

2020 Medical Technologies Congress (TIPEKNO) TECHNICAL PROGRAM

DAY 1 - 19 November 2020, Thursday

09:00-09.10	Opening Speech Prof. Dr. Aydın AKAN (<i>Conference Chair</i>)	
09.10-09.50	Invited Talk 1 Assoc.Prof. Emine Ülkü SARITAŞ (Bilkent University) "Magnetic Particle Imaging"	
	Ephesus Room	Pergamon Room
10.00-11.30	Biomedical Signal Processing 1 Chair: Tugrul ARTUG	Device Design and Modeling 1 Chair: Burçak ALP
	1-Detection of Myocardial Infarction by using Autonomic Nervous System, Gaussian Mixture Model and Artificial Neural Network Merve Begüm Terzi and Orhan Arıkan	6-Development of Invasive Blood Pressure Simulator Design for Testing and Calibrating Mertcan Özdemir, Erdem İnanç Budak ve Osman Eroğul
	2-Detection of Cardiac Arrhythmia by using Autonomic Nervous System, Gaussian Mixture Model and Artificial Neural Network Merve Begüm Terzi and Orhan Arıkan	10- Investigation of Temperature Effects Produced by an Epilation Device Within Agar Phantom Hüseyin Okan Durmuş, Emel Çetin Arı, Baki Karaböce ve Mirhasan Seyitsoy
	3- ALS ve Polio Hastalarında F-yanıtı Parametrelerinin Etkisi Tuğrul Artuğ	14- Heating/Cooling Block System Design with Thermoelectric Module Ahmet Reşit Kavsaoglu, Havva Sungur ve Hülya Demir
	114- Epileptic EEG Classification Using Synchrosqueezing Transform and Machine Learning Ozlem Karabiber Cura and Aydın Akan	37- Smart Stethoscope Mehmet Nasuhcan Türker, Yağız Can Çağan, Batuhan Yildirim, Mücahit Demirel, Atilla Özmen, Baran Tander and Mesut Çevik
	28- Classification of Abnormal Respiratory Sounds Using Machine Learning Techniques Hüseyin Cihad Güler, Oktay Yıldız, Uğur Baysal, Funda B. Cinyol, Deniz Köksal, Elif Babaoğlu and Sevinç Sarınc Ulaşlı	39- Wearable respiratory rate sensor technology for diagnosis of sleep apnea Göktürk Cinel, Ergün Alperay Tarım and Hüseyin Cumhuri Tekin
	29- IDENTIFICATION USING ECG SIGNALS Elif Cansu KiliÇer, Şevval Ay and Mehmet Feyzi Akşahin	53- Kablosuz Polisomnografi Cihazı Tasarımı Uğur Sahin, Erdem İnanç Budak and Osman Eroğul

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11.35-13.05	Deep Learning in Biomedical Applications 1 Chair: Gökhan BİLGİN	Biomedical Optics 1 Chair: Nermin TOPALOĞLU AVSAR
	7- A Novel Deep Convolutional Neural Network Model for COVID-19 Disease Detection Emrah Irmak	12-The Effect of Photobiomodulation with Red and Near-Infrared Wavelengths on Keratinocyte Cells Merve Ozdemir, Ziysan Buse Yarali Cevik and Nermin Topaloglu
	8- EMG based Hand Gesture Recognition using Deep Learning Mehmet Akif Ozdemir, Deniz Hande Kisa, Onan Guren, Aytug Onan and Aydin Akan	16-Comparison of the Antibacterial Effects of Photodynamic Therapy and Cold Atmospheric Plasma on Methicillin-Resistant Staphylococcus aureus Büşra Sirek, Dicle Fidan, Gizem Dilara Özdemir, Emel Bakay, Utku Kürşat Ercan and Nermin Topaloğlu
	24- Transfer Learning Methods for Using Textural Features in Histopathological Image Classification Sabri Can Cetindag, Kubilay Guran and Gokhan Bilgin	17-Light-Induced Bactericidal Effect of Wound Dressings Produced with Thermoplastic Polyurethane and Chitosan Sevilay Çetin, Merve Başaranbilek, Hilal Er, Emel Bakay, Mehmet Özgür Seydibeyoğlu and Nermin Topaloğlu
	13- Estimating Rotation Angle and Transformation Matrix Between Consecutive Ultrasound Images Using Deep Learning Mahsa Mikaeili and Hasan Şakir Bilge	20- The Effect of Zinc Oxide Nanoparticles in Antibacterial Photothermal Therapy against MRSA Beyzanur Erk, Öykü Kabar, Hilal Er, Emel Bakay, Yeşim Büyüksökmen, Didem Şen Karaman and Nermin Topaloğlu
	18- Classification of Malignant Lymphoma Types Using Convolutional Neural Network Nuh Hatipoglu and Gokhan Bilgin	23- Photobiomodulation with 655-nm Laser Light to Induce the Differentiation of PC12 Cells Emel Bakay and Nermin Topaloğlu
	9- Abnormal ECG Beat Detection Based on Convolutional Neural Networks Mehmet Akif Ozdemir, Onan Guren, Ozlem Karabiber Cura, Aydin Akan and Aytug Onan	44- Determination of Cell Stiffness Using Polymer Micro Beads as Reference Sevde Omeroglu, Rahmetullah Varol, Zeynep Karaandlioglu, Aslihan Karadag, Yasemin Basbinar, Huseyin Uvet and Muhammed Enes Oruc
13.05-13.45	Tutorial Assoc.Prof. Ahmet MERT (Bursa Technical Univ.) “Machine Learning Techniques for Biomedical Applications”	
14.00-14.40	Invited Talk 2 Prof. Françoise PEYRIN (Univ. Lyon, CNRS 5220/INSERM U1206, INSA Lyon, CREATIS) “Multiscale and Multi Contrast X-Ray CT”	

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14.45-16.15	Biomedical Image Processing 1 Chair: Albert GUVENIS	Biosensors and Biomedical Optics Chair: Mustafa SEN
	19- Automated Cell Counting Using The Nine Point Circle Rule Ege Engin and Tomas Lukes	51- Spectroscopic and Computational Molecular Docking studies on the protein-drug interactions Iraz Çınar, İrem Aksoy and Günnur Güler
	21- Comparison of Variational Mode Decomposition and Empirical Mode Decomposition Features for Cell Segmentation in Histopathological Images Omer Faruk Karaaslan and Gökhan Bilgin	64- Fabrication and Characterization of a Metal Oxide Semiconductor Field Effect Transistor (MOSFET)-based micro pH Sensor Fikri Seven and Mustafa Şen
	25- Detecting Alzheimer Disease on FDG PET Images Using a Similarity Index Based on Mutual Information Esra Çankaya Polat and Albert Güveniş	72- Squat Hareketi ve Dinlenme Durumunda Kaydedilen Fotopletismografi İşaretlerine Dayalı Biyometrik Tanıma Sistemi Tuğba Aydemir, Mehmet Şahin and Önder Aydemir
	27- Classification of Ultrasonographic Thyroid Tumor Images to TIRADS Categories via Texture Analysis Methods Aslan Berk Tüzüner, Gökçe Kaan Ataç, Hale Çolakoğlu Er and Osman Eroğul	73- Kısa Zamanlı Fotopletismografi İşaretlerinin En Uygun Frekans Aralığı ile Hipertansiyon Hastalığının Belirlenmesi Tuğba Aydemir, Mehmet Şahin and Önder Aydemir
	36- Automatic Brain Tissue Segmentation on TOF MRA Image Şinasi Kutay Özen and Mehmet Feyzi Akşahin	98- Demonstration of G-quadruplex-assisted hybridization chain reaction for nucleic acid detection Beyza Kanat, Hüseyin Saygın Portakal and Osman Doluca
	42- Prolongation of Longitudinal Relaxometry Characteristics in Healthy Aging: a Whole Brain MRI Study Hayriye Aktaş Dinçer and Didem Gökçay	102- WLAN Uygulamaları için 4x4 MIMO Antenin Elektromanyetik Dozimetri Karakteristiğinin İncelenmesi Kayhan Ateş, Can Yeter and Şükrü Özen

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	Ephesus Room	Pergamon Room
16.20-17.50	Biomedical Signal Processing 2 Chair: Mehmet Feyzi AKSAHIN	Biomechanics Chair: Lale Canan DULGER
	4- Comparison of Data Interpolation Methods in Time Course Pupil Diameter Data Mahdiah Farzin , Vilda Purutcuoglu , Fikret Arı and Didem Gökçay	110- A Novel Parametric Approach for Generating Subject Specific Lumbar Vertebral Bodies Ufuk Baler and Fethi Okyar
	38- Algısal Dalgacık Paket Dönüşümü ve Destek Vektör Makineleri Kullanarak Patolojik ve Sağlıklı Seslerin Sınıflandırılması Özkan Arslan	11 - Robotic Assisted Passive Wrist and Forearm Rehabilitation: Design of an Exoskeleton and Implementation M.Erkan Kütük , M.Taylan Daş and Lale Canan Dulger
	40- Investigation on the Use of Hidden Layers, Different Numbers of Neurons and Different Activation Functions to Detect Pupil Dilation Responses to Stress Abdullah Nuri Somuncuoğlu , Vilda Purutçuoğlu , Fikret Arı and Didem Gökçay	50- Interferometric Investigation of Cell Stiffness and Morphology on Oxidative Stress-Induced Human Umbilical Vein Endothelial Cells (HUVEC) Zeynep Karaandlioglu , Sevde Omeroglu , Rahmetullah Varol , Hanife Ecnur Meco , Yagmur Buyrukbulan , Yasemin Basbinar , Muhammed Enes Oruc and Huseyin Uvet
	41- Comparison of Several Machine Learning Classifiers for Arousal Classification: A Preliminary study Ekin Can Erkuş , Vilda Purutçuoğlu , Fikret Arı and Didem Gökçay	80- Ampute Elektromyografi Sinyallerinin Evrişimli Sinir Ağları Kullanarak Sınıflandırılması Fatih Onay and Ahmet Mert
	48- EEG based Epileptic Seizures Detection using Intrinsic Time-Scale Decomposition Mürşide Değirmenci and Aydın Akan	87- Assessment of cell cycle and viability of magnetic levitation assembled cellular structures Muge Anil Inevi , Yagmur Ceren Unal , Sena Yaman , H. Cumhuri Tekin , Gulistan Mese and Engin Ozcivici
	113- Individual-based Estimation of Valence with EEG Bora Cebeci , Aydın Akan , Miray Erbey and Tamer Demiralp	104- Virtual Reality Based Medical Device Education Halil İbrahim Özdemir , Bilal Çakmak , Şeyma Yol , Hatice Elif Özdemir and Nurullah Can Özdemir

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17.55-18.55	Biomedical Systems Chair: Utku Kursat ERCAN	Device Design and Modeling 2 Chair: Ahmet Resit KAVSAOĞLU
	62- Machine Learning In Bioinformatics: Gene Expression And Microarray Studies Beyza Bağıröz , Emre Doruk and Oktay Yıldız	105- Wireless ECG Device with Arduino Halil Güvenç
	66- Determining Appropriate Window Size and Window Function for Epileptic Seizure Forecasting Muharrem Çelebi and M. Kemal Güllü	108- IoT-Based Motion Tracking System for Orthopedic Patients and Athletes Gizem Çoban and Faruk Aktaş
	85- Kalp Yetmezliği Hastalarının Hayatta Kalma Tespiti İçin Makine Öğrenmesi Tabanlı Bir Yaklaşım Çağatay Berke Erdaş and Didem Ölçer	5- C # Interface Design for Real-Time Signal Recording Oriented of Bionic Hand Control with Leap Motion and EMG Devices Ahmet Reşit Kavsaoglu , Burak Bilece , Besimcan Altyaprak and Furkan Büyükçolak
	101- How Synchronization of Cortical Neurons Get Effected by the Sparseness of Connections Sadeem Nabeel Saleem Kbah	

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09:00– 09:40	Invited Talk 3 Prof. Bulent YILMAZ (Abdullah Gul Univ) “Using machine learning and deep learning approaches in automatic detection of colon diseases”	
	Ephesus Room	Pergamon Room
09.45-11.15	Biomedical Signal Processing 3 Chair: Gulay TOHUMOGLU	Device Design and Modeling 3 Chair: Ahmet MERT
	59- Detection of Pseudo and Epileptic Seizures from EEG signals Seyma Yol and Gulay Tohumoglu	57- A Mobile Parallel Manipulator for the Elbow Rehabilitation of Parkinsonian Patients Elif Hocaoglu, Saika Sener and Rabia Gul
	60- EMG based Hand Gesture Classification using Empirical Mode Decomposition Time-Series and Deep Learning Deniz Hande Kisa, Mehmet Akif Ozdemir, Onan Guren and Aydin Akan	65- PORTABLE ECG MONITORING DEVICE DESIGN BASED ON ARDUINO Muharrem Çelebi
	71- Synchrosqueezing Transform in Biomedical Applications: A mini review Duygu Degirmenci, Melike Yalcin, Mehmet Akif Ozdemir and Aydin Akan	70- Development of a Full Face Mask during the COVID-19 Epidemic Spread Period Başak Lara Günal, Ali Ümit Keskin, Fatma Ferda Kartufan and Özge Köner
	74- Firefly Algorithm Based Feature Selection for EEG Signal Classification Ebru Ergün and Önder Aydemir	68- Digital Filter Design Based on Arduino and Its Applications Muharrem Çelebi
	75- Ghost Resonance in Hodgkin-Huxley Neurons Veli Baysal	86- Magnetic levitation-based adipose tissue engineering using horizontal magnet deployment Öykü Sarıgil, Müge Anıl İnevi, Esra Yılmaz, Özge Solmaz Özçelik, Gülistan Meşe, Hüseyin Cumhur Tekin and Engin Özçivici
	81- BİLİŞSEL YORGUNLUĞUN EEG İŞARETLERİ İLE SINIFLANDIRILMASI Ayşe Ekim, Önder Aydemir and Mengü Demir	97- Noninvasive Measurement of Baby’s Vital Datas and Mobile Monitoring - Analysis System Design Nadide Gülşah Gülenç and Mesut Kartal

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	Ephesus Room	Pergamon Room
11.20-13.00	Biomedical Image Processing 2 Chair: Andac HAMAMCI	Biomaterials and Tissue Engineering 1 Chair: Günnur GÜLER
	49- Use of Velocity Vectors for Cell Classification Under Acoustic Drifting Forces Rahmetullah Varol, Sevde Omeroglu, Zeynep Karaandlioglu, Ela Kumuk, Eda Nur Saruhan, Gizem Aydemir, Muhammed Enes Oruc and Huseyin Uvet	45- Use of Waste Salmon Bones as Biomaterials Merve Baş, Sibel Dağlılar, Cevriye Kalkandelen and Oğuzhan Gündüz
	56- Q-Yönlendirme Yöntemi Kullanılarak Difüzyon Fantomu Üzerinde Fiber Yolakların Belirlenmesi Mert Efe Yıldız and Andaç Hamamcı	43- HYALURONIC ACID PRODUCTION AND ANALYSIS FROM ROOSTER COMB Cevriye Kalkandelen, Sena Su, Elif Saatçioğlu and Oğuzhan Gündüz
	58- Position dependent response of Magnetic Nanoparticles using Magnetic Particle Imaging (MPI) Muhammad Irfan, Ozge Mercan Dogan, Nurcan Dogan and Ayhan Bingolbali	99- Investigation of Cold Atmospheric Plasma Activity in PCL/ ZnO Tissue Scaffolding To Be Used in Wound Tissues Hande Uğraş, Gizem Dilara Özdemir and Utku Kürşat Ercan
	63- Young's modulus evaluation of the walls of cerebral arteries with aneurysms Sergey Frolov, Anton Potlov, Sergey Proskurin and Tatiana Frolova	76- Evaluation of PC12 Cell Neural Differentiation on Graphene Coated ITO Microchips Tansu Gölcez, Fikri Seven, Ozan Karaman and Mustafa Şen
	77- 3D Femoral Head Detection in MRI Data Sequences with the Integro-differential Operator Abbas Memiş, Songül Varlı and Fuat Bilgili	93- Determination of the Effect of Glycosaminoglycan Mimetic Peptide Hydrogels on Cell Viability for Cartilage Tissue Engineering Applications Gülşah Sunal, Günnur Onak, Oğuzhan Gökmen, İlayda Namlı and Ozan Karaman
	92- On Visualization and Quantification of Lesion Margin in CT Liver Images Sami Arica, Tugce Sena Altuntaş and Gürcan Erbay	35- Determination of Optimum Concentration of NGR Peptide With Anticancer Effect On Breast Cancer Microtissue Ziyyan Buse Yaralı Çevik, Başak Olcay and Ozan Karaman
13.00-14.00	BREAK	
14.00-14.40	Invited Talk 4 Prof. Aylin SENDEMİR (Ege University) "Tissue Engineering and Regenerative Medicine Applications"	

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14.45-16.15	Biomedical Signal Processing 4 Chair: Devrim UNAY	Deep Learning in Biomedical Applications 2 Chair: Nizamettin AYDIN
	82- A STUDY ON FINDING THE OPTIMAL TIME FOR AUTOMATIC TRANSITION TO SELF-DRIVING MODE Farhad Nassehi, Başak Erdoğan, Sena Şişman, Yağmur Sağlam and Osman Eroğul	26- The Analysis of Mobile Platform based CNN Networks in the Classification of Sperm Morphology Omer Lutfu Tortumlu and Hamza İlhan
	84- Şizofrenik ve Sağlıklı EEG Zaman Serilerinin Sınıflandırılması ve İstatistiksel Analizi Delal Şeker and Mehmet Siraç Özerdem	30- Morphological Classification of Low Quality Sperm Images Using Deep Learning Networks Mecit Yüzkat, Hamza İlhan and Nizamettin Aydın
	88- Time Series Analysis based Machine Learning Classification for Blood Sugar Levels Öykü Berfin Mercan, Vakkas Doğan and Volkan Kılıç	31- Tooth Restoration and Dental Work Detection on Panoramic Dental Images via CNN Anıl Gürses and Ayşe Oktay
	90- Multiclass Classification of Brain Cancer with Machine Learning Algorithms Begüm Erkal, Selen Başak, Alper Çiloğlu and Duygu Dede Şener	32- Early pleural effusion detection from respiratory diseases including COVID-19 via deep learning Ali Serener and Sertan Serte
	96- Automated Analysis of Wound Healing Microscopy Image Series - A Preliminary Study Berkay Mayalı, Orkun Şaylığ, Özden Yalçın Özuysal, Devrim Pesen Okvur, Behçet Uğur Töreyn and Devrim Unay	47- Covid-19 Classification Using Deep Learning in Chest X-Ray Images Zehra Karhan and Fuat Akal
	109- El İle Kavrama Girişiminin Hayali Sırasında Kaydedilmiş EEG İşaretlerinin Sınıflandırılması Osman Kerem Ateş and Önder Aydemir	46- Comparison of Tissue Classification Performance by Deep Learning and Conventional Methods on Colon Histopathological Images Zehra Karhan and Fuat Akal

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16.20-17.50	Biomedical Image Processing 3 Chair: Osman DOLUCA	Deep Learning in Biomedical Applications 3 Chair: Osman EROGUL
	95- A Preliminary Study on Cell Motility Analysis from Phase-Contrast Microscopy Image Series <i>Emre Kayan, Tarık Kavuşan, Sevgi Önal, Devrim Pesen Okvur, Özden Yalçın Özuysal, Behçet Uğur Töreysin and Devrim Unay</i>	89- Detection of Covid-19 Patients with Convolutional Neural Network Based Features on Multi-class X-ray Chest Images <i>Ali Narin</i>
	100- Classifying Early and Late Mild Cognitive Impairment Stages of Alzheimer's Disease by Analyzing Different Brain Areas <i>Gökçe Uysal and Mahmut Öztürk</i>	79- Classification of Brain Tumors via Deep Learning Models <i>Kaya Dağlı and Osman Eroğul</i>
	103- Sincap Arama Algoritması Kullanarak Sonlu Dürtü Yanıtlı Filtre Tasarımı <i>Mehmet Fatih Karakaş and Fatma Latifoğlu</i>	83- Nörodejeneratif Hastalıkların Tespiti İçin Derin Öğrenme Tabanlı Bir Yaklaşım <i>Çağatay Berke Erdaş and Emre Sümer</i>
	107- Diagnosis of COVID-19 with a Deep Learning Approach on Chest CT Slices <i>Müberra Yener and Ayşe Oktay</i>	115- Deep Learning based Colorimetric Classification of Glucose with Au-Ag nanoparticles using Smartphone <i>Öykü Berfin Mercan and Volkan Kılıç</i>
	111- Inception-ResNet-v2 with Leakyrelu and Averagepooling for More Reliable and Accurate Classification of Chest X-ray Images <i>Ahmet Demir and Feyza Yılmaz</i>	91- New Method to Diagnosis of Dyslexia Using 1D-CNN <i>Ramis İleri, Fatma Latifoğlu and Esra Demirci</i>
	116- Comparison of Parallel Magnetic Resonance Imaging Algorithms: PILS and SENSE <i>Egehan Dorum, Mazlum Unay, Onan Guren and Aydin Akan</i>	69- Deep Learning Based Facial Emotion Recognition System <i>Mehmet Akif Ozdemir, Berkay Elagoz, Aysegul Alaybeyoglu Soy and Aydin Akan</i>
Ephesus Room		Pergamon Room
17.55-18.40	Biomaterials and Tissue Engineering 2 Chair: Ozan KARAMAN	Deep Learning in Biomedical Applications 4 Chair: Mehmet Akif ÖZDEMİR
	106- The effect of Titanium alloy and Stainless steel on regulatory T cells and Foxp3 <i>Sibel Akyol, Hasan Ege, Murat Hanci and Bessim Ben-Nissan</i>	55- Short-Term Forecasting COVID-19 Cases In Turkey Using Long Short-Term Memory Network <i>Selahattin Serdar Helli, Çağkan Demirci, Onur Çoban and Andaç Hamamcı</i>
	117- The Behaviour of Scaffolds for Bone under Torsional Loading with Different Architectures; a Numerical Analysis <i>Daver Ali</i>	33- Deep learning to distinguish COVID-19 from other lung infections, pleural diseases, and lung tumors <i>Ali Serener and Sertan Serte</i>
	94- Proliferation and Viability of L929 Cells in Synthetic Flexible Bone Grafts <i>İlker Gürgit, Oğuzhan Gökmen, Aybike Kocatürkmen, İlayda Namli, Günnur Onak and Ozan Karaman</i>	112- Cutting Effect on Classification Using Nasnet Architecture <i>Feyza Yılmaz and Ahmet Demir</i>