

Asst. Prof. ŞEBNEM DEMİRKOL AKYOL

Personal Information

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International Researcher IDs

ScholarID: _03Oif0AAAAJ

ORCID: 0000-0001-6106-388X

Publons / Web Of Science ResearcherID: P-7859-2019

ScopusID: 54784030100

Yoksis Researcher ID: 143045

Education

Doctorate, Dokuz Eylul University, Fen Bilimleri Enstitüsü, Endüstri Mühendisliği (Dr), Turkey 2008 - 2014

Postgraduate, Dokuz Eylul University, Fen Bilimleri Enstitüsü, Endüstri Mühendisliği (YI) (Tezli), Turkey 2005 - 2008

Undergraduate, Dokuz Eylul University, Mühendislik Fakültesi, Endüstri Mühendisliği Bölümü, Turkey 2001 - 2005

Foreign Languages

German, A2 Elementary

English, C1 Advanced

Dissertations

Doctorate, Multi objective meta-heuristic optimization to balance generalized assembly lines, Dokuz Eylul University, Fen Bilimleri Enstitüsü, Endüstri Mühendisliği (Dr), 2014

Postgraduate, Comparison of control charts for autocorrelated data, Dokuz Eylul University, Fen Bilimleri Enstitüsü, Endüstri Mühendisliği (YI) (Tezli), 2008

Research Areas

Multiobjective Optimization, Heuristic Methods, Modelling and Analysis of Production Systems, Ergonomics and Occupational Safety, Work Measurement and Methods Engineering

Academic Positions

Assistant Professor, Dokuz Eylul University, Mühendislik Fakültesi, Endüstri Mühendisliği Bölümü, 2018 - Continues

Research Assistant, Dokuz Eylul University, Mühendislik Fakültesi, Endüstri Mühendisliği Bölümü, 2006 - 2018

Academic and Administrative Experience

Mezunlarla İlişkiler Komisyonu Başkanı, Dokuz Eylul University, Mühendislik Fakültesi, Endüstri Mühendisliği Bölümü, 2023 - Continues
Erasmus Program Department Coordinator, Dokuz Eylul University, Fen Bilimleri Enstitüsü, Endüstri Mühendisliği, 2022 - Continues
Erasmus Program Department Coordinator, Dokuz Eylul University, Mühendislik Fakültesi, Endüstri Mühendisliği Bölümü, 2022 - Continues
Adaptation/Exemption Committee Member, Dokuz Eylul University, Mühendislik Fakültesi, Endüstri Mühendisliği Bölümü, 2019 - Continues

Courses

Postgraduate

MSc Research, Postgraduate, 2023 - 2024, 2022 - 2023
M.Sc. Seminar, Postgraduate, 2023 - 2024, 2022 - 2023

Undergraduate

İstatistik I, Undergraduate, 2023 - 2024, 2022 - 2023, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019
İstatistiksel Yazılımlar ile Analizler, Undergraduate, 2023 - 2024
Bitirme Projesi, Undergraduate, 2023 - 2024, 2022 - 2023
İş Etüdü ve İnsan Faktörleri Mühendisliği, Undergraduate, 2023 - 2024, 2022 - 2023, 2021 - 2022, 2019 - 2020, 2018 - 2019
Seminer, Undergraduate, 2023 - 2024, 2022 - 2023
Ergonomic Assessment and Job Safety, Undergraduate, 2022 - 2023, 2019 - 2020, 2018 - 2019, 2017 - 2018
İstatistik II, Undergraduate, 2019 - 2020, 2018 - 2019, 2017 - 2018
Bilgisayar Programlama, Undergraduate, 2018 - 2019, 2017 - 2018

Supervised Theses

Demirkol Akyol Ş., Büyük veri madenciliği ve duygu analizi uygulaması, Postgraduate, C.ASILKEFELİ(Student), 2023
DEMİRKOL AKYOL Ş., A practical implementation for big data mining and sentiment analysis, Postgraduate, C.ASILKEFELİ(Student), 2023
DEMİRKOL AKYOL Ş., Ergonomik tüketici ürün tasarımı: İlkeleri, değerlendirme ve uygulama, Postgraduate, S.MADANLAR(Student), 2019

Advising Graduates (Non-Thesis)

Demirkol Akyol Ş., BİR SIZDIRMAZLIK FİRMASINDA UYGULANAN KAIZEN METOTLARI VE BU METOTLARIN UYGULANARAK HURDA ORANLARI DÜŞÜRME PROJESİ, Masters (Non-Thesis, Evening Education), H.TEMİZKAN(Student), 2023
Demirkol Akyol Ş., Discrete demand systems in inventory management with an application to a food warehouse, Masters (Non-Thesis), E.ONAR(Student), 2019

Jury Memberships

PhD Thesis Monitoring Committee Member, PhD Thesis Monitoring Committee Member, Dokuz Eylül Üniversitesi, June, 2023
Doctoral Examination, Doctoral Examination, Dokuz Eylül Üniversitesi, March, 2023

Journal articles indexed in SCI, SSCI, and AHCI

- I. **A detailed review and analysis of assembly line rebalancing problems**
Cimen T., BAYKASOĞLU A., DEMİRKOL AKYOL Ş.
ASSEMBLY AUTOMATION, no.6, pp.742-760, 2022 (SCI-Expanded)
- II. **Assembly line rebalancing and worker assignment considering ergonomic risks in an automotive parts manufacturing plant**
Cimen T., BAYKASOĞLU A., Akyol Ş.
INTERNATIONAL JOURNAL OF INDUSTRIAL ENGINEERING COMPUTATIONS, vol.13, no.3, pp.363-384, 2022 (SCI-Expanded)
- III. **A multiple-rule based constructive randomized search algorithm for solving assembly line worker assignment and balancing problem**
DEMİRKOL AKYOL Ş., BAYKASOĞLU A.
JOURNAL OF INTELLIGENT MANUFACTURING, vol.30, no.2, pp.557-573, 2019 (SCI-Expanded)
- IV. **ErgoALWABP: a multiple-rule based constructive randomized search algorithm for solving assembly line worker assignment and balancing problem under ergonomic risk factors**
DEMİRKOL AKYOL Ş., BAYKASOĞLU A.
JOURNAL OF INTELLIGENT MANUFACTURING, vol.30, no.1, pp.291-302, 2019 (SCI-Expanded)
- V. **An Excel-Based Program to Teach Students Quick Ergonomic Risk Assessment Techniques With an Application to an Assembly System**
BAYKASOĞLU A., DEMİRKOL AKYOL Ş., Demirkan B.
COMPUTER APPLICATIONS IN ENGINEERING EDUCATION, vol.25, no.3, pp.489-507, 2017 (SCI-Expanded)
- VI. **Modeling and solving assembly line design problems by considering human factors with a real-life application**
BAYKASOĞLU A., ÖZMEHMET TAŞAN S., TAŞAN A. S., DEMİRKOL AKYOL Ş.
HUMAN FACTORS AND ERGONOMICS IN MANUFACTURING & SERVICE INDUSTRIES, vol.27, no.2, pp.96-115, 2017 (SCI-Expanded)
- VII. **ERGONOMIC ASSEMBLY LINE BALANCING**
BAYKASOĞLU A., DEMİRKOL AKYOL Ş.
JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, vol.29, no.4, pp.785-792, 2014 (SCI-Expanded)

Articles Published in Other Journals

- I. **Tip-2 Montaj Hattı Dengeleme ve İşgücü Atama Problemi için Doğrusal Programlama Yaklaşımı: Bir Vaka Çalışması**
Demirkol Akyol Ş.
Dokuz Eylül Üniversitesi Mühendislik Fakültesi Fen ve Mühendislik Dergisi, vol.25, no.73, pp.119-127, 2023 (Peer-Reviewed Journal)
- II. **BİR TEKSTİL İŞLETMESİNDE ERGONOMİK RİSK DEĞERLENDİRME UYGULAMASI**
Demirkol Akyol Ş.
Ergonomi (Online), vol.5, no.2, pp.72-83, 2022 (Peer-Reviewed Journal)
- III. **Supply Chain Network Design in a Hygiene Product Manufacturing Company During the Covid-19 Pandemic**
Demirkol Akyol Ş.
Avrupa Bilim ve Teknoloji Dergisi, no.35, pp.387-394, 2022 (Peer-Reviewed Journal)

Papers Presented at Peer-Reviewed Scientific Conferences

- I. **Machine Selection Problem Using Multi- Criteria Decision Making**
Demirkol Akyol Ş.
8th International "BASKENT" Congress on Physical, Engineering, and Applied Sciences, Ankara, Turkey, 4 - 06 February 2023, pp.25-30, (Full Text)
- II. **Inventory Management Implementation in a Food Warehouse**
Demirkol Akyol Ş.
3rd International Conference on Engineering and Applied Natural Sciences, Konya, Turkey, 14 - 17 January 2023, pp.423-425, (Full Text)
- III. **AN INTEGER PROGRAMMING METHOD FOR THE ASSEMBLY LINE BALANCING PROBLEM OF TYPE-2**
Demirkol Akyol Ş.
5th INTERNATIONAL BAŞKENT CONGRESS ON PHYSICAL, SOCIAL AND HEALTH SCIENCES, Ankara, Turkey, 11 - 12 June 2022, pp.259-262, (Full Text)
- IV. **PLANNING ELECTRIC ENERGY CONSUMPTION FOR INDIVIDUALS**
Demirkol Akyol Ş.
International Symposium Energy Management and Sustainability 2022, İstanbul, Turkey, 5 - 09 April 2022, pp.111, (Summary Text)
- V. **Production Scheduling in a Soda Bottling Machine Company**
Demirkol Akyol Ş.
13. Uluslararası Bilimsel Araştırmalar Kongresi, Ankara, Turkey, 11 - 12 March 2022, pp.266-271, (Full Text)
- VI. **Yalın Altı Sigma Teknikleri ve Otomotiv Yan Sanayi Firmasında Uygulama**
DEMİRKOL AKYOL Ş.
İZMİR DEMOKRASİ ÜNİVERSİTESİ ULUSLARARASI MÜHENDİSLİK SEMPOZYUMU (IES'20), İzmir, Turkey, 10 December 2020, (Summary Text)
- VII. **A Practical Implementation for Big Data Mining and Sentiment Analysis**
DEMİRKOL AKYOL Ş.
İZMİR DEMOKRASİ ÜNİVERSİTESİ ULUSLARARASI MÜHENDİSLİK SEMPOZYUMU (IES'20), İzmir, Turkey, 10 December 2020, pp.182-183, (Summary Text)
- VIII. **Evaluation of User Experience Effects on Ergonomic Behavior with Using Rough-SWARA Method**
MADANLAR S., DEMİRKOL AKYOL Ş.
5th International Researchers, Statisticians and Young Statisticians Congress, Aydın, Turkey, 18 - 20 October 2019, pp.452-461, (Full Text)
- IX. **A Metaheuristic Solution Method for Solving Multi Constrained Assembly Line Rebalancing and Worker Assignment Problem**
Çimen T., BAYKASOĞLU A., DEMİRKOL AKYOL Ş.
ISEOS 2018: 19th International Symposium on Econometrics, Operations Research and Statistics, 17 - 20 October 2018, (Full Text)
- X. **Comparison of Various Ergonomic Risk Assessment Techniques with an Application to an Assembly System**
DEMİRKOL AKYOL Ş., BAYKASOĞLU A.
2nd International Conference on Economics Business Management and Social Sciences, Belgrat, Montenegro, 10 - 14 May 2017, pp.16, (Summary Text)
- XI. **Effects of Ergonomic Risk Factors of the Working Environment on a Real Life Manufacturing Company**
DEMİRKOL AKYOL Ş., BAYKASOĞLU A.
2nd International Conference on Economics Business Management and Social Sciences, Belgrat, Montenegro, 10 - 14 May 2017, pp.15, (Summary Text)
- XII. **A Meta-Heuristic Approach for Evaluating Ergonomic Risk Factors of a Real Life Assembly Line Worker Assignment and Balancing Problem**
DEMİRKOL AKYOL Ş., BAYKASOĞLU A.
International Workshop on Mathematical Methods in Engineering, Ankara, Turkey, 27 - 29 April 2017, pp.61, (Summary Text)

- XIII. **A Computational Approach for Ergonomic Assembly Line Balancing**
DEMİRKOL AKYOL Ş., BAYKASOĞLU A.
International Workshop on Mathematical Methods in Engineering, Ankara, Turkey, 27 - 29 April 2017, pp.61,
(Summary Text)
- XIV. **A multiple rule based constructive heuristic algorithm for assembly line worker assignment and balancing problems**
DEMİRKOL AKYOL Ş., BAYKASOĞLU A.
Uluslararası Katılımlı 16. Üretim Araştırmaları Sempozyumu, 12 - 14 October 2016, (Full Text)
- XV. **Ergonomic assembly line balancing with an industrial application**
DEMİRKOL AKYOL Ş., BAYKASOĞLU A.
Uluslararası Katılımlı 16. Üretim Araştırmaları Sempozyumu, 12 - 14 October 2016, (Full Text)
- XVI. **A MULTIPLE RULE BASED CONSTRUCTIVE HEURISTICALGORITHM FOR ASSEMBLY LINE WORKER ASSIGNMENT AND BALANCING PROBLEMS WITH CONSIDERING ERGONOMIC RISK FACTORS**
DEMİRKOL AKYOL Ş., BAYKASOĞLU A.
17th International Symposium on Econometrics, Operations Research and Statistics, Sivas, Turkey, 2 - 04 June 2016, pp.397-398, (Summary Text)
- XVII. **A multiple rule based constructive heuristic algorithm for assembly line worker assignment and balancing problems with considering ergonomic risk factors**
DEMİRKOL AKYOL Ş., BAYKASOĞLU A.
17th International Symposium on Econometrics, Operations Research and Statistics, 2 - 04 June 2016, (Summary Text)
- XVIII. **A literature survey on assembly line worker assignment and balancing problems with considering ergonomic risk factors**
DEMİRKOL AKYOL Ş., BAYKASOĞLU A.
17th International Symposium on Econometrics, Operations Research and Statistics, 2 - 04 June 2016, (Summary Text)
- XIX. **A randomized constructive heuristic approach for solving assembly line worker assignment and balancing problem**
DEMİRKOL AKYOL Ş., BAYKASOĞLU A.
29th Conference of the European Chapter on Combinatorial Optimization, Budapest, Hungary, 26 - 28 May 2016, pp.103-104, (Summary Text)
- XX. **MONTAJ HATTI DENGEME VE İŞGÜCÜ ATAMA PROBLEMİNDE ERGONOMİK RİSK DEĞERLENDİRME**
DEMİRKOL AKYOL Ş., BAYKASOĞLU A.
19. ULUSAL ERGONOMİ KONGRESİ, Balıkesir, Turkey, 27 - 29 September 2013, pp.636-643, (Full Text)
- XXI. **OTOMOBİL KABLO DEMETİ ÜRETİMİNDE ERGONOMİK RİSK FAKTÖRLERİNİ DİKKATE ALAN MONTAJ HATTI DENGEME**
BAYKASOĞLU A., DEMİRKOL AKYOL Ş., TAŞAN A. S., ÖZMEHMET TAŞAN S., Çimen T., Özen B., Aktaş N., Tarkı G., Boz O.
19. ULUSAL ERGONOMİ KONGRESİ, Balıkesir, Turkey, 27 - 29 September 2013, pp.801-808, (Full Text)
- XXII. **A GRASP Based Heuristic for Assembly Line Worker Assignment and Balancing Problem**
DEMİRKOL AKYOL Ş., BAYKASOĞLU A., ÖZBAKIR L.
26TH EUROPEAN CONFERENCE ON OPERATIONAL RESEARCH, Roma, Italy, 1 - 04 July 2013, pp.38, (Summary Text)
- XXIII. **Balancing assembly lines by considering ergonomic risk factors a preliminary case study**
BAYKASOĞLU A., DEMİRKOL AKYOL Ş., TAŞAN A. S., ÖZMEHMET TAŞAN S., Aktaş N., Özen B., Boz O., Tarkı G., Çimen T.
The International IIE Conference, İstanbul, Turkey, 26 - 28 June 2013, (Summary Text)
- XXIV. **Montaj Hattı Dengeleme Problemlerinde Ergonomik Faktörlerin Rolü**
BAYKASOĞLU A., DEMİRKOL AKYOL Ş., ÖZBAKIR L.
18. Ulusal Ergonomi Kongresi, Gaziantep, Turkey, 16 - 18 November 2012, (Full Text)
- XXV. **Otomobil Kablo Ağlarının Üretimi için Ergonomik Faktörleri Göz Önünde Bulunduran Montaj**

İstasyonu Tasarımı

BAYKASOĞLU A., ÖZMEHMET TAŞAN S., TAŞAN A. S., DEMİRKOL AKYOL Ş., Aktaş N., Özen B., Tarki G., Boz O.
18. Ulusal Ergonomi Kongresi, Gaziantep, Turkey, 16 - 18 November 2012, pp.618-623, (Full Text)

XXVI. MONTAJ HATTI DENGELEME VE İŞGÜCÜ ATAMA PROBLEMİ ÜZERİNE BİR YAYIN TARAMASI

BAYKASOĞLU A., DEMİRKOL AKYOL Ş., ÖZBAKIR L.

XII. ÜRETİM ARAŞTIRMALARI SEMPOZYUMU, İzmir, Turkey, 27 - 29 September 2012, pp.1063-1070, (Full Text)

XXVII. Meta heuristic Approaches for the Assembly Line Balancing Problem

BAYKASOĞLU A., DEMİRKOL AKYOL Ş.

2012 International Conference on Industrial Engineering and Operations Management, İstanbul, Turkey, 3 - 06 July 2012, pp.426-434, (Full Text)

XXVIII. Multi objective evolutionary meta heuristic optimization

DEMİRKOL AKYOL Ş., Bayhan G. M.

23rd EUROPEAN CONFERENCE ON OPERATIONAL RESEARCH, Bonn, Germany, 5 - 08 July 2009, pp.241, (Summary Text)

XXIX. ARL PERFORMANCES OF CONTROL CHARTS FOR AUTOCORRELATED DATA

DEMİRKOL AKYOL Ş., Bayhan G. M.

38th International Conference on Computers and Industrial Engineering, Beijing, China, 31 October - 02 November 2008, pp.400-408, (Full Text)

XXX. STATISTICAL PROCESS CONTROL CHARTS PAST PRESENT AND FUTURE

DEMİRKOL AKYOL Ş., Bayhan G. M.

Yöneylem Araştırması ve Endüstri Mühendisliği 27. Ulusal Kongresi, İzmir, Turkey, 2 - 04 July 2007, (Full Text)

Funded Projects

DEMİRKOL AKYOL Ş., Project Supported by Higher Education Institutions, Emek yoğun montaj hatlarında ergonomik risk seviyelerini saptamak için bulanık ergonomik risk değerlendirme teknikleri geliştirilerek bulanık çok kriterli karar verme yaklaşımı ile en uygun tekniğin seçilmesi ve elektronik sektörde faaliyet gösteren bir firmada uygulanması, 2019 - 2021

TAŞAN A. S., ÖZMEHMET TAŞAN S., Industrial Thesis Project, Delphi Automotive Systems Ltd Şti de otomobil kablo ağlarının etkin üretimi için bilgisayar destekli ergonomik risk faktörlerini dikkate alan montaj istasyonu tasarımı sistematığı geliştirilmesi, 2013 - 2014

Demirkol Akyol Ş., Baykasoğlu A., Project Supported by Higher Education Institutions, Çok Amaçlı Evrimsel Meta Sezgisel Optimizasyon Yaklaşımı ile Genelleştirilmiş Montaj Hattı Dengeleme, 2012 - 2014

Memberships and Roles in Scientific Organizations

Yöneylem Araştırması Derneği (YAD), Member, 2013 - Continues, Turkey

Peer Reviews in Scientific Publications

INTERNATIONAL JOURNAL OF INTELLIGENT COMPUTING AND CYBERNETICS, Journal Indexed in SCI-E, July 2023

Endüstri Mühendisliği, National Scientific Refreed Journal, April 2023

JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, SCI Journal, January 2023

Mühendislik Bilimleri ve Tasarım Dergisi, National Scientific Refreed Journal, October 2022

INTERNATIONAL JOURNAL OF INTELLIGENT COMPUTING AND CYBERNETICS, Journal Indexed in ESCI, July 2022

Dokuz Eylül Üniversitesi Mühendislik Fakültesi Fen ve Mühendislik Dergisi, National Scientific Refreed Journal, July 2022

Mühendislik Bilimleri ve Tasarım Dergisi, National Scientific Refreed Journal, May 2022

JOURNAL OF INTELLIGENT MANUFACTURING, SCI Journal, May 2022

JOURNAL OF INTELLIGENT MANUFACTURING, SCI Journal, March 2022
INTERNATIONAL JOURNAL OF PRODUCTION RESEARCH, SCI Journal, January 2022

Scientific Project Refereeing

Project Supported by Other Official Institutions, October 2023

Metrics

Publication: 42
Citation (WoS): 96
Citation (Scopus): 128
H-Index (WoS): 5
H-Index (Scopus): 4

Congress and Symposium Activities

8TH INTERNATIONAL BASKENT CONGRESS ON PHYSICAL, ENGINEERING, AND APPLIED SCIENCES, Attendee, Ankara, Turkey, 2023
3rd International Conference on Engineering and Applied Natural Sciences, Attendee, Konya, Turkey, 2023