ISSN: 2667-419X

ESKİŞEHİR TECHNICAL UNIVERSITY JOURNAL OF SCIENCE AND TECHNOLOGY
B– Theoretical Sciences

ESKİŞEHİR TEKNİK ÜNİVERSİTESİ BİLİM VE TEKNOLOJİ DERGİSİ
B– Teorik Bilimler

ICONAT 2021 SPECICAL ISSUE

Volume/Cilt 9 – December / Aralık 2021

ESKİŞEHİR TECHNICAL UNIVERSITY JOURNAL OF SCIENCE AND TECHNOLOGY
B- Theoretical Sciences
Eskişehir Teknik Üniversitesi Bilim ve Teknoloji Dergisi B – Teorik Bilimler

Volume: 9 / December / 2021
ICONAT Special Issue

Eskişehir Technical University Journal of Science and Technology B - Theoretical Sciences (formerly Anadolu University Journal of Science and Technology B – Theoretical Sciences) is an **peer-reviewed** and **refereed international journal** by Eskişehir Technical University. Since 2010, it has been regularly published and distributed biannually and it has been published biannually and **electronically only since 2016**.

Manuscripts submitted for publication are analyzed in terms of scientific quality, ethics and research methods in terms of its compliance by the Editorial Board representatives of the relevant areas. Then, the abstracts of the appropriate articles are sent to two different referees with a well-known in scientific area. If the referees agree to review the article, full text in the framework of the privacy protocol is sent. In accordance with the decisions of referees, either directly or corrected article is published or rejected. Confidential reports of the referees in the journal archive will be retained for ten years. All post evaluation process is done electronically on the internet. Detailed instructions to authors are available in each issue of the journal.

Eskişehir Technical University holds the copyright of all published material that appear in Eskişehir Technical University Journal of Science and Technology B - Theoretical Sciences.

"Anadolu Üniversitesi Bilim ve Teknoloji Dergisi B- Teorik Bilimler (Anadolu University Journal of Science and Technology B - Theoretical Sciences)" published within Anadolu University started to be published within Eskişehir Technical University which was established due to statute law 7141, in 2018. Hence, the name of the journal is changed to "Eskişehir Teknik Üniversitesi Bilim ve Teknoloji Dergisi B- Teorik Bilimler (Eskişehir Technical University Journal of Science and Technology B - Theoretical Sciences)".

Indexed by **DOAJ** - Directory of Open Access Journals, **EBSCO** and **ULAKBIM**

ISSN: 2667-419X

ESKİŞEHİR TECHNICAL UNIVERSITY JOURNAL OF SCIENCE AND TECHNOLOGY
B- Theoretical Sciences
Eskişehir Teknik Üniversitesi Bilim ve Teknoloji Dergisi B – Teorik Bilimler

Volume: 9 / December / 2021
ICONAT Special Issue

OWNER / SAHİBİ

Prof. Dr. Tuncay DÖĞEROĞLU for Eskişehir Technical University

Eskişehir Teknik Üniversitesi Rektörü Prof. Dr. Tuncay DÖĞEROĞLU

EDITOR-IN-CHIEF /BAŞ EDİTÖR

Prof. Dr. Murat TANIŞLI
Eskişehir Technical University, Institute of Graduate Programs, 26470 Eskişehir, TURKEY
Phone: +90-222-321 35 50 /ext.: 1755
Fax: +90-222 321 35 50/ 1756
e-mail: mtanisli@eskisehir.edu.tr

CONTACT / İLETİŞİM

Eskişehir Technical University, Graduate School of Sciences
26470 Eskişehir, TURKEY
Phone: +90-222-321 35 50 /ext.: 1767
Fax: +90-222 321 35 50/ 1756
e-mail : btdb@eskisehir.edu.tr

ESKİŞEHİR TECHNICAL UNIVERSITY JOURNAL OF SCIENCE AND TECHNOLOGY
B- Theoretical Sciences
Eskişehir Teknik Üniversitesi Bilim ve Teknoloji Dergisi B – Teorik Bilimler

Volume: 9 / December / 2021
ICONAT Special Issue

OWNER / SAHİBİ

Tuncay DÖĞEROĞLU, **The Rector of Eskişehir Technical University / Eskişehir Teknik Üniversitesi Rektörü**

EDITOR IN CHIEF / BAŞ EDİTÖR

Murat TANIŞLI (Eskişehir Technical University, Turkey)

SPECIAL ISSUE EDITOR / ÖZEL SAYI EDİTÖRÜ

Abidin KILIÇ (Eskişehir Technical University, Turkey)

Secretary / Sekreterlik
Typeset / Dizgi
Handan YİĞİT

ABOUT

Eskişehir Technical University Journal of Science and Technology B- Theoretical Sciences (formerly Anadolu University Journal of Science and Technology B- Theoretical Sciences) is an peer-reviewed and refereed international journal by Eskişehir Technical University. Since 2010, it has been regularly published and distributed biannually and it has been published biannually and electronically only since 2016.

- **The journal accepts TURKISH and ENGLISH manuscripts.**
- **The journal is indexed by EBSCO, DOAJ and ULAKBIM.**

AIM AND SCOPE

The journal publishes research papers, reviews and technical notes in the fields of theoretical sciences such as Physics, Biology, Mathematics, Statistics, Chemistry and Chemical Engineering, Environmental Sciences and Engineering, Civil Engineering, Electrical and Electronical Engineering, Computer Science and Informatics, Materials Science and Engineering, Mechanical Engineering, Mining Engineering, Industrial Engineering, Aeronautics and Astronautics, Health Sciences, Pharmaceutical Sciences, and so on.

PEER REVIEW PROCESS

Manuscripts are first reviewed by the editorial board in terms of its its journal's style rules scientific content, ethics and methodological approach. If found appropriate, the manuscript is then send to at least two referees by editor. The decision in line with the referees may be an acceptance, a rejection or an invitation to revise and resubmit. Confidential review reports from the referees will be kept in archive. All submission process manage through the online submission systems.

OPEN ACCESS POLICY

This journal provides immediate open access to its content on the principle that making research freely available to the public supports a greater global exchange of knowledge.

Copyright notice and type of licence : **CC BY-NC-ND.**

The journal doesn't have Article Processing Charge (APC) or any submission charges.

ETHICAL RULES

You can reach the Ethical Rules in our journal in full detail from the link below:
https://dergipark.org.tr/tr/pub/estubtdb/page/10203

AUTHOR GUIDELINES

All manuscripts must be submitted electronically.
You will be guided stepwise through the creation and uploading of the various files. There are no page charges. Papers are accepted for publication on the understanding that they have not been published and are not going to be considered for publication elsewhere. Authors should certify that neither the manuscript nor its main contents have already been published or submitted for publication in another journal. We ask a signed **Copyright Form** to start the evaluation process. After a manuscript has been submitted, it is not possible for authors to be added or removed or for the order of authors to be changed. If authors do so, their submission will be cancelled.

Manuscripts may be rejected without peer review by the editor-in-chief if they do not comply with the instructions to authors or if they are beyond the scope of the journal. After a manuscript has been accepted for publication, i.e. after referee-recommended revisions are complete, the author will not be permitted to make any changes that constitute departures from the manuscript that was accepted by the editor. Before publication, the galley proofs are always sent to the authors for corrections. Mistakes or omissions that occur due to some negligence on our part during final printing will be rectified in an errata section in a later issue.

This does not include those errors left uncorrected by the author in the galley proof. The use of someone else's ideas or words in their original form or slightly changed without a proper citation is considered plagiarism and will not be tolerated. Even if a citation is given, if quotation marks are not placed around words taken directly from another author's work, the author is still guilty of plagiarism. All manuscripts received are submitted to iThenticateR, a plagiarism checking system, which compares the content of the manuscript with a vast database of web pages and academic publications. Manuscripts judged to be plagiarised or self-plagiarised, based on the iThenticateR report or any other source of information, will not be considered for publication.

Preparation of Manuscript

Style and Format: Manuscripts should be **single column** by giving one-spaced with 2.5-cm margins on all sides of the page, in Times New Roman font (font size 11). Every page of the manuscript, including the title page, references, tables, etc., should be numbered. All copies of the manuscript should also have line numbers starting with 1 on each consecutive page.

Manuscripts must be upload as word document (*.doc, *.docx vb.). Please avoid uploading ***texts in *.pdf format.***

Manuscripts should be written in Turkish or English.

Symbols, Units and Abbreviations: Standard abbreviations and units should be used; SI units are recommended. Abbreviations should be defined at first appearance, and their use in the title and abstract should be avoided. Generic names of chemicals should be used. Genus and species names should be typed in italic or, if this is not available, underlined.

Please refer to equations with capitalisation and unabbreviated (e.g., as given in Equation (1)).

Manuscript Content: Articles should be divided into logically ordered and numbered sections. Principal sections should be numbered consecutively with Arabic numerals (1. Introduction, 2.

Formulation of problem, etc.) and subsections should be numbered 1.1., 1.2., etc. Do not number the Acknowledgements or References sections. The text of articles should be, if possible, divided into the following sections: Introduction, Materials and Methods (or Experimental), Results, Discussion, and Conclusion.

Title and contact information

The first page should contain the full title in sentence case (e.g., Hybrid feature selection for text classification), the full names (last names fully capitalised) and affiliations (in English) of all authors (Department, Faculty, University, City, Country, E-mail), and the contact e-mail address for the clearly identified corresponding author.

Abstract

The abstract should provide clear information about the research and the results obtained, and should not exceed 300 words. The abstract should not contain citations and must be written in Times New Roman font with font size 9.

Keywords

Please provide 3 to 5 keywords which can be used for indexing purposes.

Introduction

The motivation or purpose of your research should appear in the "Introduction", where you state the questions you sought to answer, and then provide some of the historical basis for those questions.

Methods

Provide sufficient information to allow someone to repeat your work. A clear description of your experimental design, sampling procedures, and statistical procedures is especially important in papers describing field studies, simulations, or experiments. If you list a product (e.g., animal food, analytical device), supply the name and location of the manufacturer. Give the model number for equipment used.

Results

Results should be stated concisely and without interpretation.

Discussion

Focus on the rigorously supported aspects of your study. Carefully differentiate the results of your study from data obtained from other sources. Interpret your results, relate them to the results of previous research, and discuss the implications of your results or interpretations.

Conclusion

This should state clearly the main conclusions of the research and give a clear explanation of their importance and relevance. Summary illustrations may be included.

Acknowledgments

Acknowledgments of people, grants, funds, etc. should be placed in a separate section before the reference list. The names of funding organizations should be written in full.

Conflict of Interest Statement

The authors are obliged to present the conflict of interest statement at the end of the article after the acknowledgments section.

References

Citations in the text should be identified by numbers in square brackets. The list of references at the end of the paper should be given in order of their first appearance in the text or in alphabetical order according to the surname of the fist author. All authors should be included in reference lists unless there are 10 or more, in which case only the first 10 should be given, followed by 'et al.'. Do not use individual sets of square brackets for citation numbers that appear together, e.g., [2, 3, 5–9], not [2], [3], [5]–[9]. Do not include personal communications, unpublished data, websites, or other unpublished materials as references, although such material may be inserted (in parentheses) in the text. In the case of publications in languages other than English, the published English title should be provided if one exists, with an annotation such as "(article in Turkish with an abstract in English)". If the publication was not published with an English title, cite the original title only; do not provide a self-translation. References should be formatted as follows (please note the punctuation and capitalisation):

Journal articles

Journal titles should be abbreviated according to ISI Web of Science abbreviations.

Guyon I. and Elisseeff A. An introduction to variable and feature selection. *J. Mach. Learn. Res.* 2003; 3: 1157-1182.

Izadpanahi S., Ozcınar C., Anbarjafari G. and Demirel H. Resolution enhancement of video sequences by using discrete wavelet transform and illumination compensation. *Turk J. Elec. Eng. & Comp. Sci.* 2012; 20: 1268-1276.

Books

Haupt R.L. and Haupt S.E. *Practical Genetic Algorithms*. 2nd ed. New York, NY, USA: Wiley, 2004.

Kennedy J. and Eberhart R. *Swarm Intelligence*. San Diego, CA, USA: Academic Press, 2001.

Chapters in boks

Poore J.H., Lin L., Eschbach R. and Bauer T. Automated statistical testing for embedded systems. In: Zander J., Schieferdecker I., Mosterman P.J., editors. *Model-Based Testing for Embedded Systems.* Boca Raton, FL, USA: CRC Press, 2012. pp. 111-146.

Conference proceedings

Li R.T.H. and Chung S.H. Digital boundary controller for single-phase grid-connected CSI. In: *IEEE 2008 Power Electronics Specialists Conference*; 15–19 June 2008; Rhodes, Greece. New York, NY, USA: IEEE. pp. 4562-4568.

Theses

Boynukalın Z. Emotion analysis of Turkish texts by using machine learning methods. MSc, Middle East Technical University, Ankara, Turkey, 2012.

Tables and Figures
All illustrations (photographs, drawings, graphs, etc.), not including tables, must be labelled "Figure." Figures must be submitted in the manuscript.

All tables and figures must have a caption and/or legend and be numbered (e.g., Table 1, Figure 2), unless there is only one table or figure, in which case it should be labelled "Table" or "Figure" with no numbering. Captions must be written in sentence case (e.g., Macroscopic appearance of the samples.). The font used in the figures should be Times New Roman with 9 pt. If symbols such as ×, μ, η, or ν are used, they should be added using the Symbols menu of Word.

All tables and figures must be numbered consecutively as they are referred to in the text. Please refer to tables and figures with capitalisation and unabbreviated (e.g., "As shown in Figure 2…", and not "Fig. 2" or "figure 2").

The resolution of images should not be less than 118 pixels/cm when width is set to 16 cm. Images must be scanned at 1200 dpi resolution and submitted in jpeg or tiff format. Graphs and diagrams must be drawn with a line weight between 0.5 and 1 point. Graphs and diagrams with a line weight of less than 0.5 point or more than 1 point are not accepted. Scanned or photocopied graphs and diagrams are not accepted.

Figures that are charts, diagrams, or drawings must be submitted in a modifiable format, i.e. our graphics personnel should be able to modify them. Therefore, if the program with which the figure is drawn has a "save as" option, it must be saved as *.ai or *.pdf. If the "save as" option does not include these extensions, the figure must be copied and pasted into a blank Microsoft Word document as an editable object. It must not be pasted as an image file (tiff, jpeg, or eps) unless it is a photograph.

Tables and figures, including caption, title, column heads, and footnotes, must not exceed 16 × 20 cm and should be no smaller than 8 cm in width. For all tables, please use Word's "Create Table" feature, with no tabbed text or tables created with spaces and drawn lines. Please do not duplicate information that is already presented in the figures.

ESKİŞEHİR TECHNICAL UNIVERSITY JOURNAL OF SCIENCE AND TECHNOLOGY
A – Applied Sciences and Engineering
Volume: 9 / December – 2021

ICONAT 2021

Special Issue

Natural Sciences and Technologies conference is held at a different university annually. The Natural Sciences and Technologies Conference (ICONAT 2021) was organized by Eskişehir Technical University, Azerbaijan University, National University of Radio and Electronics, Toros University and University of Mediterranean Karpasia on September 18-20, 2021 in Lefkosa-Turkish Republic of Northern Cyprus (at the same time via internet).

The participants shared their work with the other participants at the conference where recent developments and technological applications in natural sciences were discussed. The conference, which was attended by participants from different countries, was the starting point for scientific collaborations. Scientific bilateral cooperation agreement was signed between Eskişehir Technical University, Azerbaijan University, National University of Radio and Electronics, Toros University and University of Mediterranean Karpasia. ICONAT 2022 was decided to be held in Antalya-Turkey.

Among the papers presented at the conference, those accepted in the referees' evaluation were decided to be published in Eskişehir Technical University Journal of Applied Sciences and Engineering.

I hope that the articles published in this special edition will be useful to scientists, practitioners and student working in the field of Natural Sciencess and Technologies.

I would like to thank the authors, who presented their valuable works in the ICONAT 2021 Special Issue and the referees who carefully evaluated the articles. In addition, I thank to Prof. Dr. Tuncay Döğeroğlu (Rector of Eskişehir Technical University), Prof. Dr. Gürsoy Arslan (Vice Rector of Eskişehir Technical University), Prof. Dr. Mehmet Nesip ÖĞÜN (Rector of University of Mediterranean Karpasia), Prof. Dr. Semenets Valerii (Rector of National University of Radio and Electronics), Prof. Dr. Omarov Murad (Vice-Rector of National University of Radio and Electronics), Prof. Dr. Saadat Namig Aliyeva (Rector of Azerbaijan University), Prof. Dr. Yusif Gasimov (Vice-Rector of Azerbaijan University), Prof. Dr. Ömer Arıöz (Rector of Toros University), Prof. Dr. Murat Tanışlı (Eskişehir Technical University Journal of Applied Sciences and Engineering-Chief Editor) for their supports to create this special issue.

EDITOR

Prof. Dr. Abidin KILIÇ

ESKİŞEHİR TECHNICAL UNIVERSITY JOURNAL OF SCIENCE AND TECHNOLOGY
B- Theoretical Sciences
ESKİŞEHİR TEKNİK ÜNİVERSİTESİ BİLİM VE TEKNOLOJİ DERGİSİ
B– Teorik Bilimler

Volume: 9 / December / 2021
ICONAT Special Issue

CONTENTS / İCİNDEKİLER

Sayfa / Page

INVESTIGATION OF DOGECOIN PRICE MOVEMENTS: A GSADF ANALYSIS
E. Öncü *1*

THE EFFECTS of HEAVY METAL APPLICATIONS on ANTIOXIDANT DEFENCE ACTIVATION in BARLEY and WHEAT VARIETIES
E. Öztetik *7*

PHYSIOLOGICAL ANSWERS to METAL TRIGGERED EFFECTS in CROPS
E. Öztetik *14*

THE log(ft) VALUES IN SPHERICAL AND DEFORMED NUCLEI FOR SOME ODD-A GERMANIUM ISOTOPES
Ş. Çakmak *20*

AN APPLICATION OF CLIFFORD ALGEBRA ON THE SEMI-SYMMETRICAL ARCHIMEDEAN SOLID TRUNCATED ICOSAHEDRON
Ş. Çakmak *29*

INVESTIGATION OF NATURAL ANALCIME-RICH ZEOLITE TUFF FROM TURKEY: A COMBINED XRD, XRF, FT-IR AND SEM STUDY
M. Akbelen *36*

THE IMPORTANCE OF THE DATA TAKEN FROM THE NO, NO2, AND CO SENSORS IN THE VENTILATION PROCESS IN THE RAILWAY TUNNELS
U. Kabadayı, M. Başaran *42*

INTEGRATION OF ELECTRIC VEHICLES INTO THE SMART GRID
F. B. Özkanlı, Z. Demir *51*

REAL-TIME SKIN SEGMENTATION ON LOW RESOLUTION AND GRAY IMAGES
U. Kaya, A.Kılıç *61*

COMPARISON OF DEEP LEARNING WITH MACHINE LEARNING ON SKIN SEGMENTATION
U. Kaya, M. Fidan *65*

DETAILING OF THE MAIN DIRECTIONS AND COMPONENTS FOR DEFINING MODELS FOR ASSESSING THE QUALITY OF KNOWLEDGE
M. Omarov, V. Muradova *69*

ORBITAL INTERACTIONS AND STABILIZATION ENERGIES OF METHYL 5-6 DIHYDRO BENZO(H) QUINOLINE-4-CARBOXYLATE
N. Kuş *74*

DFT/TD-DFT ANALYSIS OF 2-CHLORO-7-METHYLQUINOLINE-3-CARBALDEHYDE USING COMPUTER COMPUTING METHOD
N. Kuş *85*

NONPARAMETRIC REGRESSION WITH ERROR-IN-VARIABLES MODEL BASED ON DIFFERENT KERNEL FUNCTIONS
D. Aydın, E. Yılmaz *94*

ACHIEVING PRICE AND PERFORMANCE EQUALITY ON AND OFF THE GRID BY EXAMINING GLOBAL RENEWABLE ENERGY TRENDS
Ö. Aydın, Z. Demir *103*

TERRORIST USE OF CYBER TECHNOLOGY
M. N. Öğün, S. Yurtsever, M. Aslan, M. Elburası *113*

THE EFFECTS OF LIFELONG LEARNING TENDENCIES ON CRITICAL THINKING AND COMPUTATIONAL THINKING SKILLS
E. N.Ünveren Bilgiç, E. Çam, N. B. Hamutoğlu *129*