

Youngdeok Hwang
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EMPLOYMENT

Baruch College, , New York, NY
Paul H. Chook Department of Information System and Statistics
Assistant Professor, Aug 2019 - Present

Sungkyunkwan University, Seoul, Korea
Department of Statistics
Assistant Professor, Sep 2017 - Aug 2018

IBM Thomas J. Watson Research Center, Yorktown Heights, NY
Research Staff Member, Mar 2014 - Aug 2017
Postdoctoral Researcher, Sep 2012 - Feb 2014

EDUCATION

University of Wisconsin - Madison, Madison, WI
Ph.D., Statistics, 2012. Advisor: Peter Z. G. Chien
M.S., Statistics, 2010.

Yonsei University, Seoul, Korea
B.A. Applied Statistics and B.A. Economics, 2007.

RESEARCH
INTERESTS

Analytics in Technology, Business and Service
Uncertainty Quantification and Inverse Problems
Spatio-temporal Statistics
Design of Experiments

AWARDS

Statistics in Physical Engineering Sciences Award, American Statistical Association, 2018.
Career Development Award, Korean International Statistical Society, 2016.
Army Commendation Medal, United States Department of the Army, 2004.

STATISTICS
PUBLICATIONS

Zhang, Q. and **Hwang, Y.** (2019+). Bayesian Sequential Optimization for Continuous Inputs with Finite Decision Space. *Technometrics*, In press.

Xu, X., **Hwang, Y.**, Kim, K., Wang, F., Wang, X., Chien, P. (2019+). Sequential Synthesis of Nanomaterials via Level-expansion. *Journal of Quality Technology*, Accepted.

Sun, F., Gramacy, R. B., Haaland, B., Lu, S. and **Hwang, Y.** (2019). Synthesizing Simulation and Field Data of Solar Irradiance. *Statistical Analysis and Data Mining*, **12**, 311-324.

Hwang, Y., Kim, H., Chang, W. Yeo, K. and Kim, Y. (2019). Bayesian Pollution Source Identification via an Inverse Physics Model. *Computational Statistics & Data Analysis*, **134**, 76-92.

Hwang, Y., S. Lu and Kim, J. (2018). Bottom-Up Estimation and Top-Down Prediction for Multilevel Models: Solar Energy Prediction Combining Information From Multiple Sources. *Annals of Applied Statistics*, **12**, 2096-2120.

Hwang, Y., Barut, E. and Yeo, K. (2018). Statistical-Physical Estimation of Pollution Emission. *Statistica Sinica*. **28**, 921-940.

Hwang, Y., Wright, S., and Hanlon, B. (2017). Estimation and Testing Problems in Auditory Neuroscience via Clustering. *Biometrics*, **73**, 1010-1017.

- Liu, X., Yeo, K., **Hwang, Y.**, Singh, J. and Kalagnanam, J. (2016). A Statistical Modeling Approach for Air Quality Data Based on Physical Dispersion Processes and Its Application to Ozone Modeling. *Annals of Applied Statistics*, **10**, 756-785.
- Hwang, Y.**, He, X. and Qian, P. Z. G. (2016). Sliced Orthogonal Array Based Latin Hypercube Designs. *Technometrics*, **58**, 50-61.
- Jiang, H., Schörgendorfer, A., **Hwang, Y.** and Amemiya, Y. (2015). A Practical Approach to Spatio-Temporal Analysis. *Statistica Sinica*, **25**, 369-384.
- Qian, P. Z. G., Ai, M., **Hwang, Y.**, and Su, H. (2014). Asymmetric Nested Lattice Samples. *Technometrics*, **56**, 46-54.

OTHER
PUBLICATIONS

- Yeo, K., **Hwang, Y.**, Liu, X. and Kalagnanam, J. (2019). Development of *hp*-inverse model by using generalized polynomial chaos. *Computer Methods in Applied Mechanics and Engineering*, **347**, 1-20.
- Cho, D. and **Hwang, Y.** and Park, J. (2018). More Buzz, More Vibes: Impact of Social Media on Concert Distribution. *Journal of Economic Behavior & Organization*, **156**, 103-113.
- Wright, S., Wallace, E. and **Hwang, Y.** and Maganti, R.(2016). Seizure Phenotypes and Sleep-Wake Pattern of Seizures in KCNA1-null Mutant Mice. *Epilepsy & Behavior*, **55**, 24-29.
- Chae, Y. T., Horesh, R., **Hwang, Y.**, Lee, Y. M. (2016). Artificial Neural Network Model for Forecasting Sub-Hourly Electricity Usage in Commercial Buildings. *Energy and Buildings*, **111**, 184-194.
- Wright, S., **Hwang, Y.**, and Oertel, D. (2014). Synaptic Transmission between End bulbs of Held and Bushy Cells in the Cochlear Nucleus of Mice with a Mutation in Otoferlin. *Journal of Neurophysiology*, **112**, 3173-3188.
- Hong, B., Ko, Y., Kim, J., Ok, E., **Hwang, Y.** and Kim, H. (2013). Sternocleidomastoid Ultrasonography Data for Muscular Torticollis in Infants. *Muscle & Nerve*, **48**, 100-104.
- Chung, H., Kong, E., Edwards, J., Weismer, G., Fourakis, M. and **Hwang, Y.** (2012). Cross-linguistic Studies of Children's and Adults' Vowel Spaces. *The Journal of the Acoustical Society of America*. **131**, 442-454.
- Wang, F., **Hwang, Y.**, Qian, P. Z. G. and Wang, X. (2010). A Statistics-Guided Approach to Precise Characterization of Nanowire Morphology. *American Chemical Society Nano*, **4**, 855-862.

PAPERS UNDER
REVIEW

- Hwang, Y.**, Chien, P. and Amemiya, Y.,(2018). A Structural Equation Method for Modeling Multivariate Data from Computer Experiments: with Application to Data Center Thermal Management. Under revision for *Technometrics*.

CONFERENCE
PROCEEDINGS AND
REPORTS

- Tzoumpa, R. N., Jiang, H. and **Hwang, Y.** (2018) Spatially Clustered Time-Varying Lattice Models. Working Paper.
- Hwang, Y.**, Lee, E., Cho, D., Zhang, Q. (2018) A Simple Spline-based Multilevel Modeling Approach for Complex Data. Working Paper.
- Zhang, R., Liu, F., Schörgendorfer, A., **Hwang, Y.**, Lee, Y. and Snowden, J. L. (2013). Optimal Selection of Building Components Using Sequential Design via Statistical Surrogate Models. *Proceedings of 13th Conference of International Building Performance Simulation Association*, 2584-2592.

PATENT	<p>Detection Algorithms for Distributed Emission Sources of Abnormal Events (US20170147927A1)</p> <p>Parameter-dependent model-blending with multi-expert based machine learning and proxy sites (US14/797,777)</p> <p>Multi-model Blending (US9471884)</p> <p>Building Energy Consumption Forecasting Procedure Using Ambient Temperature, Enthalpy, Bias Corrected Weather Forecast and Outlier Corrected Sensor Data (US2015/0331023 A1).</p>
INVITED PRESENTATIONS	<p>Department of Statistics, Chung-Ang University, Seoul, Korea. 2018.</p> <p>Department of Statistics, Seoul National University, Seoul, Korea. 2018.</p> <p>Tutorial on Industrial Statistics, International Conference on Consumer Electronics Asia. Jeju, Korea. 2018.</p> <p>The 2nd Pacific Rim Statistical Conference for Production Engineering, Seoul, Korea. 2016.</p> <p>Department of Statistics, Korea University, Seoul, Korea. 2016.</p> <p>Department of Industrial & System Engineering, KAIST, Daejeon, Korea. 2015.</p> <p>H. Milton Stewart School of Industrial & Systems Engineering, Georgia Institute of Technology, Atlanta, GA. 2015.</p> <p>Department of Industrial and Management Engineering, POSTECH. Pohang, Korea. 2014.</p>
TEACHING	<ul style="list-style-type: none"> • Introduction to Mathematical Statistics (STA2014) 2017F • Design of Experiments (STA3026) 2018S • Design and Analysis of Experiments (STA5031) 2018S • Introduction to Statistical Computing – with DataCamp (STA2016) 2018F, 2019S • Large Scale Data Management and Visualization – with DataCamp (STA3034) 2018F • Statistical Consulting – with DataCamp (STA5034) 2019S
SERVICE EXPERIENCE	<p>Associate editor for Applied Stochastic Models in Business and Industry.</p> <p>Referee for Technometrics, Statistica Sinica, Computational Statistics & Data Analysis, Journal of Nonparametric Statistics, Statistics and Probability Letters, PLOS ONE.</p>
MISCELLANEOUS	<p>Languages : Korean (Native), English (Fluent)</p> <p>Computer Skills : R, Matlab, Python and SQL.</p>
PROFESSIONAL MEMBERSHIP	<p>American Statistical Association</p> <p>Korean International Statistical Society</p> <p>Institute for Operations Research and the Management Sciences (INFORMS)</p>