
FATIH SAFA ERENAY, PhD

CONTACT INFORMATION

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ACADEMIC EMPLOYMENTS & AFFILIATIONS

University of Waterloo, ON

- Associate Professor, Department of Management Sciences, July 2018-Present

University of Waterloo, ON

- Assistant Professor, Department of Management Sciences, January 2011-July 2018

Mayo Clinic-Rochester, MN

- Research Collaborator, Department of Neurology, November 2016-November 2018

University of Wisconsin-Madison, WI

- Teaching/Research Assistant, Department of Industrial and Systems Engineering
September 2006-December 2010

Mayo Clinic-Rochester, MN

- Intern, Department of Health Sciences Research, May 2007-August 2007
-

EDUCATION

University of Wisconsin-Madison, WI

Ph.D., Department of Industrial and Systems Engineering, December 2010

- Thesis Title: *Optimal screening policy for colorectal cancer prevention and surveillance*, supervised by Professor Oguzhan Alagoz

Bilkent University, Ankara-Turkey

M.Sc., Department of Industrial Engineering, July 2006

- Thesis Title: *New solution methods for single machine bicriteria scheduling problem: Minimization of average flowtime and number of tardy jobs*, supervised by Professor Ihsan Sabuncuoglu

Bilkent University, Ankara-Turkey

B.S., Department of Industrial Engineering, June 2004

RESEARCH INTERESTS

Stochastic Modeling and Optimization: Completely/Partially Observable Markov Decision Processes, Dynamic Programming, Control Theory, Simulation Modeling, Simulation-based Optimization, Heuristics

HealthCare: Medical Decision Making, Healthcare Delivery, Organ Transplantation, Cancer Screening, Chemotherapy Treatment, Infectious Disease Control (COVID-19, MRSA, and Influenza), Vaccination, ALS (Amyotrophic Lateral Sclerosis) Management, Drug Wastage

Others: Data Analytics, Predictive & Prescriptive Models, Production Planning, Multicriteria Scheduling, Transportation

PROFESSIONAL APPOINTMENTS

- Associate Editor: IISE Transactions on Healthcare Systems Engineering, 2018-Present

- Editorial Board: **Service Science** (An INFORMS Journal), 2016-2018

HONORS & AWARDS

- Finalist, INFORMS Pierskalla Best Paper Award, INFORMS 2011, Charlotte, NC
- 1st Place, Service Science Best Paper Award, INFORMS 2009, San Diego, CA
- 1st Place, Best Scientific Poster Award, Poster Competition of IERC (Industrial Engineering Research Conference) Doctoral Colloquium, IERC 2009, Miami, FL
- Finalist, Interactive Session Poster Competition, INFORMS 2009, San Diego, CA
- R. S. and H. K. Fein Scholarship, University of Wisconsin-Madison, Department of Industrial and Systems Engineering, 2009
- Graduate School Student Travel Fund, Department of Industrial and Systems Engineering, University of Wisconsin-Madison, 2010
- Graduate Study Support Scholarship, TUBITAK (Turkish Science Foundation), 2005-2006
- Honorable Mention Prize, Bilkent University Industrial Engineering Project Contest, 2004

Rewards Awarded to Supervised Students

- **Gizem Nemutlu** (Ph.D.)
 - Runner-up, Canadian Operational Research Society Student Paper Competition, 2017
 - 1st Place, Fraser Award for Graduate Student Research, University of Waterloo, 2017
 - Finalist, Bonders Scholarship, INFORMS Health Applications Society, 2016
- **Taghi Khaniyev** (Ph.D.)
 - 1st Place, Canadian Operational Research Society Student Paper Competition, 2018
- **Haoran Wu** (PhD Candidate)
 - 1st Place, Fraser Award for Graduate Student Research, University of Waterloo, 2020

PUBLICATIONS

Refereed Journal Articles & Refereed Book Chapters

- [P.1] Khaniyev, T.*, Elhedhli, S., **Erenay, F.S.**, 2020. *Spatial separability in hub location problems with an application to brain connectivity networks*, **INFORMS Journal on Optimization**, 2(4) 320-346.
- 1st Place, CORS Student Paper Competition, 2018
- [P.2] Alnahdi, A., Elkamel, A., Shaik, M.A., Al-Sobhi, S.A., and **Erenay, F.S.**, 2019. *Economic and environmental impacts of emission mitigation in petroleum refineries*, **Sustainability**, 11(14), 3771-3801. [SCI Impact Factor: 2.592]
- [P.3] **Erenay, F.S.**, Horton, S., 2019. *Financial Audit of Wastage of Anticancer Drugs: Pilot Study from a Tertiary Care Centre of India: A Commentary*, **Indian Journal of Cancer**, 56 (2), 99-100. [SCI Impact Factor: 0.429]
- [P.4] Dalgic, O.O.*, **Erenay, F.S.**, Ozaltin, O.Y, Pasupathy, K., Sir, M., Crum, B.A., 2018. *Tollgate-based progression pathways of ALS patients*, **Journal of Neurology**, 266 (3), 755-765. [SCI Impact Factor: 4.204]
- [P.5] Satir, B.*, **Erenay, F.S.**, Bookbinder, J., 2018. *Shipment consolidation with two demand classes: Rationing the dispatch capacity*, **European Journal of Operational Research**, 270(1), 171-184.
- [P.6] Khaniyev, T.*, Elhedhli, S., **Erenay, F.S.**, 2018. *Structure detection in mixed integer programs*, **INFORMS Journal on Computing**, 30(3), 570-587.

- [P.7] Al-Sobhi, S.A., Shaik, M.A., Elkamel, A., and **Erenay, F.S.**, 2018. *Simulation-optimization framework for synthesis and design of natural gas downstream utilization networks*, **Energies** 11(2), 362-381. [SCI Impact Factor: 2.707]
- [P.8] ³Alsobhi, S., Shaik, M., Elkamel, A., **Erenay, F.S.**, 2018. *Integrating simulation in optimal synthesis and design of natural gas upstream processing networks*, **Industrial & Engineering Chemistry Research** 57 (17), 5792–5804. [SCI Impact Factor: 3.375]
- [P.9] ¹Dalgic, O.O.*, Ozaltin, O.Y., Ciccotelli, W.A., **Erenay, F.S.**, 2017. *Deriving effective vaccine allocation strategies for pandemic influenza: Comparison of an agent-based simulation and a compartmental model*, **PLoS ONE** 12(2) 1-19. [SCI Impact Factor: 2.776]
- [P.10] Yegul, F.*, **Erenay, F.S.**, Striepe, S., Yavuz, M., 2017. *Improving configuration of complex production lines via simulation-based optimization*, **Computers and Industrial Engineering** 109, 295-312.
- [P.11] Al-Sobhi, S.A., Shaik, M.A., Elkamel, A., and **Erenay, F.S.**, 2017. *Modeling and optimization of natural gas processing and production networks* in **Natural Gas Processing from Midstream to Downstream, Chapter 11**, edited by N Elbashir, M. El-Halwagi, I. Economou, and K. Hall. Wiley & Sons, US p. 1-53. [Book Chapter]
- [P.12] ²**Erenay, F.S.**, Alagoz, O., Banerjee, R., Said, A., Cima, R.R., 2016. *Cost-effectiveness of alternative colonoscopy surveillance strategies to mitigate metachronous colorectal cancer incidence*, **Cancer** 122(16) 2560-2570. [SCI Impact Factor: 5.742]
- [P.13] ³Alarifi, A., Liu, Z., **Erenay, F.S.**, Elkamel, A., Croiset, E., 2016. *Dynamic optimization of lurgi type methanol reactor using hybrid GA-GPS algorithm: The optimal shell temperature trajectory and carbon dioxide utilization*, **Industrial & Engineering Chemistry Research** 55(5) 1164-1173. [SCI Impact Factor: 3.375]
- [P.14] **Erenay, F.S.**, Alagoz, O., Said, A., 2014. *Optimizing colorectal cancer screening and surveillance policies*, **Manufacturing & Service Operations Management** 16(3) 381-400.
- Finalist, INFORMS Pierskalla Award, INFORMS Annual Meeting 2011
 - 1st Place, Best Scientific Poster Award, IERC Annual Meeting 2009
 - Finalist, Interactive Session Poster Competition, INFORMS Annual Meeting 2009
- [P.15] Shi, J., Alagoz, O., **Erenay, F.S.**, Su, Q., 2014. *A survey of optimization models on cancer chemotherapy treatment planning*, **Annals of Operations Research** 221(1) 331-356.
- [P.16] Degirmenci, T., Yegul, F.*, **Erenay, F.S.**, Striepe, S., Yavuz, M., 2013. *Standardization and certification in lean manufacturing*, **Journal of Enterprise Transformation** 3(3) 211-232.
- [P.17] †Akan, M., Alagoz, O., Ata, B., **Erenay, F.S.**, Said, A., 2012. *A broader view of designing the liver allocation system*, **Operations Research** 60(4) 757-770. Citations: 28.
- 1st Place, Service Science Best Paper Award, INFORMS Annual Meeting 2009

* Supervised students; †Authors are alphabetically listed; Citation counts are from Scholar Google

¹ #5 in Health & Medical Sciences (Google Scholar rankings)

² #10 in Oncology (Google Scholar rankings), it is the journal of American Cancer Society

³ #11 Engineering & Computer Science (Google Scholar rankings)

- [P.18] ⁴**Erenay, F.S.**, Alagoz, O., Banerjee, R., Cima, R.R., 2011. *Modeling the natural history of metachronous colorectal cancer under colonoscopy screenings*, **Medical Decision Making** 31(4), 611-624. [SCI Impact Factor: 2.793]
- [P.19] **Erenay, F.S.**, Toptal, A., Sabuncuoglu, I., Tiwari, M.K., 2010. *New solution methods for single machine bicriteria scheduling problem: Minimization of average flowtime and number of tardy jobs*, **European Journal of Operational Research** 201(1), 89-98.
- [P.20] †Alagoz, O., Ayer, T., **Erenay, F.S.**, 2010 *Operations research models for cancer screening*, **Encyclopedia of Operations Research and Management Science**, DOI: 10.1002/9780470400531.eorms0597: 14 Pages. [Book Chapter]

Submitted Journal Articles

- [S.1] Nemutlu, G.S.*, **Erenay, F.S.**, Ozaltin, O.Y., Papastergiou, J., Waite, N., 2021. *Optimal vaccine administration policies using multi-dose vials of different sizes*, under 3rd review (**Revise & Resubmit**) in **Production and Operations Management**.
- Runner-up, Canadian Operational Research Society (CORS) Student Paper Competition, 2017
 - 1st Place, Fraser Award for Graduate Student Research, Uni. of Waterloo, 2017
- [S.2] Hiassat, A.*, Ozaltin, O.Y., **Erenay, F.S.**, 2021. *Reliable Facility Location with Customer Preferences*, under 2nd review (**Major**) in **IIE Transactions**.
- [S.3] Zarei, J., Amin-Naseri, M.R., **Erenay, F.S.**, Elkamel, A., 2021. *Subsidized and unsubsidized price competition in a multi-echelon natural gas supply chain with governmental and private members*, under 2nd review in **Computers and Industrial Engineering**
- [S.4] Dalgic, O.O.*, Wu, H.*, **Erenay, F.S.**, Ozaltin, O.Y., Pasupathy, K., Sir, M., Crum, B.A., 2021 *Time Trajectories of Critical Events in Amyotrophic Lateral Sclerosis Progression*, under 1st review in **Journal of Biomedical Informatics**.
- [S.5] Koc, G.G., **Erenay, F.S.**, Kokangul, A., Koc, F., 2021. *Determining Significance Weights of ALSFRS-R Items Using Analytic Hierarchy Process*, under 1st review in **Neurological Research**.
- [S.6] Wu, H.*, He, Q., **Erenay, F.S.**, 2021 *Double-Sided Queues with Batch Markovian Arrival Processes and Abandonment*, to be resubmitted to **Production and Operations Management**.

Working Papers

- [IP.1] Akhundov, N.*, **Erenay, F.S.**, Elhedhli, S., 2021. *Optimal location, patient routing, and capacity decisions for endoscopy clinical network in Western Ontario: A simulation-based optimization approach*, to be submitted to **Service Science**.
- [IP.2] Nemutlu, G.S.*, **Erenay, F.S.**, Alagoz, O., Said, A., 2021. *Deriving Effective and Simpler-to-Implement Colonoscopy Screening Policies for CRC Prevention and Follow-up*, to be submitted to **European Journal of Operational Research**.
- [IP.3] Lin, R.*, Akgun, E. *, **Erenay, F.S.**, Alamur-Alev, S., Ciccotelli, W.A., 2021. *Effectiveness of surveillance via PCR and culture test for the management of MRSA among exposed roommates in Canadian hospitals*, to be submitted to **American Journal of Infection Control**.

* Supervised students; †Authors are alphabetically listed; Citation counts are from Scholar Google
⁴ #4 among 20 in Medical Informatics (SCI rankings)

- [IP.4] Wu, H. *, **Erenay, F.S.**, Ozaltin, O.Y., Dalgic, O.O., Pasupathy, K., Sir, M., Crum, B.A., 2021. *Prognostic Factors Affecting ALS Progression through ALS Tollgates*, to be submitted to **Neurology**.
- [IP.5] Rajangom, K.S. *, **Erenay, F.S.**, He, Q., Figueiredo, R., Charbonneau, F., Cheung, M., Chan, K., Horton S.E., Denburg, A., 2021. *Chemotherapy Drug Wastage and Mitigation Methods- A Systematic Review*, to be submitted to **Cancer**.
- [IP.6] Akgun, E. *, **Erenay, F.S.**, Alamur-Alev, S., 2021. *Optimal MRSA surveillance among exposed roommates in Canadian hospitals*, to be submitted to **IISE Transactions**.
- [IP.7] Xiaoxia, Y., **Erenay, F.S.**, Elkamel, A., Nathwani, J., 2021. *Selection of Decision Model for Supply Chain Enterprises under Green Eco-design*, to be submitted to **European Journal of Operational Research**.

Refereed Conference Proceedings

- [C.1] Crum, B.A., Dalgic, O.O., Wu, H. *, **Erenay, F.S.**, Ozaltin, O.Y., Pasupathy, K., Sir, M., 2021. *Time Trajectories of Critical Events in ALS Progression*, 2021 AAN Annual Meeting (Virtual), April 17-22. [Abstract + Poster]
- [C.2] Crum, B.A., **Erenay, F.S.**, Dalgic, O.O., Wu, H. *, Ozaltin, O.Y., Pasupathy, K., Sir, M., 2020. *Time Trajectory of Critical Events in ALS Progression through Data Augmentation*, 19th Annual NEALS Meeting. [Abstract + Poster]
- [C.3] Khaniev, T. *, Elhedhli, S., **Erenay, F.S.**, 2017. *Exploiting spatial separability of uncapacitated single allocation p-hub median problems*, 14th International Symposium on Locational Decisions. [3 Pages]
- [C.4] Ozaltin, O.Y., Dalgic, O.O. *, **Erenay, F.S.**, 2014. *Optimal distribution of the influenza vaccine*, Proceedings of the 2014 Winter Simulation Conference, pages 1411-1420. Citations: 1. [10 Pages]
- [C.5] **Erenay, F.S.**, Alagoz, O., Said, A., 2012. *Optimal colorectal cancer screening to balance life-year savings and costs*, Proceedings of the 34th Annual Meeting of the Society for Medical Decision Making. [Abstract + Poster]
- [C.6] **Erenay, F.S.**, Alagoz, O., Said, A., 2010. *Optimal colonoscopy screening policies for colorectal cancer prevention and surveillance*, Proceedings of the 32nd Annual Meeting of the Society for Medical Decision Making. [Abstract + Poster]
- [C.7] Said, A., **Erenay, F.S.**, Akan, M., Ata, B., Alagoz, O., 2009. *Optimizing liver allocation policy*, Proceedings of the 60th Annual Meeting of the American Association for the Study of Liver Diseases (AASLD) also published in *Hepatology*, 50(4) 647A-648A 732 Suppl. Abstract. Citations: 1. [Abstract + Poster]
- [C.8] **Erenay, F.S.**, Alagoz, O., Banerjee, R., Cima, R.R., 2008. *Simulation of secondary colorectal cancer under colonoscopy screenings*, Proceedings of the 30th Annual Meeting of the Society for Medical Decision Making. [Abstract + Poster]

Reports Prepared for Government Agencies and Other Publications

- [O.1] Wang, B., McKay, K., **Erenay, F.S.**, 2015. *Innovations, Innovating, Readiness in the Public Healthcare Supply Chain*. Report Prepared for Ontario Ministry of Health and Long Term Care.
- [O.2] Wang, B., McKay, K., **Erenay, F.S.**, 2015. *Healthcare Supply Chain Innovation Assessment*. A Set of Assessment Tools Prepared for Ontario Ministry of Health and Long Term Care.
- [O.3] **Erenay, F.S.**, 2010. *Optimal screening policy for colorectal cancer prevention and surveillance*. Ph.D. Thesis, University of Wisconsin-Madison. Citations: 2.

- [O.4] **Erenay, F.S.**, 2006. *New solution methods for single machine bicriteria scheduling problem: Minimization of average flowtime and number of tardy jobs*. M.Sc. Thesis, Bilkent University.
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INVITED TALKS & CONFERENCES

Invited Talks

1. (2018) **University of Waterloo**, School of Public Health and Health Systems, Waterloo, ON, Canada
2. (2016) **Mayo Clinic-Rochester**, Department of Healthcare Policy & Research, Rochester, MN, USA
3. (2016) **Panelist: Future of Disease Modeling in Clinical and Public Health**, INFORMS, **Healthcare Applications Society**, Nashville, TN, USA
4. (2016) **Ryerson University**, Data Science Laboratory, Department of Mechanical and Industrial Engineering, Toronto, ON, Canada
5. (2015) **University of Pittsburgh**, Joseph M. Katz Graduate School of Business, Pittsburgh, PA, USA
6. (2014) **Ozyegin University**, Department of Industrial Engineering, Istanbul, Turkey
7. (2014) **Abdullah Gul University**, Department of Industrial Engineering, Kayseri, Turkey
8. (2014) **Koc University**, Department of Operations Management, Istanbul, Turkey
9. (2014) **TOBB University of Economics and Technology**, Department of Industrial Engineering, Ankara, Turkey
10. (2012) **McMaster University**, DeGroote School of Business, Hamilton, ON, Canada
11. (2012) **University of Toronto**, UTOrg Seminar Series, Department of Mechanical and Industrial Engineering, Toronto, ON, Canada
12. (2012) **University at Buffalo**, Plenary Talk at the Research Symposium on Health and Medical Systems, Department of Industrial and Systems Engineering, Buffalo, NY, USA
13. (2011) **Cancer Care Ontario**, Pharmaco-economics Educational Rounds, Toronto, ON, Canada
14. (2010) **University of Waterloo**, Department of Management Sciences, Waterloo, ON, Canada

Conference Presentations

1. Akgun E. *, Lin, R. *, **Erenay, F.S.**, Alamur-Ates, S., Ciccotelli, W.A., (2021) An MDP model for optimizing screening policies for hospital-acquired infections applied to MRSA surveillance among the exposed roommates, CORS Virtual, Canada
2. Dagsuyu C. *, **Erenay, F.S.**, Kokangul, A., Narlı, N., (2021) Optimal planning of catheter administration sequence using MDPs in the neonatal intensive care unit, CORS Virtual, Canada
3. Rajangom K.S. *, **Erenay, F.S.**, Qi-Ming, H., Denburg, A., (2021) Stochastic modeling of drug wastage in cancer care, CORS Virtual, Canada
4. Akgun E. *, Lin, R. *, **Erenay, F.S.**, Alamur-Ates, S., Ciccotelli, W.A., (2021) An MDP model for optimizing screening policies for hospital-acquired infections applied to MRSA surveillance among the exposed roommates, CORS Virtual, Canada
5. Wu, H. *, **Erenay, F.S.**, Dalgic, O.O., Ozaltin, O.Y., Pasupathy, K., Sir, M., Crum, B.A., (2020) A decision tree-based classification approach to derive time-trajectories of critical ALS events under varying progression aggressiveness, INFORMS 2020 Virtual.
6. Akgun E. *, Lin, R. *, **Erenay, F.S.**, Alamur-Ates, S., Ciccotelli, W.A., (2019) Optimizing Screening Policies for Hospital-acquired Infections Using MDP: the Case of

- MRSA Surveillance among Exposed Roommates in Canadian Hospitals, INFORMS Seattle, WA, USA
7. Wu, H. *, Dalgic, O.O. *, **Erenay, F.S.**, Ozaltin, O.Y., Pasupathy, K., Sir, M., Crum, B.A., (2019) Capturing Natural Progression of Amyotrophic Lateral Sclerosis (ALS) Based On Static and Dynamic Risk Factors, INFORMS Seattle, WA, USA
 8. **Erenay, F.S.**, Dalgic, O.O. *, Wu, H. *, Ozaltin, O.Y., Pasupathy, K., Sir, M., Crum, B.A., (2019) Modeling Natural Progression of ALS, INFORMS Healthcare Conference Boston, MA, USA
 9. **Dalgic, O.O.***, Erenay, F.S., Ozaltin, O.Y., Pasupathy, K., Sir, M., Crum, B.A., (2018) Predicting the Risk of Critical Events in ALS Disease Using Data Analytics, INFORMS Phoenix, AZ, USA
 10. Nemutlu, G.S. *, **Erenay, F.S.**, Alagoz, (2018) Determining Effective and Practical Colonoscopy Screening and Surveillance Policies, INFORMS Phoenix, AZ, USA
 11. **Khaniyev, T.***, Elhedhli, S., Erenay, F.S., (2018) Spatial Separability in Hub Location Problems with an Application to Brain Connectivity Networks, CORS Halifax, NS, Canada
 12. Kitapli R., **Erenay, F.S.**, (2018) Chemotherapy Treatment Models Incorporating Tumor Growth and Stochastic Cancer Staging, CORS Halifax, NS, Canada
 13. **Khaniyev, T.***, Elhedhli, S., Erenay, F.S., (2017). *On the spatial separability of uncapacitated single assignment p-hub median problems*, INFORMS Houston, TX, USA
 14. Nemutlu, G.S. *, **Erenay, F.S.**, Ozaltin O.Y., White, N., Papastergiou, J., (2017). *Determining the optimal vaccine administration policies with multi-dose vials*, POMS Seattle, WA, USA
 15. **Khaniyev, T.***, Elhedhli, S., Erenay, F.S., (2017). *On the spatial separability of uncapacitated single assignment p-hub median problems*, IFORS Quebec City, QC, Canada
 16. **Hiassat, A.***, Erenay, F.S., Ozaltin O.Y., (2017). *Population-based allocation of limited CRC screening resources*, IFORS Quebec City, QC, Canada
 17. **Nemutlu, G.S.***, Erenay, F.S., Ozaltin O.Y., White, N., Papastergiou, J., (2016). *Optimal vaccine administration policies using multi-dose vials of different*, Session of CORS Student Paper Award Finalists, IFORS Quebec City, QC, Canada
 18. **Khaniyev, T.***, Elhedhli, S., Erenay, F.S., (2017). *Exploiting spatial separability of uncapacitated single allocation p-hub median problems*, ISPOR Toronto, ON, Canada
 19. **Erenay, F.S.**, (2016). *Mathematical models for cancer screening*, INFORMS Nashville, TN, USA
 20. **Dalgic, O.O.***, Erenay, F.S., Ozaltin O.Y., (2016). *Dynamic allocation of vaccine stocks for pandemic influenza mitigation*, INFORMS Nashville, TN, USA
 21. **Nemutlu, G.S.***, Erenay, F.S., Ozaltin O.Y., (2016). *Designing effective vaccine administration practices*, INFORMS Nashville, TN, USA
 22. **Khaniyev, T.***, Elhedhli, S., Erenay, F.S., (2016). *Structure detection in mixed integer programs*, INFORMS Nashville, TN, USA
 23. Dalgic, O.O. *, **Erenay, F.S.**, Ozaltin O.Y., (2016). *Deriving effective vaccine allocation strategies against pandemic influenza using a hybrid approach*, CORS Banff, AB, Canada
 24. Satir, B. *, **Erenay, F.S.**, Bookbinder, J.H., (2016). *Optimal shipment consolidation and vehicle capacity rationing for two parcel types*, CORS Banff, AB, Canada
 25. **Dalgic, O.O.***, Erenay, F.S., Ozaltin O.Y., (2015). *Optimal distribution of influenza vaccine*, CORS Montreal, QC, Canada
 26. **Hiassat, A.***, Erenay, F.S., Ozaltin O.Y., (2015). *Reliable facility location model with customer preference*, CORS Montreal, QC, Canada
 27. **Nemutlu, G.S.***, Erenay, F.S., Ozaltin O.Y., (2015). *Determining the optimal vaccine administration policies with multi-dose vials*, CORS Montreal, QC, Canada

28. **Dalgic, O.O.***, Erenay, F.S., Ozaltin O.Y., (2015). *Deriving better strategies for influenza vaccines allocation*, INFORMS Philadelphia, PA, USA
29. **Hiassat, A.***, Erenay, F.S., Ozaltin O.Y., (2015). *Reliable facility location model for disaster response*, INFORMS Philadelphia, PA, USA
30. **Erenay, F.S.**, Alagoz, O., Banerjee, R., Said, A., Cima, R.R., (2015). *Cost-effectiveness of alternative colonoscopy surveillance policies to mitigate risk of metachronous colorectal cancer*, POMS Washington, DC, USA
31. **Erenay, F.S.**, Alagoz, O., Banerjee, R., Cima, R.R., (2014). *Colonoscopy surveillance for metachronous colorectal cancer prevention and early detection*, INFORMS San Francisco, CA, USA
32. **Erenay, F.S.**, Alagoz, O., Banerjee, R., (2014). *A cost-utility analysis for colonoscopy surveillance after the initial colorectal cancer treatment*, CORS Ottawa, ON, Canada
33. **Erenay, F.S.**, Alagoz, O., Said, A., (2014). *Deriving Pareto-efficient colorectal cancer screening policies*, ISERC Montreal, QB, Canada
34. **Erenay, F.S.**, Alagoz, O., Said, A., (2012). *Optimal colorectal cancer screening: Balancing harms and benefits*, INFORMS Phoenix, AZ, USA
35. Satir, B.* , **Erenay, F.S.**, Bookbinder, J.H., (2012) *Customer order rationing in shipment consolidation*, INFORMS Phoenix, AZ, USA, USA
36. **Erenay, F.S.**, Alagoz, O., Said, A., (2012). *Considering resource consumption in improving colonoscopy screening protocols*, CORS Niagara Falls, ON, Canada
37. **Erenay, F.S.**, Alagoz, O., Said, A., (2011). *Optimizing colonoscopy screening for colorectal cancer prevention and surveillance*, Session of Pierskalla Award Finalists, INFORMS Charlotte, NC, USA
38. **Erenay, F.S.**, Alagoz, O., Said, A., (2011). *Optimizing colonoscopy screening policies considering associated costs*, INFORMS Charlotte, NC, USA
39. **Erenay, F.S.**, Alagoz, O., Said, A., (2010). *Optimize colorectal cancer screening decisions*, INFORMS Austin, TX, USA
40. **Erenay, F.S.**, Akan, M., Alagoz, O., Ata, B., Said, A., (2009). *A broader view of designing liver allocation system*, INFORMS San Diego, CA, USA
41. **Erenay, F.S.**, Alagoz, O., Said, A., (2009). *Optimizing colonoscopy screening for colorectal cancer prevention & surveillance using a POMDP model*, INFORMS San Diego, CA, USA
42. **Erenay, F.S.**, Alagoz, O., Banerjee, R., Cima, R.R., (2008). *Using simulation to evaluate colonoscopy screening protocols for secondary CRC prevention*, INFORMS Washington, DC, USA
43. **Erenay, F.S.**, Alagoz, O., Banerjee, R., (2008). *Optimizing colorectal cancer screening policy*, INFORMS Washington, DC, USA
44. **Erenay, F.S.**, Akan, M., Alagoz, O., Ata, B., (2008). *A dynamic index policy for liver allocation system*, INFORMS Washington, DC, USA
45. **Erenay, F.S.**, Toptal, A., Sabuncuoglu, I., Tiwari, M.K., (2007). *New solution methods for single machine bicriteria scheduling problem: Minimization of average flowtime and number of tardy jobs*, INFORMS Seattle, WA, USA
46. **Erenay, F.S.**, Akan, M., Alagoz, O., Ata, B., (2007). *Optimizing liver allocation system incorporating patient choices and disease evolution*, INFORMS Seattle, WA, USA

RESEARCH FUNDS

Start-up Grant, 2011 (Received)

- PI: **F.S. Erenay**
- Faculty of Engineering, University of Waterloo
- Total Grant Amount: \$ 45,000

- Grant Share: 100%

NSERC Discovery, 2012-2018 (Received)

Novel mathematical models for optimal screening and multicriteria scheduling problems

- PI: **F.S. Erenay**
- Natural Sciences and Engineering Research Council of Canada
- Total Grant Amount: \$ 115,000
- Grant Share: 100%

NSERC Discovery, 2017-2018 (Received)

Novel mathematical models for optimal screening and multicriteria scheduling problems [One-year Extension with Payment]

- PI: **F.S. Erenay**
- Natural Sciences and Engineering Research Council of Canada
- Total Grant Amount: \$ 23,000
- Grant Share: 100%

Mayo Clinic-Rochester, Travel Funding from Department of Neurology, 2017-2018 (Received)

- Total Grant Amount: \$ 9,000
- Grant Share: 100%

NSERC Discovery, 2018-2023 (Received)

Data driven stochastic dynamic programming approaches for optimal planning of disease screening and chronic disorder management

- PI: **F.S. Erenay**
- Natural Sciences and Engineering Research Council of Canada
- Total Grant Amount: \$ 155,000
- Grant Share: 100%

GRADUATE STUDENTS

Graduated Students

- 1. Gizem Nemetlu (Ph.D.)**
 - Assistant Professor Brandeis University, USA as a Faculty Member.
 - Had Post-doctoral Studies at Harvard Medical School.
- 2. Ozden Onur Dalgic (Ph.D., Co-supervised with Dr. Ozaltin)**
 - Associate Director of Health Economic Modeling Value Analytics Labs, Boston-USA
 - Had Post-doctoral Studies at Harvard Medical School.
- 3. Abdelhalim Hiassat (Ph.D., Co-supervised with Dr. Ozaltin)**
 - Senior Consultant; Deloitte Canada
 - Instructor at University of Waterloo
- 4. Taghi Khaniyev (Ph.D., Co-supervised with Dr. Elhedhli)**
 - Post-doctoral Fellow, Massachusetts Institute of Technology
 - Accepted an Assistant Professor position in Bilkent University, Ankara-Turkey
- 5. Mustafa Demirbilek (M.Sc.)**
 - Assistant Prof., Bozok University, Turkey
- 6. Ru Lin (M.Sc.)**
 - Partner & Chief Sales Manager in Beijing Nanwei Medical Technology Co.
- 7. Bahareh Eghtesadi (M.Sc., Co-supervised with Dr. Ozaltin)**
 - Senior Data Scientist, Capital One

8. **Najmaddin Akhundov** (M.Sc., Co-supervised with Dr. Elhedhli and Dr. Ponnambalam)
 - Lecturer, Baku Engineering University-Azerbaijan (2015-2017)
 - Ph.D. Student, University of Tennessee, Knoxville

Current Students

1. **Remziye Kitapli** (PhD Candidate)
2. **Haoran Wu** (Ph.D. Candidate, Co-supervised with Dr. He)
 - Accepted an Assistant Professor position in Sun Yat-sen University, China
3. **Esma Akgun** (Ph.D. Candidate, Co-supervised with Dr. Alamur-Ates)
4. **Krishna Sabareesh Rajangom** (Ph.D. Candidate, Co-supervised with Dr. He)
5. **Vincent Magas** (M.Sc.)
6. **Alexandra Michaelides** (M.Sc.)

Post-docs and Visiting Scholars

1. **Cansu Dagsuyu**, Ph.D. (2019-Present)
 - Assistant Professor, Adana Alparslan Turkes Science ve Teknology University, Adana-Turkey
2. **Fatih Yegul**, Ph.D. (2016-2017)
 - Instructor, Conestoga College, School of Business
3. **Benhur Satir**, PhD (Summer 2011, 2015-2016)
 - Assistant Professor, Cankaya University, Ankara-Turkey

Attended Ph.D. Thesis Examination Committees

1. Enrique Vera: Electrical and Computer Engineering, 2020- Present
2. Paulo De Carvalho: Management Sciences, 2020- Present
3. Omer Burak Kinay: Management Sciences, 2019- Present
4. Zeynep Bulbul: Management Sciences, 2019- Present
5. Fahimeh Rahimi: Management Sciences, 2019- Present
6. Muhamad Fariz Failaka: Chemical Engineering, 2018-Present
7. Kouros Malek: Management Sciences, 2018-2019
8. Farooq A. Al-Sheikh: Chemical Engineering, 2016-2018
9. Burak Guler: Management Sciences, 2018-2018
10. Abbas Attarwala: Management Sciences, 2018-2021
11. Yusuf Ali Yusuf: Chemical Engineering, 2017-Present
12. Seyedehmina Rafieishishavan: Chemical Engineering, 2017-2020
13. Farooq Al-Sheikh: Chemical Engineering, 2016-2018
14. Kamal Al Rafea: Chemical Engineering, 2016
15. Ata Ghareh: Management Sciences, 2014-16
16. Ahmed Saif: Management Sciences, 2014-15
17. Biao Wang: Management Sciences, 2013-15
18. Abdulaziz Alarifi: Chemical Engineering, 2012-15
19. Saad Alsobhi: Chemical Engineering, 2012-15

Attended Master's Thesis Examination Committees

1. Hsiu-Chuan Chang, Management Sciences 2019
2. Shahroz Saleem Punjwani, Management Sciences 2018
3. Danielle Ripsman: Management Sciences, 2018
4. Saravanan Natarajan: Management Sciences, 2018
5. Mohammad A. Alzaem: Management Sciences, 2018
6. Haoran Wu: Management Sciences, 2017
7. Daren Zhou: Management Sciences, 2017

8. Y-Feng Yan: Management Sciences, 2015
9. Xu Sun: Management Sciences, 2014
10. Tarek Abdullah: Management Sciences, 2013
11. Lin Tang: Management Sciences, 2013
12. Amanda Cha: Management Sciences, 2012
13. Mahsa Shateri: Management Sciences, 2011

PROFESSIONAL SERVICES

- **Services for University of Waterloo:**
 - Member of MSCI Department, Department Advisory Committee on Appointments (2018-2020)
 - Member of MSCI Department Chair Nomination Committee (2017-2018)
 - Member of Department Undergraduate Studies Committee (2012-Present)
 - Faculty Supervisor for Waterloo IIE (Institute of Industrial Engineering) Student Chapter (2012-2020)
 - Engineering Faculty Award Committee (2011-2012)
 - Member of Strategic Committee for Bio-Engineering (2011)
 - Vision 2015 Research Planning Committee (2011)
- **Conference Organizations:** Faculty Conference Chair for 2016 National IIE Student Conference, Waterloo-ON, Canada
- **Reviewer for Grant Proposals:** NSERC (The Natural Sciences and Engineering Research Council of Canada) Discovery Grant, NSERC Idea to Innovation Grant, Mitacs Accelerate Grant, CIHR (The Canadian Institutes of Health Research) Collaborative Health Research Projects
- **Reviewer for Competitions:** Informs Healthcare Session Best Paper Award 2013 & 2015; IIE National Student Conference & Competitions (Montreal) 2013; CORS Student Paper Awards 2012, 2013, 2016-2018
- **Reviewer for Journals and Conferences:** Management Science, Operations Research, Manufacturing & Service Operations Management, Production and Operations Management, IIE Transactions, INFORMS Journal on Computing, Omega, Annals of Operations Research, Medical Decision Making, Healthcare Management Science, Journal of Operation Society, Service Science, IIE Transactions on Healthcare Systems Engineering, INFOR, Journal of Enterprise Transformation, Socio-Economic Planning Sciences, TOP, European Journal of Industrial Engineering, Winter Simulation Conference.
- **Session Chair:** INFORMS 2007, 2011, 2014, 2015, 2018; INFORMS Healthcare Conference 2011& 2013; CORS 2012 & 2016
- **Professional Memberships:** INFORMS Decision Analysis Society, INFORMS Health Applications Section, INFORMS Service Science Section, Society for Medical Decision Making, Institute of Industrial Engineering, and Canadian Operational Research Society

TEACHING EXPERIENCE

Instructor, 2011-Present

Department of Management Sciences, University of Waterloo, ON-Canada

- (MSCI 609) Quantitative Data Analysis (Winter 2013; Grad. Level)
- (MSCI 531) Stochastic Processes and Decisions (Spring 2011-15, 2017-2020; Grad + Undergrad Level)

- (MSCI 452) Decision Making Under Uncertainty (Spring 2013-15, 2017-2020; Undergrad Level)
- (MSCI 431) Stochastic Models and Methods (Winter 2012-2013, 2015-2020; Undergrad Level)
- (MSCI 331) Introduction to Optimization (Spring 2012; Undergrad Level)

Teaching Assistant, 2006

Department of Industrial & Systems Engineering, University of Wisconsin-Madison, WI-USA

- (ISYE 313) Engineering Economic Analysis (Fall 2006; Undergrad Level)

Teaching Assistant, 2004-2006

Department of Industrial Engineering, Bilkent University, Ankara-Turkey

- (IE 271) Operations Analysis and Design (Fall 2004; Undergrad Level)
- (IE 342) Simulation (Spring 2005; Undergrad Level)
- (IE 342) Engineering Economic Analysis (Fall 2005; Undergrad Level)
- (IE 342) Simulation (Spring 2006; Undergrad Level)

INDUSTRY COLLABORATIONS

Mayo Clinic, Rochester-MN

- Department of Health Sciences Research
- Department of Neurology
- Department of Gastroenterology and Hepatology

William S. Middleton Memorial Veterans Hospital, Madison-WI

- Division of Gastroenterology and Hepatology

Grant River Hospital, Kitchener-ON

- Infectious Diseases and Medical Microbiology

The Hospital for Sick Children

- Hematology/Oncology
- Child Health Evaluative Sciences

Ontario Ministry of Health, Toronto-ON
