

**Assoc. Prof. BETÜL SULTAN
YILDIZ**



Personal Information

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Education Information

Doctorate, Bursa Technical University, Institute Of Science, Makina Mühendisliği Bölümü,
Turkey 2011 - 2016

Postgraduate, Bursa Uludağ University, Turkey 2008 - 2010

Undergraduate, Bursa Uludağ University, Turkey 2002 - 2006



Dissertations

Doctorate, Otomotiv sektöründe yenilikçi ürün tasarımı için yeni nesil bütünleşik tekniklerin geliştirilmesi, Bursa
Technical University, Institute Of Science, Makina Mühendisliği(Mekanik Anabilim Dalı), 2016

Postgraduate, Hava jetli dokuma makinalarında ağızlık geometrisinin matematiksel olarak modellenmesi, Bursa Uludağ
University, Mühendislik Fakültesi, Tekstil Mühendisliği, 2010

Research Areas

Heuristic Methods, Mechanical Engineering, Mechanical, Solid Mechanics, Finite Element Methods

Academic Titles / Tasks

Associate Professor, Bursa Uludağ University, Teknik Bilimler Myo, Elektrik Ve Enerji, 2020 - Continues

Courses

Mühendislikte Metamodelleme ve Yapay Zeka Uygulamaları , Postgraduate, 2021 - 2022

MÜHENDİSLİKTE YAPISAL TASARIM VE OPTİMİZASYON, Postgraduate, 2021 - 2022

TAŞIT MEKANİĞİ, Associate Degree, 2021 - 2022

OTOMOTİV MALZEME TEKNOLOJİSİ, Associate Degree, 2021 - 2022

MAKİNE BİLİMİ VE ELEMANLARI, Associate Degree, 2020 - 2021

PROGRAMLAMA VE İLETİŞİM TEKNOLOJİLERİ, Associate Degree, 2020 - 2021

MESLEKİ MATEMATİK, Associate Degree, 2020 - 2021

Advising Theses

Yıldız B. S. , Yüzey Hazırlama İşlemlerinin Kauçuk ile Metalin Yapışmasına Etkilerinin İncelenmesi, Postgraduate,
G.Kaya(Student), 2022

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

- I. **Gradient-based optimizer for economic optimization of engineering problems**
Mehta P., YILDIZ B. S. , Sait S. M. , YILDIZ A. R.
MATERIALS TESTING, vol.64, no.5, pp.690-696, 2022 (Journal Indexed in SCI)
- II. **Hunger games search algorithm for global optimization of engineering design problems**
Mehta P., YILDIZ B. S. , Sait S. M. , YILDIZ A. R.
MATERIALS TESTING, vol.64, no.4, pp.524-532, 2022 (Journal Indexed in SCI)
- III. **A new chaotic Levy flight distribution optimization algorithm for solving constrained engineering problems**
Yildiz B. S. , Kumar S., Pholdee N., Bureerat S., Sait S. M. , Yıldız A. R.
EXPERT SYSTEMS, 2022 (Journal Indexed in SCI)
- IV. **Comparison of metaheuristic optimization algorithms for solving constrained mechanical design optimization problems**
Gupta S., Abderazek H., YILDIZ B. S. , YILDIZ A. R. , Mirjalili S., Sait S. M.
EXPERT SYSTEMS WITH APPLICATIONS, vol.183, 2021 (Journal Indexed in SCI)
- V. **Enhanced grasshopper optimization algorithm using elite opposition-based learning for solving real-world engineering problems**
YILDIZ B. S. , Pholdee N., Bureerat S., YILDIZ A. R. , Sait S. M.
ENGINEERING WITH COMPUTERS, 2021 (Journal Indexed in SCI)
- VI. **Robust design of a robot gripper mechanism using new hybrid grasshopper optimization algorithm**
YILDIZ B. S. , Pholdee N., Bureerat S., YILDIZ A. R. , Sait S. M.
EXPERT SYSTEMS, vol.38, no.3, 2021 (Journal Indexed in SCI)
- VII. **Comparison of the political optimization algorithm, the Archimedes optimization algorithm and the Levy flight algorithm for design optimization in industry**
Yildiz B. S. , Pholdee N., Bureerat S., Erdas M. U. , YILDIZ A. R. , Sait S. M.
MATERIALS TESTING, vol.63, no.4, pp.356-359, 2021 (Journal Indexed in SCI)
- VIII. **Conceptual comparison of the ecogeography-based algorithm, equilibrium algorithm, marine predators algorithm and slime mold algorithm for optimal product design**
YILDIZ B. S. , Patel V., Pholdee N., Sait S. M. , Bureerat S., YILDIZ A. R.
MATERIALS TESTING, vol.63, no.4, pp.336-340, 2021 (Journal Indexed in SCI)
- IX. **A novel chaotic Henry gas solubility optimization algorithm for solving real-world engineering problems**
YILDIZ B. S. , Pholdee N., Panagant N., Bureerat S., YILDIZ A. R. , Sait S. M.
ENGINEERING WITH COMPUTERS, 2021 (Journal Indexed in SCI)
- X. **Sine-cosine optimization algorithm for the conceptual design of automobile components**
Yildiz B. S. , Pholdee N., Bureerat S., YILDIZ A. R. , Sait S. M.
MATERIALS TESTING, vol.62, no.7, pp.744-748, 2020 (Journal Indexed in SCI)
- XI. **The equilibrium optimization algorithm and the response surface based metamodel for optimal structural design of vehicle components**
Ozkaya H., Yildiz M., YILDIZ A. R. , Bureerat S., Yildiz B. S. , Sait S. M.
MATERIALS TESTING, vol.62, no.5, pp.492-496, 2020 (Journal Indexed in SCI)
- XII. **The mine blast algorithm for the structural optimization of electrical vehicle components**
Yildiz B. S.
MATERIALS TESTING, vol.62, no.5, pp.497-501, 2020 (Journal Indexed in SCI)
- XIII. **Optimal design of automobile structures using moth-flame optimization algorithm and response surface methodology**
Yildiz B. S.
MATERIALS TESTING, vol.62, no.4, pp.371-377, 2020 (Journal Indexed in SCI)
- XIV. **Butterfly optimization algorithm for optimum shape design of automobile suspension components**
Yildiz B. S. , YILDIZ A. R. , ALBAK E. İ. , Abderazek H., Sait S. M. , Bureerat S.
MATERIALS TESTING, vol.62, no.4, pp.365-370, 2020 (Journal Indexed in SCI)

- XV. **The spotted hyena optimization algorithm for weight-reduction of automobile brake components**
Yildiz B. S.
MATERIALS TESTING, vol.62, no.4, pp.383-388, 2020 (Journal Indexed in SCI)
- XVI. **The Henry gas solubility optimization algorithm for optimum structural design of automobile brake components**
Yildiz B. S. , YILDIZ A. R. , Pholdee N., Bureerat S., Sait S. M. , Patel V.
MATERIALS TESTING, vol.62, no.3, pp.261-264, 2020 (Journal Indexed in SCI)
- XVII. **Robust design of electric vehicle components using a new hybrid salp swarm algorithm and radial basis function-based approach**
YILDIZ B. S.
INTERNATIONAL JOURNAL OF VEHICLE DESIGN, vol.83, no.1, pp.38-53, 2020 (Journal Indexed in SCI)
- XVIII. **Slime mould algorithm and kriging surrogate model-based approach for enhanced crashworthiness of electric vehicles**
YILDIZ B. S.
INTERNATIONAL JOURNAL OF VEHICLE DESIGN, vol.83, no.1, pp.54-68, 2020 (Journal Indexed in SCI)
- XIX. **The Harris hawks optimization algorithm, salp swarm algorithm, grasshopper optimization algorithm and dragonfly algorithm for structural design optimization of vehicle components**
Yildiz B. S. , YILDIZ A. R.
MATERIALS TESTING, vol.61, no.8, pp.744-748, 2019 (Journal Indexed in SCI)
- XX. **The Harris hawks, grasshopper and multi-verse optimization algorithms for the selection of optimal machining parameters in manufacturing operations**
YILDIZ A. R. , Yildiz B. S. , Sait S. M. , Li X.
MATERIALS TESTING, vol.61, no.8, pp.725-733, 2019 (Journal Indexed in SCI)
- XXI. **A new hybrid Harris hawks-Nelder-Mead optimization algorithm for solving design and manufacturing problems**
YILDIZ A. R. , Yildiz B. S. , Sait S. M. , Bureerat S., Pholdee N.
MATERIALS TESTING, vol.61, no.8, pp.735-743, 2019 (Journal Indexed in SCI)
- XXII. **Experimental and numerical fatigue-based design optimisation of clutch diaphragm spring in the automotive industry**
Karaduman A., Yildiz B. S. , YILDIZ A. R.
INTERNATIONAL JOURNAL OF VEHICLE DESIGN, vol.80, no.2-4, pp.330-345, 2019 (Journal Indexed in SCI)
- XXIII. **Comparison of grey wolf, whale, water cycle, ant lion and sine-cosine algorithms for the optimization of a vehicle engine connecting rod**
Yildiz B. S. , YILDIZ A. R.
MATERIALS TESTING, vol.60, no.3, pp.311-315, 2018 (Journal Indexed in SCI)
- XXIV. **Moth-flame optimization algorithm to determine optimal machining parameters in manufacturing processes**
Yildiz B. S. , Yildiz A. R.
MATERIALS TESTING, vol.59, no.5, pp.425-429, 2017 (Journal Indexed in SCI)
- XXV. **Natural frequency optimization of vehicle components using the interior search algorithm**
Yildiz B. S.
MATERIALS TESTING, vol.59, no.5, pp.456-458, 2017 (Journal Indexed in SCI)
- XXVI. **Fatigue-based structural optimisation of vehicle components**
Yildiz B. S. , Lekesiz H.
INTERNATIONAL JOURNAL OF VEHICLE DESIGN, vol.73, no.1-3, pp.54-62, 2017 (Journal Indexed in SCI)
- XXVII. **A comparative investigation of eight recent population-based optimisation algorithms for mechanical and structural design problems**
Yildiz B. S.
INTERNATIONAL JOURNAL OF VEHICLE DESIGN, vol.73, no.1-3, pp.208-218, 2017 (Journal Indexed in SCI)
- XXVIII. **Optimization of thin-wall structures using hybrid gravitational search and Nelder-Mead algorithm**
Yildiz A. R. , Kurtulus E., Demirci E., Yildiz B. S. , Karagoz S.

MATERIALS TESTING, vol.58, no.1, pp.75-78, 2016 (Journal Indexed in SCI)

XXIX. Structural design of vehicle components using gravitational search and charged system search algorithms

Yildiz B. S. , Lekesiz H., Yildiz A. R.

MATERIALS TESTING, vol.58, no.1, pp.79-81, 2016 (Journal Indexed in SCI)

Articles Published in Other Journals

I. Optimal Design of Automotive Suspension Springs Using Differential Evolution Algorithm

YILDIZ B. S.

Uludağ University Journal of The Faculty of Engineering, vol.23, no.3, pp.207-214, 2018 (Other Refereed National Journals)

Refereed Congress / Symposium Publications in Proceedings

I. Topology Optimisation of an Automobile Brake System Component Under Dynamic Loading Conditions

YILDIZ B. S.

UMTIK 2018, the 18th International Conference on Machine Design and Production, 3 - 06 June 2018

II. A numerical investigation on crash performance of automobile energy absorber using magnesium alloys

YILDIZ B. S.

International Symposium on Light Alloys and Composite Materials, 22 - 24 March 2018

III. Structural optimization using meta-heuristic algorithms in automotive industry

YILDIZ B. S. , LEKESİZ H., YILDIZ A. R.

UMTIK-2016-- 17th International Conference on Machine Design and Production, 12 - 15 July 2016

IV. Yeni Nesil Sezgisel Algoritmalar Kullanılarak Taşıt Elemanlarının Optimum Tasarımı

YILDIZ B. S. , YILDIZ A. R.

UMTIK-2016-- 17th International Conference on Machine Design and Production, 12 - 15 July 2016

Supported Projects

Yıldız B. S. , Yıldız A. R. , TUBİTAK Project, Taşıt Elemanlarının Optimum Yapısal Tasarımı İçin Yeni Bir Yaklaşım Geliştirilmesi, 2014 - 2016

Scientific Refereeing

INTERNATIONAL JOURNAL OF MECHANICAL SCIENCES, SCI Journal, February 2022

INFORMATION SCIENCES, SCI Journal, January 2022

ENGINEERING WITH COMPUTERS, SCI Journal, January 2022

ENERGY REPORTS, SCI Journal, January 2022

CYBERNETICS AND SYSTEMS, SCI Journal, January 2022

CYBERNETICS AND SYSTEMS, SCI Journal, January 2022

INTERNATIONAL JOURNAL OF PHOTOENERGY, National Scientific Refereed Journal, January 2022

ARTIFICIAL INTELLIGENCE REVIEW, SCI Journal, December 2021

PROCEEDINGS OF THE INSTITUTION OF MECHANICAL ENGINEERS PART D-JOURNAL OF AUTOMOBILE ENGINEERING, SCI Journal, November 2021

EXPERT SYSTEMS, SCI Journal, November 2021

IEEE ACCESS, SCI Journal, August 2021

EXPERT SYSTEMS WITH APPLICATIONS, SCI Journal, July 2021

ENGINEERING APPLICATIONS OF ARTIFICIAL INTELLIGENCE, SCI Journal, June 2021

ENGINEERING OPTIMIZATION, SCI Journal, March 2021

KNOWLEDGE-BASED SYSTEMS, National Scientific Refreed Journal, February 2020

INTERNATIONAL JOURNAL OF VEHICLE DESIGN, SCI Journal, January 2020

SENSORS, SCI Journal, December 2019

Citations

Total Citations (WOS):1304

h-index (WOS):20

Awards

Yıldız B. S. , Yıllık Etki İndeksinde %2'lik Dilime Giren Bilim İnsanı Ödülü, Bursa Uludağ Üniversitesi, December 2021