

Taesik Lee

Department of Industrial & Systems Engineering
KAIST
291 Daehak-ro, Yuseong-gu
Daejeon 34141, Republic of Korea
E-mail: taesik.lee@kaist.edu
Tel: (+82) 42-350-3126

Research Interests	Logistics and resource management in healthcare service operations Healthcare analytics Modeling & simulation of large-scale systems Decision making under uncertainty
Teaching Interests	Healthcare service science: operations management & data analytics Systems engineering Project management System simulation
Education	<p>B.S., Seoul National University, 1997 Seoul, Korea Bachelor of Science in Mechanical Engineering</p> <p>M.Sc., Massachusetts Institute of Technology, 1999 Cambridge, MA, USA Master of Science in Mechanical Engineering. Thesis Title: <i>System Architecture concept in Axiomatic Design Theory: Hypotheses Generation & Case-study Validation</i>. Thesis Supervisor: Professor Nam P. Suh</p> <p>Ph.D., Massachusetts Institute of Technology, 2003 Cambridge, MA, USA Doctor of Philosophy in Mechanical Engineering with concentration on system design and engineering. Thesis Title: <i>Complexity Theory in Axiomatic Design</i>. Thesis Supervisor: Professor Nam P. Suh</p>
Professional Experience	<p>Head of Department September, 2017–present Department of Industrial & Systems Engineering, KAIST, Daejeon, Korea</p> <p>Associate Professor September, 2012–present Department of Industrial & Systems Engineering, KAIST, Daejeon, Korea</p> <p>Assistant Professor September, 2007–August, 2012 Department of Industrial & Systems Engineering, KAIST, Daejeon, Korea</p> <p>Assistant Director January, 2004–September, 2007 Park Center for Complex Systems, MIT, Cambridge, MA, USA</p> <p>Business Consultant June, 2004–August, 2004 Boston Consulting Group, Seoul Office, Seoul, Korea</p> <p>Postdoctoral Research Associate June, 2003–December, 2003 Department of Mechanical Engineering, MIT, Cambridge, MA, USA</p> <p>Research staff January, 1997–June, 1997 Robotics and Hydraulics Division, KIST, Seoul, Korea</p>

Honors & Award

Minister's Recognition of Excellence, Ministry of Interior and Safety, December, 2018.

Minister's Recognition of Excellence, Ministry of Public Safety and Security, December, 2016.

Best Paper Award, Korean Institute of Industrial Engineers, November, 2016. ("Optimal allocation of emergency medical resource under mass casualty incident: patient prioritization by column generation approach," *European Journal of Operations Research*, **252**(2):623–634, 2016.)

Best Paper Award, The Korean Federation of Science and Technology Society, July, 2015 ("Simulation model for pandemic disease spreading by using census data," *Journal of the Korean Institute of Industrial Engineers*, **40**(2):163–171, 2014.)

Pierskalla Award, INFORMS Health Applications Society, November, 2014. ("Simultaneous location of trauma centers and helicopters for emergency medical service planning," *Operations Research*, **62**(4):751-771, 2014.)

Research Excellence Award, Dept. of Industrial & Systems Engineering, KAIST, December, 2014.

Best Paper Award, 2014 Korea Society for Simulation (KSS) Annual Conference, May, 2014. ("Activity cancelling in P-ACD and its application to EMS system modeling")

Academic Excellence Award, Dept. of Industrial & Systems Engineering, KAIST, December, 2013.

Honorable mention for the Best Paper Award, International Military Science and Technology Fair, November, 2013. ("Communication and target acquisition modeling for a combat simulation in a network centric warfare environment")

Best Session Paper Award, Korean Institute of Industrial Engineers (KIIE) Annual Conference, November, 2012. ("Data aggregation method for capacitated covering problems with gradual coverage")

Best Session Paper Award, KIIE Annual Conference, November, 2012. ("Metric to measure NCW effects by using Lanchester Model")

Best Session Paper Award, KIIE Annual Conference, November, 2012. ("A framework for building a simulation model to study overcrowding in ED")

Minister's Recognition of Excellence, Ministry of Education, Science and Technology, December, 2011.

Research Excellence Award, Dept. of Industrial & Systems Engineering, KAIST, December, 2011.

Teaching Excellence Award, Dept. of Industrial & Systems Engineering, KAIST, December, 2010.

KAIST Grand Award for Creative Teaching, KAIST, February, 2009.

Journal Publication

International

1. Jang, H., Hwang, K., Lee, T(aeho). and **Lee, T.**, “Designing Robust Rollout Plan for Better Rural Perinatal Care System in Korea,” *European Journal of Operational Research*, **274**(2):730–742, April, 2019. (IF 3.428; SJR Q1 11/195 Management Science and Operations Research; ; Google Scholar citation count 0)
2. **Lee, T.** and Jang, H., “ An Iterative Method for Simultaneously Locating Trauma Centers and Helicopters through the Planning Period,” *Operations Research for Health Care*, **19**:185–196, December, 2018. (SJR Q1 21/109 Otorhinolaryngology; ; citation count 0)
3. Shin, K. and **Lee, T.**, “Improving the Measurement of the Korean Emergency Medical Systems Spatial Accessibility,” *Applied Geography*, **100**:30-38, November, 2018. (IF 3.117; SJR Q1 49/699 Geography, Planning and Development; ; citation count 0)
4. Bae, J.w., Shin, K., Lee, H-R., Lee, H.J., **Lee, T.**, Kim, J-H., Cha, W-C., Kim, G.W., and Moon, I-C., “Evaluation of Disaster Response System using Agent-Based Model with Geospatial and Medical Details,” *IEEE Transactions on Systems, Man and Cybernetics: Systems*, **48**(9):1454–1469, September 2018.(IF 5.131; SJR Q1 60/2290 Computer Science Application; ; citation count 4)
5. Sung, I. and **Lee, T.**, “Scenario-based approach for an ambulance location problem with stochastic call arrivals under a dispatching policy,” *Flexible Services and Manufacturing*, **30**(1-2):153–170, June 2018.(IF 2.346; SJR Q1 16/590 Industrial & Manufacturing Engineering; ; citation count 2)
6. Lee, H-R and **Lee, T.**, “Markov Decision Process Model for Patient Admission Decision at an Emergency Department Under a Surge Demand,” *Flexible Services and Manufacturing*, **30**(1-2):98-122, June 2018. (IF 2.346; SJR Q1 16/590 Industrial & Manufacturing Engineering; citation count 1)
7. Kim, AM., Park, JH., Kang, S., Hwang, K. and **Lee, T.** and Kim, Y., “The effect of geographic units of analysis on measuring geographic variation in medical services utilization,” *Journal of Preventive Medicine and Public Health*, **49**(4):230–239, July, 2016. (SJR Q2 194/526 Public health, environmental and occupational health; citation count 10)
8. **Lee, T.** and Shin, H., “Combining syndromic surveillance and ILI data using particle filter for epidemic state estimation,” *Flexible Services and Manufacturing Journal*, **28**(1):233–253, June, 2016. (IF 2.346; SJR Q1 16/590 Industrial & Manufacturing Engineering; citation count 4)
9. Sung, I. and **Lee, T.**, “Optimal allocation of emergency medical resource under mass casualty incident: patient prioritization by column generation approach,” *European Journal of Operations Research*, **252**(2):623–634, July, 2016. (IF 3.428; SJR Q1 11/195 Management Science and Operations Research; citation count 30)
10. Nordlund, M., Kim, S-G., Tate, D., **Lee, T.** and Oh, H.L., “Axiomatic Design: Making the Abstract Concrete,” *Procedia CIRP*, **50**:216–221 (citation count 2)
11. Jang, H. and **Lee, T.**, “Demand point aggregation method for covering problems with gradual coverage,” *Computers and Operations Research*, **60**:1-13, August, 2015. (IF 2.962; SJR Q1 17/195 Operations Research and Management Science; citation count 3)
12. Moon, J.R., Lee, D., **Lee, T.**, Ahn, J., Shin, J., Yoon, K., and Choi, D., “Group decision procedure to model the dependency structure of complex systems: framework and case study for critical infrastructures,” *Systems Engineering*, **18**(4):323–338, May, 2015. (IF 0.797; SJR Q2 138/964 Hardware and architecture; citation count 5)

13. Cho, S.H., Jang, H., **Lee, T.**[†] and Turner, J.G., “Simultaneous location of trauma centers and helicopters for emergency medical service planning,” *Operations Research*, **62**(4):751-771, June, 2014. (IF 2.263; SJR Q1 8/195 Operations Research and Management Science; [†]equal contribution by the authors with their names alphabetically ordered; citation count 28) **INFORMS Pierskalla Award**
14. Lee, Y. and **Lee, T.**, “Network-based metric for measuring combat effectiveness,” *Defence Science Journal*, **64**(2):115-122, March, 2014. (IF 0.510; SJR Q3 Electrical and Electronic Engineering; citation count 12)
15. Morrison, J.R., Azhar, M., **Lee, T.** and Suh, H., “Axiomatic Design for eco-design: eAD+,” *Journal of Engineering Design*, **24**(10):711–737, October, 2013. (IF 1.906; SJR Q1 68/857 Engineering miscellaneous; citation count 19)
16. Shin, K. and **Lee, T.**, “Container loading and unloading scheduling for a Mobile Harbor system: a global and local search method,” *Flexible Services and Manufacturing Journal*, **25**(4):557–575, December, 2013. (IF 2.346; SJR Q1 16/590 Industrial & Manufacturing Engineering; citation count 8)
17. Nam, H. and **Lee, T.**, “A scheduling problem for a novel container transport system: a case of Mobile Harbor operation schedule,” *Flexible Services and Manufacturing Journal*, **25**(4):576–608, December, 2013. (IF 2.346; SJR Q1 16/590 Industrial & Manufacturing Engineering; 13)
18. Yi, M., Yoon, J.J., **Lee, T.**, and Davis, J.M., “Untangling the antecedents of initial trust in web-based health information: the roles of argument quality, source expertise, and user perceptions of information quality and risk,” *Decision Support Systems*, **55**(1):284–295, April, 2013. (IF 3.565; SJR Q1 9/274 Information systems and management; citation count 107)
19. Choi, B.K., Kang, D., **Lee, T.**, Jamjoom, A.A., and Abulkhair, M.F., “Parameterized Activity Cycle Diagram and its application,” *ACM Transactions on Modeling and Computer Simulation*, **23**(4):24:1–24:18, October, 2013.(IF 1.0; SJR Q2 118/614 Modeling and simulation; citation count 7)
20. Nam, H., **Lee, T.**, Lee, J., Lee, J., and Chung, H., “Design of carrier-based offshore CCS system: plant location and fleet assignment,” *International Journal of Greenhouse Gas Control*, **12**:220-230, January, 2013. (IF 4.078; SJR Q1 10/150 Energy miscellaneous; citation count 7)
21. Sung, I., Nam, H., and **Lee, T.**, “Scheduling algorithms for Mobile Harbor: an extended m-parallel machine problem,” *International Journal of Industrial Engineering: Theory, Applications and Practice*, **20**(1-2):213-226, January, 2013. (IF 0.537; SJR Q2 181/590; citation count 4)
22. Kim, D-G., Kim, Y-D., and **Lee, T.**, “Heuristics for locating two types of public healthcare facilities,” *Industrial Engineering & Management Systems*, **11**(2):202–214, 2012. (SJR Q2 135/309 Economics, Econometrics and Finance miscellaneous; citation count 6)
23. Bae, S.Y. and **Lee, T.**, “Product type and consumers’ perception of online consumer reviews,” *Electronic Markets*, **21**(4):255-266, December 2011. (IF 3.818; SJR Q1 131/2290 Computer science application; citation count 81)
24. Bae, S.Y. and **Lee, T.**, “Gender differences in consumers’ perception of online consumer reviews,” *Electronic Commerce Research*, **11**(2):201–214, May 2011. (IF 1.489; SJR Q2 81/309 Economics, Econometrics and Finance miscellaneous; citation count 218)
25. **Lee, T.** and Park, G-J., “Managing system design process using Axiomatic Design: a case on KAIST Mobile Harbor project,” *SAE International Journal of Materials*

- and Manufacturing*, **3**(1):125–132, 2010. (SJR Q2 109/590 Industrial and manufacturing engineering; 10)
26. Ahn, K.O., Shin, S.D., Cha, W.C., Jun, C.M., **Lee, T.**, and Pirralo, R.G., “A model for the association of the call volume and unavailable for response interval on the delayed ambulance response for out-of-hospital cardiac arrest using a geographic information system,” *Prehospital Emergency Care*, **14**(4):469–476, 2010. (IF 2.269; Q1 6/78 Emergency medicine; citation count 18)
 27. **Heo, G.**, **Lee, T.** and Do, S.-H., “Interactive system design using the complementarity of Axiomatic Design and fault tree analysis,” *Nuclear Engineering and Technology*, **39**(1):51–62, 2007. (IF 1.655; JCR Q1 14/95 Nuclear energy and engineering; citation count 12)
 28. **Lee, T.** and Suh, N.P., “Introduction of Functional Periodicity to Prevent Long-Term Failure Mechanism,” *SAE Transactions Journal of Materials and Manufacturing*, **115**(5):786–795, 2006. (SJR Q2 109/590 Industrial and manufacturing engineering; citation count 1)
 29. **Lee, T.**, “Optimal strategy for eliminating coupling terms from a design matrix,” *Journal of Integrated Design & Process Science*, **10**(2):45–55, 2006. (SJR Q3 Engineering miscellaneous, citation count 19)
 30. **Lee, T.** and **Suh, N.P.**, “Reduction of Complexity of Manufacturing Systems through the Creation of Time-Dependent Periodic Complexity from Time-Dependent Combinatorial Complexity,” *CIRP Journal of Manufacturing Systems*, **33**(2):87–100, 2004.(citation count 5)
 31. **Thomas, J.D.**, **Lee, T.**, and Suh, N.P., “A function-based framework for understanding biological systems,” *Annual Review of Biophysics and Biomolecular Structure*, **33**:75–93, 2003. (IF 13.351, citation count 16)

Under review

1. “Approximate dynamic programming approach for patient prioritization and hospital selection in mass-casualty incident,” Shin, K. and **Lee, T.**, *IISE Transaction*, Under 2nd round review, February, 2019.
2. ”Impact of Price Regulation in Health Care Market Competition with Semi-Altruistic Providers,” Kim, T. and **Lee, T.**, *Journal of Health Economics*, Under review, February, 2019.

Working paper

1. “SPartAN: A Meta-Algorithm for Reinforcement Learning Using State Partitioning and Action Network,” Shin, K. and **Lee, T.**, To submit to IEEE Transactions of Automatic Control
2. “Multi-agent reinforcement learning algorithm to solve a partially-observable multi-agent problem in disaster response,” Lee, H-R. and **Lee, T.**, To submit to European Journal of Operational Research
3. “Demand modeling for emergency medical service system with mass-casualty cases: k-inflated mixture regression model,” Lee, H.J. and **Lee, T.**, To submit to Computers and Operations Research
4. “Location-allocation model incorporating choice model with endogenous attractive attribute variables,” Hwang, K. and **Lee, T.**, To submit to Flexible Services and Manufacturing Journal
5. “Value of Information for Service Planning: App-based Taxi Service,” Nam, H.C. and **Lee, T.**, To submit to Transportation Research Part C:Emerging Technologies

Domestic & Others

1. Kim, S.C. and **Lee, T.**, “Study on Countermeasure Support Mission Scheduling Considering Cooperation,” *Journal of the Korean Institute of Industrial Engineers*, **44**(2):114–123, April 2018. (*2nd Prize, Master’s Thesis Competition, Korea Institute of Industrial Engineers, November, 2017)
2. Noh, H. and **Lee, T.**, “Imperfect information in war-game simulation,” *Journal of Korean Institute of Military Science and Technology*, **19**(6):730–743, 2016.
3. Baek, I. and **Lee, T.**, “Study on the optimal deployment of the passive radar system for detecting small Unmanned Aerial Vehicles,” *Journal of Korean Institute of Military Science and Technology*, **19**(4):443–452, 2016.
4. Shin, K. and **Lee, T.**, “Priority assignment for emergency medical service provision in disaster by considering resource limitation,” *Journal of the Korean Society of Hazard Mitigation*, **14**(2):159–168, April, 2014.
5. Hwang, K., **Lee, T.** and Lee, H.R., “Simulation model for pandemic disease spreading by using census data,” *Journal of the Korean Institute of Industrial Engineers*, **40**(2):163–171, 2014. ***Best Paper Award by the Korean Federation of Science and Technology Society**
6. Lee, H-R. and **Lee, T.**, “Effectiveness of dispersed commute hours on infectious disease spread,” *SCS M&S Magazine*, **3**(3), 2014.
7. Moon, I-C. and **Lee, T.**, “Review on modeling and simulation of large-scale and complex disaster scenarios,” *SCS M&S Magazine*, **1**(9):11–17, 2012.
8. Kim, T.H., Shin, S.D., Ahn, K.O., **Lee, T.**, Jun, C.M., Cha, W.C., and Song, K.J., “Linear Planning and Simulation for Allocation of Ambulances in a Two tiered Emergency Medical Service System,” *Journal of the Korean Society of Emergency Medicine*, **22**(1):1–8, 2011.
9. Park, S., Shin, H., **Lee, T.**, and Choi, B., “Design of an agent-based NCW modeling system,” *Journal of the Korean Society for Simulation*, **19**(4):271–280, 2010.
10. Lee, Y. and **Lee, T.**, “A comprehensive study on patient flow improvement solutions and their implementation strategies in an outpatient system,” *IE Interfaces*, **23**(1):1–11, 2010.

Conference Proceedings

1. “A Meta Algorithm For Reinforcement Learning: Emergency Medical Service Resource Prioritization Problem in an MCI as an example,” Shin, K. and **Lee, T.**, 4th International Conference on Health Care Systems Engineering (HCSE 2019), Montreal, May 30–June 1, 2019.
2. “Improved Cooperative Multi-agent Reinforcement Learning Algorithm Augmented by Mixing Demonstrations from Centralized Policy,” Lee, H-R. and **Lee, T.**, 2019 International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2019), Montreal, Canada, May 13–17, 2019. (*full paper acceptance rate 24%)
3. “A Location Problem for Medically Under-served Areas in Korea,” Jang, H., Hwang, K., Lee, T(aeho)., Kim, M., Shin, H., and **Lee, T.**, 3rd International Conference on Health Care Systems Engineering (HCSE 2017), Florence, Italy, May 29–31, 2017.
4. “A choice model for estimating realized accessibility: case study for obstetrics care in Korea,” Hwang, K., Jang, H., Lee, T(aeho)., Kim, M., Shin, H., and **Lee, T.**, 3rd International Conference on Health Care Systems Engineering (HCSE 2017), Florence, Italy, May 29–31, 2017. (citation count 1)

5. "Characterizing emergency responses in localities with different social infrastructure using EMSSim," **Lee, T.**, Shin, K., Lee, H-R., Lee, H.J., Sung, I., Lee, J., and Moon, I-C., Winter Simulation Conference (WSC 2016), Washington D.C., December 11–14, 2016.
6. "A structured approach for constructing high fidelity ED simulation," Lee, W., Shin, K., Lee, H-R., Shin, H., **Lee, T.**, Winter Simulation Conference (WSC 2016), Washington D.C., December 11–14, 2016.(citation count 1)
7. "Axiomatic Design: 30 Years After," Nordlund, M., Kim, S-G., **Lee, T.**, International Mechanical Engineering Congress and Exposition (IMECE 2015), Houston, TX, November 13-19, 2015.
8. "EMSSIM: Emergency Medical Service Simulator with Geographic and Medical Details," Moon, I-C., Bae, J.W., Lee, J., Kim, D., Lee, H-R., **Lee, T.**, Cha, W-C., Kim, J-H., and Kim, G.W., Winter Simulation Conference (WSC 2015), Huntington Beach, CA, December 6–9, 2015.(citation count 5)
9. "Measuring and Visualizing Combat Effectiveness," Lee, Y. and **Lee, T.**, 2015 Winter Simulation Conference (WSC 2015), Huntington Beach, CA, December 6–9, 2015.
10. "Modeling and Simulation for Evaluating the C3 Structure for a NCW Mission Environment," Nam, H. and **Lee, T.**, 2015 Winter Simulation Conference (WSC 2015), Huntington Beach, CA, December 6–9, 2015.
11. "Markov Decision Process Model for Patient Admission Decision at an Emergency Department in Disasters," Lee, H-R. and **Lee, T.**, 2nd International Conference on Health Care Systems Engineering (HCSE 2015), Lyon, France, May 27–29, 2015.
12. "Ambulance Location Problem with Stochastic Call Arrivals under Nearest Available Dispatching Policy," Sung I. and **Lee, T.**, 2nd International Conference on Health Care Systems Engineering (HCSE 2015), Lyon, France, May 27–29, 2015.
13. "Dependency Structure Modeling Framework Using Expert Survey Based Group Decision," Moon, J.R., Lee, D., **Lee, T.** and Ahn, J., 16th International DSM Conference (DSM 2014), Paris, France, July 2-4, 2014.(citation count 1)
14. "Activity cancelling in P-ACD and its application to EMS system modeling," Lee, H-J. and **Lee, T.**, *2014 Korea Society for Simulation (KSS) Annual Conference*, May 30, 2014, Daegu, Korea. ***Best Paper Award at KSS 2014 Annual Conference**
15. "Epidemic state estimation with syndromic surveillance and ILI data using particle filter," **Lee, T.** and Shin, H., 1st International Conference on Health Care Systems Engineering (HCSE 2013), Milan, Italy, May 21–23, 2013.
16. "Emergency Medical Service (EMS) system design evaluator," Shin, K., Sung, I., and **Lee, T.**, Winter Simulation Conference (WSC 2013), Washington D.C., USA, December 8–11, 2013.(citation count 1)
17. "Identifying superspreaders for epidemics using R0-adjusted network centrality," **Lee, T.**, Lee, H.R., and Hwang, K., Winter Simulation Conference (WSC 2013), Washington D.C., USA, December 8–11, 2013.
18. "Communications modeling for a combat simulation in a network centric warfare environment," Shin, K., Nam, H., and **Lee, T.**, Winter Simulation Conference (WSC 2013), Washington D.C., USA, December 8–11, 2013.(citation count 7)
19. "Communication and Target Acquisition Modeling for a Combat Simulation in a Network Centric Warfare Environment," *2013 International Military Science and Technology Fair*, Seoul, Korea, July 11-14, 2013. ***Honorable mention for the Best Paper Award**

20. "A framework to model the interdependencies among critical infrastructure using the nominal group technique(NGT)," Moon, J., Lee, D., **Lee, T.**, and Ahn, J., Asia-Pacific Council on Systems Engineering Conference (APCOSEC 2013), Yokohama, Japan, September 8–11, 2013.
21. "A measure to assess combat effectiveness using network representation," Lee, Y. and **Lee, T.**, Summer Computer Simulation Conference (SCS 2013), Toronto, ON, Canada, July 7–10, 2013.
22. "Modeling requirement for an emergency medical service system design evaluator," Sung, I. and **Lee, T.**, Winter Simulation Conference (WSC 2012), Berlin, Germany, December 9–12, 2012.(citation count 9)
23. "A simulation-based iterative method for a trauma center – air ambulance location problem," **Lee, T.**, Jang, H., Cho, S-H., and Turner, J.G., Winter Simulation Conference (WSC 2012), Berlin, Germany, December 9–12, 2012.(citation count 13)
24. "Identifying critical infrastructure interdependencies for healthcare operations during extreme events," Moon, J. and **Lee, T.**, 2nd International Conference on Complex Sciences: Theory and Applications, Santa Fe, NM, USA, December 5–7, 2012.(citation count 1)
25. "On the use of axiomatic design for eco-design," Shin, M., Azhar, M., Morrison J.R., **Lee, T.** and Suh, H.W., 6th International Conference on Axiomatic Design, 2011.(citation count 8)
26. "Outpatients appointment scheduling with multi-doctor sharing resources," Yun N., Jang, H. and **Lee, T.**, Winter Simulation Conference (WSC 2010), Baltimore, MD, USA, December, 2010.(citation count 19)
27. "A study of scheduling algorithm for mobile harbor with an extended M-parallel machine problem," Sung, I., Nam, H. and **Lee, T.**, International Conference on Logistics and Maritime Systems (LOGMS 2010), Busan, Korea, September 15–17, 2010.
28. "A GA-based approach for container unloading scheduling problem with mobile harbor's stability constraint," Shin, K. and **Lee, T.**, International Conference on Logistics and Maritime Systems (LOGMS 2010), Busan, Korea, September 15–17, 2010.
29. "A graph theory based method for functional decoupling of a design with complex interaction structure," Oh, H.L., **Lee, T.** and Lipowski, R., 36th ASME Design Automation Conference, Montreal, Canada, August 16–18, 2010.(citation count 2)
30. "Capacitative deionization process with decoupled charging and discharging flow schemes," Barman, I., **Lee, T.**, Heo, G. and Suh, N.P., Fifth International Conference on Axiomatic Design (ICAD 2009), Lisbon, Portugal, March 25–27, 2009. (citation count 4)
31. "Decoupling (un)loading operations from the land-sea interface in port service: the mobile floating port concept," Morrison, J.R. and **Lee, T.**, Fifth International Conference on Axiomatic Design (ICAD 2009), Lisbon, Portugal, March 25–27, 2009.(citation count 7)
32. "Reducing emergency department overcrowding –five patient buffer concepts in comparison," Kolb, E., Peck, J.S., Schoening, S. and **Lee, T.**, Winter Simulation Conference (WSC 2008), Orlando, FL, USA, December 7–10, 2008. (citation count 62)
33. "The Emergency Department Design Decomposition (ED³)," Kolb, E., Peck, J., **Lee, T.** and Kim, S.G., 10th International DSM Conference, Stockholm, Sweden, 2008.(citation count 1)

34. "Effect of coupling between emergency department and inpatient unit on the overcrowding in emergency department," Kolb, E., **Lee, T.** and Peck, J.S., Winter Simulation Conference (WSC 2007), Washington, D.C., December 9–12, 2007. (citation count 36)
35. "Understanding the value of eliminating an off-diagonal term in a design matrix," **Lee, T.** and Jeziorek, P.N., Fourth International Conference on Axiomatic Design (ICAD 2006), Florence, Italy, June 13–16, 2006.(citation count 35)
36. "Evaluating functional commonality of system use-case scenarios – case study: planetary landing attenuation system," Bathurst, S., Jeziorek, P.N., Schrauth, A.J., **Lee, T.** and Suh, N.P., Fourth International Conference on Axiomatic Design (ICAD 2006), Florence, Italy, June 13–16, 2006.
37. "A framework for evaluating high-level design alternatives," Jeziorek, P.N., Bjelkemyr, M., Deo, H.V., Peliks, B., Schrauth, A.J., **Lee, T.** and Suh, N.P., PICMET 2005, Portland, OR, USA, August 1–4, 2005.
38. "A function-based approach to systems biology," **Lee, T.**, Thomas, J.D. and Suh, N.P., Fifth International Conference on Complex Systems, Boston, MA, June 25–30, 2004.
39. "An exploratory study of cost engineering in Axiomatic Design: creation of the cost model based on an FR-DP map," **Lee, T.** and Jeziorek, P., Third International Conference on Axiomatic Design (ICAD 2004), Seoul, Korea, June 21–24, 2004.

**Invited talks,
Lectures
& others**

International

1. "SPartAN: A Meta-Algorithm for Reinforcement Learning Using State Partitioning and Action Network," (Poster) *2018 Winter Simulation Conference*, Gothenburg, Sweden, December 9–12, 2018.
2. (Invited talk) "Patient admission decision at emergency department under mass casualty incident," *2018 INFORMS Annual Meeting*, Phoenix, AZ, USA, November 3–6, 2018.
3. (Invited talk) "Location model with patient choices and care facility attractiveness," *2018 INFORMS Annual Meeting*, Phoenix, AZ, USA, November 3–6, 2018.
4. (Invited talk) "Patient prioritization and hospital selection for EMS response to mass casualty incident," *2018 INFORMS International*, Taipei, Taiwan, June 17–20, 2018.
5. (Invited talk) "Supervised learning to solve decentralized patient admission problem in mass casualty incident," *2018 INFORMS International*, Taipei, Taiwan, June 17–20, 2018.
6. (Invited talk) "Cooperative MCLP for emergency department location problem," *INFORMS Annual Meeting*, San Francisco, CA, Nov. 9–12, 2014.
7. (Invited talk at INFORMS Pierskalla Award Competition) "Simultaneous location of trauma centers and helicopters for emergency medical service planning," *INFORMS Annual Meeting*, San Francisco, CA, Nov. 10, 2014.
8. (Invited talk) "A location problem for trauma centers and EMS transportation resources," *INFORMS Annual Meeting*, November 13–16, 2011, Charlotte, NC, USA.
9. "A framework to identify interdependencies among infrastructures: capability-driven and demand-driven dependency," (Poster) *Health and Humanitarian Logistics Conference*, June 4–5, 2013, Kuala Lumpur, Malaysia.
10. "A location problem for trauma centers and emergency medical service transportation resources," work presented by Turner, J.G., *2012 INFORMS MSOM Conference*, June 17–19, 2012, New York, NY, USA.

11. “Simulation of Disaster Response System: A pilot study,” work presented by Cha, W.C., *NAEMSP Annual Meeting*, January 12–14, 2012, Tucson, AZ, USA.
12. (Invited Lecture) University of Bozen-Bolzano, 4-Day Course on “Axiomatic Design for Complex Systems,” Bolzano, Italy, May 25–28, 2011.
13. “Ambulance relocation model design by optimization and simulation,” (Poseter) *NAEMSP Annual Meeting*, January 13–15, 2011, Bonita Spring, FL, USA.
14. (Invited talk) “Complex system design and axiomatic design,” *ASME International Design Engineering Technical Conferences & Computers and Information in Engineering Conference (IDETC&CIE)*, August 16–18, 2010, Montreal, Canada.
15. (Invited Lecture) MIT Professional Institute Summer Course – Axiomatic Design for Complex Systems, Cambridge, MA, USA, June 2010.
16. (Invited talk) MIT Laboratory for Manufacturing and Productivity Seminar Series, “A Missing Piece of Healthcare Puzzle: Healthcare Delivery Science/Engineering,” Cambridge, MA, USA, April 12, 2010.
17. (Invited Lecture) University of Bozen-Bolzano Design Innovation Workshop – Axiomatic Design for Complex Systems, Bolzano, Italy, June 22–24, 2009.
18. (Invited Lecture) MIT Professional Institute Summer Course – Axiomatic Design for Complex Systems, Cambridge, MA, USA, June 2008.
19. “Achieving design target in the presence of functional coupling,” *SAE World Congress*, April 16–20, 2007, Detroit, MI, USA.
20. (Invited Lecture) Texas Tech University, “Axiomatic Design and Complexity Theory,” Lubbock, TX, USA, September, 2006.
21. “Functional periodicity in manufacturing systems and biological systems,” *Annual meeting of International Consortium for Complexity Research*, Kananaskis, Canada, July 2006.
22. “Periodicity in Cell Motility,” *Annual meeting of Institute of Biological Engineering*, Tucson, AZ, USA, March 2006.
23. (Tutorial) “Fundamentals of Axiomatic Design,” *3rd International Conference on Axiomatic Design*, Seoul, Korea, June 21–24, 2004.

Domestic

1. “Effect of health care market competition and regulation on service quality under semi-altruistic care provider behaviour,” work presented by Kim, T., *2018 KIIE Annual Spring Conference*, Kyungjoo, Korea, April 4-7, 2018.
2. “Location problem for landing and take-off depot for UAV traffic management system,” work presented by Lee, H-R., *2018 KIIE Annual Spring Conference*, Kyungjoo, Korea, April 4-7, 2018.
3. “Demand modeling for emergency medical service with mass casualty incident cases,” work presented by Lee, H.J., *2017 KIIE Annual Fall Conference*, Daejeon, Korea, November 4, 2017.
4. “Patient admission problem for multiple cooperative care providers under MCI,” work presented by Lee, H-R., *2017 KIIE Annual Fall Conference*, Daejeon, Korea, November 4, 2017.
5. (Invited talk) Korea Center for Disease Control and Prevention, “EMS System Design and Operation for Disaster Response,” Osong, Korea, August 16, 2017.
6. (Invited talk) The Armed Forces Medical Command, “EMS System Design and Operation for Disaster Response,” Kyungki-do, Korea, July 19, 2017.

7. "Analysis on Selective Passenger Admission by using Markov Reward Model," work presented by Nam, H., *2017 KIIE Annual Spring Conference*," Yeosu, Korea, April 26-29, 2017.
8. "Discrete Choice Model to Estimate the Expected Volume of Health Care Service Use: Case of Perinatal Care," work presented by Hwang, K., *2017 KIIE Annual Spring Conference*," Yeosu, Korea, April 26-29, 2017.
9. "Monte Carlo Tree Search Algorithm combined with Neural Network Learning," work presented by Shin, K., *2017 KIIE Annual Spring Conference*," Yeosu, Korea, April 26-29, 2017.
10. "Comparative Study on Spatio-temporal Demand Prediction Models: Case of Emergency Medical Service," work presented by Lee, H.J., *2016 KIIE Annual Fall Conference*, Seoul, Korea, November 19, 2016.
11. "Detecting Changes in Health Care Service Use Pattern for Health Map Analysis," work presented by Kim, Y., *2016 KIIE Annual Fall Conference*, Seoul, Korea, November 19, 2016.
12. "Approximate Dynamic Programming by using Monte Carlo Tree Search and Deep Neural Network," work presented by Shin, K., *2016 KIIE Annual Fall Conference*, Seoul, Korea, November 19, 2016.
13. "Experimental Study on the Effect of Imperfect Information on Combat Decision Making," work presented by Noh, H., *2016 Korea Society for Simulation Annual Fall Conference*, Seoul, Korea, October 28, 2016.
14. "Case Study: Emergency Department Simulation for SMC," work presented by Lee, W., *2015 KIIE Annual Spring Conference*," Jeju, Korea, April 13-16, 2016.
15. "Location Problem for Passive Bistatic Radar to Detect Small Unmanned Aerial Vehicle," work presented by Baek, I., *2015 KIIE Annual Fall Conference*," Seoul, Korea, November 6-7, 2015.
16. "Analysis on Emergency Medical Service (EMS) Call Log for EMS System Design," work presented by Lee, H.J., *2015 KIIE Annual Fall Conference*," Seoul, Korea, November 6-7, 2015.
17. "Combat Effectiveness Measure by using Network Representation," work presented by Lee, Y., *2015 KIIE Annual Spring Conference*," Seoul, Korea, April 8-11,2015.
18. "Scenario-based Ambulance Location Problem under Various Dispatching Protocols," work presented by Sung, I., *2015 KIIE Annual Spring Conference*," Seoul, Korea, April 8-11,2015.
19. "Patient Prioritization and Hospital Selection under Mass Casualty Incident by using Approximate Dynamic Program," work presented by Shin, K., *2015 KIIE Annual Spring Conference*," Seoul, Korea, April 8-11,2015.
20. (Invited talk) Seoul National University Medical School, "Modeling & Simulation for Disaster Response," Seoul, Korea, December 9, 2014.
21. "Optimal resource allocation policy for emergency room under mass casualty incident," work presented by Lee, H-R., *Korean Society for Industrial and Applied Mathematics (KSIAM) Annual Meeting*, November 21-22, 2014, Jeju, Korea.
22. "Framework to manipulate imperfect information for NCW simulation," work presented by Noh, H., *ROK Army Conference on Modeling&Simulation*, November 18-19, 2014, Daejeon, Korea.
23. (Invited talk) "Key issues in modeling NCW environment for combat simulation," *ROK Army Conference on Modeling&Simulation*, November 18-19, 2014, Daejeon, Korea.



24. (Invited talk) Korea University Medical School, "Role of computer simulation for designing disaster response system," Seoul, Korea, November 14, 2014.
25. (Invited talk) Korea Air Force, "Overview on Modeling and Simulation," Gyeryong, Korea, November 7, 2014.
26. (Invited talk) "How modeling & simulation can enhance disaster response," *2014 Korean Operations Research and Management Science (KORMS) Annual Fall Conference*, November 1, 2014, Suwon, Korea.
27. "Study on NCW analysis M&S based on combat information process," work presented by Noh, H., *2014 Korean Institute of Industrial Engineers(KIIE) Annual Spring Conference*, May 16–17, 2014, Busan, Korea.
28. "Markov Decision Process model for prioritizing and distributing patients to multiple-hospitals under mass casualty incident," work presented by Shin, K., *2014 KIIE Annual Spring Conference*, May 16–17, 2014, Busan, Korea.
29. "Algorithm for ambulance scheduling under mass casualty incident," work presented by Sung, I.) *2014 KIIE Annual Spring Conference*, May 16–17, 2014, Busan, Korea.
30. "Optimal resource allocation policy for emergency room under mass casualty incident," work presented by Lee, H-R., *2014 KIIE Annual Spring Conference*, May 16–17, 2014, Busan, Korea.
31. "Measuring Combat Effectiveness by Using Network Representation," work presented by Lee, Y., *21st Weapon Systems Conference*, Daejeon, Korea, November 19, 2013.
32. (Invited Lecture) Ewha Womans University Business School, Half-semester course on Business Analytics in healthcare service delivery, Seoul, Korea, May - June, 2013.
33. "Ambulance Operation Simulation Model to Evaluate EMS system," work presented by Sung, I., *2013 KIIE Annual Spring Conference*, Yeosu, Korea, May 24–25, 2013.
34. "Epidemic Simulation Model by using Census Data," work presented by Hwang, K., *2013 KIIE Annual Spring Conference*, Yeosu, Korea, May 24–25, 2013.
35. "R0-adjusted Network Centrality to Identify Superspreaders of Epidemic Disease," work presented by Lee, H-R., *2013 KIIE Annual Spring Conference*, Yeosu, Korea, May 24–25, 2013.
36. "Communication modeling for war game simulation under Network Centric Warfare," work presented by Shin, K., *13th ADD Conference on Communications and Electronics*, November 2, 2012, Daejeon, Korea.
37. "Data aggregation method for capacitated covering problems with gradual coverage," work presented by Jang, H., *2012 KIIE Annual Fall Conference*, November 2, 2012, Ansan, Korea. ***Best Session Paper Award**
38. "System Design for CCS based on CO2 carrier," work presented by Nam, H., *2012 KIIE Annual Fall Conference*, November 2, 2012, Ansan, Korea.
39. "Metric to measure NCW effects by using Lanchester Model," work presented by Lee, Y., *2012 KIIE Annual Fall Conference*, November 2, 2012, Ansan, Korea. ***Best Session Paper Award**
40. "A framework for building a simulation model to study overcrowding in ED," work presented by Jang, H., *2012 KIIE Annual Fall Conference*, November 2, 2012, Ansan, Korea. ***Best Session Paper Award**
41. "Identifying central nodes in pandemic disease spreading network," work presented by Hwang, K., *2012 KIIE Annual Fall Conference*, November 2, 2012, Ansan, Korea.

42. "Design of ABMS-based simulation model for C4I in an NCW combat environment," work presented by Nam, H., *2012 KORMS Annual Fall Conference*, November 1, 2012, Seoul, Korea.
43. (Invited talk) Samsung Corning Precision Materials, "What is good design?" Cheonan, Korea, July 19, 2012.
44. (Invited talk) Seoul National University Emergency-Grand-Round (EGR) Seminar Series, "Role of Modeling & Simulation in EMS System Design," Seoul, Korea, December 20, 2011.
45. (Invited talk) Ajou University Medical School, "Healthcare Delivery Engineering," Suwon, Korea, October 26, 2011.
46. (Invited talk) Korea Armed Forces Nursing Academy, "Design Thinking," Nonsan, Korea, June 22, 2011.
47. (Invited talk) 33rd Korean Medical Association(KMA) Conference, "Assessment on EMS system's disaster response using simulation, and proposal to improve its preparedness," Seoul, Korea, May 13, 2011.
48. "Understanding the determinants of trust in online health advice: a combinatory approach," work presented by Yoon, J.J., *KMIS Fall Conference*, November 12, 2010, Seoul, Korea.
49. (Invited talk) Hanbat University, "Healthcare service delivery system," Daejeon, Korea, October 27, 2010.
50. (Invited talk) Yonsei University Severance Hospital, "Design and operation of healthcare delivery system," Seoul, Korea, Oct 15, 2010.
51. (Invited talk) Dankuk University Hospital, "Optimal System Design for Helicopter Ambulance System in Chung-cheong Province," Oct 6, 2010.
52. (Invited talk) Korean Society of Emergency Medicine EMS Summer Symposium, "Optimization, Modeling & Simulation for Helicopter EMS system," Songdo, Kyungki, August 29, 2010.
53. "How can online sellers use blogs as online consumer review sources?", work presented by Bae, S.Y., *KIIE/KORMS Annual Spring Joint Conference*, June 3-4, 2010, Jeju, Korea.
54. "Optimal container loading & unloading schedule with stability constraint: rule-based heuristic algorithm and local search method," work presented by Shin, K., *KIIE/KORMS Annual Spring Joint Conference*, June 3-4, 2010, Jeju, Korea.
55. "An extended M-parallel machine problem with a limited machine capacity and interference between jobs," work presented by Sung, I., *KIIE/KORMS Annual Spring Joint Conference*, June 3-4, 2010, Jeju, Korea.
56. "A study on the optimal number of emergency vehicles for development of pre-hospital emergency medical system," work presented by Lee, Y., *KIIE/KORMS Annual Spring Joint Conference*, June 3-4, 2010, Jeju, Korea.
57. "A study on effectiveness of simulation optimization for outpatient appointment scheduling," work presented by Jang, H., *KIIE/KORMS Annual Spring Joint Conference*, June 3-4, 2010, Jeju, Korea.
58. (Invited talk) Seoul National University Medical School, "Healthcare Delivery System: Current Problems & Perspective," Seoul, Korea, May 26, 2010.
59. (Invited talk) Gwangju Institute of Science and Technology, "Healthcare Delivery Science and Engineering," Gwangju, Korea, March 19, 2010.
60. (Invited Tutorial) KIIE CAD/CAM Annual Conference, "Fundamentals of Axiomatic Design," Pyung-chang, Korea, January 27-28, 2010.

61. “Optimal planning for Mobile Harbor system operation,” *Korea CAD/CAM Association Winter Conference*, January 27–28, 2010, Yongpyoung, Korea.
62. (Invited talk) KAIST Graduate School of Science and Technology Policy, “IT-assisted Healthcare Service Delivery: Discussion on PHR and Health 2.0,” Daejeon, Korea, November 16, 2009.
63. (Invited talk) Gwangju Institute of Science and Technology, “Fundamentals and Principles of Axiomatic Design,” Gwangju, Korea, October 20, 2009.
64. (Invited Lecture) Korea Electronics and Telecommunication Research Institute (ETRI), “Tutorial on Axiomatic Design,” Daejeon, Korea, August 17 – 18, 2009.
65. (Invited talk) Pohang Science and Technology Institute (POSTECH), Department of Industrial & Management Engineering, “Healthcare Delivery Science: Breaking the Bottleneck in Healthcare,” Pohang, Korea, March 20, 2009.
66. (Invited talk) KIIE Service Science Forum, “Healthcare Delivery Science: Breaking the Bottleneck in Healthcare,” Seoul, Korea, February 20, 2009.
67. “Waiting Time Reduction of Ophthalmology Outpatients through Managing Variability,” work presented by Kong, J., *2008 KIIE Annual Fall Conference*, Seoul, Korea, November 8, 2008.
68. (Invited talk) Seoul National University Hospital Boondang, “Engineering Healthcare Delivery,” Sungnam, January 4, 2008.

Patents



1. Method for modeling target information generation and sharing in a combat simulation of a network centric warfare environment, Korean patent #KR101549471B1 (September 3, 2015)
2. Method and apparatus for permeating flow desalination, US patent # US8871074B2 (October 28, 2014) 
3. Hybrid mobile floating port, Korean patent #KR101113693B1 (February 27, 2012)
4. Mobile portal crane and vessel with the crane, Korean patent #KR101112158B1 (February 22, 2012) 
5. **Method and apparatus for planning operation of mobile harbor crane**, Korean patent #KR101089285B1 (December 5, 2011)
6. Hybrid mobile floating port, Korean patent #KR101068663B1 (September 28, 2011)
7. Hybrid mobile floating port, Korean patent #KR101068662B1 (September 28, 2011)
8. Method and apparatus for providing architectures formation in mobile harbor system, Korean patent #KR101089278B1 (December 5, 2011)
9. Method and apparatus for planning operation of mobile harbor system, Korean patent #KR101062358B1 (September 5, 2011)
10. System integration based on time-dependent complexity, US patent #US6,701,205 B2 (March 2, 2004)

Professional Service

International

1. Conference Board Member, International Conference on Health Care Systems Engineering (HCSE), July 2018 – present
2. Pierskalla Award Judge Committee, 2018 INFORMS Health Applications Society, 2018
3. Organizing Committee, 2018 International Conference on Advances in Production Management System, Seoul, Korea, 2018

4. Program Committee, 2017 International Conference on Axiomatic Design, Lasi, Romania
5. Associate Editor, Flexible Services and Manufacturing Journal, 2017 – present
6. Member recruiting&retention committee, INFORMS I–SIM, 2014 – 2015
7. Session Organizer, 2014 INFORMS Annual Meeting, San Francisco, CA, USA
8. International Advisory Committee, 2014 International Conference on Axiomatic Design, Lisbon, Portugal
9. Program Committee, 2012 International Conference on Logistics and Maritime, Bremen, Germany
10. Session Organizing Committee, SAE World Congress 2007–2010, Detroit, USA
11. Co-chair, 2009 International Conference on Axiomatic Design, Lisbon, Portugal
12. Scientific Program Committee, 2006 International Conference on Axiomatic Design, Florence, Italy
13. Scientific Program Committee, 2004 International Conference on Axiomatic Design, Seoul, Korea

Domestic

1. Committee Member, National Bed Supply Review and Approval Committee of National Health Insurance Service (NHIS), 2017 – present
2. Committee Member, R&D Program Review Committee, Ministry of Interior and Safety, 2017 – present
3. Board member, Korean Institute of Industrial Engineers(KIIE), 2015 – 2016
4. Board member, The Korea Society for Simulation (KSS), 2015 – 2016
5. Editorial Board, Journal of Korea Society of Hospital Administration, 2008 - 2012

Referee services European Journal of Operational Research, Computers and Operations Research, IISE Transactions, Flexible Services and Manufacturing Journal, Journal of Operations Research Society, Transportation Research Part E, and others

Research Grants

External Grants: 1,621 million KRW

1. Simulation model development for evaluation of health policy, National Health Insurance Service, 91 million KRW, 2018.11–2019.11, Principal Investigator
2. Decision making model for future disaster response system, Korea National Research Foundation, 82 million KRW, 2018.4 – 2019.2, Principal Investigator
3. Technology development for Unmanned-aerial-vehicle Traffic Management (UTM), Korea Institute of Aviation Safety Technology, 28 million KRW, 2018.1 – 2018.12, Participating Investigator
4. Decision making model for future disaster response system, Korea National Research Foundation, 78 million KRW, 2017.6 – 2018.3, Principal Investigator
5. Technology development for Unmanned-aerial-vehicle Traffic Management (UTM), Korea Institute of Aviation Safety Technology, 28 million KRW, 2017.1 – 2017.12, Participating Investigator
6. Decision making model for future disaster response system, Korea National Research Foundation, 85 million KRW, 2016.6 – 2017.5, Principal Investigator
7. NCW-based Wargame Modeling, Agency for Defense Development, 274 million KRW, 2014.4–2016.12, Principal Investigator

8. Modeling Simulation technology development for Epidemic disease response in Korea, Korea National Research Foundation, 35 million KRW, 2014.9 – 2015.8, Principal Investigator
9. Emergency Medical Service system simulation and disaster response system development, Hanyang University R&D Division, 80 million KRW, 2014.5 – 2015.4, Principal Investigator
10. NCW-based Wargame Modeling, Agency for Defense Development, 230 million KRW, 2011.2–2015.6, Principal Investigator
11. Modeling Simulation technology development for Epidemic disease response in Korea, Korea National Research Foundation, 35 million KRW, 2013.9 – 2014.8, Principal Investigator
12. Modeling technology for critical infrastructure, Korea National Research Foundation, 184 million KRW, 2013.8 – 2014.7
13. Emergency Medical Service system simulation and disaster response system development, Hanyang University R&D Division, 40 million KRW, 2013.5 – 2014.4, Principal Investigator
14. Modeling Simulation technology development for Epidemic disease response in Korea, Korea National Research Foundation, 35 million KRW, 2012.9 – 2013.8, Principal Investigator
15. Modeling technology for critical infrastructure, Korea National Research Foundation, 145 million KRW, 2012.8 – 2013.7, Principal Investigator
16. Mobile Harbor system design and pilot model performance evaluation, Korea Evaluation Institute of Industrial Technology, 40 million KRW, 2020.5 - 2012.10, Principal Investigator
17. Modeling Simulation technology development for Epidemic disease response in Korea, Korea National Research Foundation, 35 million KRW, 2011.9 – 2012.8, Principal Investigator
18. Simulation-based disaster response and preparedness technology, Korea National Research Foundation, 152 million KRW, 2011.9 - 2012.8, Principal Investigator
19. Modeling Simulation technology development for Epidemic disease response in Korea, Korea National Research Foundation, 35 million KRW, 2010.9 – 2011.8, Principal Investigator

Industry Grants: 51 million KRW

1. Fraud detection system: real-time performance and accuracy test, Hyundai card, 6 million KRW, 2018.8–2019.2
2. Fraud detection system, Hyundai Card, 30 million KRW, 2018.1–2019.6, Principal Investigator
3. Process redesign for ophthalmology outpatient department, Seoul National University Hospital Boondang, 15 million KRW, 2008.4–2009.9, Principal Investigator

Institute Grants: 386 million KRW

1. Optimal location of passive radar for UAV surveillance, KAIST, 30 million KRW, 2015.1–2015.12, Principal Investigator
2. Disaster preparedness and response technologies, KAIST, 88 million KRW, 2015.1–2015.12, Principal Investigator
3. Modeling and simulation for healthcare service delivery system, KAIST, 40 million KRW, 2010.1–2010.12, Principal Investigator

4. Basic research funding, KAIST, 2008.1–2009.12, Principal Investigator
5. Knowledge system for value maximization in healthcare service delivery, KAIST, 50 million KRW, 2009.1–2009.12, Principal Investigator
6. Conceptual design and system integration for integrated system operation, KAIST, 50 million KRW, 2009.6–2009.12
7. Dental care system for Korea's aged population, KAIST, 2 million KRW, 2009.6–2009.12
8. System design framework for healthcare service delivery system, KAIST, 52 million KRW, 2008.1–2008.12, Principal Investigator

Courses Taught

1. IE573(G) Introduction to Healthcare Service System (2008S, 2009S, 2010S, 2011S, 2012S, 2013S, 2015S, 2016S, 2017S, 2018S, 2019S)
2. IE577(G) Fundamentals of Systems Engineering (2011F, 2012F, 2013F, 2014F, 2015F, 2016F, 2018F)
3. IE425(UG) Project Management (2015F, 2016F, 2017F)
4. IE251(UG) Manufacturing Processes & Innovation (2012F, 2017S)
5. IE481/801(G/UG) Venture Capital Investment (2008F, 2009F, 2010F, 2011F, 2016F)
6. IE363(UG) Introduction to Simulation (2010F)
7. ED100(UG) Design and Communication (2008S/F, 2009S, 2012S, 2013S, 2014F)

Supervised Students

Ph.D.

1. Hyun-il Noh, August 2017, Defense Acquisition Program Administration (DAPA), Korea
2. Inkyung Sung, August 2016, Aalborg University, Denmark
3. Youngwoo Lee, February 2016, Korea Atomic Energy Research Institute (KAERI)
4. Hoon Jang, August 2014, Science and Technology Policy Institute (STEPI)
5. Soonyong Bae, August 2011 (Samsung Electronics)

M.Sc.

1. Taehyun Kim, MSc. 2019, Univ of Maryland PhD program in Public Health
2. Kyuhyeon Shin, MSc. 2018, LG CNS Entru Consulting
3. Soo-chan Kim, MSc. 2018, Korea Military Academy
4. Felix Tobias, MSc. 2018
5. Mohamed Tarek, MSc. 2017, Univ. of New South Wales PhD program
6. Insun Baek, MSc. 2016, Korea Institute of Nuclear Nonproliferation and Control (KINAC)
7. Hyunjin Lee, MSc. 2016, KAIST Ph.D. program
8. Hyun-Rok Lee, MSc. 2015, KAIST Ph.D. program
9. Kyohong Shin, MSc. 2014, KAIST Ph.D. program
10. Jukrin Moon, MSc. 2014, Texas A&M Ph.D. program
11. Kyosang Hwang, MSc. 2013, KAIST Ph.D program
12. Bokak Hahm, MSc. 2013, Toycode Inc.
13. Kyung-Hyun Baek, MSc. 2013, Korea Air Force
14. Seung-eun Lee, MSc. 2012, SK Telecom

15. Hochang Nam, MSc. 2011, KAIST Ph.D. program
16. Nara Yeon, MSc. 2011, Accenture Consulting
17. Jane J. Yoon, MSc. 2010, Samsung Heavy Industry
18. Hyuk-sung Lee, MSc. 2010, KISTEP
19. Youngwoo Lee, MSc. 2009, KAIST Ph.D. program
20. Hoon Jang, MSc. 2009, KAIST Ph.D. program