SOONDO HONG

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INTEREST AREAS

Facility Logistics and Simulation
- · Self-organizing logistics operations and Batching & Assorting optimization
- · Optimization Simulation: scenario design, simulation calibration, and optimization
- · OR applications for systems logistics: robust optimization, stochastic modelling, and statistical inference
- · Warehousing, Semiconductor, Display, Auto-assembly, and Container terminal industries

EDUCATION

Ph.D., Industrial Engineering, August 2010
Dissertation: *Analysis and control of batch order-picking processes considering picker blocking*
Co-advisors: Professors Brett A. Peters and Andrew L. Johnson
Department of Industrial and Systems Engineering, Texas A&M University, College Station, Texas, USA

M.S., Industrial Engineering, February 1996
Department of Industrial Engineering, Pohang University of Science and Technology (POSTECH), Pohang, Korea

B.S., Industrial Engineering, February 1994
Department of Industrial Engineering, Pohang University of Science and Technology (POSTECH), Pohang, Korea

EMPLOYMENTS

Associate Professor, Department of Industrial Engineering, Pusan National University, 2018-
Department Head, Department of Industrial Engineering, Pusan National University, 2020.3-2022.2
Assistant Professor, Department of Industrial Engineering, Pusan National University, 2014-2018
Principal Engineer, System engineering team, Samsung Display Corporation, 2012-2014
Principal Engineer, LCD division, Samsung Electronics Corporation, 2011-2012
Researcher, Korea Aerospace Research Institute (KARI), 2003
Senior Researcher, Cyberdigm Corporation (http://www.cyberdigm.co.kr), 1999-2002
Assistant Researcher, LG Semiconductor Corporation, 1996-1999

PUBLICATIONS

International journals (SCIE)

1. J Kim and **S Hong**, 2021. "A dynamic storage location assignment model for a progressive bypass zone picking system with an S/R crane," *Journal of the Operational Research Society*, Accepted

2. H Fibrianto, B Kang, **S Hong**, 2020. "A job sequencing problem of an overhead shuttle crane in a rail-based automated container terminal," *IEEE Access*, 8, 156362-156377

3. **S Hong**, 2020. "Performance evaluation of two-worker operations in a worker-to-cell order assorting system," *Journal of Manufacturing Systems*, 56(3), 414-424

4. Y Kim and **S Hong**, 2020. "Two picker cooperation strategies for zone picking systems with PTL technology," *IEEE Access*, 8, 106059-106070

5. H Fibrianto and **S Hong**, 2019. "Dynamic order batching in bucket brigade order picking systems with consecutive batch windows and non-identical pickers," *International Journal of Production Research*, 57(20), 6552-6568

6. **S Hong**, 2019. "A performance evaluation of bucket brigade order picking systems: Analytical and simulation approaches," *Computers & Industrial Engineering*, 135, 120-131

7. **S Hong**, 2018. "The effects of picker-oriented operational factors on hand-off delay in a bucket brigade order picking system," *OR Spectrum*, 40(3), 781-808

8. M Ha and **S Hong**, 2017. "Gene-regulatory interactions in embryonic stem cells represent cell-type specific gene regulatory programs," *Nucleic Acids Research*, 45(18), 10428-10435

9. **S Hong** and Y Kim, 2017. "A route-selecting order batching model with the S-shape routes in a parallel-aisle order picking system," *European Journal of Operational Research*, 257(1), 185-196

10. **S Hong**, AL Johnson, BA Peters, 2016. "Order batching in a bucket brigade order picking system considering picker blocking," *Flexible Services and Manufacturing Journal*, 28 (3), 425-441
11. M Ha and **S Hong**, 2016. "DNA context represents transcription regulation of the gene in mouse embryonic stem cells," *Scientific reports*, 6
12. **S Hong,** AL Johnson, BA Peters, 2015. **"**Quantifying picker blocking in a bucket brigade order picking system," *International Journal of Production Economics*, 170, 862-873
13. **S Hong**, 2014. "Two-worker blocking model with walk speed *m* in a narrow circular passage system", *European Journal of Operational Research,* 235 (3), 687–696
14. **S Hong**, AL Johnson, and BA Peters, 2013. "A note on picker blocking models in a parallel-aisle order picking system", *IIE Transactions*, 45(12), 1345-1355
15. M Ha**, S Hong,** and WH Li, 2013. "Predicting the probability of H3K4me3 occupation at a base-pair from the genome sequence context", *Bioinformatics,* 29(8), 1199-1205
16. **S Hong**, AL Johnson, and BA Peters, 2012. "Batch picking in narrow-aisle order picking systems with consideration for picker blocking", *European Journal of Operational Research,* 221(3), 557-570
17. **S Hong**, AL Johnson, and BA Peters, 2012. "Large-scale order batching in parallel-aisle picking systems", *IIE Transactions,* 44(2), 88-106
18. **S Hong** and A Banerjee, 2012. "A large-scale distributed decision-making procedure for a single-machine scheduling problem", *International Journal of Production Research,* 50(20), 5795-5808
19. **S Hong**, AL Johnson, HJ Carlo, D Nazzal, and JA Jimenez, 2011. "Optimizing the location of crossovers in conveyor-based automated material handling systems in semiconductor wafer fabs", *International Journal of Production Research*, 49(20), 6199-6226

International journals(Scopus)
1. H Fibrianto, B Kang, B Kim, A Marbach, T Buer, H Haasis, **S Hong**, KH Kim, 2020. "A Simulation Study of a Storage Policy for a Container Terminal," Lecture notes in logistics, 7, 62-69
2. **S Hong** and Y Kim, 2018. "The effects of loosely coupled hand-off operations on bucket brigade order picking systems," *Industrial Engineering & Management Systems*, 17(4), 745-756
3. IK Singgih, X Jin, **S Hong,** KH Kim, 2016. "Architectural design of terminal operating system for a container terminal based on a new concept," *Industrial Engineering & Management Systems*, 15(3), 278-288
4. IK Singgih, **S Hong,** KH Kim, 2016. "Flow path design for automated transport systems in container terminals considering traffic congestion," *Industrial Engineering & Management Systems*, 15(1), 19-31
5. **S Hong,** 2015. "Order batch formations for less picker blocking in a narrow-aisle picking system," *Industrial Engineering & Management Systems*, 14 (3), 289-298

Domestic journals
1. T Lee, Y Kim, J Lee, **S Hong**, 2021. "A Study on Productivity Evaluation and Replacement Analysis in
2. Order Picking with Person-Following Picking Carts," *Korean Journal of Logistics*, 29(3), 69-78
3. J Lee, Y Kim, T Lee, **S Hong**, 2020. "A Simulation-based Comparison of Operational Policies in an Order Picking System with Person-Following Picking Carts," Korea Logistics Review 30 (1), 1-12
4. T Lee, Y Kim, J Lee, **S Hong**, 2020. "A Simulation-based Analysis of a Digital Assorting System with Person-following Robotic Carts," *Korean Journal of Logistics*, 28(1), 47-58
5. J Lee, J Kim, Y Kim, **S Hong**, 2018. "A Simulation-based Performance Analysis of a Digital Assorting System," *Korea Logistics Review*, 28 (5), 65-77
6. B Kim, J Kim, HY Fibrianto, **S Hong**, 2018. "A remarshalling buffer location model in a rail-based container terminal," *Korean Journal of Logistics*, 26(3), 77-92
7. J Kim, NT Mo, HY Fibrianto, Y Kim, **S Hong**, 2018. "Order batching algorithms for a narrow-aisle order picking system with two depots," *Journal of the Korean Society of Supply Chain Management*, 18 (2), 37-50
8. J Lee, JH Kim, HY Fibrianto, KH Kim, **S Hong**, 2018. "An integrated assignment and configuration model for configurable flat-glass racks in the construction industry," *Journal of the Korean Society of Supply Chain Management*, 18(2), 1-12
9. G Kwon**, S Hong**, KH Kim, 2016. "Designing transport racks for flat glass products in a construction industry," *Journal of Korean Institute of Industrial Engineers*, 42(4), 270-279
10. K Seo, M Joh, Y Choi, **S Hong**, and B Oh, 2003. "Analysis of turbo pump liquid propulsion system for a space launch vehicle", *Journal of Korea Aerospace Research Institute*: *Aerospace Engineering and Technology*, 2(1), 151-157
11. **S Hong**, H Cho, and M Jung, 1999. "Development of heterarchical shop-floor control system execution module using E-Net", *Journal of Korean Institute of Industrial Engineers*, 25(1), 87-99

Peer-reviewed conference articles and Book chapters

1. B Kim, HY Fibrianto, **S Hong**, 2019. "The effect on a handshake operation between twin overhead shuttle cranes under demand uncertainty", *Proceedings of International Conference on Computers and Industrial Engineering*, 1496-1505.
2. J Lee, Y Kim, **S Hong**, 2019. "Modelling a batch assorting operation for an autonomous cart in a parallel-aisle order assorting system", *IEEE International Conference on Automation Science and Engineering*, 60-65.
3. **S Hong**, AL Johnson, and BA Peters, 2014. "Order batching with time constraints in a parallel-aisle warehouse: A multiple-policy approach," *Progress in Material Handling Research*, book chapter, Material Handling Industry of America
4. **S Hong**, AL Johnson, and BA Peters, 2010. "Analysis of picker blocking in narrow-aisle batch picking", *Progress in Material Handling Research*, Material Handling Industry of America, 366-378, book chapter

PRESENTATIONS

1. H Fibrianto, B Kang, B Kim, A Marbach, T Buer, H.-D. Haasis, **S Hong**, KH Kim, 2020, "A simulation study of a storage policy for a container terminal," International Conference on Dynamics in Logistics (LDIC), 2020, February 12-14, 2019, The University of Bremen, Bremen, Germany
2. B Kim, H Fibrianto, **S Hong**, 2019, "The effect on a handshake operation between twin overhead shuttle cranes under demand uncertainty," 49th International Conference on Computers & Industrial Engineering, October 18-21, 2019, Beihang university, Beijing, China
3. J Lee, Y Kim, **S Hong**, 2019, "Modelling a batch assorting operation for an autonomous cart in a parallel-aisle order assorting system," IEEE 15th International Conference on Automation Science and Engineering (CASE), August 22-26, 2019, Vancouver, BC, Canada
4. H Fibrianto, B Kang, **S Hong**, K Kim, A Marbach, H Hassis, T Buer, 2019, "A Simulation Study of Storage Policies in Container Terminal with a Case Study: Busan Port Terminal", 9th International Conference on Logistics and Maritime, National University of Singapore, Singapore, Singapore
5. A Marbach, H Hassis, H Fibrianto, **S Hong**, T Buer, 2019, "Yard Crane Deployment based on Workload Estimation", 9th International Conference on Logistics and Maritime, National University of Singapore, Singapore, Singapore
6. P Joatiko, J Kim, T Lee, **S Hong**, 2019, "Dynamic Storage Location Assignment in a Distribution Center", The 4th International Conference of Supply Chain and Technology Innovation, August 12-15, 2019, Kyungsung university, Busan, Korea
7. B Kim, T Lee, M Park, H Lee, **S Hong**, 2018, "A Handshake Policy Between Twin Over-head Shuttle Cranes in a Rail-based Container Terminal", 8th International Conference on Logistics and Maritime Systems, Sun Yat-sen University, Guangzhou, China
8. H Fibrianto, P Joatiko, D Lee, H Lee, **S Hong**, 2018, "Job Sequencing of twin overhead shuttle cranes in a rail-based automated container terminal", 8th International Conference on Logistics and Maritime Systems, Sun Yat-sen University, Guangzhou, China
9. J Lee, Y Kim, **S Hong**, 2018, "A simulation study of the digital assorting system in a retailer's distribution center", 49th Annual Meeting of the Decision Sciences Institute, Chicago, Illinois, USA
10. H Fibrianto, B Kim and **S Hong**, 2017. "Developing an order batching procedure in bucket brigade order picking system with on-line order arrivals", Asia Pacific Industrial Engineering and Management Systems Conference, Yogyakarta, Indonesia, Dec 3-6.
11. J Kim, J Lee, and **S Hong**, 2017. "A storage location assignment procedure for a progressive zone picking system with passing", East Asia Workshop on Industrial Engineering, Yokohama, Japan, Nov 2-3.
12. J Kim and **S Hong**, 2017. "A storage relocation policy for a progressive zone picking system and its simulation analysis", International Conference on Logistics and Maritime Systems, Bergen, Norway, Aug 23-26
13. B Nam, J Kim and **S Hong**, 2016. "A Study on Pick-Face Blocking Delay between two Pickers in a Wide-Aisle Circular Passage System", International Conference on Logistics and Maritime Systems, Sydney, Australia, June 20-23
14. J Kim, TM Nguyen and **S Hong**, 2016. "A Study on an Order Batching Model Considering the Depot Selection", International Conference on Logistics and Maritime Systems, Sydney, Australia, June 20-23
15. TM Nguyen, J Kim, N Kim, and **S Hong**, 2015. "A large-scale parallel-aisle order-picking model for a joint order batching and policy selecting problem", Asia Pacific Industrial Engineering and Management Systems Conference, Ho Chi Minh City, Vietnam, Dec 8-12.

16. B Nam, J Kim, N Kim, and **S Hong**, 2015. "A Discrete Time Markov Chain model of two-worker blocking in a wide aisle circular-passage system and its simulation study", East Asia Workshop on Industrial Engineering, Seoul, South Korea, Nov 6-7.
17. SD Cahyo, J Kim, KH Kim, and **S Hong**, 2015. "Dispatching Rules and Dwelling Strategies for Overhead Shuttles in an Automated Container Terminal", East Asia Workshop on Industrial Engineering, Seoul, South Korea, Nov 6-7.
18. IS, **S Hong**, KH Kim, 2015. "Flexible Loading Sequencing in Container Terminals ", International Conference on Logistics and Maritime Systems, Hong Kong, China, Aug 27-29
19. KJ Kwon, KH Kim, **S Hong**, 2015. "Designing Racks for Handling Flat Glass Products for Construction Industries", International Conference on Logistics and Maritime Systems, Hong Kong, China, Aug 27-29
20. **S Hong**, 2014. "Order Batching with Time Constraints in a Parallel-aisle Warehouse: A Multiple-policy Approach", INFORMS Annual Meeting, San Francisco, USA, Nov 9-12
21. **S Hong**, Andrew L. Johnson, and Brett A. Peters, 2014. "Order batching in a bucket brigade order picking system with consideration of picker blocking", International Conference on Logistics and Maritime Systems, Rotterdam, The Netherland, Aug 27-29
22. **S Hong**, AL Johnson (Speaker), and BA Peters, 2012. "Batch picking in narrow-aisle order picking systems with consideration for picker blocking", IIE Annual Conference and Expo, Orlando, USA, May 19-23
23. **S Hong** (Speaker), AL Johnson, and BA Peters, 2010. "Analysis of picker blocking in a bucket brigade order picking system", INFORMS Annual Meeting, Austin, USA, Nov 7-10
24. **S Hong** (Speaker), AL Johnson, and BA Peters, 2009. "A large-scale batch order-picking model and procedure with traversal routing methods", INFORMS Annual Meeting, San Diego, USA, Oct 11-14
25. **S Hong** (Speaker) and BA Peters, 2007. "Order batching and vehicle selection in a parallel-aisle Warehouse with Time-Constraints", INFORMS Annual Meeting 2007, Seattle, USA, Nov 4-7

PROJECTS

1. A self-balancing twin-mobility and its optimization for smart logistics and facilities (2020.3~2025.02, Korea Research Foundation, Ministry of Science and ICT, PI)
2. High-speed material handling simulation for conveyor assorting systems (2019.06~ 2019.12, Korea Railroad Research Institute, PI)
3. Motion-data based line-balancing analysis and its simulation (2019.07~ 2019.12, Hyundai Construction Equipment Ltd., PI)
4. Simulation-based Evaluation of order picking and sorting systems with autonomous cart systems (2018.04~ 2018.11, Korea Railroad Research Institute, PI)
5. Policy-based Terminal Operations Planning (PTOP) (2017.08~2020.07, Korea Research Foundation, Ministry of Science, ICT and Future Planning, PI)
6. An augmented self-organizing operations management for logistics systems (2017.06~2020.05, Korea Research Foundation, Ministry of Education, PI)
7. Simulation and optimization of a truck loading operation with standardized mobile racks (2014.6~2017.6, Korea Railroad Research Institute & Korea Maritime Institute, Co-PI)
8. A self-organizing logistics management in a smart logistics system (2014.11~2017.04, Korea Research Foundation, Ministry of Education, PI)
9. Simulation-based online evaluation engine for container terminal operating system (2014.11~2016.10, Korea-German Project, Korea Institute for Advancement of Technology, PI)
10. Technological Development of Low-carbon Automated Container Terminals (2014.6 - 2017.2, Korea Maritime Institute, Co-PI)

PROFESSIONAL AFFILIATIONS AND ACTIVITIES

Journal Editor

Journal of Industrial and Production Engineering	2018 ~
Journal of Society of Korea Industrial and Systems Engineering	2019 ~
Journal of Logistics Science and Technology	2019 ~

Journal Reviewer

International Journal of Production Economics	2012 ~
International Journal of Production Research	2013 ~
IIE Transactions	2015 ~
European Journal of Operational Research	2015 ~
Simulation Modelling Practice and Theory	2019 ~
Production Planning & Control	2019 ~

Member of

Korean Institute of Industrial Engineers	2013~
Korean Society of Supply Chain Management	2016~
Korea Logistics Society	2018~
Society of Korea Industrial and Systems Engineering	2019 ~
Society of Logistics Science and Technology	2019 ~

HONORS AND AWARDS

Best research award of academic research programs (학술연구지원사업 우수성과 41 선), 2018
Minister of Education Award (부총리 겸 교육부 장관 표창), National Research Foundation of Korea (NRF), "A self-organizing logistics management in a smart logistics system (2014.11~2017.04)."

MHIA order fulfillment council scholarship, Material Handling Education Foundation (MHEFI), USA, 2008-2009

St. Onge honor scholarship, Material Handling Education Foundation (MHEFI), USA, 2007-2008

Material handling equipment distributors association honor scholarship, Material Handling Education Foundation (MHEFI), USA, 2006-2007

STUDENT ADVISES

Master students

1. G Han, 2022. A Study on Lot Dispatching Rules in a Semiconductor FAB
2. S Kim, 2020. A Study on the Impact of Storage Policy on the Inbound and Outbound Logistics
3. P Joatiko, 2020. A Data-driven based Yard Template Planning in a Transshipment Hub
4. Taehoon Lee, 2019. Zone Planning in a Large-sized Warehouse with Parallel aisles
5. Ho-young Roh, 2019. A Study on the Schedule Management of Steel Processes Using BIM 4D Simulation
6. Nguyen Thuy Mo, 2019. Large-scale Parallel-aisle Order Batching for Multiple Inspection and Packing Stations
7. Jeongman Lee, 2019. Order Assortment with Autonomous Carts in a Parallel-aisle Warehouse
8. Bosung Kim, 2019. A Study on a Handshake Location Determination Model for Twin Overhead Shuttle Cranes
9. Henokh Yernias Fibrianto, 2018. Order binning and batching in a parallel aisle order picking system
10. Jeonghwan Kim, 2018. A storage location assignment policy for a zone order picking system under demand fluctuation
11. Boa Nam, 2017. Analysis of Picker Blocking Delay in a Wide-aisle Circular Passage System
12. Sofyan Dwi Cahyo, 2016. Analysis of System Throughput in a Zone Picking System Impact by Picker Shortage Delay of Replenishment Process