

Prof. HALDUN SÜRAL

Personal Information

Web: <https://avesis.metu.edu.tr/hsural>

Biography

Haldun Süral is a faculty member at the IE Department of METU, Ankara, Turkey. He received his BS, MS, and PhD all from METU. His work experience includes teaching and research positions at METU, INSEAD (Fontainebleau, France), and UW and *WLU* (Waterloo, Canada). He is area editor of production planning and scheduling at INFOR: Information Systems and Operational Research, he is member of the past advisory board of OR Spectrum and he served at the editorial board of Turkish Journal of Industrial Engineering. He is past president of the OR Society of Turkey.

His applied research works range from beer forecasting and supply network design to restructuring a large humanitarian aid organization and waste management system design. Areas are Methodology, Modeling, and Applications in Operations Research; Production Planning and Scheduling; Logistics, Location, Distribution, and Routing; Facility Logistics; History of Operations Research in Turkey.

Education Information

Doctorate, Middle East Technical University, Graduate School of Natural and Applied Sciences, Endüstri Mühendisliği (Dr), Turkey 1988 - 1996

Research Areas

Engineering and Technology

Academic Titles / Tasks

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

Advising Theses

SÜRAL H., Location-routing and synchronization problems in city logistics, Doctorate, M.Saleh(Student), 2020

SÜRAL H., The cutting stock problem with diameter conversion in the construction industry, Post Graduate, D.Altınpulluk(Student), 2019

SÜRAL H., Open-loop reverse logistics network design of waste of electric and electronic equipment by consideration of hazardous materials, Post Graduate, T.Mohammadi(Student), 2019

ÇELİK M., SÜRAL H., On the effect of freight villages in Turkey, Post Graduate, A.METE(Student), 2018

ÇELİK M., SÜRAL H., Impact of demand uncertainty on facility layouts: distributed versus dynamic facility layouts, Post Graduate, B.EFEOĞLU(Student), 2016

İYİĞÜN C., SÜRAL H., City logistics system design under cost uncertainty, Post Graduate, U.CAN(Student), 2015

SÜRAL H., BAKAL İ. S., The single-item lot sizing problem in SMT production lines, Post Graduate, H.SERİN(Student),

2014

- SÜRAL H., Rectilinear interdiction problem by locating a line barrier, Post Graduate, H.Gharehmeshk(Student), 2013
- SÜRAL H., GÜREL S., The Air cargo scheduling problem with heterogenous fleet, Post Graduate, Y.Durdak(Student), 2013
- İYİĞÜN C., SÜRAL H., Generalization of restricted planar location problems: Unified meta-heuristics for single facility case, Post Graduate, M.SALEH(Student), 2013
- SÜRAL H., The air cargo shceduling problem with heterogenous fleet, Post Graduate, Y.DURDAK(Student), 2013
- SÜRAL H., KIRCA Ö., Multi-layer network design problems in telecommunication, Doctorate, İ.YÜKSEL(Student), 2013
- SÜRAL H., Locations on a line and generalization to the dynamic p-medians, Doctorate, H.GÜDEN(Student), 2012
- GÜREL S., SÜRAL H., Heat exchanger network synthesis with detailed design: Reformulation as a shortest path problem by temperature discretization, Post Graduate, I.KIRKIZOĞLU(Student), 2012
- SÜRAL H., The campaign routing problem, Post Graduate, E.ÖZDEMİR(Student), 2009
- SÜRAL H., The order-picking problem in parallel-aisle warehouses, Post Graduate, M.ÇELİK(Student), 2009
- SÜRAL H., Approximate models and solution approaches for the vehicle routing problem with multiple use of vehicles and time windows, Post Graduate, J.WOUTER(Student), 2008
- SÜRAL H., The multiple retailer inventory routing problem with backorders, Post Graduate, O.ALİŞAN(Student), 2008
- SÜRAL H., One-warehouse multi-retailer problem under inventory control and transportation policies, Doctorate, O.SOLYALI(Student), 2008
- SÜRAL H., KARASAKAL E., A genetic algorithm for the biobjective traveling salesman problem with profits, Post Graduate, S.KARADEMİR(Student), 2008
- SÜRAL H., KARASAKAL E., The biobjective traveling salesman problem with profit, Post Graduate, Ö.ŞİMŞEK(Student), 2007
- SÜRAL H., ÖZDEMİREL N. E. , A genetic algorithm for TSP with backhauls based on conventional heuristics, Post Graduate, İ.ÖNDER(Student), 2007
- SÜRAL H., Offline and online disk scheduling problems, Post Graduate, N.EVREN(Student), 2006
- SÜRAL H., Modeling and analysis of the facility layout problem, Post Graduate, Z.KIRKIZOĞLU(Student), 2006
- SÜRAL H., Analysis of an inventory system with advance emand information and supply uncertainty, Post Graduate, E.Arıkan(Student), 2005
- SÜRAL H., Analysis of an inventory system with advance demand information and spply uncertainty, Post Graduate, E.ARIKAN(Student), 2005
- SÜRAL H., The general lot sizing and scheduling problem with sequence dependent changeovers, Post Graduate, A.Koçlar(Student), 2005
- SÜRAL H., The general lot sizing and scheduling problem with sequence dependet changeovers, Post Graduate, A.KOÇLAR(Student), 2005
- SÜRAL H., The inventory routing problem with deterministic order-up-to level inventory policies, Post Graduate, Ö.PINAR(Student), 2005
- SÜRAL H., An integrated inventory control and vehicle routing problem, Post Graduate, O.SOLYALI(Student), 2005
- SÜRAL H., Analysis of evolutionary algorithms for constrained routing problems / , Post Graduate, E.DEMİR(Student), 2004
- SÜRAL H., ÖZDEMİREL N. E. , An evolutionary approach to TSP: Crossover with convertional heuristics, Post Graduate, M.SÖNMEZ(Student), 2003
- SÜRAL H., AZİZOĞLU M., Scheduling with discounted revenues, Post Graduate, A.KICIROĞLU(Student), 2003
- SÜRAL H., An iterative hub location and routing problem for postal delivery systems, Post Graduate, S.ÇETİNER(Student), 2003
- SÜRAL H., ÖZDEMİREL N. E. , An evolutionary approach to tsp: Crossover with conventional heuristics, Post Graduate, M.Sönmez(Student), 2003
- SÜRAL H., Solution approaches for the two-level p-median problem, Post Graduate, G.ŞAHİN(Student), 2002
- SÜRAL H., Heuristic algorithms for the routing problems with backhauls, Post Graduate, Ö.DEMİREL(Student), 2001

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

- I. **Multi-facility green Weber problem**
Atashi Khoei A., Süral H., Tural M. K.
Computers and Operations Research, vol.113, 2020 (Journal Indexed in SCI)
- II. **Potential effects of logistics clusters: The case of Turkish Freight Villages**
Baydar A. M. , SÜRAL H., Celik M.
JOURNAL OF CLEANER PRODUCTION, vol.233, pp.399-411, 2019 (Journal Indexed in SCI)
- III. **The dynamic p-median problem with mobile facilities**
Guden H., SÜRAL H.
COMPUTERS & INDUSTRIAL ENGINEERING, vol.135, pp.615-627, 2019 (Journal Indexed in SCI)
- IV. **Order picking in parallel-aisle warehouses with multiple blocks: complexity and a graph theory-based heuristic**
ÇELİK M., SÜRAL H.
INTERNATIONAL JOURNAL OF PRODUCTION RESEARCH, vol.57, no.3, pp.888-906, 2019 (Journal Indexed in SCI)
- V. **Generalization of the restricted planar location problems: Unified metaheuristic algorithms**
Farham M. S. , SÜRAL H., İYİGÜN C.
COMPUTERS & OPERATIONS RESEARCH, vol.99, pp.48-66, 2018 (Journal Indexed in SCI)
- VI. **A column generation approach for the location-routing problem with time windows**
Farham M. S. , SÜRAL H., İYİGÜN C.
COMPUTERS & OPERATIONS RESEARCH, vol.90, pp.249-263, 2018 (Journal Indexed in SCI)
- VII. **A hybrid Benders approach for coordinated capacitated lot-sizing of multiple product families with set-up times**
Bayley T., SÜRAL H., Bookbinder J. H.
INTERNATIONAL JOURNAL OF PRODUCTION RESEARCH, vol.56, no.3, pp.1326-1344, 2018 (Journal Indexed in SCI)
- VIII. **Time-dependent green Weber problem**
Khoei A. A. , SÜRAL H., TURAL M. K.
COMPUTERS & OPERATIONS RESEARCH, vol.88, pp.316-323, 2017 (Journal Indexed in SCI)
- IX. **Freight villages: A literature review from the sustainability and societal equity perspective**
Baydar A. M. , Sural H., ÇELİK M.
JOURNAL OF CLEANER PRODUCTION, vol.167, pp.1208-1221, 2017 (Journal Indexed in SCI)
- X. **A multi-phase heuristic for the production routing problem**
Solyali O., Süral H.
COMPUTERS & OPERATIONS RESEARCH, vol.87, pp.114-124, 2017 (Journal Indexed in SCI)
- XI. **A polynomial algorithm for the earthwork allocation problem with borrow and waste site selection**
Guden H., SÜRAL H.
JOURNAL OF THE OPERATIONAL RESEARCH SOCIETY, vol.68, no.9, pp.1085-1093, 2017 (Journal Indexed in SCI)
- XII. **Effective network formulations for lot sizing with backlogging in two-level serial supply chains**
Solyali O., Denizel M., SÜRAL H.
IIE TRANSACTIONS, vol.48, no.2, pp.146-157, 2016 (Journal Indexed in SCI)
- XIII. **Order picking in a parallel-aisle warehouse with turn penalties**
ÇELİK M., SÜRAL H.
INTERNATIONAL JOURNAL OF PRODUCTION RESEARCH, vol.54, no.14, pp.4340-4355, 2016 (Journal Indexed in SCI)
- XIV. **The Weber problem in congested regions with entry and exit points**
Farham M. S. , SÜRAL H., İYİGÜN C.
COMPUTERS & OPERATIONS RESEARCH, vol.62, pp.177-183, 2015 (Journal Indexed in SCI)
- XV. **Locating mobile facilities in railway construction management**
Guden H., SÜRAL H.
OMEGA-INTERNATIONAL JOURNAL OF MANAGEMENT SCIENCE, vol.45, pp.71-79, 2014 (Journal Indexed in SCI)
- XVI. **Order picking under random and turnover-based storage policies in fishbone aisle warehouses**

- Celik M., SÜRAL H.
IIE TRANSACTIONS, vol.46, no.3, pp.283-300, 2014 (Journal Indexed in SCI)
- XVII. **The one-warehouse multi-retailer problem: reformulation, classification, and computational results**
Solyali O., SÜRAL H.
ANNALS OF OPERATIONS RESEARCH, vol.196, no.1, pp.517-541, 2012 (Journal Indexed in SCI)
- XVIII. **A Branch-and-Cut Algorithm Using a Strong Formulation and an A Priori Tour-Based Heuristic for an Inventory-Routing Problem**
Solyali O., SÜRAL H.
TRANSPORTATION SCIENCE, vol.45, no.3, pp.335-345, 2011 (Journal Indexed in SCI)
- XIX. **Hubbing and routing in postal delivery systems**
Cetiner S., Sepil C., SÜRAL H.
ANNALS OF OPERATIONS RESEARCH, vol.181, no.1, pp.109-124, 2010 (Journal Indexed in SCI)
- XX. **The One-Warehouse Multiretailer Problem with an Order-Up-To Level Inventory Policy**
Solyali O., SÜRAL H., Denizel M.
NAVAL RESEARCH LOGISTICS, vol.57, no.7, pp.653-666, 2010 (Journal Indexed in SCI)
- XXI. **Lagrangean relaxation based heuristics for lot sizing with setup times**
SÜRAL H., Denizel M., Van Wassenhove L. N.
EUROPEAN JOURNAL OF OPERATIONAL RESEARCH, vol.194, no.1, pp.51-63, 2009 (Journal Indexed in SCI)
- XXII. **Equivalence of the LP relaxations of two strong formulations for the capacitated lot-sizing problem with setup times**
Denizel M., ALTEKİN F. T. , SÜRAL H., Stadtler H.
OR SPECTRUM, vol.30, no.4, pp.773-785, 2008 (Journal Indexed in SCI)
- XXIII. **A single supplier-single retailer system with an order-up-to level inventory policy**
Solyali O., SÜRAL H.
OPERATIONS RESEARCH LETTERS, vol.36, no.5, pp.543-546, 2008 (Journal Indexed in SCI)
- XXIV. **Comment on Berman and Huang (2004): Minisum collection depots location problem reduces to the p-median problem**
Ozpeynirci O., Sural H.
JOURNAL OF THE OPERATIONAL RESEARCH SOCIETY, vol.58, no.10, pp.1395-1396, 2007 (Journal Indexed in SCI)
- XXV. **A review of hierarchical facility location models**
Sahin G., Sural H.
COMPUTERS & OPERATIONS RESEARCH, vol.34, no.8, pp.2310-2331, 2007 (Journal Indexed in SCI)
- XXVI. **Locational analysis for regionalization of Turkish Red Crescent blood services**
Sahin G., Sural H., Meral S.
COMPUTERS & OPERATIONS RESEARCH, vol.34, no.3, pp.692-704, 2007 (Journal Indexed in SCI)
- XXVII. **On alternative mixed integer programming formulations and LP-based heuristics for lot-sizing with setup times**
Denizel M., Sural H.
JOURNAL OF THE OPERATIONAL RESEARCH SOCIETY, vol.57, no.4, pp.389-399, 2006 (Journal Indexed in SCI)
- XXVIII. **A note on "The general lot sizing and scheduling problem"**
Koclar A., Sural H.
OR SPECTRUM, vol.27, no.1, pp.145-146, 2005 (Journal Indexed in SCI)
- XXIX. **A knapsack model for bandwidth management of prerecorded multiple MPEG video sources**
Erten Y., Gullu R., Sural H.
TELECOMMUNICATION SYSTEMS, vol.28, no.1, pp.101-116, 2005 (Journal Indexed in SCI)
- XXX. **The single-vehicle routing problem with unrestricted backhails**
Sural H., Bookbinder J.
NETWORKS, vol.41, no.3, pp.127-136, 2003 (Journal Indexed in SCI)
- XXXI. **Multidimensional assortment problem with an application**
Tripathy A., Sural H., Gerchak Y.
NETWORKS, vol.33, no.3, pp.239-245, 1999 (Journal Indexed in SCI)

- XXXII. **Efes Beverage Group makes location and distribution decisions for its malt plants**
Köksalan M., Sural H.
INTERFACES, vol.29, no.2, pp.89-103, 1999 (Journal Indexed in SCI)
- XXXIII. **A location-distribution application for a beer company**
Köksalan M., SÜRAL H., KIRCA Ö.
European Journal of Operational Research, vol.80, no.1, pp.16-24, 1995 (Journal Indexed in SSCI)

Articles Published in Other Journals

- I. **A construction matheuristic for multi-trip vehicle routing problem at Santa FE-INDONESIA**
Wouter De Boer J., Çavdar B., Sural H.
ENDÜSTRİ MÜHENDİSLİĞİ, vol.29, no.3, pp.31-41, 2018 (Other Refereed National Journals)

Refereed Congress / Symposium Publications in Proceedings

- I. **Energy Minimizing Forklift Routing Problem**
ATASHI KHOEI A., SÜRAL H., TURAL M. K.
39. Yöneylem Araştırması ve Endüstri Mühendisliği Ulusal Kongresi, Ankara, Turkey, 12 - 14 June 2019
- II. **Energy Minimizing Forklift Routing Problem**
ATASHI KHOEI A., SÜRAL H., TURAL M. K.
1st EUROYoung Workshop, Spain, 2 - 03 May 2019
- III. **Multi-facility Green Weber Problem**
Atashikhoei A., Sural H., Tural M. K.
2018 EURO Working Group Conference on Sustainable Supply Chains, Amsterdam, Netherlands, 6 - 07 July 2018, pp.11
- IV. **The inventory routing problem in rectangular warehouses**
SÜRAL H., ÇELİK M., Archetti C.
8th International Workshop on Lot Sizing, Glasgow, United Kingdom, 23 - 25 August 2017
- V. **Lojistik Köyler Üzerine**
Baydar A. M. , SÜRAL H., ÇELİK M.
37.Yöneylem Araştırması ve Endüstri Mühendisliği Ulusal Kongresi, İstanbul, Turkey, 5 - 07 July 2017
- VI. **Coordinated Capacitated Lot sizing For Multiple Product Families With Setup Times**
Bayley T., SÜRAL H., Bookbinder J.
2016 INFORMS Annual Meeting, Nashville, United States Of America, 13 - 17 November 2016
- VII. **The Vaccination Campaign Routing Problem**
ÇELİK M., ÇAVDAR B., SÜRAL H.
2016 INFORMS Annual Meeting, Nashville, United States Of America, 13 - 16 November 2016
- VIII. **Low Carbon Weber Problems**
Atashi Khoei A., TURAL M. K. , SÜRAL H.
28th European Conference on Operational Research, Poznan, Poland, 3 - 06 July 2016
- IX. **Impact of Demand Stochasticity on Facility Layouts**
Efeoglu B., ÇELİK M., SÜRAL H.
28th European Conference on Operational Research, Poznan, Poland, 3 - 06 July 2016
- X. **Benders Decomposition for the Multi layer Telecommunication Network Design Problem**
Yuksel Ergun I, SÜRAL H., KIRCA Ö.
28th European Conference on Operational Research, Poznan, Poland, 3 - 06 July 2016
- XI. **The Two echelon Freight Transportation Network in City Logistics**
Farham M. S. , SÜRAL H., İYİGÜN C.
28th European Conference on Operational Research, Poznan, Poland, 3 - 06 July 2016

XII. Low Carbon Weber Problem

Atashi Khoei A., TURAL M. K. , SÜRAL H.

28th European Conference on Operational Research, Poznan, Poland, 3 - 06 July 2016

XIII. The storage replenishment problem in rectangular warehouse

SÜRAL H., Archetti C., ÇELİK M.

International Material Handling Research Colloquium, Karlsruhe, Germany, 12 - 16 June 2016

XIV. A Performance Measurement Framework and Solution Approach for the Integrated Facility Layout Problem with Uncertain Demand

ÇELİK M., Efeoglu B., SÜRAL H.

International Material Handling Research Colloquium, Karlsruhe, Germany, 12 - 16 June 2016

XV. A Genetic Algorithm for the Traveling Salesman Problem with Pickup and Delivery Using Depot Removal and Insertion Moves

Cinar V., ÖNCAN T., SÜRAL H.

Evo Applications 2010 Conference, İstanbul, Turkey, 7 - 09 April 2010, vol.6025, pp.431-433

Supported Projects

ÇELİK M., ÇAVDAR B., SÜRAL H., Project Supported by Higher Education Institutions, Gezici Proje Rotalama Problemi için Yenilikçi Çözüm Yaklaşımları, 2016 - 2016

SÜRAL H., ÇELİK M., Project Supported by Higher Education Institutions, Belirsizlik Altında Esnek Tesis Yerleşimi İçin Yenilikçi Yaklaşımlar, 2015 - 2015

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

Citations

Total Citations (WOS):586

h-index (WOS):13