



4th INTERNATIONAL CONFERENCE ON COMPUTATIONAL MATHEMATICS AND ENGINEERING SCIENCES - (CMES-2019)

20-22 April, Antalya, TURKEY

PROGRAM BOOK

THE FOURTH INTERNATIONAL CONFERENCE ON COMPUTATIONAL MATHEMATICS AND ENGINEERING SCIENCES (CMES-2019), ANTALYA, 20-22 APRIL 2019

The Fourth International Conference on Computational Mathematics and Engineering Sciences (CMES-2019) will be held in Akdeniz University from April 20 to 22, 2019 in Antalya, Turkey. 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.

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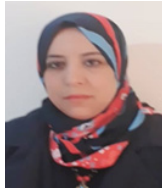
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MESSAGE FROM THE GENERAL CHAIRS



Dear Conference Attendees,

We would like to welcome you to the **4th International Conference on Computational Mathematics and Engineering Sciences (CMES-2019)** at Akdeniz University from April 20 to 22, 2019 in Antalya, Turkey. This year, the conference includes 300 extended abstracts, out of 300 submissions received in response to the call for papers, selected by the Program Committee. The program features keynote talks by distinguished speakers such as Abdon Atangana from Free State University, South Africa, Carlo Cattani from Tuscia University, Viterbo Italy, Jordan Hristov from University of Chemical Technology and Metallurgy, Bulgaria, Thabet Abdeljawad from Prince Sultan University, Saudi Arabia, Hayriye Gulbudak from University of Louisiana at Lafayette, USA, Francesco Vilecco from University of Salerno, Italy, Mohammed Gudda from Picardie Jules Verne University Amiens, France, Vincenzo Ciancio from University of Messina, Italy, Necdet Bildik from Manisa Celal Bayar University, Manisa, Turkey, Etibar Penahli from Bakü State University, Bakü, Azerbaijan, Juan Luis García Guirao from

Technical University of Cartagena, Spain. The conference also comprises contributed sessions, posters sessions and 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-2019 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-2019 interesting and intellectually stimulating, and that you will enjoy meeting and interacting with researchers around the world.

Hasan Bulut, Firat University Elazig, Turkey.

Zakia Hammouch, FST Errachidia Moulay Ismail University Morocco.

TOPICS

Applied Mathematics,
Financial Mathematics,
Control Theory,
Game Theory
Modeling of Bio-systems for Optimization and Control,
Linear and Nonlinear programming and Dynamics,
Artificial Intelligence,
Geometry and Its Applications,
Analysis and Its Applications,
Statistics and Its Applications,
Mathematics Education and Its Applications,
Algebra and Its Applications.
Engineering Sciences
Computer Science
Information technology
Electrical and Electronic Engineering
Ordinary, Partial, Stochastic and Delay Differential Equations
Chaos and Dynamical Systems
Numerical methods and scientific programming
Fractional Calculus and Applications,
Cryptography and its applications
Computational Fluids mechanics, Heat and Mass Transfers.
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Topology and Its Application
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PROCEEDINGS

Extended abstracts will be published in some Special Volumes of famous journals. Procedure, Guidelines and Checklist for the preparation and submission of a paper for the Proceedings of CMES-2019 can be found in the journals websites. The journals in which selected and peer-reviewed full papers of CMES-2019 will be published are follows:

- 1. Entropy (SCI-E with Charge)** [Selected papers fitting with the scopes of the Issue will be published after peer review in the Topical Collection “Wavelets, Fractals and Information Theory” of the Journal Entropy (Impact Factor 2.305)]
https://www.mdpi.com/journal/entropy/special_issues/wavelets_fractals_inf_theory
- 2. Springer- Conference Proceedings Book:** Recent Advances in Computational and Engineering Mathematics.
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- 3. Journal of Advanced Engineering and Computation:** “Selected papers will be published after peer review in the Journal of Advanced Engineering and Computation” :
<http://jaec.vn/index.php/JAEC/pages/view/guidelines>
- 4. Computational Mathematics and Modeling CMES2019**
<https://content.sciendo.com/view/journals/amns/amns-overview.xml>
- 5. Journal of Sustainable Engineering Applications and Technological Developments**
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- 6. Mathematics in Natural Science (MNS)**
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- 7. Mathematics in Engineering, Science and Aerospace (MESA),**
(Editor in Chief : Prof. Seenith Sivasundaram)
<http://nonlinearstudies.com/index.php/mesa>
- 8. Conference Proceeding Book with**
ISBN: 77733 (With full text)

PLENARY & INVITED SPEAKERS TALKS



FRACTIONAL DIFFERENTIATION AND INTEGRATION ABOVE POWER LAW SOME NEW DEVELOPMENTS

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Abstract

To capture more complexities in nature some new differential and integral operators were suggested very recently. These differential operators are defined as fractal derivative of order beta of a convolution of power law, exponential decay and the generalized Mittag-Leffler function. I will represent some new theoretical results and their applications to capture nature.

Keywords: Generalized Mittag-Leffler function

REFERENCES

1. A Atangana, D Baleanu, *New fractional derivatives with nonlocal and non-singular kernel: Theory and application to heat transfer model*, *Thermal Science*, 2016.



FRACTIONAL HARMONIC WAVELETS

Carlo Cattani

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Abstract

In this talk a review on harmonic wavelets and their fractional generalization, within the local fractional calculus, will be discussed. The main properties of harmonic wavelets and fractional harmonic wavelets will be given, by taking into account of their characteristic features in the Fourier domain. It will be shown that the local fractional derivatives of fractional wavelets have a very simple expression thus opening new frontiers in the solution of fractional differential problems.

Keywords: *Harmonic wavelets, local fractional derivative, wavelet series*

REFERENCES

1. D. Baleanu, K. Diethelm, E. Scalas, J.J. Trujillo, *Fractional Calculus: Models and Numerical Methods* (Series on Complexity, Nonlinearity and Chaos), 2012, World Scientific.
2. C. Cattani, "Harmonic Wavelets towards Solution of Nonlinear PDE", *Computers and Mathematics with Applications*, 50, 8-9 (2005), 1191-1210.
3. C. Cattani, "Local Fractional Calculus on Shannon Wavelet Basis", in *Fractional Dynamics*, C. Cattani, H. Srivastava, X.J. Yang (Eds.), De Gruyter, Krakow, chp. 1, 2015.
4. C. Cattani, "Sinc-Fractional operator on Shannon Wavelet Space", *Frontiers in Physics*, vol. 6, art. 5. 118, (2018) pp. 1-16.
6. Heydari, M.H. , Hooshmandasl, M.R. , Cattani, C., and Maalek Ghaini, F.M., "An efficient computational method for solving nonlinear stochastic Ito integral equations: Application for stochastic problems in physics", *Journal of Computational Physics*, vol. 283, (2015) 148-168.
7. Heydari, M.H. , Hooshmandasl, M.R. , Shakiba, A. and Cattani, C., "Legendre wavelets Galerkin method for solving nonlinear stochastic integral equations", *Nonlinear Dynamics*, vol. 85, n.2 (2016), 1185-1202.
8. D.E. Newland, "Harmonic wavelet analysis", *Proc.R.Soc. Lond. A*, 443, (1993) 203-222.



MULTI-SCALE STRUCTURED MODELS OF INFECTIOUS DISEASE DYNAMICS

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Abstract

Mathematical models can help describe the dynamics of complex biological systems. An important example, which spans several biological scales, is models of host-parasite interactions. In this talk, I will develop ODE-PDE hybrid structured models for infectious disease modeling [1,2]. In particular, I will introduce multi-scale vector-borne disease models, connecting dynamics at several interdependent scales: from cellular infection kinetics to population level epidemics. Applications to dengue and West Nile Virus (WNV), both of which have challenged both public health, suggest the need for the unified immunoepidemiological framework. These examples also showcase how analytical methods such as stability analysis, along with numerical simulation, can shed light on mathematical models in infectious disease research.

Keywords: Stability Analysis, Epidemiology, Equilibria, Structured PDE Models

REFERENCES

- 1) Gulbudak H., Cannataro V., Tuncer N., Martcheva M. (2017). *Vector-Borne Pathogen and Host Evolution in a Structured Immuno-Epidemiological System. Bulletin Mathematical Biology*, 79, 325–355.
- 2) Tuncer N., Gulbudak H., Cannataro V., Martcheva M (2016). *Structural and Practical Identifiability Issues of Immuno-Epidemiological Vector-Host Models with Application to Rift Valley Fever. Bulletin Mathematical Biology*, 78(9), 1796–1827



PERIODS OF CONTINUOUS MAPS ON SOME COMPACT SPACES

Juan Luis García Guirao

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Abstract

The objective of this talk is to provide information on the set of periodic points of a continuous self-map defined in the following compact spaces: S^n (the n -dimensional sphere), $S^n \times S^m$ (the product space of the n -dimensional with m -dimensional spheres), CP^n (the n -dimensional complex projective space) and HP^n (the n -dimensional quaternion projective space). We use as main tool the action of the map on the homology groups of these compact spaces.

Keywords: *Discrete Dynamical Systems, Periods; periodic points; continuous map; Lefschetz fixed point theory; sphere; product of two spheres; complex projective space; quaternion projective space.*

THIS TALK IS BASED ON THE PAPER:

Juan Luis García Guirao & Jaume Llibre (2017) Periods of continuous maps on some compact spaces, *Journal of Difference Equations and Applications*, 23:1-2, 1-7, DOI: 10.1080/10236198.2017.1304932

AWARDED BY THE INTERNATIONAL SOCIETY OF DIFFERENCE EQUATIONS AS THE BEST PAPER IN THIS FIELD OF 2017

REFERENCES

[1] F. Balibrea, *On problems of topological dynamics in non-autonomous discrete systems*, *Appl. Math. Nonlinear Sci.* 1(2) (2016), pp. 391–404.

[2] R.F. Brown, *The Lefschetz fixed point theorem*, Scott, Foresman and Company, Glenview, IL, 1971.

[3] C.T. Dodson and P.E. Parker, *A user's guide to algebraic topology*, Kluwer Academic Publishers, New York, NY, 1996.

[4] J. Franks, *Homology and dynamical systems*, *CBMS Regional Conference Series Vol. 49*, American Mathematical Society, Providence, RI, 1982.



OPTIMAL PERTURBATION ITERATION TECHNIQUE FOR SOLVING BOUSSINESQ–BURGER EQUATIONS

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Abstract

In this work, we construct a new scheme for solving nonlinear partial differential equations using the theory of perturbation and optimization. We specifically analyze the semianalytical solutions of Boussinesq–Burger equations. The new obtained solutions reveal that this new process is very effective to solve these kinds of nonlinear partial differential equations.

Keywords: *Perturbation techniques, optimization, Boussinesq–Burger equations*

REFERENCES

1. Gupta, A. K., and S. Saha Ray. “Comparison between homotopy perturbation method and optimal homotopy asymptotic method for the soliton solutions of Boussinesq–Burger equations.” *Computers & Fluids* 103 (2014): 34-41.
2. Wazwaz, Abdul-Majid. “The variational iteration method for rational solutions for KdV, K (2, 2), Burgers, and cubic Boussinesq equations.” *Journal of Computational and Applied Mathematics* 207.1 (2007): 18-23.
3. Deniz, Sinan, and Necdet Bildik. “Optimal perturbation iteration method for Bratu-type problems.” *Journal of King Saud University-Science* 30.1 (2018): 91-99.
4. Bildik, Necdet, and Sinan Deniz. “A Practical Method for Analytical Evaluation of Approximate Solutions of Fisher’s Equations.” *ITM Web of Conferences*. Vol. 13. EDP Sciences, 2017.



ABOUT INVERSE PROBLEM ON TWO SPECTRUM FOR THE DIFFERENTIAL OPERATOR

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Abstract Let the sequences $\{\lambda_n\}_0^\infty$ and $\{\mu_n\}_0^\infty$ define the Sturm-Liouville problem

$$\left. \begin{aligned} -y'' + \{\lambda - q(x)\}y &= 0 \quad (0 \leq x \leq \pi), \\ y'(0) - h_1y(0) = 0, \quad y'(\pi) + H_1y(\pi) &= 0, \end{aligned} \right\}$$

and, in addition, let the sequences $\{\tilde{\lambda}_n\}_0^\infty = \{\lambda_n\}_0^\infty$ and $\{\tilde{\mu}_n\}_0^\infty$, where $\tilde{\mu}_n = \mu_n$ for $n > N \geq 0$, define a second Sturm-Liouville problem

$$\left. \begin{aligned} -y'' + \{\lambda - \tilde{q}(x)\}y &= 0, \\ y'(0) - \tilde{h}_1y(0) = 0, \quad y'(\pi) + \tilde{H}_1y(\pi) &= 0. \end{aligned} \right\}$$

In this speech, we show that the kernel $F(x, s)$ of the integral equation for the inverse problem, in which problem (II) is regarded as a perturbation of problem (I), has the form

$$F(x, s) = \sum_{n=0}^N \psi(x, \tilde{\mu}_n) \varphi(s, \tilde{\mu}_n)$$

in the triangle $0 \leq s \leq x \leq \pi$, wherein $\psi(x, \lambda)$ and $\varphi(s, \lambda)$ are solutions of (I). In particular, we obtain a new proof of Hochstadt's theorem concerning the structure of the difference $\tilde{q}(x) - q(x)$.

Keywords: Sturm-Liouville problem, Eigenfunction, Spectrum.

REFERENCES

1. H. Hochstadt, B. Lieberman, *An inverse Sturm-Liouville problem with mixed given data*, *SIAM J. Appl. Math.* 34 (1978) 676–680.

2. J. Pöschel, E. Trubowitz, *Inverse Spectral Theory*, Academic Press, Orlando, 1987.

3. L. Sakhnovich, *Half inverse problems on the finite interval*, *Inverse Problems* 17 (2001) 527–532



ON CONTINUOUS AND DISCRETE FRACTIONAL OPERATORS WITH GENERALIZED MITTAG-LEFFLER KERNELS

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Abstract

At first a brief review about fractional operators with Mittag-Leffler kernels and their discrete versions will be given. The basic concepts will be cited and referred to the right specific place they are firstly announced. Then, the continuous and discrete fractional operators of Riemann type (ABR) and Caputo type (ABC) with generalized Mittag-Leffler kernels will be presented, their corresponding fractional integrals or sums will be derived and their action on the continuous or discrete ABC-fractional derivatives will be demonstrated. In fact, as advantages of the obtained extension, we find that when the second index is different from 1 we particularly obtain a nontrivial solution for the linear ABC type initial value problem with constant coefficient and prove a certain semigroup property in the second and third indices simultaneously.

Keywords: Generalized Mittag-Leffler kernel, ABC fractional derivative, ABR fractional derivative, AB fractional integral, semigroup property, discrete laplace transform, mononocity properties, discrete AB-fractional mean value theorem.

REFERENCES

- [1] T. Abdeljawad, *Different type kernel h -fractional differences and their fractional h -sums*, *Chaos, Solitons and Fractals*, 116 (2018) 146–156.
- [2] T. Abdeljawad, *Fractional operators with generalized Mittag-Leffler kernels and their differintegrals*, *Chaos* 29, 023102 (2019); <https://doi.org/10.1063/1.5085726>.



SMART DEVICES FOR A BETTER LIFE

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Abstract

The agricultural revolution started in the Ancient Greece and still is under completion; the Industrial one required two centuries; the digital revolution has only a few years. Everything is now fast: a new technology appears every four months. A new device every four weeks.

The letters are now almost all “smart” as they more and more:

- observe and analyze the environment
- act after thinking
- analyze the effects of their actions
- learn from their mistakes.

The University of Salerno has opened since the 90's a School for Innovative Design, that uses either fuzzy logic and other methods for designing and developing new materials and apparatuses.

Among them we would like to point out:

MARS, a new method to monitor the patient's status for specific pathologies, and automatically activate save-life operations

RAPIDS, a drive simulator integrated with specially developed biomedical devices, that allows to define in real time the neuro-psycho-physical conditions of a driver, as for instance a Lane-keeping-assistant (LKA);

an analyzer for cognitive load;

an on-line tester for drivers Blood Alcohol content.



SOME NEW SEQUENCE SPACES OF ORDER α DEFINED BY φ FUNCTION

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Abstract

Let $\lambda = (\lambda_i)$ be a non-decreasing sequence of positive numbers tending to ∞ such that

$$\lambda_{i+1} \leq \lambda_i + 1, \lambda_1 = 1.$$

In this paper we define the following sequence space of order α using the φ -function and de la Valee-Poussin mean. Let φ be given φ -function and f be given modulus function, respectively.

Moreover, let $A = (a_{nk}(i))$ be the generalized three parametric real matrix and $0 < \alpha \leq 1$ be given. Then we define,

$$V_i^\alpha((A, \varphi), f) = \left\{ x = (x_k) : \lim_j \sum_{n \in I_j} f \left(\left| \sum_{k=1}^{\infty} a_{nk}(i) \varphi(|x_k|) \right| \right) = 0, \text{ uniformly in } i \right\}.$$

REFERENCES

- [1] I. J. Maddox, *Spaces of strongly summable sequences*, *Quart. J. Math.*, 18, 1967, 345-355.
- [2] I. J. Maddox, *Sequence spaces defined by a modulus*, *Math. Proc. Camb. Philos. Soc.*, 100 (1986), 161-166.
- [3] E. Malkowsky and E. Savaş, *Some λ -sequence spaces defined by a modulus*, *Archivum Math.* 36, (2000), 219-228.
- [4] M. Mursaleen, C. Çakan, S. A. Mohiuddine, E.Savaş, *Generalized statistical convergence and statistical core of double sequences*, *Acta Math. Sin. (Engl. Ser.)* 26 (2010), no. 11, 2131-2144.



ON A CLASS OF SINGULAR INTERFACIAL EQUATIONS ARISING IN MOLECULAR BEAM EPITAXY

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Abstract

We re-examine a class of singular interfacial equations,

$$\partial_t h + \partial_x \left[(\partial_x h)^{1-2\nu} + \partial_{xxx} h \right] = 0$$

which is proposed for $\nu \geq 1$ to discuss the coarsening of growing interfaces, in the presence of a Ehrlich-Schwoebel-Villain barrier that induces a pyramidal mound-type structure without slope selection. The above PDE is solved for $\nu > \frac{1}{2}$, analytically in similarity form. The resulting similarity solutions are shown to have a periodic regime, for any ν indicating that the typical mound lateral size and the interfacial width grow with time like $t^{(1+\nu)/4\nu}$ and $t^{1/4}$, respectively, without bound. This result coincides with the result previously presented by Golubovic and by Pimpinelli et al. Our contribution provides a rigorous mathematical justification for the existence of special periodic similarity solutions to the singular interfacial equation and exhibits geometrical properties of the scaling functions. The present work provides support for solutions with diverging $\partial_{xxx} h$ at points where $\partial_x h = 0$ for $\nu \geq 1$.

Keywords: *Front evolution, period identification, steady states, coarsening dynamics, nonlinear PDEs.*

REFERENCES

- [1] Guedda, M., and H. Trojette. "Coarsening in an interfacial equation without slope selection revisited: Analytical results." *Physics Letters A* 374.42 (2010): 4308-4311.
- [2] Benlahsen, Mohammed, et al. "Similarity solutions to evolution equations in one-dimensional interfaces." *Electronic Journal of Differential Equations* 2011.68 (2011): 1-5.
- [3] Golubović, Leonardo, Artem Levandovsky, and Dorel Moldovan. "Epitaxial growth and erosion on (110) crystal surfaces: structure and dynamics of interfacial states." *Physical review letters* 89.26 (2002): 266104.



CLASSIFICATION AND NEW FRACTIONAL OPERATORS

Dumitru BALEANU

Institute of Space Sciences, Magurele-Bucharest, Romania

Abstract

Fractional calculus is an emerging field in mathematics with a huge impact in a better description of the dynamics of complex systems. New fractional operators which were introduced during the last five years had a very important contribution in many fields of science and engineering. On the other hand there are, so far, five different classifications of the fractional operators. Some of them constructively criticized the old ones and some of them validated the new fractional operators.

In my talk I will discuss briefly the importance of the new operators and the contents of five classifications.



DERIVATIVES WITH EXPONENTIAL AND RELATED NON-SINGULAR MEMORIES: APPLICATIONS IN VISCOELASTICITY

Jordan Hristov

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Abstract

The recently appeared fractional operators with non-singular memory kernel described by exponential (Caputo-Fabrizio derivative) and generalized Mittag-Leffler function (Atangana-Baleanu derivative) raise many questions about their properties and mainly about their physical relevance and applications.

This lecture focuses on the physics provoking creations of such fractional operators compare their properties with the features of the well-known fractional operators with singular kernels and mainly, try to clarify what really we may model with them. The response functions of the non-ageing viscoelastic materials are the main physical objects used to present the feasibility of the new derivatives in modelling viscoelastic constitutive equations.

Keywords: *Linear viscoelasticity, non-power-law behavior, non-singular kernels.
Constitutive equations, rheological models*



A DUAL-PHASE-LAG DIFFUSION MODEL FOR POPULATION GROWTH

Vincenzo CIANCIO

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Physical Sciences and Earth Sciences, University of Messina - ITALY
ciancio@unime.it*

Abstract

Reaction-diffusion models were used in dynamic fluid, population growth, pulse propagation in nerves and other biological phenomena. Some of these models have been expanded to describe memory effects in diffusion and therefore with the use of hyperbolic equations deriving from the generalization of the Fourier and Fick laws. These generalizations come from the theory of extended irreversible thermodynamics (EIT) which is based on kinetic theory arguments. Recently it has been shown that, using the procedures of the classical irreversible thermodynamics with internal variables (CIT-IV), we can obtain equations for the dissipative flows that generalize the laws of Fourier-Fick and Cattaneo-Vernotte. In this paper, using the methodology of CIT-IV, we propose a new model that includes the effect of memory in the diffusion highlighting the presence of two relaxation times. The diffusion flow obtained is characterized by the sum of a parabolic and a hyperbolic contribution which allows the formulation of a dynamic system. We are characterized by traveling waves solutions with different generating particle source functions such as: a) logistic growth, b) generic cubic polynomial, c) strong Allee effect and d) weak Allee effect.

Keywords: *Fourier's and Fick's law, Cattaneo-Vernotte equation, dual-phase lag, travelling waves, non-equilibrium thermodynamics, internal variables, nonlinear diffusion.*

REFERENCES

- 1) Ciancio V., Lupica A., Palumbo A., *A dual-phase-lag diffusion model for population growth.* (to appear).
- 2) Ciancio V., Palumbo A. (2018), *Thermodynamical Theory with Internal Variables Describing Thermal Effects in Viscous Fluids*, *J. Non-Equilibrium Thermodyn.*, 2018: 43 (2): 171-184, doi.org/10.1515/jnet-2017-0048.

PROGRAM

20.04.2019

08:00-10:00

REGISTRATION

10:00-10:30

OPENING CEREMONY (ATATÜRK CONFERENCE HALL)

10:30-11:00

PLENARY LECTURE (ATATÜRK CONFERENCE HALL)

Speaker: Prof.Abdon Atangana

Title: FRACTIONAL DIFFERENTIATION AND INTEGRATION ABOVE POWER LAW SOME NEW DEVELOPMENTS

Chair: Prof.Hayriye Gulbudak

11:00-11:15

Coffee Break

11:15-11:45

PLENARY LECTURE (ATATÜRK CONFERENCE HALL)

Speaker: Prof.Juan Luis García Guirao

Title: PERIODS OF CONTINUOUS MAPS ON SOME COMPACT SPACES

Chair: Prof. Necdet Bildik

11:45-12:15

PLENARY LECTURE (ATATÜRK CONFERENCE HALL)

Speaker: Prof.EKREM SAVAŞ

Title: SOME NEW SEQUENCE SPACES OF ORDER α DEFINED BY VARPFI FUNCTION

Chair: Prof. Zakia Hammouch

12:15-13:45

LUNCH (AKDENIZ UNIVERSITY SOCIAL FACILITIES)

| HALL-D1 (Fractional) | |
|---|--|
| 14:00-15:40 20.04.2019 | Chair Prof.Dr.Mahmoud Al Refaei |
| | Authors |
| | Titles |
| | Muhammad Bilal Riaz |
| | A comprehensive report on MHD Oldroyd-B fluid passing through a Porous Medium with slip condition in view of fractional (ABC) and (CF) |
| | Necati Ozdemir, Esmehan UCAR |
| INVESTIGATION OF NUMERICAL SOLUTIONS TO A DRINKING MODEL WITH ATANGANA-BALEANU DERIVATIVE | |
| Ahmet Ocak Akdemir Saima RASHID | |
| NEW HADAMARD TYPE INEQUALITIES VIA CONFORMABLE FRACTIONAL INTEGRAL OPERATORS | |
| Arran Fernandez | |
| Incomplete Forms of Fractional Integrals and Derivatives | |
| Hülya Durur, Orkun Tasbozan, Ali Kurt | |
| AN ANALYTICAL APPROACH FOR TIME FRACTIONAL BAD AND GOOD BOUSSINESQ EQUATION | |
| 15:40-16:00 | Coffee Break |
| HALL-D1 (Applied Sciences) | |
| 16:00-17:40 20.04.2019 | Chair Prof.Dr CEREN Sultan ELMALI |
| | Authors |
| | Titles |
| | Halide Gumus |
| | Hirota's Direct Method in Soliton Theory |
| Muammer Topsakal, Filiz Tascan | |
| Exact Travelling Wave Solutions for Space-Time Fractional Klein-Gordon Equation and (2+1)-Dimensional Time-Fractional Zoomeron Equation via Auxiliary Equation Method | |
| Burcu Gürbüz Mehmet SEZER | |
| LAGUERRE MATRIX-COLLOCATION METHOD TO SOLVE SYSTEMS OF PANTOGRAPH TYPE DELAY DIFFERENTIAL EQUATIONS | |
| El Yazıdı Youness | |
| A comparison of a gradient based method and the differential evolution for shape identification problem | |

| HALL-D2(Geometry) | | |
|---------------------------------------|---|--|
| 14:00-15:40 20.04.2019 | Chair | Prof.Dr.Mahmut ERGÜT |
| | Authors | Titles |
| | Rıdvan Demirkol, Talat Körpınar, Mustafa Yeneroglu | A NEW APPROACH ON THE ENERGY OF A PARTICLE IN DYNAMICAL AND ELECTRODYNAMICAL FORCE FIELDS IN THE ORDINARY SPACE |
| | Seema Mehra, Anuradha | FIXED POINT RESULTS FOR MULTIVALUED MAPPINGS IN TRIANGULAR FUZZY METRIC SPACES |
| | Ramazan SARI | On CR Submanifolds of Lorentz Sasakian Manifold |
| | Vedat Asil, Mustafa Yeneroglu, Talat Körpınar | ON INEXTENSIBLE FLOWS OF TRANSLATION SURFACES ACCORDING TO BISHOP FRAME |
| Aslı Ayar, Bayram Sahin | A NEW BEZIER LIKE SPIRAL CURVE AND ITS RELATIONS WITH HIGHWAY DESIGN | |
| 15:40-16:00 | Coffee Break | |
| HALL-D2 (Applied Sciences) | | |
| 16:00-17:40 20.04.2019 | Chair | Prof.Dr.Nigar Yıldırım AKSOY |
| | Authors | Titles |
| | Nihal INCE, Aladdin SHAMILOV | An Application of New Method to Obtain Probability Density Function of Solution of Stochastic Differential Equations |
| | Cemil INAN, Erhan PISKIN | ANALYSIS OF STUDENT LEARNING IN DIFFERENTIAL EQUATIONS LEARNING AREA BASED ON VARIOUS VARIABLES |
| | Miraç Kayhan | New Solitary wave structures to the Zakharov-Kuznetsov-Benjamin-Bona-Mahony Equation |
| Hülya Durur, Ali KURT, Orkun Tasbozan | NEW TRAVELLING WAVE SOLUTIONS FOR KDV6 EQUATION USING SUB EQUATION METHOD | |

HALL-D3 (Engineering)

| | | |
|---------------------------|--|---|
| 14:00-15:40 20.04.2019 | Chair | Prof. Dr.Burcu GÜRBÜZ |
| | Authors | Titles |
| | Y. Yunardi | SOOT MODELLING PERFORMANCES IN TURBULENT NON-PREMIXED ETHYLENE FLAME: A COMPARATIVE STUDY |
| | Donald Atsa'am, Ersin Kuset Bodur | A DATA MINING CLASSIFIER FOR PREDICTING EMPLOYEES? PSYCHOLOGICAL CAPITAL |
| | Auwal Bala Abubakar | A Descent Modified Three-term Conjugate Gradient Projection Algorithm and its Global Convergence with Applications to Signal Recovery |
| | Alper Ozpinar, Bahadır Celik | A Digital Twin and Tracebility Implementation in Automotive Industry |
| Burcu Gürbüz | A COMPUTATIONAL APPROACH FOR SOLVING FRACTIONAL DELAY DIFFERENTIAL EQUATIONS | |
| 15:40-16:00 | Coffee Break | |

HALL-D3 (Applied Sciences)

| | | |
|--|---|---|
| 16:00-17:40 20.04.2019 | Chair | Prof.Dr.Alaattin ESEN |
| | Authors | Titles |
| | Burak Ogul, Dagistan Simsek, Fahredden Abdullayev | Solution of the Maximum of Difference Equation $x(n+1)=\max\{A/x(n-1)- y(n)/x(n)\}- y(n+1)=\max\{A/y(n-1)- x(n)/y(n)\}$ |
| | Recep Sahin | A NEW GENERALIZATION OF POCHHAMMER SYMBOL AND ITS APPLICATIONS |
| | Derya AVCI | Determination of Thermal Waves in Living Bodies Governing with the Generalized Cattaneo Approach |
| | Onur SALDIR, Mehmet Giyas Sakar, Fevzi Erdogan | A New Numerical Solution for Singularly Perturbed Boundary Value Problems |
| Muhammed Emin Dadas, Nigar Yildirim Aksoy | The Solution by Variational Method of an Inverse Problem for Nonlinear Schrödinger Equation | |

HALL-D4 (Applied Sciences)

| | | |
|---|--|---|
| 14:00-15:40 20.04.2019 | Chair | Prof. Dr.Fevzi ERDOGAN |
| | Authors | Titles |
| | Onur Alp İlhan, Shakirbay G.Kasimov, Farhod D.Rakhmanov, Haci Mehmet Baskonus | ON THE SOLVABILITY OF A PROBLEM OF THE HEAT CONDUCTION THEORY WITH TWO NON-LOCAL CONDITIONS |
| | Sebnem YILDIZ | A General Matrix Application of Non-increasing Sequences to Fourier Series |
| | Burak Ogul, Dagistan Simsek, Fahreddin Abdullayev | Solution of the Rational Difference Equation $x(n+1)=x(n-13)/[1+x(n-1)x(n-3)x(n-5)x(n-7)x(n-9)x(n-11)]$ |
| | F. Berna Benli, Onur Alp İlhan | AN EARLY DETECTION MODEL FOR A BRAIN TUMOR-IS INTERACTION WITH FUZZY INITIAL VALUES |
| Serife CALIK, Seyma Tuluçe Demiray, Yusuf Gurefe | SYMMETRICAL LUCAS FUNCTION SOLUTIONS OF LIOUVILLE EQUATION | |
| 15:40-16:00 | Coffee Break | |

HALL-D4 (Fractional)

| | | |
|---|--------------------------------------|--|
| 16:00-17:40 20.04.2019 | Chair | Prof. Dr.Onur Alp İLHAN |
| | Authors | Titles |
| | Abdon ATANGANA, Seda IGRET ARAZ | Analysis of a new partial integro-differential equation with mixed fractional operators |
| | Mustafa Ali Dokuyucu, Nalan Dokuyucu | APPLICATION OF THE KORTEWEG-DE VRIES-BURGERS EQUATION WITH ATANGANA-BALEANU FRACTIONAL DERIVATIVE WITH NON-SINGULAR KERNEL |
| | Bahar Acay, Erdal Bas | AN ENERGY-SAVING MODEL IN FRAME OF THE LOCAL DERIVATIVE |
| | Recep Sahin | FRACTIONAL CALCULUS OF FURTHER GENERALIZATION OF THE EXTENDED HYPERGEOMETRIC FUNCTION |
| Amal Almatarneh | Fractional Calculus and Applications | |

HALL-D5 (Applied Sciences)

| | | |
|---|---|---|
| 14:00-15:40 20.04.2019 | Chair | Prof. Dr.M.Giyas SAKAR |
| | Authors | Titles |
| | Firat Evirgen, Sümeyra Uçar, Necati Özdemir | SYSTEM ANALYSIS OF HIV INFECTION MODEL WITH CD4+T UNDER NON-SINGULAR KERNEL DERIVATIVE |
| | Sahsene Altın kaya, Sibel Yalçın | THE EXTENSION CHEBYSHEV POLYNOMIAL BOUNDS FOR CERTAIN SUBCLASSES OF BI-UNIVALENT FUNCTIONS |
| | Sivaraj Ramachandran, Thameem BashaH MakindeO D | Forced convective Darcy Forchheimer flow of a GO-water nanofluid over a wedge- plate and stagnation point of the flat plate |
| | Pragati Gautam, Swapnil Verma | Fixed point theory: Its emergence- scope and applications in various fields |
| BaranseI GUNES, Hakkı DURU | Finite Difference Schemes on Adaptive Mesh For the Singularly Perturbed Sobolev Initial and Periodic Boundary Problem | |

15:40-16:00

Coffee Break

HALL-D5 (Applied Sciences)

| | | |
|---|---|---|
| 16:00-17:40 20.04.2019 | Chair | Prof.Dr.F.Berna BENLİ |
| | Authors | Titles |
| | Messaoud Maouni, Fairouz Souilah, Kamel Slimani | EXISTENCE RESULTS FOR QUASILINEAR PARABOLIC PROBLEMS WITH L^1 DATA |
| | Mefiah Mabrouk, Ataouat Mohamed | EXISTENCE AND UNIQUENESS OF NONLINEAR VISCOELASTIC FOURTH-ORDER PROBLEM |
| | Asif Yokus, Hülya Durur, Betül Demirdag | EXACT TRAVELLING WAVE SOLUTIONS OF KLEIN- GORDON EQUATION USING SUB-EQUATION METHOD |
| | Murat San, Murat SUBASI | DISCRETE AND CONTINUOUS TIME- CONVOLUTION SUM AND CONVOLUTION INTEGRAL ON TIME- INVARIANT LINEAR SYSTEM |
| Sinan Deniz | SEMI-ANALYTICAL INVESTIGATION of COUPLED DRINFEL'D-SOKOLOV-WILSON EQUATIONS | |

HALL-D6 (Analysis)

| | | |
|---|--|---|
| 14:00-15:40 20.04.2019 | Chair | Prof.Dr.Rifat ÇOLAK |
| | Authors | Titles |
| | Shahram Ahmed Mustafa, Çiğdem Bektaş | LACUNARY AND STATISTICAL CONVERGENCE |
| | Abdulkadir Karakas, Birgül TORGUT, Yavuz ALTIN | ON $_p^{\alpha}m$ (f)- STATISTICAL CONVERGENCE OF ORDER |
| | Sarkawt Asaad, Rifat Colak | SOME RELATIONS BETWEEN THE SETS OF f-STATISTICALLY CONVERGENT DIFFERENCE SEQUENCES |
| | Zelal TEMEL, Musa Cakir | Uniform Convergence of Finite Difference Schemes for a Singularly Perturbed Convection-Diffusion Problem with Integral Boundary Condition |
| Khalifa Alshaqsi | ON APPLICATION OF TOUCHARD POLYNOMIALS ON SUBCLASSES OF PLANAR HARMONIC MAPPINGS | |
| 15:40-16:00 | Coffee Break | |
| 16:00-17:40 20.04.2019 | Chair | Prof. Dr.Esin Inan ESKİTAŞCIOĞLU |
| | Authors | Titles |
| | İbrahim Sulaiman, Rifat Colak | SOME RELATIONS BETWEEN THE SETS OF f-STRONGLY CESARO SUMMABLE SEQUENCES |
| | Emrah YILMAZ, Ayse Nur AKKILIÇ, Tuba GÜLSEN | Some problems which include diamond type derivative on time scales |
| Hacer SENGÜL, Mikail ET | ON DEFERRED STATISTICAL CONVERGENCE OF ORDER (α , β) | |

| HALL-D7 (Fractional) | |
|---|---|
| 14:00-15:40 20.04.2019 | Chair Prof.Dr.Gulnur YEL |
| | Authors |
| | Titles |
| | Ilknur Koca, Pelin Yaprakdal |
| | On a fractional order differential equations and Sitr model |
| | Kashif Ali Abro Imean Qasim Memon Dr. Muhammad Anwar Solangi |
| | PYROLYSIS OF THERMOELECTRIC FLUID VIA FRACTIONAL APPROACH OF CAPUTO-FABRIZIO |
| Ali Kurt, Orkun Tasbozan, Hülya Durur | |
| IMPLEMENTATION OF NEW SUB EQUATION METHOD TO TIME FRACTIONAL PARTIAL DIFFERENTIAL EQUATIONS | |
| Ahmet Ocak Akdemir, Saima RASHID | |
| NEW HADAMARD TYPE INEQUALITIES VIA CONFORMABLE FRACTIONAL INTEGRAL OPERATORS | |
| Bahar Acay, Erdal Bas | |
| ECONOMIC MODELS WITH MODIFIED CONFORMABLE DERIVATIVES | |
| Koray Ibrahim Atabey, Muhammed Çınar | |
| ON STATISTICAL CONVERGENCE OF DIFFERENCE DOUBLE SEQUENCE OF FRACTIONAL ORDER | |
| 15:40-16:00 | Coffee Break |
| HALL-D7 (Applied Sciences) | |
| 16:00-17:40 20.04.2019 | Chair Prof.Dr.Sibel PAŞALI ATMACA |
| | Authors |
| | Titles |
| | Sibel Pasalı Atmaca, Mehmet Ali Balcı |
| | A Numerical Solution of System Characterizing Curves of Constant Breadth |
| | Sibel Pasalı Atmaca, Ömer Akgüller |
| | Simplification Method for Point Clouds Using Local Entropy of Gaussian Curvatures |
| Serife CALIK, Seyma Tuluçe, Demiray, Yusuf Gurefe | |
| THE MODIFIED TRIAL EQUATION METHOD TO THE LAKSHMANAN-PORSEZIAN- DANIEL MODEL | |
| Ali Kurt, OrkunTasbozan, Hülya Durur | |
| THE EXACT SOLUTIONS OF CONFORMABLE FRACTIONAL PARTIAL DIFFERENTIAL EQUATIONS USING NEW SUB EQUATIN METHOD | |
| Süleyman Cengizci, Süleyman Tokgöz | |
| A NUMERICAL STUDY ON SINGULARLY PERTURBED PROBLEMS WITH MULTIPARAMETERS | |

| HALL-D8 (Geometry) | | |
|---|---|--|
| 14:00-15:40 20.04.2019 | Chair | Prof.Dr.Nejmi CENGİZ |
| | Authors | Titles |
| | Mustafa Yeneroglu, Selçuk Bas, Ridvan C.Demirkol | THE FOCAL CURVES ACCORDING TO MODIFIED FRAME IN MINKOWSKI 3-SPACE |
| | Ameina Nuseir, SharifaAl-Sharif | New Results in Fixed Point Theorems in Non Solid Cone Metric Spaces |
| | Muhammad Abubakar ISAH, Mihriban Alyamaç Külahcı | SPECIAL CURVES ACCORDING TO BISHOP FRAME IN MINKOWSKI 3-SPACE |
| | Talat Körpınar, Ridvan Cem Demirkol, Selçuk Bas | A NEW APPROACH TO NORMAL BIMAGNETIC CURVES IN TERMS OF INEXTENSIBLE FLOWS IN SPACE |
| İnan Ünal | Some Properties of a Para-Kenmotsu Manifold with Semi-symmetric Metric Connection | |
| 15:40-16:00 | Coffee Break | |
| HALL-D8 (Applied Sciences) | | |
| 16:00-17:40 20.04.2019 | Chair | Prof.Dr.Dursun IRK |
| | Authors | Titles |
| | Kubra Bagci, Necati Erdogan, Talha Arslan, H. Eray Celik | ALPHA POWER INVERTED KUMARASWAMY DISTRIBUTION: PROPERTIES AND APPLICATION |
| | İsmail Cem Açıkgoz, Mustafa Baysal | COMPARISON OF FLYWHEEL AND LI-ION BATTERY ENERGY STORAGE SYSTEMS AND PERFORMANCE ANALYSIS OF HYBRID ENERGY STORAGE SYSTEM ON DIFFERENT LOAD PROFILES |
| | Sebnem YILDIZ | An application of absolute matrix summability to trigonometric Fourier series |
| | Halima LAKHBAB | A modified particle swarm optimization with nonmonotone population |
| Ragheb Mghames, Yahia Awad, Therrar Kadri | The Solution of Differential Equations via Collocation Method Based on Bessel Polynomials | |

HALL-D9 (Applied Sciences)

| | | |
|---|---|--|
| 14:00-15:40 20.04.2019 | Chair | Prof.Dr.Mitra Haddadi |
| | Authors | Titles |
| | Bouayad Ghizlane, SalahAL HADAJ, Nawal BOUARQUIA | A proposed optimization model for intermodal transport in logistic corridors |
| | Majeed A. Yousif, Bewar A. Mahmood | A Reliable Approach to Solve The Hirota-Satsuma Coupled KdV Equation by Using Residual Power Series |
| | Elçin Yusufoglu, Ilkem Turhan Çetinkaya | A SEMI-ANALYTICAL SOLUTION OF THE CONTACT PROBLEM WITH MIXED BOUNDARY CONDITIONS FOR THE INHOMOGENEOUS LAYERS LOADED BY A FLAT PUNCH |
| | Mehmet Kayalar | A UNIQUENESS THEOREM FOR SINGULAR STURM-LIOUVILLE OPERATOR |
| Mustafa Kudu, Gabil Amıralı | A uniformly convergent second order difference scheme for parameterized singularly perturbed problem with integral boundary condition | |

15:40-16:00

Coffee Break

HALL-D9 (Engineering Sciences)

| | | |
|--|---|--|
| 16:00-17:40 20.04.2019 | Chair | Prof.Dr.Elçin YUSUFOGLU |
| | Authors | Titles |
| | Guillaume Leduc | Path-Independent Option Price Convergence to Path-Dependent Option Prices with the Cox- Ross- and Rubinstein model |
| | Ragheb Mghames, Yahia Awad, Therrar Kadri | Power GCD Matrices Defined on GCD-Closed Sets over Unique Factorization Domains |
| | Esra Kasap, Murat Sarı, Arshed A.Ahmad | PREDICTION OF HEPATITIS B IMMUNIZATION USING THE GENETIC ALGORITHM |
| | Furkan Yıldırım, Murat Polat | PROJECTABLE LINEAR CONNECTION IN SEMI-TANGENT BUNDLE |
| Yahia Awad,Ragheb Mghames, Haissam Chehade | POWER GCDP MATRICES DEFINED ON ARBITRARY SETS OVER UNIQUE FACTORIZATION DOMAINS | |

| HALL-D10 (Applied Sciences) | | |
|---------------------------------|---|---|
| 14:00-15:40 20.04.2019 | Chair | Prof.Dr.Şebnem YILDIZ |
| | Authors | Titles |
| | Emel Biçer | An asymptotic result for neutral differential equation |
| | Dursun Irk, Melis Zorsahin Görgülü | AN EFFICIENT HIGH ORDER ALGORITHM FOR SOLVING REGULARIZED LONG WAVE EQUATION |
| | Dursun Irk, Emre Kırılı | NUMERICAL SOLUTION OF THE HOMOGENEOUS TELEGRAPH EQUATION BY USING GALERKIN FINITE ELEMENT METHOD |
| | Hasan Gunduz | Application of (G'/G)-Expansion Method to Wu-Zhang Equation and Modified Bossinesq Equation |
| | Mohammed Al-Refai | Analysis of a Fractional Differential Equation with Riesz-Caputo Derivative: Comparison Principles and Applications |
| HALL-D10 (Applied Sciences) | | |
| 16:00-17:40 20.04.2019 | Chair | Prof.Dr. Yehya Awad |
| | Authors | Titles |
| | Khalid Al-Zoubi | Characterization of $R^?O(X)$ sets by using $??$ -cluster points |
| | Murat Sat | AN INVERSE SPECTRAL PROBLEM FOR INTEGRO DIFFERENTIAL OPERATORS WITH FROZEN ARGUMENT |
| | Gölnur Yel, Tolga AKTÜRK | APPLICATION OF THE MODIFIED EXPANSION FUNCTION METHOD TO VAKHNENKO-PARKES EQUATION |
| | Ömer Akgöller, Mehmet Ali Balcı | Distributed Order Diffusion on Financial Networks |
| Ömer Akgöller, Mehmet Ali Balcı | Labor Migration Model with Anomalous Diffusion and Modified Expansion Method Solution | |
| 15:40-16:00 | Coffee Break | |
| 19:00-21:00 | DINNER (AKDENİZ UNIVERSITY SOCIAL FACILITIES) | |

21.04.2019

| | |
|---------------------------|--|
| 09:00-09:30 21.04.2019 | PLENARY LECTURE (B BLOCK CONFERENCE HALL, DEPARTMENT OF MATHEMATICS) |
| | Speaker: Prof.Hayriye Gülbudak |
| | Title: MULTI-SCALE STRUCTURED MODELS OF INFECTIOUS DISEASE DYNAMICS |
| | Chair: Prof. Ekrem Savaş |
| 09:30-10:00 21.04.2019 | PLENARY LECTURE (B BLOCK CONFERENCE HALL, DEPARTMENT OF MATHEMATICS) |
| | Speaker: Prof.Etibar Penahli |
| | Title: ABOUT INVERSE PROBLEM ON TWO SPECTRUM FOR THE DIFFERENTIAL OPERATOR |
| | Chair: Prof.Arran Fernandez |
| 10:00-10:15 | Coffee Break |
| 10:15-10:45 21.04.2019 | PLENARY LECTURE (B BLOCK CONFERENCE HALL, DEPARTMENT OF MATHEMATICS) |
| | Speaker: Prof. Necdet Bildik |
| | Title: OPTIMAL PERTURBATION ITERATION TECHNIQUE for SOLVING BOUSSINESQ–BURGER EQUATIONS |
| | Chair: Prof.Juan Luis García Guirao |

| HALL-D1 (Applied Sciences) | | |
|-----------------------------------|--|---|
| 10:50-12:30 21.04.2019 | Chair | Prof.Dr.Mehmet KARAY |
| | Authors | Titles |
| | Hülya GÜLTEKİN ÇİTİL | THE NONHOMOGENEOUS FUZZY PROBLEM WITH THE EIGENVALUE PARAMETER IN THE BOUNDARY CONDITION |
| | Ali Akgül | An Accurate Technique for Solution of Fractional Differential Equations |
| | Ozlem Ertekin | SOME APPLICATIONS RELATED TO MATHEMATICAL MODELING OF MICROBIAL INACTIVATION IN FOOD MICROBIOLOGY |
| | Fatim Zahra, Ait Bella Abdelillah Hakim | A nonlocal PDE-based approach for document images binarization |
| Kerem Yamaç, Fevzi Erdogan | A NUMERICAL SCHEME FOR NONLINEAR SINGULARLY PERTURBED REACTION-DIFFUSION | |
| HALL-D2 (Geometry) | | |
| 10:50-12:30 21.04.2019 | Chair | Prof.Dr.Kurşat AKBULUT |
| | Authors | Titles |
| | Mehmet BEKTAS, Münevver Yıldırım Yılmaz | (k-m)-type partially null and pseudo null slant helices in Minkowski 4-space |
| | Mustafa Yeneroglu, TalatKörpınar Rıdvan C. Demirkol | A NEW VERSION OF DEVELOPABLE SURFACES WITH RIBBON FRAME |
| | Muhammad Abubakar ISAH, Mihriban Alyamaç Külahcı | A STUDY ON NULL CARTAN CURVE IN MINKOWSKI 3-SPACE |
| | Handan ÖZTEKİN | RECTIFYING CURVES IN THE EQUIFORM GEOMETRY OF THE GALILEAN 4-SPACE |
| Hakan Ustunel, Kerem Atasen | Modeling of the Bezier curve in VR Environment | |

HALL-D3 (Engineering Sciences)

| 10:50-12:30 21.04.2019 | Chair | Prof.Dr.Yusuf GÜREFE |
|---------------------------------|---|---|
| | Authors | Titles |
| | Metin Sengül | GENERATION OF POLYNOMIAL SETS FOR ANALOG FILTERS |
| | Alper Polat | CONTACT PROBLEM BETWEEN FUNCTIONALLY GRADED LAYER AND FUNCTIONALLY GRADED PUNCH USING FEM |
| | Murat DENER | IoT? TECHNOLOGIES FOR SMART CITIES |
| Gülner Begüm Ergün, Selda Güney | A COMPARISON STUDY FOR IMAGE CLASSIFICATION AND FEATURE SELECTION | |

HALL-D4 (Computer Sciences)

| 10:50-12:30 21.04.2019 | Chair | Prof.Dr.Ercan ÇELİK |
|--|---|--|
| | Authors | Titles |
| | Muharrem Tuncay Gençoglu | Cryptography Defence Based on Bernoulli Numbers |
| | Mesbaholreza Sharifi, Mostafa Ghayour, Saeed Behbahani | Analytical Estimating the Muscle Activities in 3D Musculoskeletal Model of Human Arm- Using Kane Formulation |
| | Muhammet Burak Kılıç | Using genetic algorithms for parameter estimation of a two-component circular mixture model |
| | Hikmet Yücel, Ugur Yayan | Development of Indoor Navigation Software for Visually Impaired People |
| Muhammed Bahadırhan Aktas, Esin Inan Eskitascioglu, Hacı Mehmet Baskonus | Contours to the Nonlinear Model Arising in Nonlinear Concept via SGEM | |

HALL-D5 (Algebra)

| | | |
|---|---|---|
| 10:50-12:30 21.04.2019 | Chair | Prof.Dr.Hanlar REŞİTOGLU |
| | Authors | Titles |
| | Zehra Velioglu | SOLUBLE PRODUCT OF PARAFREE LIE ALGEBRAS AND ITS RESIDUAL PROPERTIES |
| | MusheerAhmad | A Special Class of Fuzzy Matrices and Its Prioritization |
| | Serap Sahinkaya, Emillic Georgijevic | ON GRADED UNIT NIL CLEAN RINGS |
| | Osman KAN, Ayse Dilek MADEN, Süleyman SOLAK | SOME RESULTS RELATED TO MATRIX COMMUTATORS INVOLVING TRIGONOMETRIC MATRIX FUNCTIONS |
| | Volkan ALA, Khanlar R. MAMEDOV | ON BASIS PROPERTY FOR A CLASS SECOND ORDER DIFFERENTIAL OPERATOR |
| | Ulviye Demirbilek, Khanlar R. Mamedov | THE INVERSE PROBLEM OF SCATTERING FOR A BOUNDARY VALUE PROBLEM |

HALL-D6 (Algebra)

| | | |
|---|--|--|
| 10:50-12:30 21.04.2019 | Chair | Prof.Dr.Ayşe Dilek MADEN |
| | Authors | Titles |
| | Hayri Topal | Properties of the Banach algebra obtained from a given Banach algebra by using a left multiplier |
| | Haissam Chehade, Yahia Awad, Ragheb Mghames, Wiam Zeid | On Special Power GCD Matrices |
| | Akram Chehrazi, Esmail Abedi | On Classification of Biharmonic Submanifolds in S^n |
| | Khalifa Alshaqsi | ON APPLICATION OF TOUCHARD POLYNOMIALS ON SUBCLASSES OF PLANAR HARMONIC MAPPINGS |

Hall-D7 (Applied Sciences)

| | Chair | Prof.Dr.Cemil INAN |
|---------------------------|----------------------------------|--|
| | Authors | Titles |
| 10:50-12:30 21.04.2019 | Oguz Yagci, Recep Sahin | GENERALISED INCOMPLETE RIEMANN-LIOUVILLE FRACTIONAL DERIVATIVE OPERATOR |
| | Duygu Dönmez Demir, Gülsüm Sanal | THE PERTURBED TRAPEZOID INEQUALITIES FOR n-TIMES DIFFERENTIABLE s-LOGARITHMICALLY CONVEX FUNCTIONS |
| | Yener Altun | An approach on the asymptotic behaviors of non-linear neutral systems with time-varying lags |
| | Hülya GÜLTEKİN ÇİTİL | FUNDAMENTAL RESULTS FOR THE FUZZY BOUNDARY VALUE PROBLEM WITH THE EIGENVALUE PARAMETER IN THE BOUNDARY CONDITION |
| | Oguz Yagci, Recep Sahin | GENERALISED INCOMPLETE CAPUTO FRACTIONAL DERIVATIVE OPERATOR |
| | Esin İlhan, I. Onur Kıymaz | Further Properties of the Truncated M-Fractional Derivative |

HALL-D8 (Geometry)

| | Chair | Prof.Dr.Vedat ASİL |
|---------------------------|--|--|
| | Authors | Titles |
| 10:50-12:30 21.04.2019 | Rıdvan Cem Demirkol, Vedat Asıl, Selçuk Bas | ENERGY OF UNIT QUASI VECTOR FIELDS IN THE THREE DIMENSIONAL EUCLIDEAN SPACE |
| | Seyyed Alireza Ahmadi | Entropy and chaos on uniform hyperspaces |
| | Selçuk Bas, Mustafa Yeneroglu, Rıdvan Cem Demirkol | INEXTENSIBLE FLOWS OF W-DIRECTION CURVES IN EUCLIDEAN 3-SPACE |
| | Talat Körpınar, Vedat Asil, Yasin Ünlütürk | NEW GALILEAN TRANSFORMATION FOR INVOLUTE CURVES OF BIHARMONIC CURVES IN THE HEISENBERG GROUP |
| | Inan Ünal, Ramazan SARI | RESULTS ON CONFORMAL FLAT PARA-KENMOTSU MANIFOLDS |
| | Elif Aksoy Sarı, Inan Ünal, Ramazan Sarı | CR submanifolds of para Sasakian manifolds with semi symmetric metric connection |

| HALL-D10 (Algebra) | | |
|----------------------------------|--|--|
| 10:50-12:30 21.04.2019 | Chair | Prof.Dr.Tamer UGUR |
| | Authors | Titles |
| | Tugçe Kunduracı, Tamer Uğur, Ceren Sultan Elmali | $KK(2,n)$ Torus Knots and Bitopological Set-Indexers |
| | Seyda Ildan, Aynur Yalçiner | DECOMPOSITION OF AN FUZZY NEUTROSOPHIC SOFT MATRIX USING COMPOSITION OPERATOR AND MODAL OPERATORS |
| | Iftikhar Iftikhar | Solving Fuzzy System of Linear Algebraic Equations using Iterative Schemes into Matrix Form |
| Ceren Sultan Elmali, Tamer Ugur | Fan-Gottesman Compactification and Scattered Space | |
| 12:30-14:00 | LUNCH (AKDENIZ UNIVERSITY SOCIAL FACILITIES) | |
| HALL-D1 (Engineering Sciences) | | |
| 14:00-15:40 21.04.2019 | Chair | Prof.Dr.Dagistan ŞİMŞEK |
| | Authors | Titles |
| | Sakir ISLEYEN | THE RELATIONSHIP BETWEEN R & D EXPENDITURES AND HIGH TECHNOLOGY PRODUCT EXPORT: THE CASE OF TURKEY (1990-2017) |
| | Beyza Billur, Iskender Eroglu | Non-Fourier Temperature Distribution in Biological Tissues |
| | Safia Akram | Influence of metachronal wave on hyperbolic tangent fluid model with inclined magnetic field |
| | Mulatu Gebeyaw, Kamil Dimililer | Improving Ethiopian Police Clearance Certification Using Face Bio-metrics |
| Mariam Benllarch, Salah El Hadaj | Implementation of a Real Time Data Mining Classification to predict Abnormal e-health Situations for Elderly | |
| 15:40-16:00 | Coffee Break | |

| HALL-D1 (Engineering Sciences) | | |
|---------------------------------------|---|--|
| 16:00-17:40 21.04.2019 | Chair | Prof.Dr.Abdon ATANGANA |
| | Authors | Titles |
| | Firdaousse Ouallal | Hybrid Lattice Boltzmann Finite-Difference Simulation of Non-Newtonian Fluid Flow |
| | Veysel Fuat Hatipoglu | Hierarchical Clustering on the Cryptocurrency Market |
| | Zulqurnain Sabir, Muhammad Umar | Heat transfer flow of Eyring-Powell fluid over a stretching sheet with thermal radiation and inclined magnetic field effects |
| | Ziya Uddin | Effect of nanoparticle size and concentration on Heat transfer of nanofluid over a moving plate: Stability Analysis |
| Veysel Fuat Hatipoglu, Sertan Alkan | Hierarchical Clustering of the Global Economies in Terms of Inflation Rates | |
| HALL-D2 (Applied Sciences) | | |
| 14:00-15:40 21.04.2019 | Chair | Prof.Dr.Mikail ET |
| | Authors | Titles |
| | Mitra Haddadi | SOLUTION OF JENSEN POMPEIU DERIVATION FUNCTIONAL EQUATION |
| | Erhan Pişkin, Hazal Yüksekaya | Attractors For The Petrovsky Equation With Damping Term |
| | Münever Tuz | Application of Hopf -Cole Transformation in some partial differential equations |
| | Unal IC | COMPLEX SOLUTIONS FOR THE SOME NONLINEAR PARTIAL DIFFERENTIAL EQUATIONS |
| Nurgül OKUR | GENERALIZED HADAMARD'S INEQUALITIES FOR TWO-DIMENSIONAL GENERAL PREINVEX STOCHASTIC PROCESSES | |
| 15:40-16:00 | Coffee Break | |

| HALL-D2 (Applied Sciences) | | |
|------------------------------------|---|--|
| 16:00-17:40 21.04.2019 | Chair | Prof.Dr.Etibar PENAHLI |
| | Authors | Titles |
| | Gizem Aydın, Hasan Bulut, Asif Yokus | COMPLEX TRAVELLING WAVE SOLUTIONS TO NONLINEAR (2+1)-DIMENSIONAL CUBIC KLEIN-GORDON EQUATION BY $(1/G?)$ -EXPANSION METHOD |
| | Nagehan Alsoy Akgün | DRBEM SOLUTION FOR AN INVERSE NATURAL CONVECTION PROBLEM WITH THE VARIOUS TYPES OF BOUNDARY CONDITIONS |
| | Tolga Aktürk, Gülnur Yel | Modified Expansion Function Method for the KP-BBM Equation |
| | Münevver Tuz, Etibar Penahlı | Sturm Liouville Problem with Discontinuous Symmetric Coefficient in Boundary Value Conditions |
| | Nigar Yildirim Aksoy | The Solvability of First Type Boundary Value Problem for a Schrödinger equation |
| | Hamdi Tekin | THE ROLE OF COMPUTATIONAL MATEHEMATICS IN CONSTRUCTION INDUSTRY |
| 15:40-16:00 | Coffee Break | |
| HALL-D3 (Computer Sciences) | | |
| 16:00-17:40 21.04.2019 | Chair | Prof.Dr.Arran Fernandez |
| | Authors | Titles |
| | Abdel Karim KASSEM, Mazen EL-SAYED, Bassam DAYA, Pierre CHAUVET, M.SAADELDINE | A New Feature Representation Method for Intrusion Detection System |
| | Aynur Sahin | Fixed point approximation of generalized nonexpansive mappings in CAT(0) spaces |
| | Fatma Bozkurt Yousef | A Mathematical Model of Colorectal Cancer with a Study of Early Detection |
| | Noor H.Ibrahim, Mahmoud Alrefaei Marwa Tuffaha | Comparison of Solution Methods for Fully Fuzzy Linear Programming Problems |
| | Yucel Inan | ANALYZING THE CLASSIC CAESAR METHOD CRYPTOGRAPHY |

| HALL-D4 (Geometry) | | |
|------------------------------|---|--|
| 14:00-15:40 21.04.2019 | Chair | Prof.Dr.Handan BALGETİR |
| | Authors | Titles |
| | Fatma KORKMAZ, Mehmet BEKTAS | Second Binormal Motions of Inextensible Curves in 4-dimensional Galilean Space |
| | Hülya Gün Bozok, Mahmut ERGÜT | Inextensible flows of curves according to Darboux frame in Galilean space G3 |
| | G. Balaraman, R. Sundareswaran, R. Sujatha, Goksen Bacak-Turan | GROUP CLOSENESS CENTRALITY OF GRAPHS |
| | Selçuk Bas, Vedat Asil, Talat Körpınar | MODIFIED ROLLER COASTER SURFACE IN MINKOWSKI SPACE |
| | Sezin Aykurt Sepet, Mahmut Ergüt | Bi-slant Submersions from Cosymplectic Manifolds |
| Ramazan SARI, Inan Ünal | On Submanifolds of Para-Kenmotsu Manifold | |
| 15:40-16:00 | Coffee Break | |
| HALL-D5 (Numerical Analysis) | | |
| 14:00-15:40 21.04.2019 | Chair | Prof. Mustafa Özdemir |
| | Authors | Titles |
| | Nurgül OKUR | STOCHASTIC GENERAL PREINVEIXITY FOR MULTIDIMENSIONAL PROCESSES AND ITS APPLICATIONS TO HADAMARD'S INEQUALITY |
| | Alaattin Esen, Murat Önal, | NUMERICAL SOLUTIONS OF THE FRACTIONAL BURGERS EQUATION BY FINITE DIFFERENCE METHOD |
| | Dilara ALTAN KOÇ, Mustafa GÜLSU | NUMERICAL SOLUTIONS OF TIME FRACTIONAL PARTIAL DIFFERENTIAL EQUATION |
| | Mahmut Modanlı | NUMERICAL SOLUTION OF THIRD ORDER DIFFERENTIAL EQUATION WITH ATANGANA-BALEANU CAPUTO DERIVATIVE |
| Rifat Çolak | Some relations between the sets of f-statistically convergent sequences | |
| 15:40-16:00 | Coffee Break | |

| HALL-D5 (Applied Sciences) | | |
|---|--|--|
| 16:00-17:40 21.04.2019 | Chair | Prof.Dr.İlknur KOCA |
| | Authors | Titles |
| | Süleyman Cengizci, Numan Yusuf Özbas | SOME EXPERIMENTS WITH SINGULARLY PERTURBED PDE?s EMPLOYING SCEM+FEM |
| | Burcu Kaya | Some Lower Bounds For First Zagreb Index |
| | Kürsat Akbulut, NejmiCengiz, FurkanYıldırım | SOME NOTES ON VECTOR FIELDS IN TANGENT BUNDLE |
| | Kürsat Akbulut, Furkan Yıldırım | SOME REMARKS CONCERNING DIAGONAL LIFTS IN THE SEMI-COTANGENT BUNDLE |
| Abdullahi Yusuf, Mustafa Inc, Sania Qureshi | Solitons, stability analysis and conservation laws for Kudryashov-Sinelshchikov equation | |
| HALL-D6 (Geometry) | | |
| 14:00-15:40 21.04.2019 | Chair | Prof.Dr. Farkhanda Afzal |
| | Authors | Titles |
| | Muhammed Sarıaydın, Vedat Asil | ON LAMARLE FORMULA AND DIFFERENTIAL INVARIANTS OF PARALLEL z -EQUIDISTANT RULED SURFACES |
| | Vedat Asil, Selçuk Bas, Mustafa Yeneroglu | ON DESIGN DEVELOPABLE SURFACES ACCORDING TO BISHOP FRAME |
| | Aziz Yazla, Muhammed Talat Sarıaydın, □ | ON THE SURFACE PENCIL WITH LINE OF CURVATURE ACCORDING TO QUASI FRAME |
| Muhammed Sarıaydın, Talat KÖRPINAR | ON MAGNETIC CURVES OF SPHERICAL IMAGES IN EUCLIDEAN SPACE | |
| 15:40-16:00 | Coffee Break | |

| HALL-D6 (Applied Sciences) | | |
|--|---|--|
| 16:00-17:40 21.04.2019 | Chair | Prof. Mustafa Ali Dokuyucu |
| | Authors | Titles |
| | Hatıra Günerhan, Ercan Çelik | Analytical and Approximate Solution of Two-Dimensional Convection-Diffusion Equations |
| | Gizem MERİÇ, Talip KELLEGÖZ, | VIRTUAL PRODUCT DESIGN FOR BALANCING OF TWO-SIDED MIXED MODEL ASSEMBLY LINES CONNECTED TO PRODUCE MULTI-LAYERED PRODUCTS |
| | Fahriye Buse Cengiz, Faruk Düşünceli, Ercan Çelik, Merve Zeynep Geçmen | The Solution of Differential Equations via Collocation Method Based on Bessel Polynomials |
| | Faruk Düşünceli | Exact Solutions for Ablowitz-Kaup-Newell-Segur Wave Equation |
| Ercan Celik, Naiyer Mohammadi LANBARAN | FUZZY ROUGH FUZZIFICATION IN DATA MINING AND DECISION MAKING | |
| 15:40-16:00 | Coffee Break | |
| HALL-D7 (Applied Sciences) | | |
| 16:00-17:40 21.04.2019 | Chair | Prof.Dr.Ali AKGÜL |
| | Authors | Titles |
| | Ömer Faruk Eren, Hamza Çalıřıcı | On some operations of soft sets |
| | Izhar Uddin | A Modified Proximal Point Algorithm |
| | Hezha Hussni, Hezha Abdulkareem Hajarismael Etibar PANAHOV, Hasan Bulut | Some Novel Solutions Of The coupled Whitham-Broer-Kaup Equations |
| | Mehmet Gıyas Sakar, Onur Saldır, Fevzi Erdogan | Reproducing kernel method with Chebyshev polynomials for fractional two-point boundary value problem |
| Zeliha Körpınar | Optical solitons by modified mapping method for two types of the nonlinear Schrödinger's equation | |

HALL-D8 (Mathematics Education)

| | | |
|---|--|---|
| 14:00-15:40 21.04.2019 | Chair | Prof.Dr.Fatma Bozkurt YOUSEF |
| | Authors | Titles |
| | Ameh Ojonufedo Ibrahim, Melike Sah | A Semantic Portal for Accessing Courses and Lecturers of Information Systems Engineering Department of Near East University |
| | Ilhan Umut, Hakan Ustunel, Gülçin Iscan Atasen, Kerem Atasen | SpO2 Auto Scoring by Using Machine Learning Methods |
| | Cemil INAN, Özgür AKKOYUN | THE IMPACT OF DEVELOPING VISUAL BASIC ALGORITHMS ON STUDENT ACHIEVEMENTS IN TRIGONOMETRY |
| | Souad Mohaoui | Proximal method for low rank dictionary learning with application to image recovery |
| Engin Tas, Ayça Hatice Türkan | INVESTIGATION OF DIFFERENT ARTIFICIAL LEARNING APPROACHES IN FINANCIAL TIME SERIES FORECASTING | |

15:40-16:00

Coffee Break

HALL-D8 (Applied Science)

| | | |
|--|--|---|
| 16:00-17:40 21.04.2019 | Chair | Prof.Dr.Ali YOUSEF |
| | Authors | Titles |
| | Abdulmajid Nusayr | Sharaf Al-Din Al-Tusi Numerical Solutions of Polynomial Equations |
| | Hanife Çağlı Bozdoğan | SIMULATION OF A HOMOMORPHIC ENCRYPTION SYSTEM |
| | Gülşay Oguz | Soft Topological Polygroups |
| Tukur Abdulkadir Sulaiman, Hasan Bulut, Hacı Mehmet Baskonus | Solitary Wave Solutions and Convergence Analysis to the Local M-Fractional Simplified MCH Equation | |

| HALL-D9 (Applied Science) | | |
|----------------------------------|--|--|
| 14:00-15:40 21.04.2019 | Chair | Prof.Dr.Münever TUZ |
| | Authors | Titles |
| | Sevgi KASTAL, Seyma Tuluce Demiray | NEW EXACT SOLUTIONS OF GENERALIZED OSKOLKOV EQUATION |
| | Ayse Çigdem YAR | MATHEMATICAL MODELING AND CLIMATE CHANGE EXAMPLE |
| | Fevzi ERDOGAN, Mehmet Giyas Sakar, Onur Saldır | LAYER ADAPTED MESHES FOR SINGULARLY PERTURBED CONVECTION-DIFFUSION PROBLEM WITH DELAY |
| Abdessamad EL MADKOURI | Krylov subspace iterative methods for the recovery of a source term in inhomogeneous anisotropic media | |
| 15:40-16:00 | Coffee Break | |
| HALL-D9 (Applied Science) | | |
| 16:00-17:40 21.04.2019 | Chair | Prof.Dr.Talat KORPINAR |
| | Authors | Titles |
| | Ilknur Koca | A work on a multiple chaotic systems |
| | Furkan Yıldırım | Horizontal Lift Problems in a Special Class of Semi-Tensor Bundle |
| | Ali Yousef | Mathematical Modeling of HIV with Contact Tracing According to the Changes in the Infected Classes |
| | Mehmet Karay | MODELLING AND SIMULATION OF WORKFLOW PROCESSES USING EXTENDED PETRI NETS |
| Farkhanda Afzal | Characteristic Sets verses Generalized Characteristic Sets for Ordinary Differential Polynomial Sets | |

| HALL-D10 (Applied Science) | | | | | | | | | | | | | |
|---|---|--|--------|--|---|---------------------------------|---|--------------------------|--|--|---|--|--|
| 14:00-15:40 21.04.2019 | Chair Prof.Dr.Şakir İŞLEYEN | | | | | | | | | | | | |
| | <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%; text-align: center;">Authors</th> <th style="width: 50%; text-align: center;">Titles</th> </tr> </thead> <tbody> <tr> <td>Murat POLAT, Furkan Yıldırım</td> <td>Complete Lift Problems in a Special Class of Semi-Tensor Bundle</td> </tr> <tr> <td>Bashar Khassawneh, Benedek Nagy</td> <td>NUMBER OF SHORTEST PATHS AND n-OMINAL COEFFICIENTS</td> </tr> <tr> <td>Çagla SEKIN, Ilham ALIEV</td> <td>On approximation properties of bi-parametric potential-type integral operators</td> </tr> <tr> <td>Yahia Awad, Alaa Ayoub, Wiam Zeid</td> <td>ON EQUATIONS INVOLVING IRREDUCIBLE INTEGERS MODULO N</td> </tr> <tr> <td>Aytekin ENVER, Omar S.Qasim, Ahmed F.Qasim, Fatma Ayaz</td> <td>PARAMETERS ESTIMATION IN DYNAMIC SYSTEMS USING HYBRID MULTI-OBJECTIVE GENETIC ALGORITHM WITH HOMOTOPY METHOD</td> </tr> </tbody> </table> | Authors | Titles | Murat POLAT, Furkan Yıldırım | Complete Lift Problems in a Special Class of Semi-Tensor Bundle | Bashar Khassawneh, Benedek Nagy | NUMBER OF SHORTEST PATHS AND n-OMINAL COEFFICIENTS | Çagla SEKIN, Ilham ALIEV | On approximation properties of bi-parametric potential-type integral operators | Yahia Awad, Alaa Ayoub, Wiam Zeid | ON EQUATIONS INVOLVING IRREDUCIBLE INTEGERS MODULO N | Aytekin ENVER, Omar S.Qasim, Ahmed F.Qasim, Fatma Ayaz | PARAMETERS ESTIMATION IN DYNAMIC SYSTEMS USING HYBRID MULTI-OBJECTIVE GENETIC ALGORITHM WITH HOMOTOPY METHOD |
| | Authors | Titles | | | | | | | | | | | |
| | Murat POLAT, Furkan Yıldırım | Complete Lift Problems in a Special Class of Semi-Tensor Bundle | | | | | | | | | | | |
| | Bashar Khassawneh, Benedek Nagy | NUMBER OF SHORTEST PATHS AND n-OMINAL COEFFICIENTS | | | | | | | | | | | |
| | Çagla SEKIN, Ilham ALIEV | On approximation properties of bi-parametric potential-type integral operators | | | | | | | | | | | |
| Yahia Awad, Alaa Ayoub, Wiam Zeid | ON EQUATIONS INVOLVING IRREDUCIBLE INTEGERS MODULO N | | | | | | | | | | | | |
| Aytekin ENVER, Omar S.Qasim, Ahmed F.Qasim, Fatma Ayaz | PARAMETERS ESTIMATION IN DYNAMIC SYSTEMS USING HYBRID MULTI-OBJECTIVE GENETIC ALGORITHM WITH HOMOTOPY METHOD | | | | | | | | | | | | |
| Coffee Break | | | | | | | | | | | | | |
| 16:00-17:40 21.04.2019 | Chair Prof.Dr.Yener ALTUN | | | | | | | | | | | | |
| | <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%; text-align: center;">Authors</th> <th style="width: 50%; text-align: center;">Titles</th> </tr> </thead> <tbody> <tr> <td>Sibel Sehrnban Atas, Asif Yokus, Hasan Bulut</td> <td>PROTOTYPE TRAVELLING WAVE SOLUTIONS OF BURGERS-FISHER EQUATION</td> </tr> <tr> <td>Haci Mehmet Baskonus</td> <td>Regarding New Model to the Nonlinear Gilson-Pickering Diffetential Equation</td> </tr> <tr> <td>Bouchra LAAZIRI</td> <td>Regularized Maximum A Posteriori Method for Image Deconvolution with Regularization Parameter Estimation</td> </tr> <tr> <td>Cameron Browne, Xuejun Pan, Hongying Shu, Xiang-Sheng Wang</td> <td>Resonance of periodic combination antiviral therapy and intracellular delays in virus model</td> </tr> <tr> <td>Isam Najemadeen Arablsam, ErdalBas</td> <td>SINGULAR EIGENVALUE PROBLEM WITH MODIFIED FROBENIUS METHOD</td> </tr> </tbody> </table> | Authors | Titles | Sibel Sehrnban Atas, Asif Yokus, Hasan Bulut | PROTOTYPE TRAVELLING WAVE SOLUTIONS OF BURGERS-FISHER EQUATION | Haci Mehmet Baskonus | Regarding New Model to the Nonlinear Gilson-Pickering Diffetential Equation | Bouchra LAAZIRI | Regularized Maximum A Posteriori Method for Image Deconvolution with Regularization Parameter Estimation | Cameron Browne, Xuejun Pan, Hongying Shu, Xiang-Sheng Wang | Resonance of periodic combination antiviral therapy and intracellular delays in virus model | Isam Najemadeen Arablsam, ErdalBas | SINGULAR EIGENVALUE PROBLEM WITH MODIFIED FROBENIUS METHOD |
| | Authors | Titles | | | | | | | | | | | |
| | Sibel Sehrnban Atas, Asif Yokus, Hasan Bulut | PROTOTYPE TRAVELLING WAVE SOLUTIONS OF BURGERS-FISHER EQUATION | | | | | | | | | | | |
| | Haci Mehmet Baskonus | Regarding New Model to the Nonlinear Gilson-Pickering Diffetential Equation | | | | | | | | | | | |
| | Bouchra LAAZIRI | Regularized Maximum A Posteriori Method for Image Deconvolution with Regularization Parameter Estimation | | | | | | | | | | | |
| Cameron Browne, Xuejun Pan, Hongying Shu, Xiang-Sheng Wang | Resonance of periodic combination antiviral therapy and intracellular delays in virus model | | | | | | | | | | | | |
| Isam Najemadeen Arablsam, ErdalBas | SINGULAR EIGENVALUE PROBLEM WITH MODIFIED FROBENIUS METHOD | | | | | | | | | | | | |
| GALA DINNER WITH MUSIC PROGRAM IN SOSYETE RESTAURANT | | | | | | | | | | | | | |

22.04.2019**HALL-D1 (Applied Science)**

| 10:00-12:00 22.04.2019 | Chair Prof.Dr.Reşat YILMAZER | |
|---------------------------|------------------------------|--|
| | Authors | Titles |
| | Ömer Kisi, Erhan Güler, | On L_{σ} -Convergence of Sequences of Functions in 2-Normed Spaces |
| | Gülay Oguz | A New Perspective For Soft Topological Groups |
| | Erhan Güler, Ömer Kisi | HELICOIDAL SURFACE OF LOGARITMIC SPIRAL TYPE IN 3-SPACE |
| | Erhan Güler, Ömer Kisi | ONE SIDED HENRY SMITH SURFACE |
| | Haci Mehmet Baskonus | Logaritmik Properties of Variable Coefficients Black-Scholes Model with Generalized Form |
| | Özen ÖZER | A Handy Technique for Fundamental Unit in Specific Type of Real Quadratic Fields |

HALL-D2 (Geometry)

| 10:00-12:00 22.04.2019 | Chair Prof.Dr.Canan ÜNLÜ | |
|---|--|---|
| | Authors | Titles |
| | Muhammed Çınar, Murat Karakas, Mahmut Isık | WEIGHTED STATISTICAL CONVERGENCE in PARANORMED SPACES |
| | Murat KARAKAS, Muhammed Çınar Mikail Et | ON (λ, μ) -STATISTICAL CONVERGENCE in PARANORMED SPACES |
| Göksen Bacak Turan, Ferhan Nihan Altundag | NODE TOUGHNESS OF A FUZZY GRAPH | |

HALL-D3 (Applied Science)

| 10:00-12:00 22.04.2019 | Chair Prof.Dr.Onur Saldır | |
|---|--|--|
| | Authors | Titles |
| | Abdullahi Yusuf, Mustafa Inc | Soliton solutions for the discrete electrical lattice with conformable derivative |
| | Marwa Tuffaha, Mahmoud Alrefaei | Properties of Binary Operations of Piecewise Linear Fuzzy Numbers of Order n |
| | Boumediene Lasri | SCHWINGER VARIATIONAL PRINCIPLE APPLIED TO THE EXCITATION OF HELIUM-LIKE $Ar16+(1s2)$ IONS BY IMPACT OF NEUTRALS AT 13.6 MeV/u |
| | Tukur Abdulkadir Sulaiman, Haci Mehmet Baskonus, Hasan Bulut | Solitary Wave Solutions and Convergence Analysis to the Local M-Fractional KdV Equation with Dual Power Law Nonlinearity |
| Mikail ET, Muhammed ÇINAR, Hacer SENGÜL Fatih TEMIZSU | ON (λ, f) -STATISTICAL BOUNDEDNESS OF ORDER α | |

| HALL-D4 (Fractional) | | |
|---|--|--|
| 10:00-12:00 22.04.2019 | Chair | Prof.Dr.Muhammed CINAR |
| | Authors | Titles |
| | Mustafa Ali Dokuyucu, Ercan Çelik | ANALYSIS OF A NONLINEAR ALCOHOLISM MODEL VIA NEW FRACTIONAL OPERATOR |
| | Koray Ibrahim Atabey, Muhammed Çınar | ON STATISTICAL CONVERGENCE OF DIFFERENCE DOUBLE SEQUENCE OF FRACTIONAL ORDER |
| | Ahmet Ocak Akdemir, Erhan SET | ON SOME ESTIMATIONS FOR QUASI-GEOMETRICALLY CONVEX FUNCTIONS VIA CONFORMABLE FRACTIONAL INTEGRALS |
| | Zeliha Körpınar | On solutions for two different types of the fractional Boussinesq-Like equations by using conformable derivatives |
| Haci Mehmet Baskonus, P.Veeresha, DG Prakasha | An efficient technique for coupled fractional Whitham-Broer-Kaup equations describing the propagation of shallow water waves | |
| HALL-D5 (Applied Sciences) | | |
| 10:00-12:00 22.04.2019 | Chair | Prof.Dr.Nejla GÜREFE |
| | Authors | Titles |
| | Turgut Hanoymak, Akram Chehrizi | On Mathematical Background of Grover's Quantum Search Algorithm |
| | Nejla Gürefe | STRATEGY USE OF MIDDLE SCHOOL 8th GRADE STUDENTS IN FRACTION MAGNITUDE COMPARISON |
| | Tugba Yazgan, Hasan BULUT | On the novel travelling wave behaviors to the (2+1)-dimensional cubic Klein-Gordon and modified Zakharov-Kuznetsov equations |
| Özen ÖZER, Haci Mehmet Baskonus | SOME SPECIFIC DIOPHANTINE SETS RELATED WITH PELLIAN EQUATIONS | |

HALL-D6 (Applied Sciences)

| | | |
|---------------------------|---|--|
| 10:00-12:00 22.04.2019 | Chair | Prof.Dr.Faruk DÜŞÜNCELİ |
| | Authors | Titles |
| | Ali Akgül | Some special spaces for solving fractional differential equations |
| | Karmina Kamal Ali, Resat Yilmazer, Hasan Bulut | New solution of coupled Boussinesq Burgers equations by Sine-Gordon methods |
| | Mahmoud ALREFAEI | OPTIMAL COMPUTING BUDGET ALLOCATION FOR MULTI-OBJECTIVE OPTIMIZATION PROBLEM |
| | Fikriye Nuray Yılmaz | OPTIMAL CONTROL OF TIME DEPENDENT NAVIER-STOKES EQUATIONS WITH STABILIZATION |
| Ramazan Yazgan | ON THE ALMOST PERIODIC SOLUTIONS OF HIGHORDER FUZZY CELLULAR NEURAL NETWORKS WITH TIME-VARYING DELAYS | |

HALL-D7 (Applied Sciences)

| | | |
|-----------------------------------|---|--|
| 10:00-12:00 22.04.2019 | Chair | Prof.Dr. İlham Aliyev |
| | Authors | Titles |
| | Erhan Pişkin, Hazal Yüksekaya | Global Attractors For The Higher-Order Evolution Equation |
| | Fevzi ERDOGAN, Muhammad Umar, Zulqarnain Sabir | Efficient intelligence techniques for solving a class of boundary value problems arising in physiology |
| | Sevgi KASTAL, Seyma Tuluçe Demiray, Hasan Bulut | DARK-BRIGHT OPTICAL SOLITON SOLUTIONS OF MODIFIED KP EQUATION |
| | Ali Akgül | Solutions of New Type Fractional Order Gas Dynamics |
| Haci Mehmet Baskonus, Hasan Bulut | Contours to Generalized Schamel Model in Plasma Physics | |

HALL-D8 (Engineering Sciences)

| | Chair | Prof.Dr.Arran Fernandez |
|---------------------------|-------------------------------------|---|
| | Authors | Titles |
| 10:00-12:00 22.04.2019 | Ayşe Metin Karakas, Sinan Çalık | Volatility Measurement of the Energy Price Using Different Entropy Methods |
| | Mustafa Abuziarov | 3D METHOD AND CODES FOR SIMULATION FSI PROBLEMS IN EULER VARIABLES USING MULTI MESH ALGORITHMS BASED ON HIGH ORDER GODUNOV METHOD FOR CFD AND CSD |
| | Ali Öz, Abdulkadir Cüneyt Aydın | Hybrid fiber reinforced self-compacting fly ash concrete |
| | Nihat ARIKAN | COMPUTATIONAL INVESTIGATION OF FULL-HEUSLER ALLOY FOR Ir ₂ ScAl ALLOY IN THE L21 PHASE |
| | Sharifa Al-Sharif | Best Coapproximation in Tensor Product Spaces |
| | Vilda Purutçuoglu, Başak Bahçivançı | SELECTION OF OPTIMAL THRESHOLD VALUE IN BINARY CONSTRUCTION OF BIOLOGICAL NETWORKS |

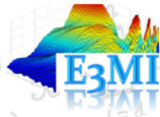
HALL-D9 (Engineering Sciences)

| | Chair | Prof.Dr.Mohamed Al Refaei |
|---------------------------|---|---|
| | Authors | Titles |
| 10:00-12:00 22.04.2019 | Emrah Hançer | An advanced methodology for diagnosis of skin diseases |
| | Serkan Karaca | Mechanical and Dynamics Behaviour of Fiber and Fly Ash Reinforced Hollow Pile |
| | Bachir El Bouhali | Breast cancer modeling for women of Tafilalet area- South-east of Morocco |
| | Hasan Bulut, Hacı Mehmet Baskonus, Anna Sandulyak, Cesare Saccani | BASIC FIELD DEPENDENCES OF MAGNETIC INDUC-TION IN THE SHORT GRANULATED SAMPLES AND THEIR ANALYSIS |
| | Ali Öz, Ahmet Ünal, | Use of waste concrete in the transportation sector by recycling |
| | Ali Kadhim | Anodization of TiO ₂ Nanotubes as Biomedical Materials |

| HALL-D10 (Applied Sciences) | | |
|--|--|---|
| 10:00-12:00 22.04.2019 | Chair | Prof.Dr. Yahia Awad |
| | Authors | Titles |
| | Ali Akgül | Reproducing kernel functions for solving fractional order Gas Dynamics Equations with Atangana-Baleanu Derivative |
| | Resat Yilmazer | ON DISCRETE FRACTIONAL SOLUTIONS FOR SECOND ORDER DIFFERENTIAL EQUATIONS |
| | Haci Mehmet Baskonus | Complex Dynamics in Compressional Dispersive Alfvén waves |
| | Ömer Kisi, Erhan Güler | λ -Statistical Convergence of Complex Uncertain Sequence |
| | Muhammed Hanifi Van, Saadettin Aydin | The Environmental Effect of financial Development Based on the Humen development Index |
| | Hajar Ismael, Hasan Bulut | ON THE SOLITARY WAVE SOLUTIONS TO THE (2+1)-DIMENSIONAL DAVEY-STEWARTSON EQUATIONS |
| 12:00-12:30 | Closing Ceremony (B BLOCK CONFERENCE HALL, DEPARTMENT OF MATHEMATICS) | |
| 12:30-14:00 | LUNCH (AKDENIZ UNIVERSITY SOCIAL FACILITIES) | |
| POSTER PRESENTATIONS | | |
| POSTER-1 | Enes ATA, I. Onur Kıymaz | Definitions and basic properties of the new generalizations of some special functions |
| POSTER-2 | Khalifa Alshaqsi | The Fekete-Szeg Problem for Subclasses of analytic functions associated with Touchard Polynomials |
| POSTER-3 | Esin İlhan, I. Onur Kıymaz | FRACTIONAL OPERATORS WITH POWER AND CONFLUENT HYPERGEOMETRIC FUNCTION IN THEIR KERNELS |
| POSTER-4 | | |
| POSTERS PRESENTATIONS WILL BE PRESENTED at 14.30-18.00 on 20.04.2019 and 22.04.2019 | | |

4th INTERNATIONAL CONFERENCE ON COMPUTATIONAL MATHEMATICS AND ENGINEERING SCIENCES - (CMES-2019)

20-22 April, Antalya, TURKEY



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