Robot Foot Gaiting Based on Variate COM Height,” *Proceedings of 2013 IEEE-RAS International Conference on Humanoid Robots*, 534-539, Atlanta, GA, 2013.
- C39 Koizumi, N., R. Ganesan, M. Gentili, C. H. Chen, N. Waters, D. DasGupta, D. Nicholas, A. Patel, D. Srinivasan, and K. Melancon, “Redesigning Organ Allocation

- Boundaries for Liver Transplantation in the United States,” *Proceedings of International Conference on Health Care Systems Engineering*, 15-27, Milan, Italy, 2013.
- C40 Pujowidianto, N. A., S. R. Hunter, R. Pasupathy, L. H. Lee, and C. H. Chen, “On Approximating Optimal Sampling Laws for Stochastically Constrained Simulation Optimization on Large Finite Sets,” *Proceedings of 2012 Winter Simulation Conference*, Berlin, Germany, 2012 (Finalist, WSC Best Theoretical Paper Award).
- C41 Hu, X., L. H. Lee, E. P. Chew, D. J. Morrice, and C. H. Chen, “Efficient Computing Budget Allocation for A Single Design by Using Regression with Sequential Sampling Constraint,” *Proceedings of 2012 Winter Simulation Conference*, Berlin, Germany, 2012.
- C42 LaPorte, G. J., J. Branke, and C. H. Chen, “Optimal Computing Budget Allocation for Small Computing Budgets,” *Proceedings of 2012 Winter Simulation Conference*, Berlin, Germany, 2012.
- C43 Zhang, S., L. H. Lee, E. P. Chew, C. H. Chen, and H. Y. Jen “An Improved Simulation Budget Allocation Procedure to Efficiently Select the Optimal Subset of Many Alternatives,” *Proceedings of 2012 IEEE International Conference on Automation Science and Engineering*, 226-232, Seoul, Korea, 2012.
- C44 Pujowidianto, N. A., L. H. Lee, C. M. Yep, and C. H. Chen, “Efficient Simulation-based Comparison for Hospital Bed Allocation,” *Proceedings of the 2012 IIE Asian Conference*, 229-232, Singapore, 2012.
- C45 Ye, B., L. Sherry, M. Hu, and C. H. Chen, “Analysis of Alternative Collaborative Route Selection Strategies Based on Cost and Throughput,” *Proceedings of 2012 Integrated Communications Navigation and Surveillance Conference*, Washington, DC, 2012.
- C46 Farley, S., A. Brodsky, and C. H. Chen, “A Regression Based Algorithm for Optimizing Top-K Selection in Simulation Query Language,” *Proceedings of the 2012 ICDE Workshop on Data-Driven Decision Support and Guidance Systems*, Washington, DC, 2012.
- C47 Crain, B., J. Shortle, and C. H. Chen, “Combining Simulation Allocation and Optimal Splitting and for Rare-Event Simulation Optimization,” *Proceedings of 2011 Winter Simulation Conference*, 4003-4012, Phoenix, AZ, 2011.
- C48 Masi, D., M. Fischer, J. F. Shortle, and C. H. Chen, “Simulating Network Cyber Attacks Using Splitting Techniques,” *Proceedings of 2011 Winter Simulation Conference*, 3217-3228, Phoenix, AZ, 2011.
- C49 Zhang, S., P. Chen, L. H. Lee, E. P. Chew, and C. H. Chen, “Simulation Optimization Using the Particle Swarm Optimization with Optimal Computing Budget Allocation,” *Proceedings of 2011 Winter Simulation Conference*, 4303-4314, Phoenix, AZ, 2011.
- C50 Hunter, S. R., N. A. Pujowidianto, C. H. Chen, L. H. Lee, R. Pasupathy, and C. M. Yap, “Optimal Sampling Laws for Constrained Simulation Optimization on Finite Sets: The Bivariate Normal Case,” *Proceedings of 2011 Winter Simulation*

- Conference*, 4294-4302, Phoenix, AZ, 2011 (Finalist, WSC Best Theoretical Paper Award).
- C51 Farley, S., A. Brodsky, and C. H. Chen, "A Regression Dependent Iterative Algorithm for Optimizing Top-K Selection in Simulation Query Language," *Proceedings of the 2011 Workshop on Collaborative Decision Making*, Paris, France, 2011.
- C52 Wang, S. B., A. Chen, C. W. Liu, C. H. Chen, and J. Shortle, "Rare-event Splitting Simulation for Analysis of Power System Blackouts," *Proceedings of 2011 IEEE Power & Energy Society General Meeting*, Detroit, Michigan, 2011.
- C53 Lee, L. H., C. H. Chen, E. P. Chew, S. Zhang, J. Li, and N. A. Pujowidianto, "Latest Developments in Optimal Computing Budget Allocation for Simulation Based Optimization," *Proceedings of the 2011 IIE Asian Conference*, Shanghai, China, 2011.
- C54 Yan, S., E. Zhou, and C. H. Chen, "Efficient Simulation Budget Allocation for Selecting the Best Set of Simplest Good Enough Designs," *Proceedings of 2010 Winter Simulation Conference*, 1152-1159, Baltimore, MD, 2010.
- C55 Fischer, M, D. Masi, J. F. Shortle, and C. H. Chen, "Simulating Non-Stationary Congestion Systems Using Splitting with Applications to Cyber Security," *Proceedings of 2010 Winter Simulation Conference*, 2865-2875, Baltimore, MD, 2010.
- C56 Pujowidianto, N. A., L. H. Lee, C. H. Chen, and C. M. Yep, "Optimal Computing Budget Allocation For Constrained Optimization," *Proceedings of 2009 Winter Simulation Conference*, 584-589, Austin, TX, 2009.
- C57 Morrice, D. J., M. W. Brantley, and C. H. Chen, "A Transient Means Ranking and Selection Procedure with Sequential Sampling Constraints," *Proceedings of 2009 Winter Simulation Conference*, 590-600, Austin, TX, 2009.
- C58 Fu, M, C. H. Chen, and L. Shi, "Some Topics for Simulation Optimization," *Proceedings of 2008 Winter Simulation Conference*, 27-38, Miami, FL, 2008.
- C59 Shortle, J. and C. H. Chen, "A Preliminary Study of Optimal Splitting for Rare-Event Simulation," *Proceedings of 2008 Winter Simulation Conference*, 266-272, Miami, FL, 2008.
- C60 Morrice, D. J., M. W. Brantley, and C. H. Chen, "An Efficient Ranking and Selection Procedure for a Linear Transient Mean Performance Measure," *Proceedings of 2008 Winter Simulation Conference*, 290-296, Miami, FL, 2008.
- C61 Brantley, M. W., L. H. Lee, C. H. Chen, and A. Chen, "Optimal Sampling in Design of Experiment for Simulation-based Stochastic Optimization," *Proceedings of 2008 IEEE Conference on Automation Science and Engineering*, 388-393, Washington, DC, 2008.
- C62 Hall, N., T. Van Dyke, and C. H. Chen, "Efficient Allocation of Simulation Computing Budget to Select One of The Best Designs," *Proceedings of Inaugural*

- International Conference of the Engineering Mechanics Institute, Minneapolis, MN, 2008.*
- C63 Wang, L., T. Thompson, L. Sherry, and C. H. Chen, "Greensim - A Tool for Airport Operations Analysis: Delays, Emission, Fuel and Cost," *Proceedings of 2008 Transportation Research Board Annual Meeting*, Washington, DC, 2008.
- C64 Chen, C. H., D. He, M. Fu, and L. H. Lee, "Efficient Selecting An Optimal Subset for Optimization Under Uncertainty," *Proceedings of 2007 Informs Simulation Research Workshop*, 47-51, Fontainebleau, France, 2007.
- C65 Xu, N., K. Laskey, C. H. Chen, and S. C. Williams, "Bayesian Network Analysis of Flight Delays," *Proceedings of 2007 Transportation Research Board Annual Meeting*, Washington, DC, 2007.
- C66 Le, L., G. L. Donohue, K. Hoffman, and C. H. Chen, "Airport Slot Controls Are Required to Make NGATS Modernization Work," *Proceedings of 51st ATCA Annual Conference & Exposition*, 102-117, Washington, DC, 2006.
- C67 Laskey, K., N. Xu, and C. H. Chen, "Propagation of Delays in the National Airspace System," *Proceedings of the 22nd Conference on Uncertainty in Artificial Intelligence*, Cambridge, MA, 2006.
- C68 Brantley, M. W. and C. H. Chen, "A Moving Mesh Approach for Simulation Budget Allocation on Continuous Domains," *Proceedings of the 2005 Winter Simulation Conference*, 699-707, Orlando FL, 2005.
- C69 Xu, N., G. Donohue, K. Laskey, and C. H. Chen, "Estimation of Delay Propagation in the NAS Using Bayesian Networks," *Proceedings of 2005 Air Traffic Management Seminar*, Baltimore, MD, 2005.
- C70 Fu, M. C., J. Q. Hu, C. H. Chen, and X. Xiong, "Optimal Computing Budget Allocation Under Correlated Sampling," *Proceedings of the 2004 Winter Simulation Conference*, 595-603, Washington, DC, 2004.
- C71 Romero, V. J. and C. H. Chen, "Seminal Concepts for a New Approach to Continuous-Variable Optimization Under Uncertainty: Probabilistic Ordinal Optimization," *Proceedings of 10th AIAA Multidisciplinary Analysis and Optimization Conference*, Albany, NY, 2004.
- C72 Chen, C. H. and D. He, "Intelligent Simulation for Evaluating Alternatives and Application to Air Traffic Management," *Proceedings of 2004 International Conference on Service Systems and Service Management*, 2004.
- C73 Chen, C. H., D. He, and M. Fu, "A Case Study for Optimal Dynamic Simulation Allocation in Ordinal Optimization," *Proceeding of American Control Conference*, 5754-5759, Boston, 2004 (Best Presentation Award in Session).
- C74 Le, L., G. L. Donohue, and C. H. Chen, "Using Auction-Based Slot Allocation for Traffic Demand Management at Hartsfield Atlanta International Airport: A Case Study," *Proceedings of 2004 Transportation Research Board Annual Meeting*, Washington, DC, 2004.

- C75 Chen, C. H., D. He, and E. Yücesan, "Better-Than-Optimal Simulation Run Allocation," *Proceedings of the 2003 Winter Simulation Conference*, 490-495, New Orleans, 2003.
- C76 Hsieh, B. W., S. C. Chang, C. H. Chen, and M. C. Chang, "Efficient Composition of Good Enough Dispatching Policies for Semiconductor Manufacturing," *Proceedings of the Twelfth International Symposium on Semiconductor Manufacturing*, San Jose, CA, 2003.
- C77 Le, L., G. L. Donohue, and C. H. Chen, "Space-time Correlation Analysis of Quality-of-Service at Major US Airports," *Proceedings of 22nd Digital Avionics Systems Conference, Indianapolis, Indiana*, 2003.
- C78 Chen, C. H. "Efficient Sampling for Simulation-based Optimization under Uncertainty," *Proceedings of the Fourth International Symposium on Uncertainty Modeling and Analysis*, 386-391, College Park, MD, 2003.
- C79 Romero, V. J., D. V. Ayon, and C. H. Chen, "Application of Probabilistic Ordinal Optimization Concepts to a Continuous-Variable Probabilistic Problem," *Proceedings of the Fourth International Symposium on Uncertainty Modeling and Analysis*, 410-416, College Park, MD, 2003.
- C80 Hsieh, B. W., S. C. Chang, and C. H. Chen, "Dynamic Scheduling Rule Selection for Semiconductor Wafer Fabrication," *Proceedings of the 2003 IEEE International Conference on Robotics and Automation*, 163-168, Taipei, Taiwan, 2003 (Kayamori Best Automation Paper Award).
- C81 Le, L., S. Kholfi, G. L. Donohue, and C. H. Chen, "Proposal for Demand Management Using Auction-Based Arrival Slot Allocation," *Proceedings of the 5th EUROCONTROL / FAA ATM R&D Seminar*, Budapest, Hungary, 2003.
- C82 Shortle, J. F., Y. Xie, C. H. Chen, and G. M. Donohue, "Estimating Collision Probabilities of Landing Airplanes in a Small Aircraft Transportation System," *Proceedings of 2003 Transportation Research Board Annual Meeting*, Washington, DC, 2003.
- C83 Chen, C. H. and J. Lin, "Optimal Computing Budget Allocation Methods for Simulation Measurement of Network Performance," *Proceedings of 2003 Transportation Research Board Annual Meeting*, Washington, DC, 2003.
- C84 Hsieh, B. W., S. C. Chang, and C. H. Chen, "Design of Ordinal Optimization-based Simulation Methods for Efficient Scheduling Rule Selection for Fab Operations," *Proceedings of Semiconductor Manufacturing Technology Workshop*, Hsin-Chu, Taiwan, 2002.
- C85 Chen, C. H. and E. Yücesan, "Intelligent Monte Carlo Sampling for Decision Making Under Uncertainty," *Proceedings of 2002 IASTED International Conference on Modeling and Simulation*, 356-361, Marina del Rey, CA, 2002.
- C86 Donohue, G., M. Luo, C. H. Chen, and R. Holland, "Modeling the Performance of the National Airspace System," *Proceedings of 2002 Transportation Research Board Annual Meeting*, Washington, DC, 2002.

- C87 Romero, V. J. and C. H. Chen, "Use of Probabilistic Ordinal Optimization for Continuous-Variable Optimization Under Uncertainty," *Proceedings of the 1st Annual McMaster Optimization Conference: Theory and Applications*, Montreal, Canada, 2001.
- C88 Hsieh, B. W., S. C. Chang, and C. H. Chen, "Dynamic Scheduling Rule Selection for Semiconductor Wafer Fabrication," *Proceedings of the 2001 IEEE International Conference on Robotics and Automation*, Seoul, Korea, 2001.
- C89 Chen, C. H., K. Donohue, J. Lin, and E. Yücesan, "Efficient Approach for Monte Carlo Simulation Experiments and Its Applications to Circuit Systems Design," *Proceedings of the 34th Annual Simulation Symposium*, 65-71, Seattle, WA, 2001.
- C90 Yücesan, E. and C. H. Chen, "Optimal Computing Budget Allocation for Discrete Event Simulation," *Proceedings of ctes de la 3e Conference Francophone de Modelisation et Simulation*, 39-45, Troyes, France, 2001.
- C91 Luo, Y. C., C. H. Chen, E. Yücesan, and I. Lee, "Distributed Web-Based Simulation Optimization," *Proceedings of the 2000 Winter Simulation Conference*, 1785-1793, Orlando, FL, 2000.
- C92 Chen, C.-H., P. Hahn, J. Lin, and E. Morlok, "Web-Based Simulation and Decision Support System for Bulk Mail (Parcel) Network Planning," *Proceedings of the 42nd Annual Meeting of the Transportation Research Forum*, 283-292, Annapolis, MD, 2000.
- C93 Tyler, D. and C. H. Chen, "Operating Room Utilization: Determination of Optimum Utilization," *Proceedings of the 2000 Annual Meeting of the American Society of Anesthesiologists*, 2000.
- C94 Luo, Y. C., M. Guignard-Spielberg, and C. H. Chen, "A Hybrid Approach for Integer Programming Combining Genetic Algorithms, Linear Programming and Ordinal Optimization," *Proceedings of the Latin-Ibero-American Conference on Operations Research and Systems*, 2000.
- C95 Chen, H. C., C. H. Chen, E. Yücesan, and J. Lin, "An Asymptotic Allocation for Simultaneous Simulation Experiments," *Proceedings of the 1999 Winter Simulation Conference*, 359-366, 1999.
- C96 Shi, L., C. H. Chen, and E. Yücesan, "Simultaneous Simulation Experiments and Nested Partition for Discrete Resource Allocation in Supply Chain Management," *Proceedings of the 1999 Winter Simulation Conference*, 395-401, 1999.
- C97 Shi, L. and C. H. Chen, "Stochastic Discrete Resource Allocation Optimization," *Proceedings of 38th IEEE Conference on Decision and Control*, 1999.
- C98 Hsieh, B. W., C. H. Chen, and S. C. Chang, "Fast Fab Scheduling Rule Selection by Ordinal Comparison-Based Simulation," *Proceedings of The International Symposium on Semiconductor Manufacturing*, 1999.

- C99 Dai, L., C. H. Chen, and J. R. Birge, "Exponential Convergence of Two-Stage Stochastic Programming," *Proceedings of The 14th World Congress of International Federation of Automatic Control*, 1999.
- C100 Dai, L., C. H. Chen, and J. R. Birge, "On the Convergence Rate of Ordinal Optimization for A Class of Stochastic Discrete Resource Allocation," *Proceedings of 37th IEEE Conference on Decision and Control*, 3880-3885, 1998.
- C101 Chen, C. H., E. Yücesan, Y. Yuan, H. C. Chen and L. Dai, "Computing Budget Allocation for Simulation Experiments with Different System Structures," *Proceedings of the 1998 Winter Simulation Conference*, 735-741, 1998.
- C102 Yücesan, E., C. H. Chen, and I. Lee, "Web-Based Simulation Experiments," *Proceedings of the 1998 Winter Simulation Conference*, 1649-1654, 1998.
- C103 Hsieh, B. W., C. H. Chen, and S. C. Chang, "Dispatching Rule Selection for Semiconductor Wafer Fabrication by Ordinal Optimization and Simulation," *Proceedings of the Rensselaer's Sixth International Conference on Agile, Intelligent, and Computer Integrated Manufacturing*, 1998.
- C104 Chen, C. H., L. Dai, and E. Yücesan, "Optimal Way to Find The Optimal Design for Discrete Event Simulation Experiments," *Proceedings of the SPIE's 12 Annual International Symposium on Aerospace/Defense Sensing, Simulation, and Controls*, 238-248, 1998.
- C105 Chen, H. C., C. H. Chen, L. Dai, and E. Yücesan, "New Development of Optimal Computing Budget Allocation For Discrete Event Simulation," *Proceedings of the 1997 Winter Simulation Conference*, 334-341, 1997.
- C106 Chen, C. H., S. D. Wu, and L. Dai, "Algorithm Comparison for Manufacturing Scheduling Problems," *Proceedings of the 36th IEEE Conference on Decision and Control*, 1214-1215, 1997.
- C107 Dai, L. and C. H. Chen, "On The Role of Large Deviation Principle in Ordinal Comparison for Discrete Event Dynamic Systems," *Proceedings of the 36th IEEE Conference on Decision and Control*, 674-679, 1997.
- C108 Chen, C. H., K. Donohue, L. Dai, and E. Yücesan, "Intelligent Computing Budget Allocation for Discrete Event Simulation and Optimization," *Proceedings of the 1997 Intelligent Systems and Semiotics Conference*, 185-190, 1997.
- C109 Dai, L. and C. H. Chen, "Comparison of Performance Orders of Different Designs for Discrete-Event Dynamic Systems," *Proceedings of the 1997 Intelligent Systems and Semiotics Conference*, 191-196, 1997.
- C110 Dai, L. and C. H. Chen, "The Large Deviation principle and Ordinal Comparison in Discrete Event Dynamic Systems," *Proceedings of The Second Chinese World Congress on Intelligent Control and Intelligent Automation*, 1997.
- C111 Chen, C. H., H. C. Chen, and L. Dai, "A Gradient Approach of Smartly Allocating Computing Budget for Discrete Event Simulation," *Proceedings of the 1996 Winter Simulation Conference*, 398-405, 1996.

- C112 Dai, L. and C. H. Chen, "The Effect of Correlation on Ordinal Comparison of Discrete Event Dynamic Systems," *Proceedings of the 35th IEEE Conference on Decision and Control*, 1996.
- C113 Chen, C. H. and L. Dai, "Intelligent Computing Budget Allocation for Stochastic Simulation," *Proceedings of the 1996 Artificial Neural Networks in Engineering Conference*, 1105-1110, 1996.
- C114 Chen, C. H. and V. Kumar, "Motion Planning of Walking Robots in Environments with Uncertainty," *Proceedings of the 1996 IEEE International Conference on Robotics and Automation*, 3277-3282, 1996.
- C115 Chen, C. H. "An Effective Approach to Smartly Allocate Computing Budget for Discrete Event Simulation," *Proceedings of the 34th IEEE Conference on Decision and Control*, 2598-2605, 1995.
- C116 Chen, C. H. "A Hybrid Approach of the Standard Clock Method and Event Scheduling Approach for General Discrete Event Simulation," *Proceedings of the 1995 Winter Simulation Conference*, 786-790, 1995.
- C117 Chen, C. H. and V. Kumar, "An Application of Ordinal Optimization to A Robot Motion Planning Problem," *Proceedings of the 33rd Annual Allerton Conference on Communication, Control, and Computing*, 116-125, 1995.
- C118 Chang, S. C., C. H. Chen, and I. K. Fong, "An Effective Differential Dynamic Programming for Constrained Optimal Control Problems," *Proceedings of the 1989 American Control Conference*, Pittsburgh, PA, 2678-2683, 1989.
- C119 Chen, C. H., S. C. Chang, and I. K. Fong, "A Parallel Algorithm for the Time Decomposition Approach to Constrained Optimal Control Problems," *Proceedings of the 1989 American Control Conference*, Pittsburgh, PA, 1763-1764, 1989.
- C120 Chen, C. H., S. C. Chang, and I. K. Fong, "A Multiplier Method-Based Differential Dynamic Programming Algorithm," *Proceedings of the 12th National Symposium on Automatic Control*, Hsin-Chu, Taiwan, 481-491, 1988.
- C121 Chen, C. H., P. B. Luh, J. Shi, S. C. Chang, and I. K. Fong, "Wave-Form Decomposition for Large-Scale Optimal Control Problems," *Proceedings of the Second National Workshop on Automatic Technology*, Kengting, Taiwan, 483-492, 1988.

Funded Research Projects

1. "Towards Self-healing Resilient Microgrids Using DDDAS," US Air Force Office of Scientific Research, PI: J. Xu, \$329,424, 8/15/2019 – 8/14/2021.
2. "Rolling Resilience through Digital Twinning for the Port of Singapore," Singapore Maritime Institute, PI: LH Lee, Singapore\$123,500, 10/16/2018 – 10/15/2019.
3. "Simulation Optimization Theory and Its Applications in Complex Management Systems," National Natural Science Foundation of China, PI: J.Q. Hu at Fudan

- University in Shanghai, 2,500,000RMB for Fudan researchers, 01/01/2018 – 12/31/2020.
4. “Optimal Control of Discrete Event Dynamic Systems with Constraints,” National Natural Science Foundation of China, PI: S. Gao at the City University of Hong Kong, 190,000RMB, 01/01/2017 –12/31/2019.
 5. “Scalable Multi-Model Data Acquisition and Resource Allocation via Adaptive Multi-Fidelity Simulation and Optimization in Dynamic Data Systems,” NSF & US Air Force Office of Scientific Research, PI: J. Xu, \$249,364, 9/01/15 – 8/31/2018.
 6. “Improving Search Efficiency in Engineering Design by Integrating Multiple Models at Different Fidelities,” NSF, PI: E. Huang, \$459,066, 5/01/15 – 4/30/19.
 7. “Efficient Testing Methodologies for Adaptive Radios,” NSF, PI: J. Shortle, \$100,000, 7/01/13 – 12/31/13.
 8. “Quantitative Assessments Leveraging Effects Based Analysis for Degraded PNT,” US Air Force, PI: J. Shortle, \$80,000, 7/01/13 – 4/30/14.
 9. “Stochastic Simulation Optimization: An Optimized Approach,” NSF, PI, \$260,000, 9/01/12 – 8/31/15.
 10. “Efficient Methodologies for Large-Scale Simulation Optimization Problems,” National Science Council of Taiwan, ROC, NT\$2,407,000 (\$80,300), 12/1/11 – 9/30/14.
 11. “Using GIS and Simulation for Analyzing Optimal Geographical Boundaries and Organ Allocation Mechanism for Liver Transplant”, NIH, Co-PI, with N. Koizumi, \$400,000, 8/1/10 - 12/31/13.
 12. “New Approaches for Rare-Event Simulation and Decision Making,” Department of Energy, Co-PI, with J. Shortle, \$747,980, 9/15/09 - 9/14/13.
 13. "Funding Support for the First Informs Simulation Research Workshop," NSF, Co-PI, with S. Henderson, \$19,500, 2007.
 14. "Analysis of NGATS Sensitivity to Gaming," NASA Ames Research Center, CA, Co-PI, with L. Sherry, \$1,451,075, 10/1/06 - 9/30/10.
 15. "Research on Simulation-based Ordinal Optimization Methods with Applications to Production Scheduling of 300mm Foundry Fabs," National Science Council of Taiwan, ROC, Co-PI, with S.-C. Chang, \$11,500, 04/10/06 - 07/09/06.
 16. "IV&V Support for NASA ACES Models using TAAM Simulation Model and Bayesian Networks," NASA Ames Research Center, CA, PI, \$464,738, 09/01/05 - 08/31/08.
 17. "Evaluation of the Effects of Stochastic Reduced Wake Vortex Separation Arrival/Departure Flows on Runway Capacity," NASA Langley Research Center, Co-PI, with J. Shortle, \$417,185, 01/01/05 - 12/31/06.
 18. "Modeling and Analysis to Support Decision Making in The Area of Resource Allocation," NIST, through the National Capital Region Critical Infrastructure Protection Project, Co-PI, with A. Loerch, \$52,337, 01/01/05 - 12/31/05.

19. "Research Experiences for Undergraduates", NSF, PI, \$6,000, 05/03/04 - 08/31/08.
20. "Safety Assessment of Wake Vortex Separation Standards and Avoidance Technologies," NASA Langley Research Center, Co-PI, with J. Shortle, \$329,862, 9/01/03 - 12/31/04.
21. "ITR: Very Efficient Network Simulation Methods for Auctioning and Collaborative Models of Air Traffic Management," NSF, PI, with A. Deshmukh, G. Donohue, K. Hoffman, and D. Gross, \$1,082,946, 09/01/03 - 8/31/08.
22. "IV&V Support, Efficient Air Traffic Management Modules for NASA VAMS Models," NASA Ames Research Center, CA, Co-PI, with G. Donohue, \$251,367, 8/01/03 - 9/30/2005.
23. "Hercules - MDA Algorithm Development and Analysis," Missile Defense Agency, Co-PI, with K. Chang and K. Laskey, \$900,000, 07/01/03 - 06/30/06.
24. "Air Traffic Control Model Evaluations," FAA Technical Center, Co-PI, with G. Donohue, \$259,816, 08/01/02 - 07/31/05.
25. "An Efficient Air Traffic Management Model for Evaluation of Complex Behavior in and IV&V Support of other NASA ATM Models," NASA Ames Research Center, CA, Co-PI, with G. Donohue, \$250,808, 06/01/02 - 5/31/03.
26. "Small Aircraft Transportation System: The Virginia SATSLab Analysis, Operational Evaluation and Mission Demonstrations," NASA, Co-PI, with G. Donohue, M. Bienvenu, D. Boehm-Davis, L Adelman, K. C. Chang, J. Shortle, \$2,500,000, 08/01/01-09/30/02.
27. "Intelligent Simulation Experiment for Decision Making and Design Problems," Provost Office of George Mason University, PI, \$5,000, 02/01/01 - 06/30/02.
28. "Very Efficient Simulation for Engineering Design Problems," NSF, PI, \$80,000, 07/01/00 - 06/30/03.
29. "GAANN Fellowships in Robotics Technology," U.S. Department of Education, CoPI, with V. Kumar, R. Bajcsy, M. Mintz, R. Paul, \$1,512,250, 08/15/98 - 08/14/01.
30. "An Engineering Design Framework Integrating Robust Optimization and Structured Simulation Experiments," Sandia National Laboratories, PI, with K. Donohue, \$25,000, 07/21/98 - 07/20/99.
31. "An Engineering Design Framework Integrating Robust Optimization and Structured Simulation Experiments," NSF, PI, with K. Donohue, and S. D. Wu, \$50,000, 03/01/98 - 02/28/00.
32. "Research on Statistical Production Flow Control of a Re-entrant Line," Taiwan National Science Council, Taiwan, CoPI, with S.-C. Chang, NT\$750,480 (~\$30,000), 07/01/97 - 06/30/98.
33. "Algorithms for Motion Planning, Sensing, Simulation and Execution," Army Research Office, CoPI, with R. Bajcsy, P. Harker, V. Kumar, \$110,000, 01/01/97 - 12/31/97.

34. "Acquisition of Equipment for a Customized Production Systems Laboratory," NSF, CoPI, with V. Kumar, P. Harker, M Cohen, D. Bogen, N. Badler, \$473,238, 09/01/95 - 08/31/97.

Professional Society Service

Editorial Boards

- Area Editor, Asia-Pacific Journal of Operational Research, 2014-Present
- Associate Editor, Journal of Systems Science and Systems Engineering, 2019-Present
- Guest Editor, special issue on cyber-physical systems, IEEE Transactions on Industrial Electronics, 2019
- Associate Editor, IEEE Transactions on Automation Science and Engineering, 2012-2017.
- Advisory Editor, Journal of Traffic and Transportation Engineering, 2014-Present
- Advisory Editor, International Journal of Simulation and Process Modeling, 2014-Present
- Departmental Editor, IIE Transactions, 2008-2013.
- Associate Editor, IEEE Transactions on Automatic Control, 2007-2013.
- Guest Editor, special issues on simulation optimization and its applications, IIE Transactions, 2011.
- Area Editor, Journal of Simulation Modeling Practice and Theory, 2008-2011.
- Guest Editor, special issue on Optimization Under Uncertainty, Optimization and Engineering Journal, 2004.
- Co-Editor, 2002 Winter Simulation Conference, San Diego, CA, 2002.

Primary Organizer of Conferences/Workshops

- Chair of Contributed Sessions Committee, 2020 Informs Annual Meeting, Washington, DC.
- Co-Chair of Special Sessions Committee, 2020 IEEE International Conference on Industrial Informatics
- Chair of Special Sessions Committee, 2019 IEEE International Conference on Industrial Cyber-Physical Systems
- Co-organizer, Workshop on Socio-Technical Automation Systems, in 2019 IEEE International Conference on Automation Science and Engineering
- Program Co-Chair, 2019 IEEE/SICE International Symposium on System Integration
- Co-organizer, Workshop on Model-Coupling/Inconsistency/Optimization in between Models, in 2018 IEEE International Conference on Automation Science and Engineering

- Program Co-Chair, 2017 IEEE/SICE International Symposium on System Integration
- Chair of Special Sessions Committee, 2016 IEEE International Conference on Industrial Technology
- General Co-Chair, 2016 International Conference on Mechanical, Electronics and Computer Engineering
- General Chair, 2013 Workshop of Stochastic Simulation Optimization for Discrete Event Systems, Madison, WI.
- Chair of Contributed Sessions Committee, 2008 Informs Annual Meeting, Washington, DC, 2008 (more than 4000 papers presented).
- Program Co-Chair, The 1st Informs Simulation Society Workshop, 2007.

Member of Conference Program Committees

- 2015 Winter Simulation Conference, Huntington Beach, CA, 2015
- 2015 Summer Simulation Multi-Conference (SummerSim'15), Chicago, IL, 2015
- 2014 IEEE International Conference on Automation Science and Engineering, Taipei, Taiwan, 2014
- 13th International Conference on Modeling and Applied Simulation, Bordeaux, France, 2014
- 2014 Winter Simulation Conference, Savannah, GA, 2014
- 4th International Conference on Simulation and Modeling Methodologies, Technologies and Applications, Vienna, Austria, 2014
- 46th Summer Computer Simulation Conference, Monterey, CA, 2014
- 3rd International Conference on Simulation and Modeling Methodologies, Technologies and Applications, Reykjavik, Iceland, 2013.
- 2nd International Conference on Simulation and Modeling Methodologies, Technologies and Applications, Rome, Italy, 2012.
- 1st International Conference on Simulation and Modeling Methodologies, Technologies and Applications, Noordwijkerhout, Netherlands, 2011.
- 2011 International Conference on Computer Control and Automation, South Korea, 2011.
- 2009 International Conference on Modeling, Simulation, and Identification, Beijing, China, 2009.
- 38th IEEE Conference on Decision and Control, Phoenix, AZ, 1999.
- 13th European Simulation Multiconference, Warsaw, Poland, 1999.
- 4th International Conference of Information Systems Analysis and Synthesis, Orlando, FL, 1998.
- 3rd International Congress of the Federation of European Simulation Societies, Helsinki, Finland, 1998.

- 3rd International Conference on Systems Science and Systems Engineering, Beijing, China, 1998.
- 1998 International Conference on Web-Based Modeling & Simulation, San Diego, CA, 1998.

Other Professional and Organizational Activities

- Best Paper Award Committee, 2017 IEEE/SICE International Symposium on System Integration
- Advisory Board Member, Dronacharya College of Engineering, India
- Best Paper Committee, 2014 IEEE Conference on Automation Science and Engineering
- Track Coordinator, 2013 Winter Simulation Conference, Washington, DC
- Associate Editor and Track Chair, 2012 IEEE Conference on Automation Science and Engineering
- Chair, IIE Transaction Best Paper Award Committee, 2009-10
- Technical Advisory Committee, 2007 International Conference on Modeling and Simulation -- Emerging Methods Towards Frontier Technologies, Coimbatore, India, 2007
- Treasurer, INFORMS Simulation Society, 2004-2006
- Council Member, INFORMS Simulation Society Council, 2004-2006.
- Track Coordinator, 2004 Winter Simulation Conference, Washington, DC.
- Track Coordinator, 2003 Winter Simulation Conference, New Orleans, LA.
- Local Arrangements Committee, 1999 INFORMS National Meeting, Philadelphia, PA, 1999.
- Chairman, Simulation Cluster, 1999 INFORMS National Meeting, Philadelphia, PA, 1999.
- Advisor, INFORMS (Institute for Operations Research and Management Science) Student Chapter at the University of Pennsylvania, 1995-2000.

Professional Affiliations

- Fellow, Institute of Electrical and Electronics Engineering (IEEE)
- Member, Informs

University Service

University Level

- University Graduate Council, 2018-2019

College/School Service

- Engineering School Graduate Committee, 2006-2019
- Engineering School Research Council, 2006-2017
- Secretary of Faculty of IT&E School, 2002-2005
- IT&E School Outstanding Teaching Award Committee, 2001-02
- Ralph E. Powe Award Committee, 2001
- Graduate Affairs Committee, 1999-2000
- Harold Pender Award Committee, 1999
- Academic Performance Committee, 1997-1998
- Library Committee, 1996-1997, 1998-2000

Department Service

- Coordinator, SEOR Graduate Program, 2006- 2019
- SEAR Department Chair Search Committee, 2017
- Chair, Faculty Search Committee, 2010-2011
- Chair, Undergraduate Curriculum Committee, 2002-2005
- Chair, Modeling Methodologies Committee, 2002
- Miller and Harris Scholarship Committee, 2001
- Graduate Curriculum Committee, 2000-2002
- Alumni/Student Relations Committee, 2000-2002
- Acting Chairman, Systems Engineering Graduate Group, 1999-2000
- Chairman, Visiting Faculty Recruiting Committee, 1998-1999 (hired two visiting professors)
- Chairman, Faculty Recruiting Committee, 1997-1998 (hired one Full Professor and one Assistant Professor)
- Member, Faculty Recruiting Committee, 1996-1997 (hired one Assistant Professor), 1998-1999 (hired one Assistant Professor)
- Chairman, Graduate Recruiting Committee, 1996-1998
- Member, Qualifying Examination Committee, 1996-2000
- Coordinator, Systems Engineering Department Seminar Series, 1995-2000
- Member, Computing Committee, 1994-2000