ORAL

PROGRAM BOOK

8th International Conference on Computational Mathematics and Engineering Sciences

17 – 19 May 2024,
Şanlıurfa – Türkiye

THE EIGHTH INTERNATIONAL CONFERENCE ON COMPUTATIONAL MATHEMATICS AND ENGINEERING SCIENCES (CMES-2024), ŞANLIURFA/TÜRKİYE, MAY 17-19, 2024

The **Eighth International Conference on Computational Mathematics and Engineering Sciences (CMES-2024)** will be held in Harran University from **17- to 19 May 2024 in Şanlıurfa, Türkiye.** It provides an ideal academic platform for researchers and professionals to discuss recent developments in both theoretical, applied mathematics and engineering sciences. This event also aims to initiate interactions among researchers in the field of computational mathematics and their applications in science and engineering, to present recent developments in these areas, and to share the computational experiences of our invited speakers and participants.

The Organizing Committee

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MESSAGE FROM THE GENERAL CHAIRS

Dear Conference Attendees,

We are honored to welcome you to the **Eighth International Conference on Computational Mathematics and Engineering Sciences (CMES-2024)** at Harran University from 17 to 19 May 2024 in Şanlıurfa City, Türkiye.

CMES, founded in 2016 at Faculty of Science and Techniques Errachidia Moulay Ismail University Morocco is an annual intarnational conference, which was very successful in the past years by providing opportunities to the participants in sharing their knowledge and informations and promoting excellent networking among different international universities. This year, the conference includes 200 extended abstracts, several submissions were received in response to the call for papers, selected by the Program Committee. The program features keynote talks by distinguished speakers such as:

Dumitru Baleanu from Institute of Space Sciences, Magurele-Bucharest, Romania; **Yusif Gasimov** from Azerbaijan University, Azerbaijan; **Naim L. Braha** from University of Prishtina, Kosovo; **Ekrem Savas** from Usak University, Türkiye; **Mehmet Emir Köksal** from Ondokuz Mayıs University, Türkiye; **Amdulla O. Mekhrabov** from Azerbaijan Technical University, Azerbaijan. The conference also comprises contributed sessions, posters sessions and various research highlights.

We would like to thank the Program Committee members and external reviewers for volunteering their time to review and discuss submitted abstracts. We would like to extend special thanks to the Honorary, Scientific and Organizing Committees for their efforts in making CMES-2024 a successful event. We would like to thank all the authors for presenting their research studies during our conference. We hope that you will find CMES-2024 interesting and intellectually stimulating, and that you will enjoy meeting and interacting with researchers around the world.

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Hasan Bulut,

Firat University, Elazig, Türkiye.

Zakia Hammouch,

ENS Meknes, Moulay Ismail University Morocco

TOPICS

Control Theory,

Game Theory,

Applied Mathematics,

Financial Mathematics,

Artificial Intelligence,

Education Sciences,

Engineering Sciences,

Computer Science,

Information Technology,

Geometry and Its Applications,

Analysis and Its Applications,

Statistics and Its Applications,

Algebra and Its Applications,

Topology and Its Application,

Chaos and Dynamical Systems,

Cryptography and its Applications,

Fractional Calculus and Applications,

Economics and Econometric Studies,

Electrical and Electronic Engineering,

Defense industry and applications,

Mathematical Biology,

Computational Epidemiology,

Mathematical Chemistry,

Mathematics Education and Its Applications,

Numerical Methods and Scientific Programming,

Linearand Nonlinear programming and Dynamics,

Modeling of Bio-systems for Optimization and Control,

Ordinary, Partial, Stochastic and Delay Differential Equations,

Computational Fluids mechanics. Heat and Mass Transfers,

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8th International Conference on Computational Mathematics and Engineering Sciences
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5

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8th International Conference on Computational Mathematics and Engineering Sciences
17 – 19 May 2024, Şanlıurfa – Türkiye

7

PROCEEDINGS

Full version of submitted papers will be published in Special Volumes of reputed journals. Procedure, Guidelines and Checklist for the preparation and submission of papers to the Proceedings of CMES-2024 can be found in the journals websites. The journals in which selected and peer-reviewed full papers of CMES-2024 will be published are as follows:

1. BOOK OF ABSTRACTS [Free of charge]
If Authors submit ABSTRACT TEXTS, then, after getting referees evaluations for these abstracts, they will be published in ABSTRACT PROCEEDING BOOK of CMES-2024. For FULL TEXT PAPERS, Authors have to submit their FULL TEXT PAPERS online via submission system of CMES-2024. These FULL TEXT PAPERS will be published in FULL TEXT PROCEEDING BOOK of CMES-2024 after getting at least two positive reports.

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3. FRACTAL AND FRACTIONAL JOURNAL [SCI-E],
Selected papers from CMES-2024 will be published in a special issue dedicated to the Conference entitled "**Feature Papers for Mathematical Physics Section**".
https://www.mdpi.com/journal/fractalfract/special_issues/1TAP5BBZ45
This journal is indexed by SCI-E.

4. PROCEEDINGS OF THE INSTITUTE OF MATHEMATICS AND MECHANICS [E-SCI]
Selected papers from CMES-2024 will be published by https://proc.imm.az/special/

This journal is indexed by E-SCI.

5. TURKISH JOURNAL OF SCIENCE, [FREE]
Participants of CMES 2024 can submit their good quality papers to Turkish Journal of Science. After the peer review process, the papers will be published at TJOS. The authors must write "CMES 2024" as comments to the editor.
(Editor in Chief: Dr. Ahmet Ocak AKDEMİR) For on-line submission: https://dergipark.org.tr/tr/pub/tjos

6. TURKISH JOURNAL OF INEQUALITIES, [FREE]
"Participants of CMES 2024 can submit their good quality papers to Turkish Journal of Inequalities. Selected papers will be published at TJI after the peer review process. The participants can send their papers to erhanset@tjinequality.com. The authors must write "CMES 2024" as the subject.
(Editor in Chief: Prof. Dr. Erhan SET)
http://tjinequality.com/

7. MATHEMATICS IN NATURAL SCIENCE (MNS)
Authors can submit their full text paper directly to the journal by using the following link
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8. MATHEMATICS IN ENGINEERING, SCIENCE AND AEROSPACE (MESA), [FREE, SCOPUS]
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(Editor in Chief: Prof. Seenith Sivasundaram)
http://nonlinearstudies.com/index.php/mesa

9. APPLIED MATHEMATICS AND NONLINEAR SCIENCES, [SCOPUS]
Participants of CMES 2024 can submit their high quality full text papers to Applied Mathematics and Nonlinear Sciences by selecting CMES-2024 under the Select Article Type Menu.
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10. MATHEMATICAL MODELLING AND NUMERICAL SIMULATION WITH APPLICATIONS (MMNSA), [TR DİZİN]
The Special Issue on "Advanced Methods of Modelling and Numerical Computation in Science and Engineering". Authors can submit their full text paper directly to the journal by using the information provided in the following link
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12. YUZUNCU YIL UNIVERSITY JOURNAL OF THE INSTITUTE OF NATURAL AND APPLIED SCIENCES (TR-Dizin)
Authors can submit their full text paper directly to the journal by using the following link
https://dergipark.org.tr/tr/pub/yyufbed

13. PEDAGOGICAL PERSPECTIVE (PEDPER)
Pedagogical Perspective **(PedPer)** is an international, double blind reviwing, non-profit, professional scientific journal. PedPer is a journal that accepts manuscripts related to pedagogy and education. http://pedagogicalperspective.com/

PLENARY & INVITED TALKS

Generalised fractional operators with some applications

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Abstract: We know that fractional calculus deals with the study of so-called fractional order integral and derivative operators over real or complex domains, and their applications. However, a clear definition of a generalized fractional operator is needed. In this talk I will concentrate on solving this important issue and provide some real-world applications.

Keywords: fractional calculus, generalised fractional operators

References

[1] Al-Refai, M, Baleanu, D (2022), On an extension of the operator with Mittag-Leffler kernel, Fractals, 30(5): 2240129.

[2] Anwar A, Baleanu D (2023), On two backward problems with Dzherbashian-Nersesian operator, 8(1): 887-904, AIMS Mathematics.

On Some Inverse Problems In Untraditional Formulation

Yusif Gasimov[1]

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Abstract: The talk is devoted to the solution of some type of inverse problems. Usually, when solving inverse problems one has to recover the equation or boundary conditions describing the process using given additional conditions. As such conditions usually some signals received from the object may be taken. These signals in mathematical formulation are called spectral data that must satisfy some conditions. The searched objects are some functions, coefficients in the equations or in the boundary conditions. The problems considered in the talk are different from the traditional ones. Here we consider the inverse problems for some operators and the searched object are not functions as usual but are domains. We try to identify the domain where the process is going on. To solve such problems one meets some serious mathematical problems. The first problem is the choice of additional conditions – spectral data that satisfies all necessary conditions and allows to find the domain. The second problem is to construct a constructive mathematical apparatus that allows to work with functionals of the domains. To do this the space of the domains should be developed with all necessary mechanisms. In the work the space of the convex bounded domains is constructed and a scalar product is defined there. Then the definition of the s-functions expressed by the spectral data of the Schrodinger operator is given. A scheme is proposed to solve the following inverse spectral problem with respect to domain: Define a domain on the boundary of which the s-functions of the Schrodinger operator are equal to the given functions.

Keywords: Schrödinger operator, convex bounded domains.

References

1. Pontryagin L.S., Boltyansky V.G., Gomkrelidze R.V., Mishchenko E. (1969). Mathematical theory of optimal processes. Moscow, Nauka, 1969, 384 p.
2. Gabasov R., Kirllova F.M. (1981). Optimization Methods. Minsk, BSU, 1981, 350 p.

8th International Conference on Computational Mathematics and Engineering Sciences
17 – 19 May 2024, Şanlıurfa – Türkiye

11

THE SECRET BEHIND WESTERN CIVILIZATION: ISLAMIC SCIENCE

Ekrem Savas[1]

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Abstract

In this study; what is the place of the Islamic Cultural world in the history of sciences? I will try to explain this. I will also explain that Western civilization is the continuation of Islamic civilization under different geographical and economic conditions.

Keywords: Islamic culture; Western civilization

REFERENCES

1. Fuat sezgin, İslam Bilim tarihi, Timaş yayınları, 2015.

Fractional Order Thinking and Proportional-Integral-Derivative (PID) Control

Mehmet Emir KÖKSAL

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Abstract: The subject of fractional calculus has become very well-known and popular in recent decades. This is because fractional-order models simulate the properties of real systems better than whole order models. Therefore, fractional calculus is used as a powerful and important tool for defining, investigating, analyzing, solving, and understanding many different chemical, engineering, mathematical, physical, statistical, and social problems in real life. In this lecture, the basic concepts of fractional calculus and various common definitions of fractional integration and differentiation are introduced. Various applications in science and engineering are mentioned. In particular, the design of fractional-order proportional integral derivative controllers is emphasized. Mathematical formulations of five design specifications corresponding to the 3D drawing are presented with program implementations. The system design specifications of phase margin, gain margin, phase flatness, low-frequency output noise suppression, and high-frequency noise suppression are considered for designing controllers using the presented 3D graphical method. Each specification is represented by some surfaces that define the boundaries of the permissible parameters of PID control coefficients. The requirements are mapped in the 3D Euclid space by 3D surfaces and/or lines so that the proportional, integral, derivative control coefficients can be optimally chosen to meet the given specifications in an optimum way and to allow trade-off or compromise.

Keywords: Fractional calculus, Fractional order modeling, PID controller, FOPID controller, 3D plots.

References:

1. M.E. Koksal, Time and frequency responses of non-integer order RLC circuits, AIMS Mathematics, 4 (1) 61-75, 2019

2. M.E. Koksal, Stability analysis of fractional differential equations with unknown parameters, *Nonlinear Analysis: Modeling and Control,* 24 (2) 224-240, 2019

3. M.E. Koksal, Explicit commutativity conditions for second-order linear time-varying systems with non-zero initial conditions, *Archives of Control Sciences,* 29 (3) 413-432, 2019

8th International Conference on Computational Mathematics and Engineering Sciences
17 – 19 May 2024, Şanlıurfa – Türkiye

13

Design and Development of Advanced Magnetic Materials via Computational Material Science for Technological Applications

Amdulla O. Mekhrabov[1]* and M. Vedat Akdeniz[2]

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[2]Novel Alloys Design and Development Lab (NOVALAB), Department of Metallurgical and Materials Engineering (Met E), Middle East Technical University (METU), 06800-Ankara, Turkey

Abstract: The presentation will be an overview of the main research thrusts at the "Novel Alloys Design and Development Lab" (NOVALAB) of MetE-METU and at "Novel Materials and Nanotechnologies" Institute of Azerbaijan Technical University (AzTU) in the designing, development and utilizations of advanced multicomponent magnetic materials for technological applications. Fundamental principles and main aspects of *Computational Materials Science (CMS)* for *modeling and simulation based "alloy design"* which has been developed over 45 years by Prof. Mekhrabov, will be presented.

Keywords: Modeling, Simulation, Soft Magnetic Materials, Metallic Glasses, Nanostructured alloys, Glass Formation Ability, Monte Carlo, Reverse Monte Carlo, Molecular Dinamics

REFERENCES

1. Aykol M., Mekhrabov A.O. and Akdeniz M.V., Nano-scale Phase Separation in Amorphous Fe-B Alloys: Atomic and Cluster Ordering, Acta Mater., vol. 57, 171- 81, 2009.

2. Aykol M., Akdeniz M.V. and Mekhrabov A.O., Solidification behavior, glass forming ability and thermal characteristics of soft magnetic Fe-Co-B-Si-Nb-Cu bulk amorphous alloys, Intermetallics, vol. 19, 1330-1337, 2011.

3. M.V. Akdeniz and A.O. Mekhrabov, Size dependent stability and surface energy of amorphous FePt nanoalloy, J. of Alloys and Comp., vol. 788, 787-798, 2019.

Approximation by modified (*p*, *q*)-gamma-type operators

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Abstract

The main object of this paper is to construct a new class of modified (p, q)-Gamma-type operators. For this new class of operators, in section one, the general moments are find; in section two, the Korovkin-type theorem and some direct results are proved by considering the modulus of continuity and modulus of smoothness and their behavior in Lipschitz-type spaces. In section three, some results in the weighted spaces are given, and in the end, some shape-preserving properties are proven.

Keywords: Modified (*p*, *q*)-Gamma-type operators; Modulus of continuity; Shape-preserving approximation

References

1. Altomare, F., Campiti, M.: Korovkin-Type Approximation Theory and Its Application. Walter de Gruyter Studies in Math., vol. 17. de Gruyter & Co., Berlin (1994)

2. Atlihan, O.G., Unver, M., Duman, O.: Korovkin theorems on weighted spaces: revisited. Period. Math. Hung. 75(2), 201–209 (2017)

8th International Conference on Computational Mathematics and Engineering Sciences
17 – 19 May 2024, Şanlıurfa – Türkiye

15

5/17/2024

09:30-10:00	**OPENING CEREMONY-Faculty of Arts and Sciences-Big Lecture Hall**
	Prof. Dr. Mehmet Tahir GÜLLÜOĞLU-Rector of Harran University Prof. Dr. Fahrettin GÖKTAŞ-Rector of Firat University Prof. Dr. Zakia HAMMOUCH-Chair of CMES Prof. Dr. Rifat ÇOLAK-Department of Firat University
10:00-10:30	**PLENARY LECTURE-Faculty of Arts and Sciences-Big Lecture Hall**
	Speaker: Prof. Dr. Dumitru Baleanu
	Title: Generalised fractional operators with some applications
	Chair: Prof. Dr. Yusif Gasimov
10:30-10:45	**Coffee Break**
10:45-11:15	**PLENARY LECTURE-Faculty of Arts and Sciences-Big Lecture Hall**
	Speaker: Prof. Dr. Yusif Gasimov
	Title: On Some Inverse Problems In Untraditional Formulation
	Chair: Prof. Dr. Alaattin Esen
11:15-11:30	**Coffee Break**
11:00-12:00	**PLENARY LECTURE-Faculty of Arts and Sciences-Big Lecture Hall**
	Speaker: Prof. Dr. Ekrem SAVAŞ
	Title: The Secret Behind Western Civilization: Islamic Science
	Chair: Prof. Dr. Rifat Çolak
12:45-14:00	**Lunch (Central Dining Hall/Cafeteria)**

Central Halls 1st Floor
Hall-4

14:00-15:15 17.05.2024	**Chair**	**Prof. Dr. Fatma AYAZ**
	Authors	Titles
	Ambreen Siyal, Kashif Ali Abro	Repel Effects of Heat Transference from Brinkman Fluid under Ferromagnet via Non-Singularized Differentials
	Abd Essamed Guettouche, Chaabane Djama	Optimizing a linear function over the set of efficient solutions: Case of the stochastic set-covering problem.
	Hasan Karaçallı, Orhan Özdemir	On the Oscillation of a Second Order Differential Equation With a Superlinear Neutral Term
	Orhan Özdemir	Oscillation of Second Order Neutral Emden-Fowler Differential Equations
	Ercan Tunç	Improved oscillation criteria for third-order half-linear delay differential equations via canonical transform

15:15-15:30	**Coffee Break**

Hall 4

15:30–16:45 17.05.2024	**Chair**	**Doç. Dr. Ömer ORUÇ**
	Authors	Titles
	Meltem Uzun	On Wave Structures Of Time Conformable Zakharov–Kuznetsov Equation
	Ömer Oruç	A Meshfree Method For Numerical Solutions Of Some Reaction-Diffusion Type Equations
	Gülşen Orucova Büyüköz, Hüseyin Hakli	Implementation Of Battle Royale Optımızatıon Algorıthm For 0-1 Knapsack Problem Usıng S-Shaped And V-Shaped Transfer Functıons
	Gülden Mülayim	Model Order Reduction for Shigesada-KawasakiTeramoto Cross-Diffusion Systems
	Kübra Heredağ, Fatma Ayaz	Examination Of Mhd Effect and Fractional Derivative Model Between Porous Medium Parallel Plates In TimeDependent Flow

Hall 6

14:00–15:15 17.05.2024	**Chair**	**Prof. Dr. Ercan ÇELİK**
	Authors	Titles
	Bülent Oruç, Mustafa Berkay Doğan, Emir Balkan, İlkin Özsöz, Sunay Mutlu, Aybala Büşra Çalışkur	Gravity Modelling And Earthquake Analysis For East Anatolian Fault Zone And Surrounding Area
	Gözde Karataş Baydoğmuş, Şahsene Altınkaya	A Survey On Different Statistical Distributions Using Python Programming
	Gözde Karataş Baydoğmuş, Şahsene Altınkaya, Nahide Zeynep Cicekli	Exploring Machine Learning Techniques For Gender Voice Recognition Using Limited Speech Data
	Bülent Oruç, Mustafa Berkay Doğan, Emir Balkan, İlkin Özsöz, Sunay Mutlu, Aybala Büşra Çalışkur	Gravity Modelling And Earthquake Analysis For East Anatolian Fault Zone And Surrounding Area

15:15–15:30	**Coffee Break**

8th International Conference on Computational Mathematics and Engineering Sciences
17 – 19 May 2024, Şanlıurfa – Türkiye

17

Hall 6

15:30-16:45 17.05.2024	**Chair**	**Prof. Dr. İsmail Onur KIYMAZ**
	Authors	Titles
	Metin Turgay	Approximation Properties of Kantorovich Type Sampling Series In Weighted Spaces of Functions
	Gülay Oğuz, Abdülkadir Olcay	The Relations of Soft Topological Hyperstructures
	Gülay Oğuz, Ayhan Yüksel	Rough Approximation Operators on Algebraic Hyperstructures

Hall 7

14:00-15:15 17.05.2024	**Chair**	**Prof. Dr. Alaattin ESEN**
	Authors	Titles
	Muhammed Huzeyfe Uzunyol, Berat Karaagac, Alaattin Esen	Crank-Nicolson Finite Difference Treatment of Time Fractional Klein Gordon Equation
	Sibel Özer, Yusuf Uçar, Damla Özçelik	A Study On Numerical Solution of the Regularized Long Wave Equation
	Hatice Karabenli, Yusuf Uçar, E. Nesligül Aksan, Alaattin Esen	A Comparative Study Of Finite Element Methods With Cubic And Quintic Basis Functions For The Smch Equation
	Nuri Murat Yağmurlu, Selçuk Kutluay, Ali Sercan Karakaş	Cubic Hermite Collocation Method For The Equal Width Wave Equation
	Enes Ata, İ. Onur Kıymaz, Hacı Mehmet Başkonuş	A New Fractional Modelling Of Rc Electric Circuit

15:15-15:30	**Coffee Break**

Hall 7

15:30-16:45 17.05.2024	**Chair**	**Prof. Dr. Onur Alp İLHAN**
	Authors	Titles
	Merve Zeynep Kaya, Ercan Çelik, Mesut Karabacak	Solution of Fractional Order Partial Differential Equations with Hosoya Neural Network
	Zulqurnain Sabir, Ayse Nur Akkilic, Hasan Bulut	Designing a novel radial basis process for the nonlinear prey-predator system
	Melik Şenyuva, Özlem Kırcı, Hasan Bulut	New Exact Wave Solutions of the New Hamiltonian Amplitude Equation Through $(m + 1/G')$-Expansion Method
	Arif Özkul, Tolga Aktürk, Hasan Bulut	Modified Kudryashov Method for Solving Van der Waals Gas System
	Sıdıka Şule Şener Kılıç, Adem Irmak, Arzu Aykut	Ritz Method for the Numerical Solution of the Heat Equation

Hall 9		
14:00–15:15 17.05.2024	**Chair**	**Prof. Dr. Nuri Murat YAĞMURLU**
	Authors	Titles
	Sadettin Kursun	Some New Results for Exponential-tpye Durrmeyer Sampling Series
	Fatma Almaz	The Specific Energy And Specific Angular Momentum On Rotational Surfaces In Pseudo Euclidean 4-Space With Index 2
	"Mahmut Ozusan , Hikmet Kemaloğlu"	Expansion Theorem for Sturm-Liouville Problem including Local Derivative
	Yasemin Bakır, Oya Mert, Gülay Karahanlı	On Using A New Approach To Determine The Root Of Nonlinear Equations
	Mehmet Uçar, Aynur Yalçıner	On The Uniformly Parikh-Friendly Words
15:15–15:30	**Coffee Break**	

Hall 9		
15:30–16:45 17.05.2024	**Chair**	**Prof. Dr. Murat KARAKAŞ**
	Authors	Titles
	Fatih Avşar	Fixed Points of multiplicative Zamfirescu Mapping in Multiplicative Metric Spaces
	Koray İbrahim Atabey, Muhammed Recai Türkmen, Mikail Et, Muhammed Çinar	q-Bell Statistical Convergence
	Funda Türk, Samet Erden	Ostrowski type inequalities via fractional integrals and related results
	Funda Türk, Samet Erden, Burçin Gökkurt Özdemir	Exponential Inequalities Involving Riemann-Liouville Fractional Integral
	Koray İbrahim Atabey, Murat Karakaş	q -Pell Sequence Spaces

Central Halls 2ⁿᵈ Floor

Hall 1		
14:00–15:15 17.05.2024	**Chair**	**Prof. Dr. Bahadır YÜZBAŞI**
	Authors	Titles
	Bahadır Yüzbaşı	Housing Price Determinants: A Big Spatial Data Analysis
	Muhammed Veysi Güler, Muhammed Emre Çolak	Detecting Android Malware Using LightGBM: A Study on the TUANDROMD Dataset
	Ömer Miraç Kökçam, Muhammed Emre Çolak, Özal Yıldırım	Voting Classifier Based Explainable Artificial Intelligence Method For Detecting Glioma Grading Using Clinical And Mutation Features
	Ayşe Metin Karakaş, Sinan Çalık	The New Gompertz Distribution
15:15–15:30	**Coffee Break**	

8ᵗʰ International Conference on Computational Mathematics and Engineering Sciences
17 – 19 May 2024, Şanlıurfa – Türkiye

19

Hall 1		
15:30–16:45 **17.05.2024**	**Chair**	**Prof. Dr. Zuhal KÜÇÜKASLAN YÜZBAŞI**
	Authors	Titles
	Semih Geçen, İlhan İçen, A. Fatih Özcan	Grupoid Atlases
	M. Mustafa Beydağı, A. Fatih Özcan, İlhan İçen	Properties of Rough Subgrupoids
	Zühal Küçükaslan Yüzbaşı	Motion Of The Filament In Minkowski Space
	Mustafa Beydağı, A. Fatih Özcan, İlhan İçen	Local Rough Equalities And Local Rough Equivalences Of Sets
	Semih Geçen, İlhan İçen, A.Fatih Özcan	Modern Set Theories Fuzzy, Rough, Soft, Near Sets And The Relationships Between Them
Hall 3		
14:00–15:15 **17.05.2024**	**Chair**	**Doç. Dr. Ebru CAVLAK ASLAN**
	Authors	Titles
	Neşe İşler Acar	A Collocation Method for Numerical Solution of Linear Integro-Differential Equations by Stancu Polynomials
	Ugur Bayrakcı, Seyma Tuluce Demiray, Huseyin Yıldırım	New soliton solutions with generalized exponential rational function method
	Hasan Gündüz, Mesut Karabacak, Ercan Çelik	The Computation Of H∞-Norm Of Transfer Functions Of Linear Daes Via Two-Step Method
	Derya Deniz, Ebru Cavlak Aslan	New Optical Soliton Solutions of the NLS Equation with Jacobi Elliptic Function Expansion Method
	Md. Nur Alam, Onur Alp İlhan, Md. Shahid Hasan, Uzzal Saha, F. Berna Benli	Some New Results Of The Nonlinear Conformable Model Arising In Plasma Physics
15:15–15:30	**Coffee Break**	

Hall 3

15:30–16:45 17.05.2024	**Chair**	**Doç. Dr. Esin İLHAN**
	Authors	Titles
	Orhan Dalkılıç, Esin İlhan, Hasan Bulut	Comparative Analysis of Rankings and Preference Values for Fuzzy Decision-Making Approaches in Reducing Unnecessary Biopsies
	Nurettin Bağırmaz	On The Construction Of A Topology On A Rough Semigroup
	Tuğba Yavuz	On a Coefficient Problem For Functions Belongs to Certain Subclass of Univalent Functions
	Elif Nur Yıldırım, Münevver Tuz	Analysis Of Mathematical Model Wave Solutions With The Exponential Function Method
	Cemil İnan	Examining The Relationship Between Integral Equations And Differential Equations
	Tuğçem Partal, Melike Kakşi	Comparison Of Deterministic And Stochastic Dynamics Of Sir Model

Hall 4

14:00–15:15 17.05.2024	**Chair**	**Doç. Dr. Özlem DEFTERLİ**
	Authors	Titles
	Özlem Defterli, Ayşe Özmen	GPLM for Regression of Complex Systems
	Ece Atlan, Handan Öztekin	Lanar Congruent Curves According To Caputo Fractional Derivative
	Emin Beso, Senada Kalabusi´c, Esmir Pilav, Arzu Bilgin	Dynamics Of A Plant-Herbivore Model Subject To Allee Effects With Logistic Growth Of Plant Biomass

15:15–15:30	**Coffee Break**
17:00–17:30	**PLENARY LECTURE-Faculty of Arts and Sciences-Big Lecture Hall**
	Speaker: Prof. Dr. Mehmet Emir KÖKSAL
	Title: Fractional Order Thinking and Proportional-Integral-Derivative (PID) Control
	Chair: Prof. Dr. Hacı Mehmet Baskonuş
17:45–18:30 19:30–23:00	**Dinner (Central Dining Hall/Cafeteria) Urfa Sira Night at Gulizar Mansion**

8th International Conference on Computational Mathematics and Engineering Sciences
17 – 19 May 2024, Şanlıurfa – Türkiye

21

5/18/2024

Education Faculty Halls Entry Floor

Gazali

10:00–11:15 18.05.2024	**Chair**	**Doç. Dr. Mahmut MODANLI**
	Authors	Titles
	Ulviye Demirbilek, Mehmet Şenol, Hasan Bulut	Solving Dynamic Complexity with Analytical Solution Techniques
	Shorish Omer Abdulla, Mahmut Modanlı	Analytic Solutions for Third-Order Fractional Partial Differential Equation Using Modified Double Laplace Transform Method
	Natavan Allahverdiyeva, Yusif Gasimov	Some Properties of the Eigenfequencies on the Domain of the Plate
	Mehmet Aydin, Resat Yilmazer	Fractional Solutions of the General Class of Non-Fuchsian Differential Equations
	Aslı Alkan, Tolga Aktürk, Hasan Bulut	The Novel Numerical Solutions of the Cahn-Hilliard Equation via the Novel Hybrid Method
	Aslı Alkan, Tolga Aktürk, Hasan Bulut	The New Numerical Solutions of the Navier–Stokes Equation with the New Hybrid Method
	Aslı Alkan, Tolga Aktürk, Hasan Bulut	The Novel Numerical Solutions of the Rosenau-Hyman Equation via the Novel Hybrid Method
11:15–11:30	**Coffee Break**	

Farabi

10:00–11:15 18.05.2024	**Chair**	**Prof. Dr. Alper Osman ÖĞRENMİŞ**
	Authors	Titles
	Abdulkadir Eren, Ahmet Kaysal	Enhancing Microgrid Stability with Fuzzy Logic Controller
	Abdulkadir Eren, Hayriye Sarısoy Kübra Kaysal	Forecasting Seasonal Energy Production with K-Nearest Neighbours Regression Method
	Meltem Öğrenmiş	Curvatures Computation For Curves In Affine Space Using Fractional Calculus
	Meltem Öğrenmiş	Expanding Fractional Equiaffine Curvatures Of Plane Curves
	Kübra Kaysal, Fatih Onur Hocaoğlu	A Research on The Effect of Class Numbers for An Algorithmical Based Solar Radiation Class Estimation
	Nejla Gürefe	The Concretization Process of the "Pyramid" Concept;Deaf Student Example
	Yener Altun, Şakir İşleyen	A Research On The Qualitative Behavior Of Solutions Of Neutral Systems With Periodic Coefficients
11:15–11:30	**Coffee Break**	

Education Faculty Halls 1st Floor

Sokrates

10:00–11:15 18.05.2024	**Chair**	**Prof. Dr. Fevzi ERDOĞAN**
	Authors	Titles
	Oğuzhan Demirel, Durmuş Yarımpabuç	Thermal Analysis Of Functionally Graded 2d Plate
	Özlem Cerit, Durmuş Yarımpabuç	Forced Vibration Analysis Of Functionally Graded Rods By Pseudospectral Chebyshev Method
	Enver Temo, Mehmet Eker, Durmuş Yarımpabuç	Pseudospectral Chebyshev Approach For Nonlinear Temperature Distributions In Functionally Graded Disks
	Tolga Aktürk	Effective Method for Analyzing Nonlinear Mathematical Model Behavior
	Kübra Elif Akbaş, Mahmut Işık	Weighted Statistical Convergence in Probability
	Yusuf Gürefe	Modified Exponential Function Method for TwoDimensional Nonlinear Mathematical Model

11:15–11:30	**Coffee Break**

Sokrates
İbni-Rüşt

10:00–11:15 18.05.2024	**Chair**	**Doç. Dr. Fatma Berna BENLİ**
	Authors	Titles
	Şeyma Firdevs Korkmaz, Hasan Bulut, Gülnur Yel	Modeling Epidemics Using Ising Model and Voronoi Tessellation: A Novel Study and Epidemiological Applications
	Muhteşem Demir, Erhan Pişkin	Growth Of Solution For Reaction Diffusion Equation With Kirchhoff Term And Multiple Nonlinearities
	Nebi Yılmaz, Erhan Pişkin	Decay of Solutions for a Nonlinear Hyperbolic-type Equations with Variable Exponents
	Sebahattin Ertas, Hasan Bulut,Yusuf Pandir	New Exact Solutions of the (1+1) dimensional nonlinear Ostrovsky equation
	Ayşe Fidan, Erhan Pişkin	Blow up at finite time for sixth-order evolution equations with time dependent coefficient
	Beyhan Kemaloglu, Gülnur Yel, Hasan Bulut	Analytical Solution of Hirota Equation by Rational SineGordon Method

11:15–11:30	**Coffee Break**
12:30–14:00	**Lunch** (Central Dining Hall/Cafeteria)
19:30–23:30	**Urfa Sira Night at Harran University Uygulama Oteli**

SOCIAL ACTIVITIES		
18.05.2024	14:00–17:00	**Göbeklitepe and Museum Tours** (Please have your citizenship card with you) (Please upload it to the Museum Card application)
19.05.2024	10:30-12:30	**Fish Lake Tour**

8th International Conference on Computational Mathematics and Engineering Sciences
17 – 19 May 2024, Şanlıurfa – Türkiye

23

8ᵗʰ International Conference on Computational Mathematics and Engineering Sciences

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17 – 19 May 2024,
Şanlıurfa – Türkiye