

## Ying-Chao Hung

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### CURRENT POSITION

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2022/8-present	Professor	Taipei, Taiwan
Institute of Industrial Engineering, National Taiwan University		

### PROFESSIONAL EXPERIENCE

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2023/8-	EMS Instructor	Taipei, Taiwan
Institute of Industrial Engineering, National Taiwan University		
2023/7-2023/8	Visiting Professor	Tokyo, Japan
Institute of Statistical Mathematics		
2020/8-2022/7	Chair	Taipei, Taiwan
Dept. of Statistics, National Chengchi University		
2020/8-2022/7	Member of Academic Committee	Taipei, Taiwan
Chinese Statistical Association (Taiwan)		
2019/12-2023/12	Board of Directors	ISI, Netherlands
International Association for Statistical Computing – Asian Regional Section (IASC-ARS)		
2019/1-2022/1	Board of Directors	Taiwan
Chinese Institute of Probability and Statistics		
2018/8-2019/1	Adjunct Professor	Taipei, Taiwan
Dept. of Mathematics, National Taiwan University		
2018/7-2018/8	Visiting Professor	Redmond, WA, USA
Dept. of Membership Knowledge & Growth, Microsoft Corp.		
2018/2-2018/2	Visiting Professor	Singapore
Dept. of Statistics & Appl. Probability, National University of Singapore		
2017/7-2017/8	Appointed Visiting Professor	Tokyo, Japan

	Institute of Statistical Mathematics	
2016/7-2016/8	Appointed Visiting Professor Informatics Institute, University of Florida	Gainesville, FL, USA
2015/8-2015/8	Visiting Professor Dept. of Culture & Information Science, Doshisha University	Kyoto, Japan
2015/7-2022/7	EMBA Instructor College of Commerce, National Chengchi University	Taipei, Taiwan
2015/2-2022/7	Professor Dept. of Statistics, National Chengchi University	Taipei, Taiwan
2013/8-2014/7	Adjunct Associate Professor Graduate Inst. of Statistics, National Central University	Jhongli, Taiwan
2012/8-2014/7	Director of Consulting Center Dept. of Statistics, National Chengchi University	Taipei, Taiwan
2010/8-2015/1	Associate Professor Dept. of Statistics, National Chengchi University	Taipei, Taiwan
2009/8-2010/7	Assistant Professor Dept. of Statistics, National Chengchi University	Taipei, Taiwan
2007/3-2007/6	Adjunct Assistant Professor School of Nursing, Taipei Medical University	Taipei, Taiwan
2002/8-2009/7	Assistant Professor Graduate Inst. of Statistics, National Central University	Jhongli, Taiwan

## EDUCATION

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2002/8	Ph.D. Dept. of Statistics, University of Michigan	Ann Arbor, MI, USA
1995/6	M.B.A. Dept. of Statistics, National Chengchi University	Taipei, Taiwan
1993/6	B.S. Dept. of Mathematics, National Taiwan University	Taipei, Taiwan

## RESEARCH INTERESTS

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Computational Statistics and Simulation, Applied Probability, Stochastic Control and Optimization, Statistical Machine Learning, Granger Causality Test, Applications to Data Science

### Publications

- **\*Hung, Y.C.** (2023). A Review of Monte Carlo and Quasi-Monte Carlo Sampling Techniques, to appear in the *WIREs Computational Statistics*.
- Tseng, N.F.; **\*Hung, Y.C.**; Nakano, J. (2023). Granger Causality Tests Based on Reduced Variable Information, to appear in the *Journal of Time Series Analysis*.
- **\*Hung, Y.C.**; Michailidis, G. (2022). A Novel Data-Driven Approach for Solving the Electric Vehicle Charging Station Location-Routing Problem. *IEEE Transactions on Intelligent Transportation Systems*, 23(12), 23858-23868 (IF = 9.551, SJR ranking in Engineering (Automotive Engineering, Mechanical Engineering): 6/102, 20/614)
- **\*Hung, Y.C.**; Lok, H.P.H.; Michailidis, G. (2022). Optimal Routing and Design of Electric Vehicle Charging Systems with Stochastic Demands: A Heavy Traffic Approximation Approach. *European Journal of Operational Research*, 299(2), 526-541 (IF = 6.363, SJR ranking in Engineering (Industrial and Manufacturing Engineering): 11/368)
- Tsai, P.; Yan, G.; Liu, C.; **Hung, Y.C.**; Kahler, D.; Park, J.Y.; Potter, N.; Li, J.; Lu, B. (2020). Tumor phase recognition using cone-beam computed tomography projections and external surrogate information. *Medical Physics*, 47(10), 5077-5089 (IF = 4.071, SJR ranking in Biochemistry, Genetics & Molecular Biology (Biophysics): 15/140).
- **\*Hung, Y.C.**; Michailidis, G.; Lok, H.P.H. (2020). Locating Infinite Discontinuities in Computer Experiments. *SIAM/ASA Journal on Uncertainty Quantification*, 8(2), 717-747 (IF = 2.179, SJR ranking in Mathematics (Discrete Mathematics & Combinatorics): 10/93).
- **\*Hung, Y.C.**; Michailidis, G. Modeling and Optimization of Time-of-Use Electricity Pricing Systems. (2019). *IEEE Transactions on Smart Grid*, 10(4), 4116-4127 (IF = 8.267, SJR ranking in Computer Science (miscellaneous): 1/310 (2021), 1/460 (2020), 4/496 (2019)).
- Li, Y.F; Lu, L.H.; **\*Hung, Y.C.** (2019). A New Clustering Algorithm Based on Graph Connectivity. In: Arai K., Kapoor S., Bhatia R. (eds) *Intelligent Computing. SAI 2018. Advances in Intelligent Systems and Computing*, Vol 858, pp. 442-454, Springer, Cham.
- **\*Hung, Y.C.**; Chen, W.C. (2017). Simulation of Some Multivariate Distributions Related to the Dirichlet Distribution with Application to Monte Carlo Simulations, *Communications in Statistics - Simulation and Computation*, 46(6), 4281-4296.
- **\*Hung, Y.C.**; Chen, R.W.; Balakrishnan, N. (2016). On the Correlation Structure of Exponential Order Statistics and Some Extensions. *Mathematical Methods of Statistics*, 25(3), pp. 196-206.
- **\*Hung, Y.C.**; Michailidis, G. (2015). Optimal Routing for Electric Vehicle Service Systems. *European Journal of Operational Research*, 247(2), pp. 515-524 (IF = 2.679, SJR ranking in Computer Science (miscellaneous): 6/600)

- **\*Hung, Y.C.**; Tseng, N.F.; Balakrishnan, N. (2014). Trimmed Granger Causality Between Two Groups of Time Series. *Electronic Journal of Statistics*, 8(2), pp. 1940-1972 (5yr IF = 1.325, SJR ranking in Decision Sciences (Statistics, Probability and Uncertainty): 18/131)
- **\*Hung, Y.C.**; Michailidis, G.; Chuang, S.C. (2014). Estimation and Monitoring of Traffic Intensities with Application to Control of Stochastic Systems. *Applied Stochastic Models in Business and Industry*, 30(2), pp. 200-217 (5yr IF = 0.811)
- Cheng, C.W.; **\*Hung, Y.C.**; Balakrishnan, N. (2014). Generating Beta Random Numbers and Dirichlet Random Vectors in R: The Package rBeta2009. *Computational Statistics & Data Analysis*, 71, pp. 1011-1020 (5yr IF = 1.510, SJR ranking in Computer Science (Computational Theory and Mathematics): 16/495)
- **\*Hung, Y.C.**; Chang, H.H. New Tests of Granger Causality for Two Groups of Time Series. *Proceedings of the 3<sup>rd</sup> International Symposium on Business and Social Sciences*, Sapporo, Hokkaido, Japan, July 22-24, 2014, pp. 500-511.
- Chen, R.B.; **Hung, Y.C.**; Wang, W.C.; Yen, S.W. (2013). Contour Estimation via Two Fidelity Computer Simulators Under Limited Resources. *Computational Statistics*, 28(4), pp. 1813-1834 (5yr IF = 0.667)
- **\*Hung, Y.C.**; Tseng, N.F. (2013). Extracting Informative Variables in the Validation of Two-group Causal Relationship. *Computational Statistics*, 28(3), pp. 1151-1167 (5yr IF = 0.667)
- Chuang, S.C.; **Hung, Y.C.**; Tsai, W.C.; Yang, S.F. (2013). A Framework for Nonparametric Profile Monitoring. *Computers and Industrial Engineering*, 64, pp. 482-491 (5yr IF = 2.382, SJR in Computer Science (miscellaneous): 16/499)
- **\*Hung, Y.C.** (2012). Wald's Identity for the Fair Coin-tossing Games and Some Applications. *The Open Statistics and Probability Journal*, 4, pp. 1-4.
- Yang, S.F.; Cheng, T.C.; **Hung, Y.C.**; Cheng, S.W. (2012). A New Chart for Monitoring Service Process Mean. *Quality and Reliability Engineering International*, 28(4), pp. 377-386 (5yr IF = 0.992, SJR ranking in Engineering (Safety, Risk, Reliability & Quality): 33/430)
- Chiang, C.R.; **Hung, Y.C.**; Chen, C.M.; Shieh, G.S. (2012). Inferring Genetic Interactions via A Data-driven Second Order Model. *Frontiers in Statistical Genetics and Methodology*, 3, Article 71.
- **\*Hung, Y.C.**; Michailidis, G. (2012). Stability and Control of Acyclic Stochastic Processing Networks with Shared Resources. *IEEE Transactions on Automatic Control*, 57(2), pp. 489-494 (IF = 2.718, SJR ranking in Engineering (Control and Systems Engineering): 1/838)
- **\*Hung, Y.C.**; Tsai, W.C.; Yang, S.F.; Chuang, S.C.; Tseng, Y.K. (2012). Nonparametric Profile Monitoring in Multi-dimensional Data Spaces. *Journal of Process Control*, 22(2), pp. 397-403 (5yr IF = 2.285, SJR ranking in Engineering

(Control and Systems Engineering): 16/838)

- \***Hung, Y.C.** (2012). Optimal Bayesian Strategies for the Infinite-armed Bernoulli Bandit. *Journal of Statistical Planning and Inference*, 142(1), pp. 86-94 (5yr IF = 0.612)
- \***Hung, Y.C.**; Balakrishnan, N.; Cheng, C. W. (2011). Evaluation of Algorithms for Generating Dirichlet Random Vectors. *Journal of Statistical Computation and Simulation*, 81(4), pp. 445-459 (5yr IF = 0.573)
- \***Hung, Y.C.** “A Dynamic Scheduling Policy for Switched Processing Systems”. *Proceedings of International Symposium on Innovative Management, Information & Production* (IMIP), Otaru, Japan, October 8-10, 2011, pp. 133-139.
- Tseng, N.F.; \***Hung, Y.C.** “A New Graphical Presentation of Granger Causal Structure for Multivariate Time Series”. *Proceedings of International Symposium on Innovative Management, Information & Production* (IMIP), Otaru, Japan, October 8-10, 2011, pp. 128-132.
- \***Yang, S.F.**; **Hung, Y.C.**; Cheng, T.C.; Tsai, W.C.; Cheng, S.W. “A New Control Chart for Monitoring Service Process with Unknown Distributions”. *Proceedings of the 8th IEEE International Conference on Service Systems and Service Management* (ICSSSM), Nankai University, Tianjin, China, June 25-27, 2011, pp. 1-5.
- Chuang, S. C.; \***Hung, Y.C.** (2010). Uniform Design over General Input Domains with Applications to Target Region Estimation in Computer Experiments. *Computational Statistics & Data Analysis*, 54(1), pp. 219-232 (5yr IF = 1.363, SJR ranking in Computer Science (Computational Theory and Mathematics): 20/823)
- \***Hung, Y.C.**; Chen, R.W.; Zame, A.; Chen, M.R. (2010). A Note on the First Occurrence of Strings. *Electronic Journal of Combinatorics*, 17(1), #N5 (5yr IF = 0.636, SJR ranking in Mathematics (Theoretical Computer Science): 27/247)
- \***Hung, Y.C.** “An Optimal Bayesian Strategy for Bandit Problems with Applications to Data Routing Networks”. *Proceedings of the 7th International Symposium on Management Engineering* (ISME), City of Kitakyushu, Japan, August 26-28, 2010, pp. 116-120.
- \***Hung, Y.C.**; Balakrishnan, N.; Lin, Y.T. (2009). Evaluation of Beta Generation Algorithms. *Communications in Statistics –Simulation and Computation*, 38(4), pp. 750-770 (5yr IF = 0.394)
- \***Hung, Y.C.** (2009). A Note on Randomized Shepp's Urn Scheme. *Discrete Mathematics*, 309 (6), pp. 1749-1759 (5yr IF = 0.680, SJR ranking in Mathematics (Theoretical Computer Science): 37/190)
- \***Hung, Y.C.**; Chang, C.C. (2008). Dynamic Scheduling for Switched Processing Systems with Substantial Service-mode Switching Times. *Queueing Systems: Theory and Applications*, 60, pp. 87-109 (5yr IF = 1.292, SJR ranking in Computer Science (Computational Theory and Mathematics): 12/347)

- **\*Hung, Y.C.**; Michailidis, G. (2008). Modeling, Scheduling, and Simulation of Switched Processing Systems. *ACM Transactions on Modeling and Computer Simulation*, 18(3), Article 12.
- **Hung, Y.C.**; \*Michailidis, G. “A Measurement Based Dynamic Policy for Switched Processing Systems”. *Proceedings of the IEEE International Conference on Communications*, Glasgow, Scotland, June 2007, pp. 301-306. **(The Best Paper Prize, Acceptance rate ~ 900/2600)**
- **Hung, Y.C.**; \*Michailidis, G. “Improving Quality of Service for Switched Processing Systems”. *Proceedings of 11th Intl. Workshop on Computer-Aided Modeling, Analysis and Design of Communication Links and Networks (IEEE CAMAD)*, Trento, Italy, June 2006, pp. 46-53.
- Shieh, G.S.; Jiang, Y.C.; **Hung, Y.C.**; Wang, T.F. “A Regression Approach to Reconstruct Gene Networks”. *Proceedings of Taipei Symposium on Statistical Genomics*, Taipei, Taiwan, December 2004, pp. 357-370.
- **\*Hung, Y. C.**, Michailidis, G., Bingham, D. R.. “Developing Efficient Simulation Methodology for Complex Queueing Networks”. *Proceedings of the Winter Simulation Conference*, New Orleans, December 2003, pp. 152-159.
- **Hung, Y.C.**; \*Michailidis, G. “On the Design of Efficient Simulations for Complex Queueing Networks”. *Proceedings of the 36th Conference on Information Sciences and Systems (CISS)*, Princeton University, March 2002, pp. 104-108.

### Papers in Review/Preparation

- **\*Wu, W.B.**; **Hung, Y.C.**; Yao, H.Y. Nopivotal Granger Causality Tests Based on Large-Order VAR Models, working paper.
- Chang, I. W.; Chen, C.E.; **Hung, Y.C.**; Hsieh, C.H; Hsiao, S.F.; Chen, M.C.; Lin, C.H.; Shih, Y.C.; Wu, S.H.; Wang, T.H.; Liao, W.C.; Ma, H.; Perng, C.K. A Machine Learning Approach for Classifying the Burn Degree Based on Indocyanine Green Video Angiography, to be submitted to *Burns*.
- **Hung, Y.C.**; Yi, Z. A.; Michailidis, G. Solving the EV Charging Station Location-Routing Problem with Non-metric Map Distance, working paper.
- **Hung, Y.C.** Routing Strategies for Vehicle Service Systems with Time-varying Input Rates and Demand Location Densities.
- **Hung, Y.C.**; Michailidis, G. Optimal Routing Strategy for Public Bike Sharing Systems, working paper.
- **Hung, Y.C.** Optimal EV Charging Station Location and Allocation With the Consideration of Battery Range.
- **Hung, Y.C.** Throughput Maximization for EV Charging Systems with Range Anxiety.
- **\*Hung, Y.C.**; Li, Y.F.; Lu, L.H. Acceleration of Partitioning Hard Kernel Clustering Based on Spectral Analysis.
- **\*Hung, Y.C.**; Chen, R.W. Construction of Doubly Even Magic Squares with

## Applications to AI

### TEACHING

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- Linear Algebra
- Engineering Statistics
- Business Statistics
- Mathematical Statistics
- Applied Probability Models
- Stochastic Process
- Simulation Analysis
- Statistical Computing and Simulation
- Multivariate Analysis
- Statistical Machine Learning
- Time Series
- Statistical Methods and Stochastic Processing Networks
- Response Surface Methodology
- Advanced Research Methods
- Business Data Analytics and Management (EMBA)

### HONORS AND AWARDS

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- Academic Research Award (2021) - National Chengchi University, Taiwan
- Research Incentive Grant (2020) - Ministry of Science and Technology, Taiwan
- Research Incentive Grant (2019) - Ministry of Science and Technology, Taiwan
- Excellence Teaching Award (2019) - College of Commerce, National Chengchi University, Taiwan
- Special Outstanding Talent Award (2018) - Ministry of Science and Technology, Taiwan
- Special Outstanding Talent Award (2017) - Ministry of Science and Technology, Taiwan
- Excellence Teaching Award (2017) - College of Commerce, National Chengchi University, Taiwan
- Academic Research Award (2016) - National Chengchi University, Taiwan
- Special Outstanding Talent Award (2016) - Ministry of Science and Technology, Taiwan
- Outstanding Teaching Award (2016) - College of Commerce, National Chengchi University, Taiwan
- Special Outstanding Talent Award (2015) - Ministry of Science and Technology, Taiwan
- Excellence Teaching Award (2015) - College of Commerce, National Chengchi University, Taiwan
- Special Outstanding Talent Award (2014) - Ministry of Science and Technology,

Taiwan

- Excellence Teaching Award (2014) - College of Commerce, National Chengchi University, Taiwan
- Special Outstanding Talent Award (2013) - National Science Council, Taiwan
- Special Outstanding Talent Award (2012) - National Science Council, Taiwan
- Outstanding Teaching Award (2012) - College of Commerce, National Chengchi University, Taiwan
- Excellence Teaching Award (2010) - College of Commerce, National Chengchi University, Taiwan
- **The Best Paper Prize (2007) - IEEE International Conference on Communications (Acceptance rate  $\approx$  900/2600)**
- Excellence Teaching Award (2005) - College of Science, National Central University, Taiwan
- Excellence Teaching Award (2003) - College of Science, National Central University, Taiwan

#### JOURNAL REFEREE

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- IEEE Transactions on Automatic Control
- IEEE Transactions on Smart Grid
- IEEE Transactions on Intelligent Transportation systems
- European Journal of Operational Research
- IIE/IISE Transactions
- Transportation Research Part D: Transport and Environment
- Transportmetrica A: Transport Science
- Queueing Systems: Theory and Applications
- Journal of Scheduling
- Journal of Process Control
- Journal of Cleaner Production
- International Journal of Energy Research
- Technometrics
- Computational Statistics and Data Analysis
- Journal of Statistical Planning and Inference
- Statistical Methodology
- Statistics and Probability Letters
- Journal of Applied Statistics
- Computational Statistics
- Journal of Statistical Computation and Simulation
- Communications in Statistics - Theory and Method



- Communications in Statistics - Simulation and Computation
- Applied Stochastic Models in Business and Industry
- Econometrics
- Quality Technology & Quantitative Management
- International Journal of Information and Management Sciences
- Journal of Data Science
- Journal of the Chinese Statistical Association

## RESEARCH GRANT

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- (2025) Optimization Problems for EV Charging Station Location, Routing and Capacity Allocation (3/3) -NSC
- (2024) Optimization Problems for EV Charging Station Location, Routing and Capacity Allocation (2/3) -NSC
- (2023) Optimization Problems for EV Charging Station Location, Routing and Capacity Allocation (1/3) -NSC
- (2022) Solving the Location-Routing Problem for Vehicle Service Systems: Optimization and Data-Driven Approaches (2/2) -MST
- (2021) Solving the Location-Routing Problem for Vehicle Service Systems: Optimization and Data-Driven Approaches (1/2) -MST
- (2020) Graph Clustering and Related Acceleration Algorithms (2/2) -MST
- (2019) Graph Clustering and Related Acceleration Algorithms (1/2) -MST
- (2018) Locating Infinite Outputs in Computer Experiments (2/2) -MST
- (2017) Locating Infinite Outputs in Computer Experiments (1/2) -MST
- (2016) Exploration of Granger Causal Structure for Multivariate Time Series (2/2) -MST
- (2015) Exploration of Granger Causal Structure for Multivariate Time Series (1/2) -MST
- (2014) Generation of the uniform distribution over a polyhedron with application to Monte Carlo simulations - NSC
- (2013) An Efficient Algorithm for Generating Dirichlet Random Vectors and Some Applications - NSC
- (2012) A Trimmed Causal Relationship Between Two Groups of Multivariate Time Series Data - NSC
- (2012) Statistical Analysis on the Survey of Blood Supply Satisfaction – Taiwan Blood Service Foundation
- (2012) Statistical Analysis on the Survey of Blood Donation Request and Satisfaction –

Taiwan Blood Service Fundatio

- (2011) Measurement and Monitoring of Flow Intensities with Applications to Control of Stochastic Systems - NSC
- (2010) Optimal Bayesian Strategies for Bandit Problems - NSC
- (2009) Uniform Design over Convex Input Domains with Application to Computer Experiments - NSC
- (2008) Evaluation of Beta Generation Algorithms - NSC
- (2007) A Measurement Based Dynamic Policy for Switched Processing Systems – NSC
- (2006) Designing Algorithms for Solving Complex Network Optimization Problems – NSC
- (2005) A Note on the Generalized Shepp’s Urn Scheme - NSC
- (2004) Designing Efficient Simulation Algorithms for Complex Queueing Models – NSC
- (2003) Analysis and Study of Parallel and Distributed Processing Systems with Shared Resources (2/2) - NSC
- (2002) Analysis and Study of Parallel and Distributed Processing Systems with Shared Resources (1/2) - NSC

GRANT PROPOSALS REVIEW

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- MST Research Grants (Taiwan)
- NSC Research Grants (Taiwan)

ACADEMIC ASSOCIATION

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- Member of International Statistical Institute (ISI)
- Lifetime Member of Chinese Institute of Probability and Statistics
- Lifetime Member of Chinese Institute of Industrial Engineers