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## Qualifications

Postdoc, University of Liege  
Jan 20 2007 → Oct 31 2007  
Ph.D. in Industrial Engineering, Bilkent University  
Sept 1 2002 → Jan 1 2007  
MSc in Industrial Engineering, Bilkent University  
Sept 1 2000 → Jun 1 2002  
BSc in Industrial Engineering, Bilkent University  
Sept 1 1996 → Jun 1 2000

## Employment

Mechanical and Industrial Engineering  
Sultan Qaboos University  
Aug 28 2018 → Jun 30 2024

## Research outputs

### Communication-Aware Drone Delivery Problem

Cicek, C. T., Koc, C., Gultekin, H. & Erdogan, G., 2024, In: IEEE Transactions on Intelligent Transportation Systems. p. 1-13 13 p.

### Defining Artificial Neural Network Hyperparameters for Forecasting Nonstationary Demand of Spare Parts

Al-Shehemi, A., Alsaify, M., Al-Hinai, N. & Gultekin, H., Apr 29 2023, *International Conference on Mechanical, Automotive and Mechatronics Engineering*.

### Unrelated Parallel Machine Scheduling with Sequence and Machine Dependent Setup Times and Resource Constraints

Gultekin, H. & Al-Hinai, N., Apr 29 2023.

### Scheduling a dual gripper material handling robot with energy considerations

Gürel, S., Gultekin, H. & Emiroglu, N., Apr 1 2023, In: Journal of Manufacturing Systems. 67, p. 265-280 16 p.

### Integrated Team Planning and Maintenance Scheduling for Geographically Distributed Assets

Al Riyami, A., Gultekin, H. & Summad, E., Mar 9 2023.

### Optimal Location and Sizing of Electric Bus Battery Swapping Station in Microgrid Systems by Considering Revenue Maximization

Kocer, M. C., Onen, A., Jung, J., Gultekin, H. & Albayrak, S., Jan 1 2023, In: IEEE Access. 11, p. 41084-41095 12 p.

### Privacy protection via joint real and reactive load shaping in smart grids

Kement, C. E., Ilić, M., Gultekin, H., Cicek, C. T. & Tavli, B., Dec 2022, In: Sustainable Energy, Grids and Networks. 32, 100794.

### Communication-aware Drone Delivery Problem

Cicek, C. T., Koç, Ç., Gultekin, H. & Erdoğan, G., Mar 11 2022.

**Robotic Cell Design Through Operation Assignment Integrated with Sequencing of Robot Moves**  
Gultekin, H., Mar 7 2022.

**Communication-aware Drone Delivery Problem Instances.**  
Cicek, C. T., Koç, Ç., Gultekin, H. & Erdogan, G., 2022

**Enhancing Unplanned Maintenance Priorities Using Artificial Neural Networks: Case Study From Oman Oil & Gas Industry**  
Alfahdi, K., Gultekin, H. & Summad, E., 2022.

**Bicriteria scheduling of a material handling robot in an m-machine cell to minimize the energy consumption of the robot and the cycle time**  
Gultekin, H., Gürel, S. & Taspinar, R., Dec 2021, In: *Robotics and Computer-Integrated Manufacturing*. 72, 102207.

**A Holistic Analysis of Privacy-Aware Smart Grid Demand Response**  
Kement, C. E., Gultekin, H. & Tavli, B., Aug 2021, In: *IEEE Transactions on Industrial Electronics*. 68, 8, p. 7631-7641 11 p., 9138735.

**3-D dynamic UAV base station location problem**  
Cicek, C. T., Shen, Z. J. M., Gultekin, H. & Tavli, B., Jun 2021, In: *INFORMS Journal on Computing*. 33, 3, p. 839-860 22 p.

**Holistic Privacy for Electricity, Water, and Natural Gas Metering in Next Generation Smart Homes**  
Kement, C. E., Tavli, B., Gultekin, H. & Yanikomeroglu, H., Mar 2021, In: *IEEE Communications Magazine*. 59, 3, p. 24-29 6 p., 9422335.

**The airport shuttle bus scheduling problem**  
Öner, N., Gultekin, H. & Koç, Ç., 2021, In: *International Journal of Production Research*. 59, 24, p. 7400-7422 23 p.

**Measuring the value of energy storage systems in a power network**  
Agrali, C., Gultekin, H., Tekin, S. & Oner, N., Sept 2020, In: *International Journal of Electrical Power and Energy Systems*. 120, 106022.

**Backhaul-Aware Optimization of UAV Base Station Location and Bandwidth Allocation for Profit Maximization**  
Cicek, C. T., Gultekin, H., Tavli, B. & Yanikomeroglu, H., 2020, In: *IEEE Access*. 8, p. 154573-154588 16 p., 9174722.

**The location-allocation problem of drone base stations**  
Cicek, C. T., Gultekin, H. & Tavli, B., Nov 2019, In: *Computers and Operations Research*. 111, p. 155-176 22 p.

**Energy conscious scheduling of a material handling robot in a manufacturing cell**  
Gürel, S., Gultekin, H. & Akhlaghi, V. E., Aug 2019, In: *Robotics and Computer-Integrated Manufacturing*. 58, p. 97-108 12 p.

**UAV Base Station Location Optimization for Next Generation Wireless Networks: Overview and Future Research Directions**  
Cicek, C. T., Gultekin, H., Tavli, B. & Yanikomeroglu, H., Mar 4 2019, *2019 1st International Conference on Unmanned Vehicle Systems-Oman, UVS 2019*. Institute of Electrical and Electronics Engineers Inc., 8658363. (2019 1st International Conference on Unmanned Vehicle Systems-Oman, UVS 2019).

**Cyclic scheduling of parts and robot moves in m-machine robotic cells**  
Gultekin, H., Coban, B. & Akhlaghi, V. E., Feb 2018, In: *Computers and Operations Research*. 90, p. 161-172 12 p.

**Backhaul-Aware Placement of a UAV-BS with Bandwidth Allocation for User-Centric Operation and Profit Maximization.**  
Cicek, C. T., Kutlu, T., Gultekin, H., Tavli, B. & Yanikomeroglu, H., 2018, In: CoRR. abs/1810.12395

**Pure cycles in two-machine dual-gripper robotic cells**

Gultekin, H., Dalgıç, Ö. O. & Akturk, M. S., Dec 1 2017, In: Robotics and Computer-Integrated Manufacturing. 48, p. 121-131 11 p.

**Comparative Analysis of Load-Shaping-Based Privacy Preservation Strategies in a Smart Grid**

Kement, C. E., Gultekin, H., Tavli, B., Girici, T. & Uludag, S., Dec 2017, In: IEEE Transactions on Industrial Informatics. 13, 6, p. 3226-3235 10 p., 7956260.

**Maximizing Wireless Sensor Network lifetime by communication/computation energy optimization of non-repudiation security service: Node level versus network level strategies**

Yildiz, H. U., Bicakci, K., Tavli, B., Gultekin, H. & Incebacak, D., Feb 1 2016, In: Ad Hoc Networks. 37, p. 301-323 23 p.

**Scheduling in two-machine robotic cells with a self-buffered robot**

Gundogdu, E. & Gultekin, H., Feb 1 2016, In: IIE Transactions (Institute of Industrial Engineers). 48, 2, p. 170-191 22 p.

**Automated robotic assembly line design with unavailability periods and tool changes**

Gultekin, H., Tula, A. & Selim Akturk, M., 2016, In: European Journal of Industrial Engineering. 10, 4, p. 499-526 28 p.

**Two-machine flowshop scheduling with flexible operations and controllable processing times**

Uruk, Z., Gultekin, H. & Akturk, M. S., Feb 2013, In: Computers and Operations Research. 40, 2, p. 639-653 15 p.

**Scheduling in flowshops with flexible operations: Throughput optimization and benefits of flexibility**

Gultekin, H., Dec 2012, In: International Journal of Production Economics. 140, 2, p. 900-911 12 p.

**Minimizing the Makespan in flowshops with flexible operations**

Demirtas, H. H. & Gultekin, H., 2012, *Proceedings - INCOM'12, 14th IFAC Symposium on Information Control Problems in Manufacturing*. PART 1 ed. IFAC Secretariat, p. 1366-1370 5 p. (IFAC Proceedings Volumes (IFAC-PapersOnline); vol. 14, no. PART 1).

**Maximizing lifetime of event-unobservable wireless sensor networks**

Bicakci, K., Gultekin, H., Tavli, B. & Bagci, I. E., Jun 2011, In: Computer Standards and Interfaces. 33, 4, p. 401-410 10 p.

**Design of a fully automated robotic spot-welding line**

Akturk, M. S., Tula, A. & Gultekin, H., 2011, *ICINCO 2011 - Proceedings of the 8th International Conference on Informatics in Control, Automation and Robotics*. p. 387-392 6 p. (ICINCO 2011 - Proceedings of the 8th International Conference on Informatics in Control, Automation and Robotics; vol. 2).

**Throughput optimization in two-machine flowshops with flexible operations**

Crama, Y. & Gultekin, H., Jun 2010, In: Journal of Scheduling. 13, 3, p. 227-243 17 p.

**Bicriteria robotic operation allocation in a flexible manufacturing cell**

Gultekin, H., Akturk, M. S. & Karasan, O. E., Apr 2010, In: Computers and Operations Research. 37, 4, p. 779-789 11 p.

**The impact of one-time energy costs on network lifetime in wireless sensor networks**

Bicakci, K., Gultekin, H. & Tavli, B., Dec 2009, In: IEEE Communications Letters. 13, 12, p. 905-907 3 p., 5353258.

**Pure cycles in flexible robotic cells**

Gultekin, H., Ekin Karasan, O. & Akturk, M. S., Feb 2009, In: Computers and Operations Research. 36, 2, p. 329-343 15 p.

Bicriteria robotic cell scheduling

Gultekin, H., Akturk, M. S. & Karasan, O. E., Dec 2008, In: Journal of Scheduling. 11, 6, p. 457-473 17 p.

Scheduling in robotic cells: Process flexibility and cell layout

Gultekin, H., Akturk, M. S. & Karasan, O. E., Apr 2008, In: International Journal of Production Research. 46, 8, p. 2105-2121 17 p.

Scheduling in a three-machine robotic flexible manufacturing cell

Gultekin, H., Akturk, M. S. & Ekin Karasan, O., Aug 2007, In: Computers and Operations Research. 34, 8, p. 2463-2477 15 p.

Cyclic scheduling of a 2-machine robotic cell with tooling constraints

Gultekin, H., Akturk, M. S. & Karasan, O. E., Oct 16 2006, In: European Journal of Operational Research. 174, 2, p. 777-796 20 p.

Scheduling in a three-machine flexible robotic cell

Gultekin, H., Akturk, M. S. & Karasan, O. E., 2006, *12th IFAC Symposium on Information Control Problems in Manufacturing, INCOM 2006, and Associated Industrial Meetings: EMM'2006, BPM'2006, JT'2006*. PART 1 ed. IFAC Secretariat, (IFAC Proceedings Volumes (IFAC-PapersOnline); vol. 12, no. PART 1).

Robotic cell scheduling with operational flexibility

Akturk, M. S., Gultekin, H. & Karasan, O. E., Jan 30 2005, In: Discrete Applied Mathematics. 145, 3, p. 334-348 15 p.

## Projects

**Energy Efficient Scheduling in Manufacturing: Energy-Time Trade-off in Parallel Machine Environments**

Gultekin, H.

1/1/20 → 12/31/22

**TTotP: Energy Efficient Scheduling in Manufacturing: Energy-Time Trade-off in Parallel Machine Environments**

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**Energy Efficient Scheduling in Manufacturing: Energy-Time Trade-off in Parallel Machine Environments**

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1/1/20 → 12/31/21

## Courses

**MEIE3269 Mathematics of Linear Programming**

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9/1/21 → 12/31/21

**MEIE3271 Methods of Operations Research**

Hakan Gultekin

1/1/22 → 5/19/22

**MEIE4275 Facilities Design and Logistics**

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1/1/22 → 5/31/22

**MEIE4285 Engineering Economics**

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1/1/21 → 5/31/21

**MEIE5262 Industrial Systems Design**

Hakan Gultekin  
9/1/21 → 12/31/21