

Yasin Gocgun

Altınbaş Üniversitesi Mühendislik ve Doğa Bilimleri Fakültesi
Mahmutbey Yerleşkesi Dilmenler Cad. No:26
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ACADEMIC APPOINTMENT

Assistant Professor, September 2014-present

Department of Industrial Engineering, Altinbas University (Its former name: Istanbul Kemerburgaz University), Istanbul, TURKEY

Post-doctoral Fellow, September 2012-July 2014

Centre for Maintenance Optimization and Reliability Engineering,
Department of Mechanical and Industrial Engineering, University of Toronto, ON, Canada

Post-doctoral Fellow, October 2010-June 2012

Operations and Logistics Division, Sauder School of Business,
University of British Columbia, Vancouver, BC, Canada

EDUCATION

Ph.D. in Industrial Engineering, 2005-2010

Department of Industrial and Systems Engineering, University of Washington, Seattle, WA

- *Dissertation Title:* Approximate Dynamic Programming for Dynamic Stochastic Resource Allocation with Applications to Healthcare
- *Advisor:* Assoc. Prof. Archis Ghate

M.S. in Industrial Engineering, March 2007

Department of Industrial and Systems Engineering, University of Washington, Seattle, WA

M.S. in Industrial Engineering, July 2005

Department of Industrial Engineering, Bilkent University, Ankara, TURKEY

- *Thesis Title:* Beam Search Algorithms for the Mixed Model Assembly Line Sequencing Problem
- *Thesis Advisor:* Prof. Ihsan Sabuncuoglu

B.S. in Industrial Engineering, June 2003

Department of Industrial Engineering, Bilkent University, Ankara, TURKEY

- Full scholarship awarded by Bilkent University

- High Honor Graduate Student

RESEARCH INTERESTS

Stochastic dynamic optimization, Operations Research in healthcare, Markov Decision Processes, Approximate Dynamic Programming, scheduling, simulation

REFEREED JOURNAL ARTICLES

1. Gocgun, Y., Dynamic Scheduling with Cancellations: An Application to Chemotherapy Appointment Booking, *An International Journal of Optimization and Control: Theory and Applications*, to appear.
2. Parizi, M. S., Gocgun, Y., Ghate, A., Approximate Policy Iteration for dynamic resource-constrained project scheduling, *Operations Research Letters*, 45: 442-447, 2017.
3. Gocgun, Y., Simulation-based Approximate Policy Iteration for Dynamic Patient Scheduling for Radiation Therapy, *Healthcare Management Science*, 2016. doi:10.1007/s10729-016-9388-9.
4. Gocgun, Y., Banjevic, D., Taghipour, S., Montgomery, N., Harvey, B. J., Jardine, A. K. S., Miller, A. B., Cost-effectiveness of Breast Cancer Screening Policies using Simulation, *The Breast*, 24,4: 440-448, 2015.
5. Shechter, S. M., Ghassemi, F., Gocgun, Y., Puterman, M. L., Technical Note-Trading off Quick versus Slow Actions in Optimal Search, *Operations Research*, 63,2:353-362, 2015.
6. Gocgun, Y., Puterman, L. M., Dynamic Scheduling with Due Dates and Time Windows: An Application to Chemotherapy Patient Appointment Booking, *Healthcare Management Science*, 17,1: 60-76, 2014.
7. Gocgun, Y., Ghate, A., Lagrangian Relaxation and Constraint Generation for Allocation and Advanced Scheduling, *Computers and Operations Research*, 39: 2323-2336, 2012.
8. Gocgun, Y., Bresnahan, B., Ghate, A., Gunn, M., A Markov Decision Process Approach to Multi-category Patient Scheduling in a Diagnostic Facility, *Artificial Intelligence In Medicine*, 53: 73-81, 2011.
9. Sabuncuoglu, I., Gocgun, Y., Erel, E., Backtracking and Exchange of Information: Methods to Enhance a Beam Search Algorithm for Assembly Line Scheduling, *European Journal of Operational Research*, 186,3: 915-930, 2008.

10. Erel, E., Gocgun, Y., Sabuncuoglu, I., Mixed Model Assembly Line Sequencing using Beam Search, *International Journal of Production Research*, 45, 22: 5265-5284, 2007.
11. Sabuncuoglu, I., Erel, E., Gocgun, Y., Analysis of Serial Production Lines: Characterization Study and A New Heuristic Procedure for Optimal Buffer Allocation, *International Journal of Production Research*, 44, 13: 2499-2523, 2006.

REFEREED CONFERENCE PROCEEDINGS

Gocgun, Y., Ghatge, A. A Lagrangian Approach to Dynamic Resource Allocation, *Proceedings of the 2010 Winter Simulation Conference*, Baltimore, Maryland, December 5-8, 2010.

ARTICLES SUBMITTED

- Gocgun, Y., Dynamic scheduling with cancellations: an application to chemotherapy appointment booking (*under second review*).
- Gocgun, Y., Approximate Dynamic Programming for Optimal Search with an Obstacle (*under first review*).

WORKING PAPERS

Gocgun, Y., Simulation-based Approximate Dynamic Programming for Dynamic Scheduling with Cancellations

CONFERENCE PRESENTATIONS

- Gocgun, Y., Dynamic scheduling with cancellations: an application to chemotherapy appointment booking, *Yoneylem Arastirmasi ve Endustri Muhendisligi (YAEM)*, Istanbul, Turkey, 2017.
- Gocgun, Y., Parizi, M., Ghatge, A., Simulation-based Approximate Dynamic Programming for Stochastic Resource-constrained Project Scheduling, *INFORMS Annual Meeting*, Philadelphia, PA, November 1-4, 2015.
- Taghipour, S., Gocgun, Y., Banjevic, D., Montgomery, N., Miller, A., Harvey, B., Jardine, A., A Health Economic Analysis of Breast Cancer Screening Policies Using Simulation, *IIE Annual Conference*, Nashville, TN, May 30-June 2, 2015.

- Gocgun, Y., Banjevic, D., Taghipour, S., Montgomery, N., Miller, A., Harvey, B., Jardine, A., Hoch, J., Cost-effectiveness Analysis of Breast Cancer Screening Policies for The Canadian Population, *INFORMS Annual Meeting*, Minneapolis, MN, October 8, 2013
- Gocgun, Y., Puterman, M. L., Dynamic Patient Scheduling for Chemotherapy, *INFORMS Annual Meeting*, Phoenix, AZ, October 14-17, 2012 (*invited*).
- Gocgun, Y., Shechter, S. M., Approximate Dynamic Programming in Optimal Search with Application to Minimally Invasive Surgery, *INFORMS Annual Meeting*, Charlotte NC, November 13-16, 2011 (*invited*).
- Ghate, A., Gocgun, Y., A Lagrangian Approach to Dynamic Resource Allocation, *Proceedings of the 2010 Winter Simulation Conference*, Baltimore, Maryland, December 5-8, 2010.
- Gocgun, Y., Ghate, A., Approximate Dynamic Programming for Advanced Scheduling in Healthcare, Canadian Mathematical Society, Vancouver BC, December 4-6 2010 (*invited*).
- Gocgun, Y., Ghate, A., Hybrid Lagrangian Relaxation-Column Generation for Advanced Scheduling in Healthcare, *INFORMS Annual Meeting*, Austin TX, November 7-10, 2010 (*invited*).
- Gocgun, Y., Ghate, A., Weakly Coupled MDP Models for Allocation Scheduling in Healthcare, *INFORMS Annual Meeting*, Austin TX, November 7-10, 2010.
- Gunn, M., Gocgun, Y., Bresnahan, B., Beauchamp, N. J., Ghate, A., An Operations Research Approach to Multicategory Patient Scheduling for Computed Tomography, RSNA 2009, Chicago IL, November 29-December 4, 2009.
- Gocgun, Y., Ghate, A., Approximate Dynamic Programming for Dynamic Stochastic Project Scheduling, *INFORMS Annual Meeting*, San Diego CA, October 11-14, 2009.
- Gocgun, Y., Ghate, A., Multiclass Scheduling Problems with Applications to Healthcare, *IIE Annual Conference*, Miami FL, May 30-June 3, 2009.
- Gocgun, Y., Ghate, A., Dynamic Programming Approach to Multiclass Scheduling Problems, *INFORMS Annual Meeting*, Washington D.C., October 12-15, 2008.

INVITED SEMINARS

- Institute for Health Metrics and Evaluation, University of Washington, Seattle, WA, April 2010

- Department of Industrial Engineering, Istanbul Sehir University, Istanbul, Turkey, January 2011
- Department of Radiation Oncology, University of Maryland, Baltimore, MD, June 2012
- Operations Research Group, University of Toronto, Toronto, ON, October 2012
- Graduate School of Natural and Applied Sciences, Istanbul Sehir University, Istanbul, Turkey, November 2015
- Department of Industrial Engineering, Abdullah Gul University, Kayseri, Turkey, January 2016

COURSES TAUGHT

Instructor, Department of Industrial Engineering, Altinbas University, Istanbul, Turkey

- Quality Assurance and Reliability (Undergraduate) (Spring 2015, Spring 2016, Spring 2017, Spring 2018)
- Production Systems Management (Undergraduate) (Spring 2015, Spring 2016, Spring 2017, Spring 2018)
- Integer and Dynamic Programming (Undergraduate) (Fall 2017)
- Scheduling (Undergraduate) (Fall 2015, Spring 2017)
- Operations Analysis and Design (Undergraduate) (Fall 2014, Fall 2015, Fall 2016, Fall 2017)
- Operations Research Modeling Applications (Undergraduate) (Fall 2014, Fall 2016)
- Operations Research 2 (Undergraduate) (Spring 2018)

Teaching Assistant, Department of Industrial and Systems Engineering, University of Washington, Seattle, WA

- Stochastic Models and Decision Analysis (Undergraduate) (Winter 2006, 2007, and 2008)
- Integer and Dynamic Programming (Undergraduate) (Spring 2007)
- Simulation (Winter 2007) (Undergraduate)
- Quality Control in Manufacturing (Autumn 2007) (Graduate)
- Statistical Quality Control (Spring 2006) (Undergraduate)
- Linear and Network Programming (Autumn 2005) (Undergraduate)

FUNDED RESEARCH PROJECTS

- Gocgun, Y., (Principal Investigator), “Approximate Dynamic Programming for Dynamic Scheduling with Cancellations”, funded by **Altinbas University**, (Jan. 2018-Dec. 2018)
- Gocgun, Y., (Principal Investigator), “Approximate Dynamic Programming for Dynamic Stochastic Resource-constrained Scheduling”, funded by **Altinbas University**, (Jan. 2015-Dec. 2015)
- Banjevic, D., Gocgun, Y. (Researcher), Taghipour, S., Montgomery, N., Jardine, A., Harvey, B., Miller, A. B., “*Cost-effectiveness of Breast Cancer Screening Policies*”, funded by **Natural Sciences and Engineering Research Council of Canada** (Sep. 2012-July 2014).
- Puterman, M., Gocgun, Y. (Researcher), “*Dynamic Scheduling with Due Dates and Time Windows*”, funded by **University of British Columbia** (Sep. 2011-June 2012).
- Shechter, S., Gocgun, Y. (Researcher), “*Trading off quick versus slow actions in optimal search*”, funded by **University of British Columbia** (Oct. 2010-August 2011).
- Ghate, A., Gocgun, Y. (Researcher), Gunn, M., Bresnahan, B., “*Multi-category Patient Scheduling in a Diagnostic Facility*”, funded by **University of Washington** (June 2007 – May 2010).

STUDENT ADVISING

- *Undergraduate Senior Design Projects*
 - “Time-dependent Vehicle Routing”, by Ersel Sevimli, Fatih Kuru, Cagla Pinarbasi, Almila Selis Rizeli, Bourak Tzaner, 2017-2018 (principal advisor)
 - “Waste Collection Vehicle Routing Problem at Bagcilar Municipality”, by Ayse Yalcinkaya, Berceem Uzun, Hande Aydogdu, Zeynep Yilmaz, 2016-2017 (principal advisor)
 - “Warehouse Picking Operations Design”, by Elif Caner, Harika Bas, Humeyra Alir, Ibrahim Hacioglu, 2015-2016 (principal advisor).
 - “Determination of Weekly Match Schedules”, by Serife Karakus, Aykut Balikci, Fatih Ozbozkurt, Sevda Kasap, 2015-2016 (academic advisor).
- Philip Mah, Master’s student in Sauder School of Business at the University of British Columbia, March 2011-October 2011
 - Computational work on Approximate Dynamic Programming for Optimal Search

HONORS AND AWARDS

- Graduated with high-honor degrees from Bilkent University and the University of Washington (2003 and 2010, respectively)
- Full tuition waiver and merit-based monthly stipend throughout graduate study at the University of Washington (2005-2010)
- University of Washington's Global Integrated Systems Engineering (GISE) Program Certificate (August 2006)
 - Was involved in a team design project that requires the use of multiple disciplines to investigate the feasibility and profitability of a proposal for a fictitious company
- Full tuition waiver and merit-based monthly stipend throughout graduate study at Bilkent University (2003-2005)
- Ranked 340th among 1.5 million people at the national university examination of Turkey (1999)

PROFESSIONAL SERVICE

- *Internship coordinator*, Department of Industrial Engineering, Altinbas University (2015-present).
- *Editorial Board Member*, Journal of Clinical Breast Cancer Research (2017-present)
- *Editorial Board Member*, Journal of Internal Medicine and Patient Care (2017-present)
- Referee for *European Journal of Operational Research*, *Artificial Intelligence In Medicine*, *International Journal of Production Research*, *OMEGA*, *Information Systems and Operational Research*, *Health Systems*.
- *Officer*, INFORMS Pacific Northwest Chapter, September 2011-June 2012.
- *Senior Member*, Alpha Pi Mu (Industrial Engineering Honor Society), September 2008-September 2009.