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6th International Conference on Modelling, Simulation and Applied Optimization

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Istanbul, Turkey

Edited by
Ismail Kucuk, Faruk Yigit and Aydin Yesildirek

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OPENING PROGRAM

1. Opening Remarks
Ismail Kucuk, Conference Co-Chair
2. Welcoming Speech
Faruk Yigit, Vice Rector
3. Commemoration of Late Prof. Ibrahim Sadek

This conference is dedicated to the memory of Late [Ibrahim El-Sadek](#).

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KEYNOTE SPEAKERS

Local Linearization Methods in Space and Time for Nonlinear Wave Propagation

by

Prof. Dr. Juan I. Ramos
University of Malaga, Spain



Abstract: In this keynote lecture, linearization methods for nonlinear ordinary (odes) and partial differential equations (pdes) are presented. For initial-value problems of odes, these linearization methods provide locally exponential solutions, whereas, for boundary-value problems of odes, local spatial linearization subject to continuity of the dependent variables and their first derivative provides locally analytical solutions. For one-dimensional transport equations, upon first discretizing the time derivative and then linearizing the resulting equations with respect to the previous time level, two-point nonlinear boundary-value problems are obtained. These problems become locally linear and integrable upon local linearization in space. For multidimensional problems, time discretization followed by time linearization and approximate factorization of the resulting multidimensional nonlinear elliptic problem into a sequence of one-dimensional ones yields nonlinear two-point boundary-value problems which upon local spatial linearization result in linear ones that have local analytical solutions. The advantages and disadvantages of time linearization are discussed in detail, and the methods are applied to solve initial-value problems of nonlinear dynamical systems including nonlinearities that are not differentiable, differential difference equations, delay equations, jerk dynamics, nonlinear two-point boundary-value problems with regular singular points at a boundary, one- and two-dimensional advection reaction diffusion problems arising in combustion theory, one-dimensional nonlinear acoustic phenomena, and the break-up and formation of solitary waves from both the equal width and the generalized regularized-long wave equations. Comparisons between the results obtained with these methods and standard second-order accurate finite-difference discretization and three-point, compact, fourth-order accurate discretization of the spatial derivatives are also presented.

Keywords: time linearization, local spatial discretization, nonlinear evolution equations, nonlinear wave propagation, reaction-diffusion equations, nonlinear dynamics

Analogies between central finite difference, Hencky bar chain and Eringen's nonlocal beam models for buckling and vibration

by

Prof. Dr. Wang Chien Ming

National University of Singapore, Singapore

Abstract: This paper points out the analogies between the central finite difference beam model, Hencky bar-chain model and Eringen's nonlocal beam model. The finite difference beam model is obtained by discretizing the differential governing equation of the beam via finite difference equations for approximating the derivatives. The Hencky bar-chain model comprises finite rigid

beam segments connected by frictionless hinges with elastic rotational springs. Eringen's nonlocal theory allows for the effect of small length scale effect which becomes significant when dealing with nanobeams. Based on the mathematical similarity of the governing equations of these three beam models, analogies exist between them. The consequence is that one could readily obtain the buckling and vibration solutions of beams without solving the differential equation as well as it allows one to calibrate Eringen's small length scale coefficient e_0 . As an example, for an initially stressed vibrating beam with simply supported ends, it is found via this analogy that Eringen's small length scale

coefficient $e_0 = \sqrt{\frac{1}{6} - \frac{1}{12} \frac{\sigma_0}{\bar{\sigma}_m}}$ where σ_0 is the initial stress and $\bar{\sigma}_m$ is the m-

th mode buckling stress of the corresponding local Euler beam. It is shown that e_0 varies with respect to the initial axial stress, from $1/\sqrt{12}$ at

the buckling compressive stress to $1/\sqrt{6}$ when the axial stress is zero and it monotonically increases with increasing initial tensile stress. The small length scale coefficient e_0 , however, does not depend on the vibration/buckling mode considered.

Keywords: buckling, finite difference beam model, Hencky bar chain model, nonlocal beam theory, repetitive cells, small length scale coefficient, vibration



The Road to 5G Wireless Communications Systems
by
Prof. Dr. Mohamed El-Tarhuni
American University of Sharjah, UAE

Abstract: There have been tremendous developments in mobile radio communications systems over the past few decades as a response to the wide acceptance of wireless communication services including basic voice applications, higher data rates applications. We have witnessed an accelerated trend on adopting new technologies to support the ever increasing number of users and from basic voice call services, support of data applications, seamless worldwide connectivity, and enhanced Quality of Services. In this talk, we will present an overview of the recent developments in mobile radio systems as we move towards the fifth generation (5G) by the year 2020. The main features expected from 5G and targeted applications are highlighted. Finally, the enabling technologies and challenges facing 5G systems are discussed.



Keywords: communication, 5G

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Program Overview

Time	Day 1	May 27, 15
08:30-12:00	Registration/ Reception	
10:15-10:45	Opening Ceremony	
10:55-11:55	Keynote 1	
12:15-13:30	Sessions 1A	
13:30-14:30	Luncheon	
14:45-16:15	Sessions 1B	
16:15-16:30	Coffee Break	
16:30-18:00	Sessions 1C	

Time	Day 2	May 28, 15
08:30-12:00	Registration	
09:00-10:00	Keynote 2	
10:00-10:15	Coffee Break	
10:15-11:45	Sessions 2A	
11:45-12:00	Coffee Break	
12:00-13:30	Sessions 2B	
13:30-14:30	Luncheon	
14:30-16:00	Sessions 2C	
17:00-19:00	Bosphorus Tour	
19:30-21:30	Hisar Ustu (Banquet)	

Time	Day 3	May 29, 15
09:45-10:15	Registration	
09:15-10:00	Keynote 3	
10:00-10:15	Coffee Break	
10:15-11:45	Sessions 3A	

Day 1: Wednesday, May 27, 2015

8:30-12:00	Registration/ Reception
10:15-10:45	Opening Ceremony

10:55-11:55	<p>Juan I. Ramos <i>Local Linearization Methods in Space and Time for Nonlinear Wave Propagation</i> University of Malaga Chair: Irfan Siap</p> <p style="text-align: right;">Hall: Hünkâr Salonu</p>
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12:00-12:15	Coffee Break
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Session 1A				
Time				
12:15-13:30	Session 1A- 1	Session 1A- 2	Session 1A- 3	Session 1A- 4
	Differential Equations	Mechanical & Civil Engineering	Numerical Analysis	Renewable Energy
	Room: Yellow Hall	Room: Red Hall	Room: Green Hall	Room: Blue Hall

13:30-14:30	Luncheon
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Session 1B				
Time				
14:45-16:15	Session 1B- 1	Session 1B- 2	Session 1B- 3	Session 1B- 4
	Applied Optimization	Electrical and Electronics Engineering	Industrial Engineering	Applied Discrete Structures: Graph Theory and Optimization, Coding, Crypto.
	Room: Yellow Hall	Room: Red Hall	Room: Green Hall	Room: Blue Hall

16:15-16:30	Coffee Break
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Session 1C				
Time				
16:30-18:00	Session 1C- 1	Session 1C- 2	Session 1C- 3	Session 1C- 4
	Applied Optimization	Electrical and Electronics Engineering	Industrial Engineering	Applied Discrete Structures: Graph Theory and Optimization, Coding, Crypto.
	Room: Yellow Hall	Room: Red Hall	Room: Green Hall	Room: Blue Hall

Day 2: Thursday, May 28, 2015

8:30-12:00	Registration
9:00-10:00	<p style="text-align: center;">Wang Chien Ming</p> <p style="text-align: center;">Analogies Between Central Finite Difference, Hencky Bar Chain and Eringen's Nonlocal Beam Models for Buckling and Vibration</p> <p style="text-align: center;">National University of Singapore</p> <p>Chair: Ibrahim Kucukdemiral Hall: Hünkâr Salonu</p>

10:00-10:15	Coffee Break
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Session 2A				
Time	Session 2A- 1			
10:15-11:45	Session 2A- 1	Session 2A- 2	Session 2A-3	Session 2A-4
	Applied Optimization	Electrical and Electronics Engineering	Industrial Engineering	Applied Discrete Structures: Graph Theory and Optimization, Coding, Crypto.
	Room: Yellow Hall	Room: Red Hall	Room: Green Hall	Room: Blue Hall

11:45-12:00	Coffee Break
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Session 2B				
Time				
12:00-13:30	Session 2B- 1	Session 2B- 2	Session 2B- 3	Session 2B- 4
	Robotics/Mechatronics	Electrical and Electronics Engineering	Computer Engineering	System Dynamics and Control Theory
	Room: Yellow Hall	Room: Red Hall	Hall: Green Hall	Room: Blue Hall

13:30-14:30	Luncheon
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Session 2C				
Time				
14:30 - 16:00	Session 2C- 1	Session 2C- 2	Session 2C- 3	Session 2C- 4
	Robotics/Mechatronics	Applied Mathematics	Computer Engineering	System Dynamics and Control Theory
	Room: Yellow Hall	Room: Red Hall	Room: Green Hall	Room: Blue Hall

19:30-21:30	Hisar Ustu (Banquet)
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Day 3: Friday, May 29, 2015

9:45-10:15	Registration
9:15-10:00	<p>Mohamed El-Tarhuni</p> <p>The Road to 5G Wireless Communications Systems</p> <p>American University of Sharjah</p> <p>Chair: Aydin Yesildirek Hall: Hünkâr Salonu</p>

10:00-10:15	Coffee Break
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Session 3A				
Time				
10:15-11:45	Session 3A- 1	Session 3A- 2	Session 3A- 3	Session 3A- 4
	Biomedical & Chemical Engineering & Material Science	Applied Mathematics & Statistic	Computer Engineering	System Dynamics and Control Theory
	Room: Yellow Hall	Room: Red Hall	Room: Green Hall	Room: Blue Hall

Technical Program

Session 1A-1: Differential Equations			
Time	Chair: Cemil Tunc		Room: Yellow Room
12: 15	51028	Acid Fracturing Treatment Modeling	Guzel T. Bulgakova, Artem V. Blonsky
12:30 PM	13305	On the Gobar Uniform Asymptotic Stability of Perturbed Differential Equations	Mekki Hammi, Mohamed Ali Hammami
12: 45 PM	84267	Finding the Radius of the Star Corresponding to the Solution of the Lane-Emden Equation by Gauss Pseudospectral Method	Mohammad Ali Mehrpouya
1:00 PM	15405	Stability in Nonlinear Volterra Integro-Differential Equations with Delay	Cemil Tunc
1: 15 PM	55624	Stability of Solutions for Certain Third-Order Nonlinear Stochastic Delay Differential Equations	A.M.Mahmoud, A.I.Sadek, E.S.Farghaly, A.M.A.Abou-El-Ela

Session 1A-2: Mechanical Engineering--Civil Engineering			
Time	Chair: Alpay Oral		Room: Red Room
12: 15	46549	Stacking Sequence Optimization for Maximum Fundamental Frequency of Symmetric Laminated Composite Plates Using Genetic Algorithm and Neural Networks	Rashed Jafari, Peiman Yousefi, Shahrokh Hosseini Hashemi
12: 30 PM	18620	Numerical Simulation of Double Layer Shaped Charges and Comparison with Ordinary Shaped Charges	Tariq Hussain, Liu Yan, Huang Fenglei
12: 45 PM	73603	Prediction of the Concentration Profile for Sand Hydraulic Transportation in Pipeline	Zhao Ijuan
1:00 PM	62462	Interaction Effects Analysis between an External Air Flow and a Finned Surface	Salah Larbi, Mohamed Tarek Attouchi
1: 15 PM	13815	Modeling Structures with Different Shapes and Behaviour by Finite Elements Based on the Strain Approach	Djamal Hamadi, Maalem Toufik, Labiod Bachir

27-May-15

Session 1A-3: Numerical Analysis			
Time	Chair: Kenan Yildirim		Room: Green Room
12: 15	72300	Comparison between Numerical and Analytical Solution of the Equation of Falkner-Skan	Kadri Salim, Sari Mouhamed Rafik
12: 30 PM	50716	Stabilized Mixed Galerkin Method for Transient Analysis of Darcy Flow	S. U. Ansari, M. Hussain, S. Mazhar, A. Rashid, S. M. Ahmad
12: 45 PM	64952	Model Order Reduction of Continuous LTI Large Descriptor System Using LRCF-ADI and Square Root Balanced Truncation	S. Arifeen, M. Hossain Likhon, M. Sahadet Hossain
1:00 PM	61415	Fitting AR(1) Stationary Com-Poisson Time Series of Counts Using a Stable 2-Phase GQL Approach	Naushad Mamode Khan, Yuvraj Suneechur, Vandna Jowaheer

Session 1A-4: Renewable Energy			
Time	Chair: Abdulfetah Shobole		Room: Blue Room
12:15	12806	Fault Ride-through (FRT) Capability of Wind Farm (Case Study of Adama Wind Farm Project)	Abdulfetah Shobole, Mugdesem Tanrioven
12:30 PM	83406	Viability and Cost-Effectiveness Analysis of Different Types of Photovoltaic Panel for Residential Application in Turkey	Emre Avci, Erdem Elibol
12:45 PM	15032	Optimization Design of Single Phase Inverter Connected to the Grid	L. Hassaine, H. Kahlane, A. Mraoui
1:00 PM	82617	A Bio Problem-Solver for Supporting the Design, Towards the Optimization of the Energy Efficiency	Khelil Sara, Zemmouri Noureddine
1:15 PM	68359	Solar Chimney Power Plant with Heat Storage Analysis in the South Region of Algeria	Hakim Semai, Amor Bouhdjar, Salah Larbi

Session 1B-1: Applied Optimization			
Time	Chair: Alberto Campos		Room: Yellow Room
14:45	53515	Assessment of the Hydrological Response of the Watershed Through a Distributed Physically-Based Modeling for Extreme Events	Ahlem Gara, Khoulood Gader, Mohamed Raouf Mahjoub, Mohamed Bergaoui
3:00 PM	20949	A Decision Support System Based on Tabu Search Algorithm for Solving the Warehousing Problem with Conflict	Ahlem Ouni, Sihem Ben Jouda, Saoussen Krichen
3:15 PM	48484	Rational Information Exchange Model: A New Optimization Approach for Equilibrium Computing	Alberto Campos, Viet Pham
3:30 PM	65162	A New Efficient Primal-Dual Interior Point Method for Linear Optimization Problem	El Amir Djeflal, Lakhdar Djeflal, Farouk Benoumelaz

27-May-15

Session 1B-2: Electrical and Electronics Engineering			
Time	Chair: Ahmed Osman		Room: Red Room
14:45	19432	Genetic Algorithm Based Fault Locator Scheme for Three-Terminal Transmission Lines Using Asynchronous Measurements	Shoab Hussain, Ahmed Osman
3:00 PM	21674	Maximum Likelihood based Relay Selection Scheme over Slow Quasi-Static Flat Fading Channel	Ahmed El-Mahdy, Nada Ayman
3:15 PM	25633	Thermal Modeling and Electromagnetic Analysis of 1000 kVA Distribution Transformer Based on Electric_ Thermal Equivalent Circuit and TSFEM	Atabak Najafi, Ires Iskender
3:30 PM	57472	Transformer Power Factor and Magnetizing Current Simulation Based Testing in Matlab	Adil Farooq

Session 1B-3: Industrial Engineering			
Time	Chair: Ihsan Kaya		Room: Green Room
14: 45	48006	Mixed Integer Models for Coal Blending	Saptarshi Das, Karthik Ragunathan
3:00 PM	30450	A Goal Programming Model to Fairly and Equitably Schedule Residents: Case Study of a Hospital in Qatar	Sara Althalathini, Zainab Mohamed, Adel Elomri
3: 15 PM	37702	Master Physician Scheduling	O. Ibrahim Shamia, N. N. E. Bayoumy, N. Aboushaqrah
3: 30 PM	93777	New Fractional Dickey-Fuller Test	Ahmed Bensalma
3: 45 PM	69815	A Memetic Algorithm to Solve the Open Shop Scheduling Problem	B. E. Engin, M. O. Sumbul, M. E. Baysal, O. Engin, A. Sarucan

Session 1B-4: Applied Discrete Structures: Graph Theory and Optimization, Coding, Crypto.			
Time	Chair: Mehmet Fatih Karaarslan		Room: Blue Room
14: 45	95961	Algebraic Properties of a Matrix of Rotation Symmetric Boolean Functions	Lavinia Corina Ciungu
3:00 PM	51960	Gromov Hyperbolicity in Cartesian Product Graphs	Junior Michel, Jose M. Rodriguez, J. M. Sigarreta, Maria Villeta
3: 15 PM	65931	Strong Edge Coloring of Graphs with Applications in Coding Theory	Ghaffar Raeisi
3: 30 PM	82854	Irregular Total Labelling of Mobius Ladder M_n	K. Mohammed Mominul Haque, Umme Nasreen Khanam

27-May-15

Session 1C-1: Applied Optimization			
Time	Chair: Mikhail Posypkin		Room: Yellow Room
16: 30	76625	A Multi-Start VND Metaheuristic for Solving the quadratic Multiple Knapsack Problem: A Case Study	Hiba Yahyaou, Saoussen Krichen
4: 45 PM	47409	Dynamic Programming in the Binomial Tree Structures for Real Options Analysis	Krzysztof S. Targiel
5:00 PM	38232	A Deterministic Method for Constrained Multicriteria Optimization	Mikhail Posypkin, Yuri Evtushenko
5: 15 PM	51248	A Tropical Optimization Approach in the Analysis of Pairwise Comparison Matrices	Nikolai Krivulin

Session 1C-2: Electrical and Electronics Engineering			
Time	Chair: Habib-ur Rehman		Room: Red Room
16:30	38447	Estimation of Stray Loss and Leakage Flux in the Structural Component of 3- Phase Distribution Transformer under Unbalanced Voltage Based on Numerical Analysis	Atabak Najafi, Ires Iskender, Burak Dokmetas
4:45 PM	19563	Compact Planar Multiband Antenna for Modern Communication Systems	H.Aksas, M. Challal, H.Kimouche, K.Fertas, R.Aksas, A. Azrar
5:00 PM	33798	Fuzzy Logic Enhanced Sensorless Control of an Indirect Field Oriented Induction Machine	Habib-ur Rehman, Adil Khuram
5:15 PM	28283	Fractional Frequency Reuse in LTE Networks	H. Eldin Mohamed Elfadil, M. Adil Ibrahim Ali, Mohamed Abas
5:30 PM	33591	Cost-Based Risk Approach for Spinning Reserve Assessment	M. Mohammadi, M. Rashidi, M. M. Arefi

Session 1C-3: Industrial Engineering			
Time	Chair: Melike Erdogan		Room: Green Room
16:30	32762	Nurse Scheduling Using Binary Fuzzy Goal Programming	Ece Cetin, Ahmet Sarucan
4:45 PM	96865	A Causal Bayesian Model of Supply Chain Enablers, Management Practices and Performance	Behnam Azhdari, Mohammad Modarres
5:00 PM	76629	Simulation Optimization Approach for Customer Centric Lot Streaming Problem in Job Shops	Hulya Gucdemir, Hasan Selim
5:15 PM	10000	A Fuzzy Multi-Criteria Decision Making Approach for Choosing a Logistics Center Location in Turkey	Ihsan Kaya, Gozde Surmeli, Melike Erdogan
5:30 PM	74222	A Harmony Search Algorithm for Hybrid Flow Shop Scheduling with Multiprocessor Task Problems	Mehmet Cabir Akkoyunlu, Orhan Engin, Kadir Buyukozkan

27-May-15

Session 1C-4: Applied Discrete Structures: Graph Theory and Optimization			
Time	Chair: Taher Abualrub		Room: Blue Room
16:30	92533	An Efficient Image Encryption Scheme Based on: Henon Map, Skew Tent Map and S-Box	Jansher Khan, Jawad Ahmad, Seong Oun Hwang
4:45 PM	58091	Counting the Number of Arc- and Non Arc-Disjoint Paths in Networks	Mehdi Kadivar
5:00 PM	95396	Finite 2D Lattice Digraphs as the Life Cycle Graphs of Clonal Plant Species: the Reproduction Core and Reproductive Uncertainty	Dmitrii O. Logofet
5:15 PM	48307	Multi Shell Cluster Building: A Topological Approach	Mircea V. Diudea
5:30 PM	90720	Some Results on Double Cyclic Codes over $F_2 + uF_2$	Jian Gao, Tingting Wu, Fang-Wei Fu

Session 2A-1: Applied Optimization			
Time	Chair: Levent Ucun		Room: Yellow Room
10:15	20223	Synchronization of Replenishment Decisions for the Multi Stage Economic Lot Delivery and Scheduling Problem	Rami Afif As'ad, Zied Bahroun
10:30 AM	96711	Managing Parking Surface Problem in Tunis City	S. Abidi, Saoussen Krichen, Enrique Alba, Juan M. Molina
10:45 AM	43246	DSS For Solving The Capacitated Vehicle Routing Problem	Touihri Alaa, Saoussen Krichen, Sdiri Saoussen
11:00 AM	56998	Uncertain Programming Model for Multi Objective Solid Transportation Problem	Hasan Dalman, Nuran Guzel, Mustafa Sivri

Session 2A-2: Electrical and Electronics Engineering			
Time	Chair: Nauman Anwar Baig		Room: Red Room
10:15	41492	Single Phase Fault Location in Power Distribution Network Using Combination of Impedance Based Method and Voltage Sage Matching Algorithm	Mohammad Daisy, Rahman Dashti
10:30 AM	83666	The Non Linear Multivariable Controller For Terminal Voltage and Power Angle of Power Systems	Moulay F., Habbatti A., Hamdaoui H., Ramdani Y., Bendaoud A.
10:45 AM	92279	Numerical Analysis of a Microstrip Antenna based on Metamaterial Dielectric Substrate Using FDTD Technique	B. Semmar, R. Aksas, M. Challal, M. Trabelsi, A. Azrar
11:00 AM	85608	A Novel Switched-Capacitor Topology for Submodule Level Maximum Power Point Tracking under Partial Shading and Mismatch Conditions	Mustafa Gokdag, Mehmet Akbaba

Session 2A-3: Industrial Engineering			
Time	Chair: Muhammet Gul		Room: Green Room
10:15	71250	A Discrete Event Simulation Model of an Emergency Department Network for Earthquake Conditions	Muhammet Gul, Ali Fuat Guneri
10:30 AM	45828	A Particle Swarm Optimization for the Dynamic Vehicle Routing Problem	Yonca Erdem Demirtas, Erhan Ozdemir, Umut Demirtas
10:45 AM	25706	A Total Productive Maintenance Implementation in a Manufacturing Company Operating in Insulation Sector in Turkey	M. Onur Sumbul, Erdem Ekicioglu, Mehmet Emin Baysal
11:00 AM	99371	A Grey-Based Dematel Approach for Analyzing the Strategies of Universities: A Case of Turkey	Ali Ozdemir, Fatih Tuysuz
11:15 AM	40845	Simulation Approach for Modeling and Analyzing the Technological Transfer Center in a Cargo Company	Berna Simsek, Fatih Tuysuz
11:30 AM	87868	Balancing and Simulation of Assembly Line in an LCD Manufacturing Company	Sinem Buyuksaatci, Kemal Bilen, Fatih Tuysuz

Session 2A-4: Applied Discrete Structures: Graph Theory and Optimization, Coding, Crypto.			
Time	Chair: Karthik Rangunathan		Room: Blue Room
10:15	67847	Quantum Codes from Cyclic Codes over a Class of Nonchain Rings	Mustafa Sari, Irfan Siap
10:30 AM	13109	A Study on Isomorphic Circulant Graphs without Cayley Isomorphism Property	V. Vilfred
10:45 AM	59170	Some Algebraic (n, n) -Threshold Schemes	Selda Calkavur, Patrick Sole
11:00 AM	84645	Cyclic Covering Codes Over Z_2Z_3	Taher Abualrub, Nuh Aydin
11:15 AM	95165	New Linear Codes over $GF(7)$ from Quasi-Twisted Codes	Nuh Aydin, Nicholas Connolly, Markus Grassl

Session 2B-1: Robotics/Mechatronics			
Time	Chair: Vasfi Omurlu		Room: Yellow Room
12:15	78205	Designing Adaptive Robust Extended Kalman Filter Based on Lyapunov-Based Controller for Robotics Manipulators	A. A. Ghavifekr, A. R. Ghiasi, Y. S. Hagh, H. S. Gholami
12:30 PM	90806	Simulation of Coupling Efficiency for Surface Integration of Optical Waveguides	Bechir Hachicha, Julian Kuklik, Ludger Overmeyer
12:45 PM	31333	Integrated Dynamic Simulation of a Magnetic Bearing Stage for Particle Free Manufacturing Process	Byung-Sub Kim, Jong-Kweon Park, Daeil Kim
1:00 PM	33505	Stereo Ego-Motion and Gyroscopic Data Fusion for Real-Time Localization	Djouadi Mohand Said, H. Hadj Mihoub A. Bazoula, A. Nemra
1:15 PM	49970	Estimation of Impedance Control Parameters with Artificial Neural Networks and Real Time Control of Rehabilitation Robot	F. Korkmaz, A. Yilmaz, E. Akdogan, M. E. Aktan, M. Atlihan

Session 2B-2: Electrical and Electronics Engineering			
Time	Chair: Musa Asyali		Room: Red Room
12:15	89199	FPGA-Based Sound Synthesis by Digital Waveguide	Siti Aisyah
12:30 PM	85609	An Active Battery Cell Balancing Topology without Using External Energy Storage Elements	Mustafa Gokdag, Mehmet Akbaba
12:45 PM	91988	Mimo Radar for Combined Doppler, DOA and Range Finding 3-D Radar: Simulation and Results	Nauman Anwar Baig, Mohammed Bilal Malik
1:00 PM	57657	RFID Patch Antenna by Using Complementary Split Ring Resonator Oriented at 45 Degrees	Seif Naoui, Lassaad Latrach, Ali Gharsallah

Session 2B-3: Computer Engineering

Time	Chair: Ali Fuat Guneri		Room: Green Room
12:15	46743	EV2C: Extended Vehicle-to-Cloud Model and Conceptual Implementation for Big Data	Ali Boyaci, Alper Ozpinar, Erdinc Ozturk, Serhan Yarkan
12:30 PM	37700	An Approach for Customer Satisfaction: Evaluation, Validation and Modeling by a Markov Chain	Amina El Kebbaj, Abdelwahed Namir, Karrakchou Jamila
12:45 PM	67846	Error Reduction in Distance Estimation of RSS Propagation Models Using Kalman Filters	Ayahah Abusara, Mohamed Hassan
1:00 PM	93699	Secure Communication in Wireless Sensor Networks	Cansin Turguner, Ozgur Koray Sahingoz
1:15 PM	20551	Real Time Textile Defect Detection Framework Using GLCM of DCT-Based Compressed Images	Fitri Arnia, Khairul Munadi
1:30 PM	57754	Analysis of the IEEE 802.15.4 MAC Parameters to Achieve Lower Packet Loss Rates	Imen Bouazzi, Jamila Bhar, Mohamed Atri

Session 2B-4: System Dynamics and Control Theory

Time	Chair: Irfan Siap		Room: Blue Room
12:15	51889	Improvement Tracking Performances of Adaptive Model Following Control Systems with Unknown Disturbances	Abdelkader Maddi, A. Guessoum, D. Berkani
12:30 PM	64471	On Modeling the Dynamics of Pipelines: Finite Element Approach	Ameen El-Sinawi, Latifa A. Al Ghailani
12:45 PM	95710	Steady State dynamic Behavior of Reactive Distillation Column with Double Reactive Sections	Jalesh L Purohit, Hitesh Dholariya
1:00 PM	45779	Self Optimizing ABS Control Algorithm with Application	Erkin Dincmen, Tunc Altinel
1:15 PM	81136	Adaptive Flight Control for Quadrotor UAV in the Presence of External Disturbances	Hakim Bouadi, A. Aoudjif, M. Guenif

Session 2C-1: Robotics/Mechatronics

Time	Chair: Aydin Yesildirek		Room: Yellow Room
14:30	50589	Observer Based Robust Adaptive Tracking for Uncertain Robot Manipulators with External Force Disturbance Rejection	Mohammed Abdul Rehan Khan
2:45 PM	24223	Monitoring of Irrigation Systems Using Genetic Algorithms	Popescu Doru Anastasiu, Dan Radulescu
3:00 PM	77586	Designing PID Controllers for a Five-Bar Linkage Robot Manipulator Using BBO Algorithm	R. M. Asl, M. R. Kankashvar, Hamed Kharrati, A.B.Sadeghiani
3:15 PM	20710	Feature Selection for Leaf Recognition in Plant Species Classification	Y. Baleghi, V. Fooladi, A. M. Hassani, S. Sam, A. Mehravaran
3:30 PM	33778	Trajectory Tracking of Two Wheeled Mobile Robot	Manel Mendili, Faouzi Bouani

Session 2C-2: Applied Mathematics			
Time	Chair: Hana Suleiman		Room: Red Room
14:30	19558	An Approach for Customer Satisfaction: Evaluation, Validation and Modeling by a Markov Chain	Amina El Kebbaj, Abdelwahed Namir, Jamila Karrakchou
2:45 PM	32971	Modeling and Control of a Semi-Batch Cooling Seeded Crystallizer	Amira Rachah, Dominikus Noll
3:00 PM	32656	A Note on the Order Selection of Mixture Periodic Autoregressive Models	Faycal Hamdi
3:15 PM	10047	Study of Spatio-Temporal Variability of the Maximum Daily Rainfall	K. Gader, Ahlem Gara, M. Slimani, M. Mohamed Raouf

Session 2C-3: Computer Engineering			
Time	Chair: I. Uvalieva		Room: Green Room
14:30	89097	New Tasks Scheduling Strategy for Resources Allocation in Cloud Computing Environment	K. Beghdad Bey, F. Benhammadi, F. Sebbak, M. Mataoui
2:45 PM	31418	Query Expansion in XML Information Retrieval: A New Approach for Terms Selection	M. Mataoui, F. Sebbak, F. Benhammadi, Kadda Beghdad Bey
3:00 PM	37283	A Shadow Detection Approach Based on Fuzzy Logic Using Images Obtained from PV Array	Mehmet Karakose, Kazim Firildak
3:15 PM	88875	Application of a Scenario Approach in Development of a Recognition System of Vehicle Identification Numbers	A. Tlebalidnova, N. Denissova, D. Kassymkhanova
3:30 PM	27884	Distributed Information-Analytical System of Educational Statistics	I. Uvalieva, Z. Garifullina, G. Soltan, S. Kumargazhanova
3:45 PM	78879	Development of Intelligent System to Support Management Decision-Making in Education	I. Uvalieva, Z. Garifullina, A. Utegenova, S. Toibayeva, and B. Issin

Session 2C-4: System Dynamics and Control Theory			
Time	Chair: I. B. Kucukdemiral		Room: Blue Room
14:30	32661	Robust Stabilizability Algorithms with Application to Force Control of a Hydraulic Actuator	Michael Skarpetis, F. N. Koumboulis
2:45 PM	55797	Asymptotic Features of Hessian Matrix in Receding Horizon Model Predictive Control with Medium Sized Prediction Frames	M. Abbas Abbasi, Muhammad Bilal Shahid, Um-e-Rubab
3:00 PM	93641	Disturbance Attenuation of Asymmetric Structure by LMI Based Optimal State-Feedback Controller with Saturated Actuators	Mert Sever, I. B. Kucukdemiral, Hakan Yazici, Gulay Goktas
3:15 PM	48696	Control Configuration Selection for Multivariable Switched Dynamical Systems and Processes	Hamid Reza Shaker
3:30 PM	99356	A Brief Note on the Generalized Singular Perturbation Approximation	Hamid Reza Shaker

Session 3A-1: Chemical Engineering--Material Science--Biomedical Engineering			
Time	Chair: Naif Darwish		Room: Yellow Room
10:15	69751	Parameter Estimation of a Phenomenological Cardiac Model Based on a Biophysically Detailed Model of Human Atria: A Method for Model Complexity Reduction Using Extended Kalman Filter	Celal Alagoz, Saran Phatharodom, Allon Guez
10:30 AM	68563	Detecting Patients with Parkinsons Disease Using MFCC and VQ	Achraf Benba, Abdelilah Jilbab, Ahmed Hammouch
10:45 AM	14789	Correlation of Air-Gap Membrane Distillation Data Using Neural Networks	Naif Darwish, Azza A. Alcheikhhamdona, Nidal Hilal
11:00 AM	51043	Factorial Design Analysis for Adsorption of Sulfur Compounds from Diesel Oil on Activated Charcoal	N.Darwish, Z.Shareefdeen, E.A.H. Al Zubaidy, Y. A. El Sayed
11:15 AM	64706	Full Potential Calculation of Structural Electronic and Optical Properties of Alkaline Earth Oxides MgO, CaO and SrO	Zeroual Jazia, Labidi Salima, Labidi Malika, A. Lakel, M. Boudjendlia, R. Bensalem
11:30 AM	62630	Theoretical Investigations of Physical Properties of $Pb_{1-x}Sr_xS$ Ternary Alloys	Zeroual Jazia, Labidi Salima, Labidi Malika, A. Lakel, M. Boudjendlia, R. Bensalem

Session 3A-2: Applied Mathematics--Statistic			
Time	Chair: Bayram Ali Ersoy		Room: Red Room
10:15	98959	Improvement of Gregory' s Formula Using Artificial Bee Colony Algorithm	Naceur Khelil, Samiha Aichouche, Leila Djerou
10:30 AM	24247	On the Existence of Solutions for a Nonlinear Stochastic Partial Differential Equation Arising as a Model of Phytoplankton Aggregation	Nadjia El Saadi, Zakia Benbaziz
10:45 AM	48922	Software Reliability Modeling with Different Type of Faults Incorporating Both Imperfect Debugging and Change Point	Subhashis Chatterjee, Ankur Shukla
11:00 AM	11000	Anti-Correlation Experimental Design Criterion in Nonlinear Situations	Hana Suleiman
11:15 AM	13000	Control of a Contilever Pipe Conveying Fluid Using Neural	Mehmet Hakan Demir, Aydin Yesildirek, Faruk Yigit

Session 3A-3: Computer Engineering			
Time	Chair: Pinar Kirci		Room: Green Room
10:15	31895	Proposing a Load Balancing Method Based on Cuckoo Optimization Algorithm for Energy Management in Cloud Computing Infrastructures	M. Yakhchi, S. M.Ghafari, S.Yakhchi, M. Fazeli, A. Patooghy
10:30 AM	37556	Solving Multi Travelling Salesman Problem with Genetic Algorithm	Musa Aydin
10:45 AM	61205	Web-Based Programming Model	Doru Popescu Anastasiu, Gabriel Boroghina
11:00 AM	40840	Game Based Education with Android Mobile Devices	Pinar Kirci, M. Oguzhan Kahraman

11:15 AM	19352	A Survey of Intrusion Detection Systems in Wireless Sensor Networks	Okan Can, Ozgur Koray Sahingoz
11:30 AM	60945	2D Path Planning of UAVs with Genetic Algorithm in a Constrained Environment	Murat Cakir, Ozgur Koray Sahingoz

Session 3A-4: System Dynamics and Control Theory			
Time	Chair: Hamid Reza Shaker		Room: Blue Room
10:15	89044	Synchronization of Different Fractional-Ordered Chaotic Systems Using Optimized Active Control	Reza Behinfaraz, Mohammad Ali Badamchizadeh
10:30 AM	80966	An Approach on Unscented Kalman Filter Based Feedback Linearization Control Method	R. Mohammadi Asl, M.A. Badamchizadeh, Y. Shabbouei Hagh
10:45 AM	25453	Developing a Robust Model Predictive Controller for a Class of Distributed Networked Systems with Application to a Chemical Reactor Plant	S. Vahid Naghavi, A. A Safavi, V. Ghaffari
11:00 AM	11252	Positivity and Linearization of a Class of Fractional Discrete-Time Systems By Nonlinear State-Feedbacks	Tadeusz Kaczorek
11:15 AM	33099	Bearing Fault Detection Based on Interval Type-2 Fuzzy Logic Systems for Support Vector Machines	Jafar Zarei, Hossein Hassani, Mohammad Mehdi Arefi

Abstracts that are presented during the conference are published here. Selected extended papers can be reached at [IEEE Xplore®](#).