

Ibrahim Kucukkoc, PhD

Professor, Industrial Engineering

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affiliations

Model Fabrika
(Lean Consultant)
Republic of Türkiye Ministry
of Industry and Technology

languages

Turkish and English

programming

Python, Java, C#
Gams, IBM ILOG OPL

profile pages

[scopus](#)
[orcid](#)
[researcherID](#)
[researchgate](#)
[google scholar](#)

scopus citation

metrics

h-index: 27
total citations: 2069

professional membership

EUROPT
SSAISB
DAAM
APICS
OR Society UK
IBM Academic Initiative

education

Jan 2012 – Dec 2015	PhD in Manufacturing Engineering University of Exeter, Exeter, England <i>Thesis: Modelling and Solving Mixed-model Parallel Two-sided Assembly Line Problems</i>
Jan 2010 – Jul 2011	MSc in Industrial Engineering Balikesir University, Balikesir, Türkiye
Sep 2009 – Jan 2010	MSc in Industrial Engineering (Transferred to Balikesir Uni.) Selcuk University, Konya, Türkiye
Sep 2005 – Jul 2009	BSc in Industrial Engineering Selcuk University, Konya, Türkiye

academic positions

Jan 2025 – to date	Professor Balikesir University, Industrial Engineering
Dec 2019 – Jan 2025	Associate Professor Balikesir University, Industrial Engineering
Sep 2017 – Dec 2019	Assistant Professor Balikesir University, Industrial Engineering
Dec 2015 – Sep 2017	Research Assistant Balikesir University, Industrial Engineering
Jan 2012 – Dec 2015	Postgraduate Researcher University of Exeter, College of Engineering, Mathematics and Physical Sciences
Dec 2009 – Jan 2012	Research Assistant Balikesir University, Industrial Engineering

editorial activities

2026	Guest Editor International Journal of Production Research (Taylor&Francis)
2022, 2025	Guest Editor Flexible Services and Manufacturing Journal (Springer)
2016 – Now	Area/Associate Editor An International Journal of Optimization and Control: Theories & Applications
2025 – Now	Associate Editor Journal of Engineering - Industrial Engineering (Wiley)
2023 – 2025	Area Editor Journal of Engineering - Industrial Engineering (Wiley)
2023	Guest Editor Numerical Algebra, Control and Optimization (AIMS)
2022, 2023	Guest Editor Turkish Journal of Electrical Engineering and Computer Sciences (TUBITAK)
2012 – Now	Section Editor IAES International Journal of Artificial Intelligence (IJ-AI)

interests

Modelling and optimisation of manufacturing systems (with a special interest in assembly/disassembly line balancing problems and robotic systems), production planning/scheduling problems in 3D printing (additive manufacturing) and/or digital manufacturing; and their analytical, heuristic/meta-heuristic solutions

achievements & grants

Recognised in the Top %2 Scientists Worldwide by Stanford University
(2021, 2022, 2023, 2024, 2025) - Stanford University, DOI: 10.17632/btchxktzyw.3

PhD Scholarship

Turkish Council of Higher Education, Republic of Türkiye, 01/2012 – 01/2016

Artificial Intelligence, An International Journal (Elsevier)

AISB 2013 Convention Registration Award, April 3-5, 2013

TÜBİTAK Master Scholarship

BİDEB – 2210, 09/2010 – 07/2011

projects

Industrial Project, EAE Elektrik Busbar Çıkış Kutusu Montaj Hattının Modellenmesi ve Optimizasyonu
(Modeling and Optimization of EAE Electric Busbar Outlet Box Assembly Line)

Academic Supervisor, EAE Electric Company, 11/2025-10/2026

TUBİTAK 1501, Grant Number: 3231125

Mikro/ Makro Dağıtım Operasyonları İçin Rota Optimizasyonu, Anlık Takip ve İzleme Uygulaması (Route Optimization, Real-Time Tracking and Monitoring Application for Micro/Macro Distribution Operations)

Oktay Yılmaz (Coordinator), [Project Team], İbrahim Kucukkoc (Academic Supervisor)

The Scientific and Technological Research Council of Türkiye, 05/2024-04/2026

TUBİTAK 2209/B, 2024/1, Grant Number: 1139B412401183

Karışık Modelli Montaj Hattı Dengeleme: Ankara Beko Bulaşık Makinesi Fabrikası Uygulama Örneği
(Mixed Model Assembly Line Balancing: A Case Study at Ankara Beko Dishwasher Factory)

İbrahim Kucukkoc (Academic Supervisor), Korkut Anapa (Industrial Advisor), Hacer Güler

(Coordinator), İrem Rümeysa Öztürk (Researcher)

The Scientific and Technological Research Council of Türkiye, 04/2025-04/2026

BAP 2023/216 - Modelling and Optimisation of Shock Freezing Tunnel Schedules Multi-objectively

Considering Energy Consumption (Dondurucu Tünel Çizelgelerinin Enerji Tüketimi Göz Önüne Alınarak Çok Amaçlı Modellenmesi ve Optimizasyonu)

Coordinator, Balıkesir University Scientific Research Project, 10/2023-04/2026

China 62173260 - Intelligent scheduling for collaborative operations of reconfigurable man-robot cooperative two-sided assembly line production and maintenance

Zixiang Li (Project Coordinator), [Project Team], İbrahim Kucukkoc (Researcher),

National Natural Science Foundation of China, Grant Number: 62173260, 01/2022-12/2025

TUBİTAK 2209/A, 2023/2, Grant Number: 1919B012315731

Aydınlatmanın Yetersiz Olduğu Fabrika Ortamında Termal Kamera Kullanılarak Yük Çarpmasına Bağlı Vinç Kazalarının Önlenmesi (Preventing Crane Accidents Due to Load Collision by Using Thermal Camera in a Factory Environment with Insufficient Lighting)

İbrahim Kucukkoc (Academic Supervisor), Sümeyra Hatipoğlu (Coordinator), Emirhan Demiroz

(Researcher), The Scientific and Technological Research Council of Türkiye, 04/2024-04/2025.

TUBİTAK 2209/A, 2022/2, Grant Number: 1919B012216293

Yapay Zeka Destekli Otonom Yük Tasıma Robotu Gelistirilmesi (Development of Artificial Intelligence Supported Autonomous Load Carrying Robot)

İbrahim Kucukkoc (Academic Supervisor), Emirhan Demiroz (Coordinator), The Scientific and

Technological Research Council of Türkiye, 04/2023-04/2024.

BAP 2022/086 - Development of a Metaheuristic Algorithm Considering Batch Delivery in Additive Manufacturing Machine Scheduling Problems

Coordinator, Balikesir University, Scientific Research Project, 05/2022 – 11/2023

China 2018B24 - U-shaped Assembly Line Balancing Under Uncertain Environment

The International Research Cooperation Seed Fund of Beijing University of Technology (China),
Researcher, Beijing University of Technology, 07/2018-12/2019

BAP 2018/131 - The Minimization of Production Dependent Lateness in 3D Printing Machines

Coordinator, Balikesir University, Scientific Research Project, 06/2018 – 06/2019

BAP 2017/179 - Modelling and optimisation of sequence-dependent mixed-model two-sided assembly lines considering stochastic task times

Coordinator, Balikesir University, Scientific Research Project, 06/2017 – 12/2018

BAP 2011/40 - Mixed Model Assembly Line Balancing Problems and an Application with Genetic Algorithms

Researcher, Balikesir University, Scientific Research Project, 12/2010 – 07/2011

publications

I have published widely in the top journals and internationally recognised peer-reviewed conferences in my field.

articles in peer-reviewed journals (SCI/SCI-E)

Enhanced exact and heuristic methods for the type-I two-sided assembly line balancing problem

Zixiang Li, Ibrahim Kucukkoc, Yuxin Liu, Zikai Zhang, Liping Zhang
Optimization and Engineering, (in press) 2026.

<https://doi.org/10.1007/s11081-025-10067-0>

Integrated Model Assignment and Multi-Line Balancing in Human-Robot Collaborative Mixed-Model Assembly Lines

Oktay Yilmaz, Nezir Aydin, Ibrahim Kucukkoc
Flexible Services and Manufacturing Journal, (in press) 2026.

<https://doi.org/10.1007/s10696-025-09635-4>

Bi-objective optimization of human-robot collaborative mixed-model multiple assembly lines considering model assignment and energy consumption

Oktay Yilmaz, Nezir Aydin, Ibrahim Kucukkoc
Journal of Computational and Applied Mathematics, 473, 116876, 2026.

<https://doi.org/10.1016/j.cam.2025.116876>

Including mechanical requirements in a bi-objective nesting and scheduling model for additive manufacturing

Ibrahim Kucukkoc, Serena Finco, Mirco Peron, Gulsen A. Keskin
European Journal of Operational Research, 325(3), 416-432, 2025.

<https://doi.org/10.1016/j.ejor.2025.03.022>

Advanced Constraint Programming Formulations for Additive Manufacturing Machine Scheduling Problems

Eray Cakici, Ibrahim Kucukkoc, Mustafa Akdemir
Journal of the Operational Research Society 76(3), 590-605, 2025.

<https://doi.org/10.1080/01605682.2024.2382867>

Chance-constrained stochastic assembly line balancing with branch, bound and remember algorithm

Zixiang Li, Celso Gustavo Stall Sikora, Ibrahim Kucukkoc
Annals of Operations Research, 335, 491-516, 2024.

<https://doi.org/10.1007/s10479-023-05809-1>

A hybrid discrete differential evolution-genetic algorithm approach with a new batch formation mechanism for parallel batch scheduling considering batch delivery

- Ibrahim Kucukkoc, Gulsen Aydin Keskin, Aslan Deniz Karaoglan, Sevgi Karadag
International Journal of Production Research, 62 (1-2), 460-482, 2024.
<http://doi.org/10.1080/00207543.2023.2233626>
- Mixed-model assembly line balancing problem considering learning effect and uncertain demand
Yuchen Li, Dan Liu, Ibrahim Kucukkoc
Journal of Computational and Applied Mathematics, 422, 114823, 2023.
<http://doi.org/10.1016/j.cam.2022.114823>
- Models and two-phase bee algorithms for multi-objective U-shaped disassembly line balancing problem
Zixiang Li, Ibrahim Kucukkoc, Qiuhua Tang, Zikai Zhang
Optimization and Engineering, 24, 591-622, 2023.
<http://doi.org/10.1007/s11081-021-09696-y>
- Enhanced branch-bound-remember and iterative beam search algorithms for type II assembly line balancing problem
Zixiang Li, Ibrahim Kucukkoc, Qiuhua Tang
Computers & Operations Research, 131, 105235, 2021.
<http://doi.org/10.1016/j.cor.2021.105235>
- Two-sided assembly line balancing that considers uncertain task time attributes and incompatible task sets
Yuchen Li, Ibrahim Kucukkoc, Xiaowen Tang
International Journal of Production Research, 59(6), 1736-1756, 2021.
<http://doi.org/10.1080/00207543.2020.1724344>
- Balancing of Two-sided Disassembly Lines: Problem Definition, MILP Model and Genetic Algorithm Approach
Ibrahim Kucukkoc
Computers & Operations Research, 124, 105064, 2020.
<http://doi.org/10.1016/j.cor.2020.105064>
- A comparative study of exact methods for the simple assembly line balancing problem
Zixiang Li, Ibrahim Kucukkoc, Qiuhua Tang
Soft Computing, 24, pp. 11459-11475, 2020.
<http://doi.org/10.1007/s00500-019-04609-9>
- System reliability optimization for an assembly line under uncertain random environment
Yuchen Li, Rui Peng, Ibrahim Kucukkoc, Xiaowen Tang, Fang Wei
Computers & Industrial Engineering, 146, 106540, 2020.
<http://doi.org/10.1016/j.cie.2020.106540>
- Branch, bound and remember algorithm for two-sided assembly line balancing problem
Zixiang Li, Ibrahim Kucukkoc, Zikai Zhang
European Journal of Operational Research, 284(3), 896-905, 2020.
<http://doi.org/10.1016/j.ejor.2020.01.032>
- Type-E disassembly line balancing problem with multi-manned workstations
Ibrahim Kucukkoc, Zixiang Li, Yuchen Li
Optimization and Engineering, 21(2), 611-630, 2020.
<http://doi.org/10.1007/s11081-019-09465-y>
- A fast branch, bound and remember algorithm for disassembly line balancing problem
Zixiang Li, Zeynel Cil, Suleyman Mete, Ibrahim Kucukkoc
International Journal of Production Research, 58(11), pp. 3220-3234, 2020.
<http://doi.org/10.1080/00207543.2019.1630774>
- Iterated local search method and mathematical model for sequence-dependent U-shaped disassembly line balancing problem
Zixiang Li, Ibrahim Kucukkoc, Zikai Zhang
Computers & Industrial Engineering, 137, 106056, 2019.
<http://doi.org/10.1016/j.cie.2019.106056>

A dynamic order acceptance and scheduling approach for additive manufacturing on-demand production

Qiang Li, David Z. Zhang, Shilong Wang, Ibrahim Kucukkoc
The International Journal of Advanced Manufacturing Technology, 105(9), 3711-3729, 2019.
<http://doi.org/10.1007/s00170-019-03796-x>

MILP models to minimise makespan in additive manufacturing machine scheduling problems

Ibrahim Kucukkoc
Computers and Operations Research, 105C, pp. 58-67, 2019.
<http://doi.org/10.1016/j.cor.2019.01.006>

Balancing of mixed-model two-sided assembly lines with underground workstations: A mathematical model and ant colony optimization algorithm

Ibrahim Kucukkoc, Zixiang Li, Aslan Deniz Karaoglan, David Z. Zhang
International Journal of Production Economics, 205, pp. 228-243, 2018.
<http://doi.org/10.1016/j.ijpe.2018.08.009>

Branch, bound and remember algorithm for U-shaped assembly line balancing problem

Zixiang Li, Ibrahim Kucukkoc, Zikai Zhang
Computers & Industrial Engineering, 124, pp. 24-35, 2018.
<http://doi.org/10.1016/j.cie.2018.06.037>

Incorporating draw constraint in the lightweight and self-supporting optimisation process for selective laser melting,

Li, Z., Zhang, D.Z., Dong, P., Kucukkoc, I., Peikang, B.
The International Journal of Advanced Manufacturing Technology, 98 (1-4), pp. 405-412, 2018.
<http://doi.org/10.1007/s00170-018-2251-z>

The influence of scan length on fabricating thin-walled components in selective laser melting

Li, Z., Xu, R., Zhang, Z., Kucukkoc, I.
International Journal of Machine Tools and Manufacture, 126, pp. 1-12, 2018.
<http://doi.org/10.1016/j.ijmachtools.2017.11.012>

Optimising the process parameters of selective laser melting for the fabrication of Ti6Al4V alloy

Li, Z., Kucukkoc, I., Zhang, D. Z., Liu, F.
Rapid Prototyping Journal, 24(1), pp. 150-159, 2018.
<http://doi.org/10.1108/RPJ-03-2016-0045>

A mathematical model and artificial bee colony algorithm for the lexicographic bottleneck mixed-model assembly line balancing problem

Kucukkoc, I., Buyukozkan, K., Satoglu, S.I., Zhang, D. Z.
Journal of Intelligent Manufacturing (to appear).
<http://doi.org/10.1007/s10845-015-1150-5>

New MILP model and station-oriented ant colony optimization algorithm for balancing U-type assembly lines

Li, Z., Kucukkoc, I., Tang, Q.
Computers & Industrial Engineering, 112, pp. 107-121, 2017.
<http://doi.org/10.1016/j.cie.2017.07.005>

Balancing of mixed-model parallel U-shaped assembly lines considering model sequences

Kucukkoc, I., Zhang, D. Z.
International Journal of Production Research, 55(20), pp. 5958-5975, 2017.
<http://doi.org/10.1080/00207543.2017.1312586>

Comprehensive review and evaluation of heuristics and meta-heuristics for two-sided assembly line balancing problem

Li, Z., Kucukkoc, I., Nilakantan, J. M.
Computers & Operations Research, 84C, pp. 146-161, 2017.
<http://doi.org/10.1016/j.cor.2017.03.002>

Production Planning in Additive Manufacturing and 3D Printing

- Li, Q., Kucukkoc, I., Zhang, D. Z.
Computers & Operations Research, 83C, pp. 157-172, 2017.
<http://doi.org/10.1016/j.cor.2017.01.013>
- A Lightweight and Support-free Design Method for Selective Laser Melting
Li, Z., Zhang, D. Z., Dong, P., Kucukkoc, I.
The International Journal of Advanced Manufacturing Technology, 90(9), pp. 2943-2953, 2017.
<http://doi.org/10.1007/s00170-016-9509-0>
- Mixed-model Parallel Two-sided Assembly Line Balancing Problem: A Flexible Agent-based Ant Colony Optimization Approach
Kucukkoc, I., Zhang, D. Z.
Computers & Industrial Engineering, 97, pp. 58-72, 2016.
<http://doi.org/10.1016/j.cie.2016.04.001>
- Lexicographic Bottleneck Mixed-model Assembly Line Balancing Problem: Artificial Bee Colony and Tabu Search Approaches with Optimised Parameters
Buyukozkan, K., Kucukkoc, I., Satoglu, S.I., Zhang, D. Z.
Expert Systems with Applications, 50, pp. 151-166, 2016.
<http://doi.org/10.1016/j.eswa.2015.12.018>
- Integrating ant colony and genetic algorithms in the balancing and scheduling of complex assembly lines
Kucukkoc, I., Zhang, D. Z.
The International Journal of Advanced Manufacturing Technology, 82(1), pp. 265-285, 2016.
<http://doi.org/10.1007/s00170-015-7320-y>
- Balancing of parallel U-shaped assembly lines
Kucukkoc, I., Zhang, D. Z.
Computers & Operations Research, 64, pp. 233-244, 2016.
<http://doi.org/10.1016/j.cor.2015.05.014>
- Type-E Parallel Two-Sided Assembly Line Balancing Problem: Mathematical Model and Ant Colony Optimisation based Approach with Optimised Parameters
Kucukkoc, I., Zhang, D. Z.
Computers & Industrial Engineering, 84, pp. 56-69, 2015.
<http://doi.org/10.1016/j.cie.2014.12.037>
- A Mathematical Model and Genetic Algorithm based Approach for Parallel Two-Sided Assembly Line Balancing Problem
Kucukkoc, I., Zhang, D. Z.
Production Planning & Control, 26(11), pp. 874-894, 2015.
<http://doi.org/10.1080/09537287.2014.994685>
- Mathematical Model and Agent Based Solution Approach for the Simultaneous Balancing and Sequencing of Mixed-Model Parallel Two-Sided Assembly Lines
Kucukkoc, I., Zhang, D. Z.
International Journal of Production Economics, 158, pp. 314-333, 2014.
<http://doi.org/10.1016/j.ijpe.2014.08.010>
- Simultaneous balancing and sequencing of mixed-model parallel two-sided assembly lines
Kucukkoc, I., Zhang, D. Z.
International Journal of Production Research, 52(12), pp. 3665-3687, 2014.
<http://doi.org/10.1080/00207543.2013.879618>
- Using response surface design to determine the optimal parameters of genetic algorithm and a case study
Kucukkoc, I., Karaoglan, A. D., Yaman, R.
International Journal of Production Research, 51(17), pp. 5039-5054, 2013.
<http://doi.org/10.1080/00207543.2013.784411>

articles in peer-reviewed journals (other indexes)

Rebalancing of multi-manned mixed-model assembly lines with task relocation restrictions

Damla Camli, Ibrahim Kucukkoc, Zixiang Li

Transactions on Computational Modeling and Intelligent Systems (TCMIS), Vol. 1, 10008, 2025.

<https://doi.org/10.65112/tcmis.10008>

Scheduling of distributed additive manufacturing machines considering carbon emissions

Kucukkoc, I.

An International Journal of Optimization and Control: Theories & Applications, 14(1), 20-31, 2024.

<https://doi.org/10.11121/ijocta.1444>

Combined facility location and distribution network design problem: Progressive models and a case study

Kucukkoc, I., Acar, M.

Pamukkale University Journal of Engineering Sciences, 26 (1), pp. 157-173, 2020.

<http://doi.org/10.5505/pajes.2019.11456>

A nondominated sorting ant colony optimization algorithm for complex assembly line balancing problem incorporating incompatible task sets

Kucukkoc, I.

Pamukkale University Journal of Engineering Sciences, 24 (1), pp. 147-153, 2018.

<http://doi.org/10.5505/pajes.2017.02350>

A New Hybrid Genetic Algorithm to Solve More Realistic Mixed-Model Assembly Line Balancing Problem

Kucukkoc, I. and Yaman, R.

International Journal of Logistics Systems and Management, 14(4), pp. 405-425, 2013.

<http://doi.org/10.1504/IJLSM.2013.052745>

books

Data Driven Decision-Making for Complex Production Systems (Edited Book)

Yang, Z., Li, Y., Kucukkoc, I.

Special Issue Reprint, ISBN: 978-3-0365-9629-7

OR55 Keynote Papers and Extended Abstracts (Edited Book)

Kucukkoc, I., Mustafee, N.

OR55 Annual Conference, 2013, The OR Society UK, University of Exeter, ISBN: 0903440555.

YOR18 Keynote Papers and Extended Abstracts (Edited Book)

Kucukkoc, I.

YOR18 Biennial Conference, 2013, The OR Society UK, University of Exeter, ISBN: 0903440520.

book chapters

Batch Delivery Considerations in Additive Manufacturing Machine Scheduling Problem

Ibrahim Kucukkoc

In: Cosmi, M., Peirano, L., Raffaele, A., Samà, M. (eds) Operations Research and Data Science in Public Services. AIROYoung 2022. AIRO Springer Series, vol 11. Springer, Cham. (2023).

2D Nesting and Scheduling in Metal Additive Manufacturing

Ibrahim Kucukkoc, Zixiang Li, Qiang Li

In: Rossit D.A., Tohmé F., Mejía Delgadillo G. (eds) Production Research. ICPR-Americas 2020. Communications in Computer and Information Science, vol 1407. Springer, Cham. (2021).

Metal Additive Manufacturing: Nesting vs. Scheduling

Ibrahim Kucukkoc

In: Adriano Masone, Veronica Dal Sasso, Valentina Morandi (eds) Optimization and Data Science: Trends and Applications, Springer International Publishing (2021).

A Differential Evolution Algorithm for Balancing Mixed-Model Disassembly Lines

Ibrahim Kucukkoc, Gulsen Aydin Keskin, Zixiang Li

In: Eren Ozceylan, Surendra M. Gupta (eds) Sustainable Production and Logistics: Modeling and Analysis, CRC Press (2021).

Heuristic Techniques for Real-time Order Acceptance and Scheduling in Metal Additive Manufacturing
Li, Q., Kucukkoc, I., Zhang, D. Z.

Mathematical Modelling and Optimization of Engineering Problems, 30, 1-24, Springer (2020).

Distance Constrained Vehicle Routing Problems: A Case Study using Artificial Bee Colony Algorithm

Karaoglan, A. D., Atalay, I., Kucukkoc, I.

Mathematical Modelling and Optimization of Engineering Problems, 30, 157-173, Springer.

A Non-dominated Sorting Approach to Bi-objective Optimisation of Mixed-Model Two-Sided Assembly Lines

Kucukkoc, I.

In: Lirkov I., Margenov S. (eds) Large-Scale Scientific Computing. LSSC 2017. Lecture Notes in Computer Science, vol 10665, Springer.

peer-reviewed international conferences (full text)

The trade-off between cost and emission in additive manufacturing machine scheduling problem

Mirco Peron, Mustafa Akdemir, Ibrahim Kucukkoc

The 28th International Conference on Production Research (ICPR), 14-17 July 2025, Chía, Colombia.

Pareto Optimization for a Robotic Assembly Line Considering Robot Collaboration and Uncertain Demand

Yuchen Li, Mukund Janardhanan, Ibrahim Kucukkoc

The IEEE International Conference on Industrial Engineering and Engineering Management (IEEM-23), 18-21 December 2023, Singapore.

An Environmental Decision Support System for Determining On-site or Off-site Additive Manufacturing of Spare Parts

Enes Demiralay, Seyed Mohammad Javad Razavi, Ibrahim Kucukkoc, Mirco Peron

APMS: IFIP International Conference on Advances in Production Management Systems (APMS2023), 17-21 September 2023, NTNU Trondheim, Norway.

Batch Delivery Considerations in Additive Manufacturing Machine Scheduling Problem

Ibrahim Kucukkoc

6th AIROYoung Workshop "Operations Research and Data Science in Public Services", 23-25 February 2022, Rome, Italy.

Metal Additive Manufacturing: Nesting vs. Scheduling

Ibrahim Kucukkoc

5th AIROYoung Workshop "Optimization and Data Science: Trends and Applications", 10-12 Feb 2021, Naples, Italy.

New Algorithms for Two-Sided Disassembly Line Balancing Problem

Zixiang Li, Ibrahim Kucukkoc and Mukund Nilakantan Janardhanan

2nd International Conference on Applied Mathematics in Engineering (ICAME'21), 1-3 Sep 2021, Balikesir, Turkiye.

Mathematical formulation and meta-heuristic algorithms for cost-oriented two-sided assembly line balancing problem

Zixiang Li, Sadegh Niroomand and Ibrahim Kucukkoc

11th International Symposium on Intelligent Manufacturing and Service Systems, 27-29 May 2021, Sakarya, Turkiye.

2D Nesting and Scheduling in Metal Additive Manufacturing

Ibrahim Kucukkoc, Zixiang Li and Qiang Li

The International Conference of Production Research, ICPR - Americas 2020, 9-11 Dec 2020, Bahia Blanca, Argentina.

Dynamic Order Acceptance and Scheduling Approach for On-demand Production with Additive Manufacturing by Considering Idle Costs

Qiang Li, David Zhang and Ibrahim Kucukkoc

The International Conference of Production Research, ICPR - Americas 2020, 9-11 Dec 2020, Bahia Blanca, Argentina.

Type-1 U-shaped Assembly Line Balancing under uncertain task time

Yuchen Li, Xiaofeng Hu, Xiaowen Tang, Ibrahim Kucukkoc

9th IFAC Conference on Manufacturing Modelling, Management and Control (MIM2019), 28-30 August, Berlin.

Order acceptance and scheduling in direct digital manufacturing with additive manufacturing

Qiang Li, David Z Zhang, Ibrahim Kucukkoc

9th IFAC Conference on Manufacturing Modelling, Management and Control (MIM2019), 28-30 August, Berlin.

The Belief Reliability Optimization for a U-shaped Assembly Line

Yuchen Li, Ibrahim Kucukkoc, Xiaowen Tang

11th International Conference on Mathematical Methods in Reliability (MMR2019), 3-7 June, Hong Kong.

Branch and bound algorithm with new lower bounding methods for U-shaped assembly line balancing problem

Li, Z., Kucukkoc, I.

Proceedings of 12th International Conference on Challenges in Industrial Engineering and Operations Management, 11-12 September 2018, Ankara, page 117 (*published as a book chapter by Springer*).

Scheduling of Multiple Additive Manufacturing and 3D Printing Machines to Minimise Maximum Lateness

Kucukkoc, I., Li, Q., He, N., Zhang, D.

In Grubbström, R.W, Hinterhuber, H.H., (Eds), PrePrints, 20th International Working Seminar on Production Economics, Innsbruck, Austria, February 19-23, vol. 1, pages 237-247.

Order Acceptance and Scheduling in Metal Additive Manufacturing: An Optimal Foraging Approach,

Li, Q., Kucukkoc, I., He, N., Zhang, D., Wang, S.

In Grubbström, R.W, Hinterhuber, H.H., (Eds), PrePrints, 20th International Working Seminar on Production Economics, Innsbruck, Austria, February 19-23, vol. 1, 225-235.

A non-dominated sorting approach to bi-objective optimisation of mixed-model two-sided assembly lines

Kucukkoc, I.

11th International Conference on Large-Scale Scientific Computations, Sozopol, Bulgaria, June 5-9, 2017, 8 pages (to be published as full text in Springer Lecture Notes in Computer Science).

Scheduling Customized Orders: A Case Study at Best Transformers Company

Ocaktan, M.A. B., Kucukkoc, I., Karaoglan, A. D., Cicibas, A., Buyukozkan, K.

The 6th International Conference on Mechanics and Industrial Engineering (ICMIE'17), Rome, Italy, June 8-10, 2017, ID:118, 8 Pages, DOI: 10.11159/icmie17.118.

Rebalancing of mixed-model two-sided assembly lines with incompatible task groups: An industrial case study

Zhang, D. Z., Kucukkoc, I., Karaoglan, A. D.

46th International Conference on Computers and Industrial Engineering (CIE46), Tianjin, China, October 29-31, 2016, ID:170, 8 pages.

Increasing the utilisation of additive manufacturing and 3D printing machines considering order delivery times

Kucukkoc, I., Li, Q., Zhang, D. Z.

In Grubbström, R.W, Hinterhuber, H.H., (Eds), PrePrints, Vol. 3, 19th International Working Seminar on Production Economics, Innsbruck, Austria, February 22-26, 2016, 195-201.

Multi-objective Optimization of Mixed-model Two-sided Assembly Lines - A Case Study

Kucukkoc, I.
International Conference on Computer Science and Engineering, Tekirdağ, Türkiye, 20-23 October 2016, 249-255.

Coping with Model Variations on Parallel U-shaped Assembly Line Configurations

Kucukkoc, I., Zhang, D. Z.

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45th Operations Research/Industrial Engineering National Congress (YAEM'2025), Gazi University, June 25-27, 2025.
- Bir Gıda İşletmesinde Çizelgeleme Çalışması
Keskin, G.A., Kucukkoc, I., Karaoglan, A.D., Karadag, S.
41th Operations Research/Industrial Engineering National Congress (YAEM'2022), Pamukkale University, October 24-26, 2022.
- Üç Boyutlu Baskı Makinelerinde İş Çizelgeleme: Genetik Algoritma Tabanlı Bir Yaklaşım
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39th Operations Research/Industrial Engineering National Congress, Başkent University, June 12-14, 2019.

Paralel Üç Boyutlu Yazıcı Çizelgeleme Problemi: Toplam Gecikme ve Ağırlıklı Geciken İş Sayısının Minimizasyonu

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Yaman, R., Kucukkoc, I.

Proceedings of the 31th Operations Research/Industrial Engineering National Congress, Sakarya Üniversitesi, July 5-7, 2011, pp. 219-230.

committee roles

Technical Committee Member

18th International Conference on Computer Modeling and Simulation (ICCMS), May 15-17, 2026, Hangzhou, China

The 5th International Conference on Computer Technologies (ICCTech-2026), February 3-5, 2026, Langkawi, Malaysia

Program Committee Member

The 4th International Conference on Applied Mathematics in Engineering (ICAME'26), 2-4 September 2026, Cunda, Balıkesir, Türkiye

The 3rd International Conference on Applied Mathematics in Engineering (ICAME'24), 24-26 June 2024, Ayvalık, Balıkesir, Türkiye

Organising Committee Member

The 2nd International Conference on Applied Mathematics in Engineering (ICAME'21), 1-3 Sep 2021, Balıkesir, Türkiye

The 48th International Conference on Computers & Industrial Engineering (CIE48), 2-5 December 2018, Wellington, New Zealand

International Conference on Applied Mathematics in Engineering (ICAME'18), 27-29 June 2018, Balıkesir, Türkiye

The 19th National Ergonomics Congress, Balıkesir University, 27-29 September 2013, Balıkesir, Türkiye

OR55 Annual Conference, The OR Society, 3-5 September 2013, University of Exeter, England

YOR18 Biennial Conference, The OR Society, 9-11 April 2013, University of Exeter, England

Programme/Scientific Committee Member

The 13th International Symposium on Intelligent Manufacturing and Service Systems (IMSS'25), 25-27 Sep 2025, Düzce, Türkiye

The 12th International Symposium on Intelligent Manufacturing and Service Systems (IMSS'23), 26-28 May 2023, Sakarya, Türkiye

41th Operations Research/Industrial Engineering National Congress, 26-28 October 2022, Denizli, Türkiye

11th International Symposium on Intelligent Manufacturing and Service Systems (IMSS'21), 27-29 May 2021, Sakarya, Türkiye

12th International Conference on Challenges in Industrial Engineering and Operations Management, 11-12 September 2018, Ankara, Türkiye

International Conference on Artificial Intelligence and Control Automation (AICA2015), 16-17 January 2015, Phuket Island, Thailand

International Conference on Advances in Computing, Communication and Control: ICAC3, January 2015, Mumbai

3rd International Conference on Advances in Computing, Communication and Control: ICAC3, 18-19 January 2013, Mumbai

referee positions

Information Sciences, Elsevier, 2016 – Present
International Journal of Production Economics, Elsevier, 2016 – Present
Computers & Operations Research, Elsevier, 2015 – Present
IEEE Transactions on Systems, Man and Cybernetics: Systems, 2018 – Present
Journal of Manufacturing Systems, 2021 – Present
Expert Systems with Applications, Elsevier, 2016 – Present
Applied Soft Computing, Elsevier, 2013 – Present
Applied Mathematical Modelling, Elsevier, 2015 – Present
International Journal of Production Research, Taylor & Francis, 2014 – Present
The International Journal of Advanced Manufacturing Technology, 2018 – Present
Assembly Automation (AA), Emerald, 2012 – Present
Journal of Intelligent Manufacturing, Springer, 2017 – Present
Flexible Services and Manufacturing Journal, 2018 – Present
Engineering Optimization, Taylor & Francis, 2016 – Present
Journal of Facilities Management (JFM), Emerald, 2013 – Present
Neural Computing and Applications (NCA), Springer, 2013 – Present
International Journal of Industrial Engineering: Theory, Applications and Practice, 2014 – Present
Production & Manufacturing Research: An Open Access Journal, Taylor & Francis, 2013 – Present
Iberoamerican Journal of Industrial Engineering (IJIE), 2013 – Present
Gazi University Journal of Science (GUJS), Part A: Engineering and Innovation, 2014 – Present

teaching experience

Balikesir University

Delivered courses:

ENM5223 – Advanced Programming Applications in Industrial Engineering, Postgraduate
ENM5127 – Nature Inspired Computing, Postgraduate
ENM5128 – Scheduling in Production and Service Systems, Postgraduate
EMM3121 – Production Planning and Control, Undergraduate
BIL1202 – Introduction to Algorithms and Programming, Undergraduate
EMM3208 – Optimisation Techniques, Undergraduate
EMM4208 – Design and Analysis of Assembly Lines, Undergraduate
EMM4129 – Scheduling, Undergraduate
EMM3115 – Advanced Programming, Undergraduate
EMM4131 – Population-based Algorithms, Undergraduate

Beykoz University

Delivered courses:

60542TATOZ-ISL0195 – Yöneylem Araştırması, Undergraduate
60542TAE0Z-BUS0175 – Operations Research, Undergraduate

University of Exeter

Tutored/assisted modules:

ECM1101 – Professional Studies and Skills Development
ECM3171 – Computer Aided Engineering Drawing
ECM2106 – Manufacturing Systems
ECM1101 – Professional Studies and Skills Development