

Prof. SİNAN GÜREL

Personal Information

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Education Information

Doctorate, İhsan Doğramacı Bilkent Üniversitesi, Mühendislik Ve Fen Bilimleri Enstitüsü, Endüstri Mühendisliği (Dr), Turkey 2003 - 2008

Post Graduate, İhsan Doğramacı Bilkent Üniversitesi, Mühendislik Ve Fen Bilimleri Enstitüsü, Endüstri Mühendisliği (YI) (Tezli), Turkey 2001 - 2003

Under Graduate, İhsan Doğramacı Bilkent Üniversitesi, Mühendislik Fakültesi, Endüstri Mühendisliği Bölümü, Turkey 1995 - 1999

Research Areas

Industrial Engineering , Optimization Theory and Methods, Integer and Mixed Integer Programming, Production Planning and Control, Scheduling, Engineering and Technology

Academic Titles / Tasks

Professor, Middle East Technical University, Faculty of Engineering, Department of Industrial Engineering, 2018 - Continues

Associate Professor, Middle East Technical University, Faculty of Engineering, Department of Industrial Engineering, 2014 - 2018

Assistant Professor, Middle East Technical University, Faculty of Engineering, Department of Industrial Engineering, 2009 - 2014

Professional Experience

Assistant Director of the Institute, Middle East Technical University, Graduate School of Natural and Applied Sciences, 2014 - 2018

Advising Theses

GÜREL S., Exact decomposition algorithms for nonlinear location and hub location problems, Doctorate, E.GÜNDOĞDU(Student), 2018

GÜREL S., Energy conscious scheduling in a two-machine robotic cell, Post Graduate, V.EGHBAL(Student), 2017

GÜREL S., Public R&D project portfolio selection problems under expenditure uncertainty and sectoral budget balancing, Doctorate, M.ÇAĞLAR(Student), 2016

GÜREL S., Chance constrained schedule design for heterogeneous fleet in liner shipping service, Post Graduate,

A.SHADMAND(Student), 2015

GÜREL S., An integrated approach for robust airline scheduling aircraft fleet and routing with cruise speed control, Post Graduate, H.GÜRKAN(Student), 2014

GÜREL S., Airline disruption management, Doctorate, U.ARIKAN(Student), 2014

SÜRAL H., GÜREL S., The Air cargo scheduling problem with heterogenous fleet, Post Graduate, Y.Durdak(Student), 2013

GÜREL S., Fleet type assignment and robust airline scheduling with chance constraints under environmental emission considerations, Post Graduate, Ö.ŞAFAK(Student), 2013

GÜREL S., A Mixed integer second order cone programming reformulation for a congested location and capacity allocation problem on a supply chain network, Post Graduate, M.Salimian(Student), 2013

GÜREL S., Local search heuristics for pollution-routing problem with multiple vehicle types and deadlines, Post Graduate, O.CAN(Student), 2013

GÜREL S., SÜRAL H., Heat exchanger network synthesis with detailed design: Reformulation as a shortest path problem by temperature discretization, Post Graduate, I.KİRKİZOĞLU(Student), 2012

GÜREL S., Robust airline scheduling with controllable cruise times and chance constraints, Post Graduate, A.SERASU(Student), 2012

GÜREL S., A rescheduling problem with controllable processing times: Trade-off between number of disrupted jobs and rescheduling costs, Post Graduate, D.CİNCİOĞLU(Student), 2011

GÜREL S., Inter- auction transport optimization in floriculture industry, Post Graduate, Z.ÖZLEM(Student), 2011

Articles Published in Journals That Entered SCI, SSCI and AHCI Indexes

- I. **A heterogeneous fleet liner ship scheduling problem with port time uncertainty**
GÜREL S., Shadmand A.
CENTRAL EUROPEAN JOURNAL OF OPERATIONS RESEARCH, vol.27, no.4, pp.1153-1175, 2019 (Journal Indexed in SCI)
- II. **Energy conscious scheduling of a material handling robot in a manufacturing cell**
GÜREL S., Gultekin H., Akhlaghi V. E.
ROBOTICS AND COMPUTER-INTEGRATED MANUFACTURING, vol.58, pp.97-108, 2019 (Journal Indexed in SCI)
- III. **Impact assessment based sectoral balancing in public R&D project portfolio selection**
Caglar M., GÜREL S.
SOCIO-ECONOMIC PLANNING SCIENCES, vol.66, pp.68-81, 2019 (Journal Indexed in SCI)
- IV. **Flight Network-Based Approach for Integrated Airline Recovery with Cruise Speed Control**
ARIKAN U., GÜREL S., Akturk M. S.
TRANSPORTATION SCIENCE, vol.51, no.4, pp.1259-1287, 2017 (Journal Indexed in SCI)
- V. **Integrated aircraft-path assignment and robust schedule design with cruise speed control**
Safak O., GÜREL S., Akturk M. S.
COMPUTERS & OPERATIONS RESEARCH, vol.84, pp.127-145, 2017 (Journal Indexed in SCI)
- VI. **Public R&D project portfolio selection problem with cancellations**
ÇAĞLAR M., GÜREL S.
OR SPECTRUM, vol.39, no.3, pp.659-687, 2017 (Journal Indexed in SCI)
- VII. **Using cost change estimates in a local search heuristic for the pollution routing problem**
SAKA O. C. , GÜREL S., Van Woensel T.
OR SPECTRUM, vol.39, no.2, pp.557-587, 2017 (Journal Indexed in SCI)
- VIII. **An integrated approach for airline scheduling, aircraft fleet and routing with cruise speed control**
Gurkan H., GÜREL S., Akturk M. S.
TRANSPORTATION RESEARCH PART C-EMERGING TECHNOLOGIES, vol.68, pp.38-57, 2016 (Journal Indexed in SCI)
- IX. **Integrated aircraft and passenger recovery with cruise time controllability**
Arikan U., GÜREL S., Akturk M. S.
ANNALS OF OPERATIONS RESEARCH, vol.236, no.2, pp.295-317, 2016 (Journal Indexed in SCI)

- X. **The congested multicommodity network design problem**
Paraskevopoulos D. C. , Guerel S., Bektas T.
TRANSPORTATION RESEARCH PART E-LOGISTICS AND TRANSPORTATION REVIEW, vol.85, pp.166-187, 2016
(Journal Indexed in SCI)
- XI. **Rescheduling with controllable processing times for number of disrupted jobs and manufacturing cost objectives**
GÜREL S., Cincioglu D.
INTERNATIONAL JOURNAL OF PRODUCTION RESEARCH, vol.53, no.9, pp.2751-2770, 2015 (Journal Indexed in SCI)
- XII. **Robust Airline Scheduling with Controllable Cruise Times and Chance Constraints**
Duran A. S. , GÜREL S., Akturk M. S.
IIE TRANSACTIONS, vol.47, no.1, pp.64-83, 2015 (Journal Indexed in SCI)
- XIII. **Aircraft Rescheduling with Cruise Speed Control**
Akturk M. S. , ATAMTÜRK A., GÜREL S.
OPERATIONS RESEARCH, vol.62, no.4, pp.829-845, 2014 (Journal Indexed in SCI)
- XIV. **Efficiency analysis of load balancing games with and without activation costs**
Chen B., Gurel S.
JOURNAL OF SCHEDULING, vol.15, no.2, pp.157-164, 2012 (Journal Indexed in SCI)
- XV. **A conic quadratic formulation for a class of convex congestion functions in network flow problems**
Gurel S.
EUROPEAN JOURNAL OF OPERATIONAL RESEARCH, vol.211, no.2, pp.252-262, 2011 (Journal Indexed in SCI)
- XVI. **An anticipative scheduling approach with controllable processing times**
Gurel S., Korpeoglu E., Akturk M. S.
COMPUTERS & OPERATIONS RESEARCH, vol.37, no.6, pp.1002-1013, 2010 (Journal Indexed in SCI)
- XVII. **Parallel machine match-up scheduling with manufacturing cost considerations**
Akturk M. S. , Atamturk A., Gurel S.
JOURNAL OF SCHEDULING, vol.13, no.1, pp.95-110, 2010 (Journal Indexed in SCI)
- XVIII. **A strong conic quadratic reformulation for machine-job assignment with controllable processing times**
Akturk M. S. , Atamturk A., Gurel S.
OPERATIONS RESEARCH LETTERS, vol.37, no.3, pp.187-191, 2009 (Journal Indexed in SCI)
- XIX. **Scheduling preventive maintenance on a single CNC machine**
Gurel S., Akturk M. S.
INTERNATIONAL JOURNAL OF PRODUCTION RESEARCH, vol.46, no.24, pp.6797-6821, 2008 (Journal Indexed in SCI)
- XX. **Optimal allocation and processing time decisions on non-identical parallel CNC machines: epsilon-constraint approach**
Gurel S., Akturk M. S.
EUROPEAN JOURNAL OF OPERATIONAL RESEARCH, vol.183, no.2, pp.591-607, 2007 (Journal Indexed in SCI)
- XXI. **Scheduling parallel CNC machines with time/cost trade-off considerations**
Gurel S., Akturk M. S.
COMPUTERS & OPERATIONS RESEARCH, vol.34, no.9, pp.2774-2789, 2007 (Journal Indexed in SCI)
- XXII. **Considering manufacturing cost and scheduling performance on a CNC turning machine**
Gurel S., Akturk M. S.
EUROPEAN JOURNAL OF OPERATIONAL RESEARCH, vol.177, no.1, pp.325-343, 2007 (Journal Indexed in SCI)
- XXIII. **Machining conditions-based preventive maintenance**
Akturk M. S. , Gurel S.
INTERNATIONAL JOURNAL OF PRODUCTION RESEARCH, vol.45, no.8, pp.1725-1743, 2007 (Journal Indexed in SCI)

Refereed Congress / Symposium Publications in Proceedings

- I. **Robotic Cell Scheduling Considering Energy Consumption of Robot**
GÜLTEKİN H., GÜREL S., AKHLAGHİ v. e.
MISTA 2017 Multidisciplinary International Scheduling Conference, Kuala-Lumpur, Malaysia, 5 - 08 December 2017
- II. **Impact Assessment Based Sectoral Balancing in Public RD Project Portfolio Selection Problem**
GÜREL S., Musa Ç.
OR2017 - INTERNATIONAL CONFERENCE ON OPERATIONS RESEARCH, Berlin, Germany, 6 - 08 September 2017
- III. **Integer L-shaped algorithm and MISOCP for nonlinear network design problem**
GÜNDOĞDU E., GÜREL S.
21st Conference of the International Federation of Operational Research Societies, Montreal, Canada, 17 - 21 July 2017
- IV. **Kamu Ar-Ge Proje Portföy Seçiminde Sektörlere Etki Değerlendirme Temelli Dengeli Bütçe Dağıtımı**
GÜREL S., MUSA Ç.
37. YÖNEYLEM ARAŞTIRMASI VE ENDÜSTRİ MÜHENDİSLİĞİ ULUSAL KONGRESİ, İstanbul, Turkey, 5 - 07 July 2017
- V. **Energy Aware Scheduling of the Material Handling Robot in M-Machine Robotic Cells**
GÜLTEKİN H., GÜREL S., TAŞPINAR R.
8th International Advanced Technologies Symposium (IATS) 2017, Elazığ, Turkey, 19 October - 22 January 2017
- VI. **Energy Conscious Robot Scheduling in Robotic Cell Manufacturing**
akhlaghi v. e. , GÜLTEKİN H., GÜREL S.
Informs Annual Meeting Nashville 2016, 13 - 16 November 2016
- VII. **A chance constrained approach for heterogeneous fleet scheduling in liner shipping service**
GÜREL S., Shadmand A.
OR2016 Annual International Conference of the German Operations Research Society, 30 August - 02 September 2016
- VIII. **Public R D project selection problem with cancellations**
GÜREL S., Çağlar M.
OR2015, Viyana, Austria, 1 - 04 September 2015
- IX. **Second order conic reformulation of a wireless network design problem**
GÜNDOĞDU E., GÜREL S.
EURO 2015, 27th European Conference on Operational Research, Glasgow, England, 12 - 15 July 2015
- X. **A benders decomposition algorithm for quadratic network design problem**
GÜNDOĞDU E., GÜREL S.
EURO 2018, 29th European Conference on Operational Research, 08 July 2018 - 11 July 2011

Supported Projects

SÜRAL H., İYİGÜN C., GÜREL S., Project Supported by Higher Education Institutions, Şehir Lojistiği için Lisans Araştırmaları, 2014 - 2015

GÜREL S., Project Supported by Higher Education Institutions, Havayolu Taşımacılığında Çizelge Aksaklıkları Yönetimi, 2011 - 2011

Citations

Total Citations (WOS):270

h-index (WOS):10