

EHB 2020 – PROGRAM OF PAPERS PRESENTATIONS

| No. | ID | Section | Title | Authors | Oral/Poster |
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Assistive Technologies for People with Disabilities I - AT I

THURSDAY, 29 October, 11:45 – 13:45, Room IV

| | | | | | |
|----|----|------|--|---|------|
| 1. | 12 | AT I | Glasses Connected to Google Vision that Inform Blind People about what is in Front of Them | Michael Cabanillas-Carbonell, Alexander Aguilar Chávez, Jeshua Banda Barrientos | Oral |
| 2. | 46 | AT I | System for Monitoring Medical Rehabilitation Activities Using Virtual Reality – Case Study MIRA | Angela Repanovici, Diana Cotoros, Ionela Toceanu | Oral |
| 3. | 49 | AT I | Methodology Dedicated to Assisted Visual Training Rehabilitation for People With Severe Disabilities Caused by Accidents or Serious Injuries | B. Braun, C. Drugă, I. Șerban | Oral |
| 4. | 50 | AT I | Virtual Instrument for Screening and Visual Function Recovery for Preschool or Primary School Children | C. Drugă, B. Braun, I. Șerban | Oral |
| 5. | 73 | AT I | Improved Software and Hardware of a Device Aiming to Assess Hand Movements During Rehabilitation in Hemiparetic People | Andrei-Iulian Roman, Marian-Silviu Poboroniuc, Daniel Sticea, Danut-Constantin Irimia | Oral |
| 6. | 96 | AT I | Development of a System for Correlating Ocular Biosignals to Achieve the Movement of a Wheelchair | Delia Dragusin, Mihaela Ioana Baritz | Oral |

Assistive Technologies for People with Disabilities II - AT II

THURSDAY, 29 October, 14:00 – 16:00, Room IV

| | | | | | |
|----|-----|-------|--|---|--------|
| 1. | 115 | AT II | Riana – A Diagnostic Device for Measurement of Joint Range | Jan Kubicek, Marek Penhaker, Martin Augustynek, Petr Kudrna, Jan Grepl, Dominik Vilimek, Petra Maresova, Kamil Kuca | Poster |
| 2. | 116 | AT II | A Mechanical Construction Proposal of Rehabilitation Instrument for Measurement and Analysis of Knee Joint Range | Jan Kubicek, Marek Penhaker, Martin Augustynek, Petr Kudrna, Jan Grepl, Dominik Vilimek, Ondrej Krejcar | Poster |
| 3. | 154 | AT II | Modular Collaborative Sensing and Feedback Units for Smart Exercising | Alexandru Ianoși-Andreeva-Dimitrova, Dan Silviu Mândru, Paul Ciprian Dămoc | Oral |
| 4. | 166 | AT II | Robotic Platform for Recovering Injured People in Smart Home | Sorin-Dan Grigorescu, George-Calin Seritan, Bogdan-Adrian Enache, Felix-Constantin Adochiei, Florin-Ciprian Argatu, Andreea Stavre | Poster |
| 5. | 174 | AT II | On improving perception for visually impaired: requirements, research and practicality | Otilia Zvoristeanu, Stefan Daniel Achirei, Nicolae Alexandru Botezatu, Robert-Gabriel Lupu, Adrian Burlacu, Simona Caraiman | Oral |
| 6. | 175 | AT II | SMARTCARE: On the Design of an IoT Based Solution for Assisted Living | Stefan Daniel Achirei, Otilia Zvoristeanu, Adrian Alexandrescu, Nicolae Alexandru Botezatu, Andrei Stan, Cristian Rotariu, Robert Gabriel Lupu, Simona Caraiman | Oral |

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| 7. | 181 | AT II | Remote Monitoring of Physiological Parameters used in Ambient Assistive Technologies | Stefan Daniel Achirei, Otilia Zvoristeanu, Adrian Alexandrescu, Nicolae Alexandru Botezatu, Andrei Stan, Cristian Rotariu, Robert Gabriel Lupu, Simona Caraiman | Oral |
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Environmental protection and Health I – EPH I
THURSDAY, 29 October, 9:30 – 11:30, Room IV

| | | | | | |
|----|-----|--------------|---|---|--------|
| 1. | 102 | EPH I | Toxicity and Microbial Bioremediation of Chromium Contaminated Effluents | Mariana Diaconu, Mihaela Roșca, Petronela Cozma, Mariana Minuț, Camelia Smaranda, Raluca-Maria Hlihor, Maria Gavrilescu | Poster |
| 2. | 103 | EPH I | Prediction of Equilibrium Sorption Isotherm for Cadmium Biosorption by Microorganisms: Comparison of Linear and Nonlinear Methods | Mihaela Roșca, Mariana Diaconu, Raluca-Maria Hlihor, Petronela Cozma, Maria Gavrilescu | Poster |
| 3. | 104 | EPH I | The Beneficial Role of Some Microorganism in Soil Phytoremediation and Mitigation of Health Risk | Mariana Minuț, Mihaela Roșca, Petronela Cozma, Mariana Diaconu, Maria Gavrilescu | Poster |
| 4. | 109 | EPH I | Human Risks Generated by the Bioaccumulation of Pollutants in Cereals and their Consumption | Ionela Catalina Vasilachi, Dana-Mihaela Asiminicesei, Mariana Minuț, Mihaela Rosca, Petronela Cozma, Camelia Smaranda, Maria Gavrilescu | Poster |
| 5. | 111 | EPH I | Reducing Health and Ecological Risks by Using WEEE as Secondary Sources for Critical Raw Materials | Simona Cecilia Ghiga, Mihaela David, Mariana Minuț, Elena-Diana Comanita-Ungureanu, Petronela Cozma, Maria Gavrilescu | Oral |

Environmental protection and Health II – EPH II
FRIDAY, 30 October, 11:15 – 13:30, Room II

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|----|-----|---------------|--|--|--------|
| 1. | 110 | EPH II | Identification and Valorization of Agri-Food By-Products: An Overview | Petronela Cozma, Nicoleta Ioana Ciomaga, Raluca-Maria Hlihor, Mihaela Roșca, Mariana Minuț, Camelia Smaranda, Maria Gavrilescu | Oral |
| 2. | 112 | EPH II | Pesticides in the Environment and Harmonized Risk Indicators | Ionela-Cătălina Vasilachi, Larsia Tapciuc, Gina-Mihaela Finaru Chelaru, Dana-Mihaela Asiminicesei, Mihaela Roșca, Petronela Cozma, Elena-Diana Comăniță-Ungureanu, Camelia Smaranda, Raluca-Maria Hlihor, Daniela-Ionela Ferțu, Maria Gavrilescu | Poster |
| 3. | 132 | EPH II | Human Health Risks Concerning Food Waste Management | Elena-Diana Ungureanu-Comanita, Ersilia Lazar Cosbuc, Petronela Cozma, Camelia Smaranda, Maria Gavrilescu | Poster |
| 4. | 141 | EPH II | Human Health Risk Associated with the Use of Products from Contaminated Medicinal Plants | Dana-Mihaela Asiminicesei, Ionela Catalina Vasilachi, Mariana Minuț, Mihaela Rosca, Petronela Cozma, Raluca-Maria Hlihor, Maria Gavrilescu | Oral |
| 5. | 149 | EPH II | Studies on Physiological Response of Sinapis alba Plants to Organochlorinated Pesticide Toxicity | Camelia Smaranda, Mihaela Rosca, Mariana Minuț, Diana Elena Comanita-Ungureanu, Petronela Cozma, Cezar Catrineacu, Maria Gavrilescu | Poster |

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| 6. | 150 | EPH II | Equilibrium Studies on the Sorption of Organochlorine Pesticide in Agricultural Soil | Camelia Smaranda, Mihaela Rosca, Ionela Cătălina Vasilachi, Dana-Mihaela Asiminicesei, Mariana Minut, Diana Elena Comanita-Ungureanu, Petronela Cozma, Maria Gavrilescu | Poster |
| 7. | 153 | EPH II | Medicinal Plants: Linking Herbs Contamination with Human Health Risks | Dana Mihaela Asiminicesei, Raluca-Maria Hlihor, Petronela Cozma, Maria Apostol, Isabela Maria Simion, Mihaela Roșca, Maria Gavrilescu | Oral |
| 8. | 179 | EPH II | Heavy Metals Accumulation in Fish Reared in a Pond Ecosystems and Health Risk Evaluation on Romanian Consumers | Ira-Adeline Simionov, Stefan-Adrian Strungaru, Stefan-Mihai Petrea, Victor Cristea, Mircea Nicoara, Alina Mogodan, Lacramioara Oprica, Diana Costin, Aurelia Nica | Oral |
| 9. | 107 | EPH II | Understanding the Environmental and Personal Health Motivations of Consumers Purchasing Sustainable Agricultural Products at Romanian Farmers' Markets | John M. Polimeni, Raluca-Ioana Iorgulescu | Oral |

Decision support systems, AI, Bioinformatics, Learning I - DSS-AI I
THURSDAY, 29 October, 9:30 – 11:30, Room II

| | | | | | |
|----|-----|-------------------|--|---|--------|
| 1. | 7 | DSS-AI I | Bio-Receptor Signal Hierarchy Model for Decision Making Agents | Sergiu Manolache, Nirvana Popescu | Oral |
| 2. | 11 | DSS-AI I | Opening the Door through the E-Learning and E-Assessment for Preclinical Medical Education in Romania: Academic, Social and Psychological Impact | Romeo Minodoru Coșniță, Anca Maria Cimpean, Richard Maerz, Marius Raica | Oral |
| 3. | 15 | DSS-AI I | Machine Learning based Solution for Predicting the Affective State of Children with Autism | Aura Loredana Popescu, Nirvana Popescu | Oral |
| 4. | 18 | DSS-AI I | Emotion Recognition Results using Deep Learning Neural Networks for the Romanian and German Language | Monica Feraru, Marius-Dan Zbancioc | Poster |
| 5. | 19 | DSS-AI I | Application for Medical Misinformation Detection in Online Forums | Yuliia Parfenenko, Anastasiia Verbytska, Dmytro Bychko, Vira Shendryk | Poster |
| 6. | 20 | DSS-AI I | Method of Primary Processing Unstructured Medical Data | Dmytro Bychko, Vira Shendryk, Yuliia Parfenenko | Poster |
| 7. | 23 | DSS-AI I | Application Software Analysis for Children with Autism Spectrum Disorder: a Review of the Scientific Literature from 2005 - 2020 | Anny Cabanillas-Tello, Michael Cabanillas-Carbonell | Poster |
| 8. | 24 | DSS-AI I | Recognizing Fear / Anxiety in Relation to Other Emotions | Marius-Dan Zbancioc, Monica Feraru | Poster |
| 9. | 101 | DSS-AI III | Cervical Cancer Diagnosis Using a Chicken Swarm Optimization Based Machine Learning Method | Dorin Moldovan | Oral |

Decision support systems, AI, Bioinformatics, Learning II - DSS-AI II
THURSDAY, 29 October, 11:45 – 13:45, Room II

| | | | | | |
|----|----|------------------|---|---|--------|
| 1. | 27 | DSS-AI II | Deep Learning Classification of two-class Motor Imagery EEG signals using Transfer Learning | Nijisha Shajil, Sasikala M, Arunnagiri A M | Oral |
| 2. | 31 | DSS-AI II | Emotion Detection System Oriented on Anthropological Face Landmarks Complying with Isolated and Confined Environmental Conditions | Adrian-Cătălin Dinculescu, Livia Petrescu, Cristian Vizitiu, Alexandru-Mihai Mandu | Oral |
| 3. | 34 | DSS-AI II | Crow Search Algorithm Based Ensemble of Machine Learning Classifiers for Epileptic Seizures Detection | Dorin Moldovan | Oral |
| 4. | 37 | DSS-AI II | Machine learning tool detecting NBOME drugs of abuse based on geometrical descriptors | Adelina Ion, Steluta Gosav, Mirela Praisler, Teodora Gosav | Oral |
| 5. | 38 | DSS-AI II | Refined Detection of Nbome Phenethylamines based on Their Most Important Topological Descriptors | Adelina Ion, Steluta Gosav, Mirela Praisler | Poster |
| 6. | 40 | DSS-AI II | Artificial Neural Networks for Diagnosis of Coronary Heart Disease | Niculina Mischie, Adriana Albu | Poster |
| 7. | 53 | DSS-AI II | Can Machine Learning Be Used to Recognize and Diagnose Coughs? | Charles Bales, Muhammad Nabeel, Charles N. John, Usama Masood, Haneya N. Qureshi, Hasan Farooq, Iryna Posokhova, Ali Imran | Oral |
| 8. | 58 | DSS-AI II | Depth-based Human Activity Recognition: vINCI Case Study | Lidia Băjenaru, Ciprian Dobre, Radu-Ioan Ciobanu, Georgiana Dedu, Silviu-George Pantelimon, Ion Alexandru Marinescu, Veronica Gavrilă | Oral |
| 9. | 59 | DSS-AI II | Needs and Preferences of Elderly Patients Regarding Ambient Assisted Living Systems: a Latent Profile Analysis | Alexandru Balog, Lidia Băjenaru, Irina Cristescu, Anna Marie Herghelegiu | Oral |

Decision support systems, AI, Bioinformatics, Learning III - DSS-AI III
FRIDAY, 30 October, 9:00 – 11:00, Room I

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|----|----|-------------------|--|--|------|
| 1. | 25 | DSS-AI III | Arithmetic Abilities of the Living Cell Pumps | Bogdan Aman, Gabriel Ciobanu | Oral |
| 2. | 65 | DSS-AI III | Development of a Patient-Specific Model for Patients with Diabetes Type I Using Meal and Exercise Guidelines from Modern Schools of Diabetes | Ghenadie Usic | Oral |
| 3. | 72 | DSS-AI III | Using Additive Bayesian Networks and Association Rules in Antimicrobial Resistance Analysis | Raluca Mureșan, Claudia Zaharia, Daniela Zaharie | Oral |

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| 4. | 81 | DSS-AI III | Harnessing Information Technology while Teaching in Distress: the Pandemic Toll vs. the Opportunity of Long-Awaited Paradigm Shift | Diana Lungeanu, Ioan Dragan, Calin Muntean, Bogdan Timar | Oral |
| 5. | 86 | DSS-AI III | Modeling a Bayesian Network for a Diabetes Case Study | Irina-Oana Lixandru-Petre | Oral |
| 6. | 87 | DSS-AI III | A Fuzzy System Approach for Diabetes Classification | Irina-Oana Lixandru-Petre | Poster |
| 7. | 88 | DSS-AI III | Mapping the Behavioral Change Evaluation of Elderly with Mild Cognitive Impairment in a Smart Environment | Marilena Ianculescu, Adriana Alexandru, Eleonora Tudora, Gabriel Neagu | Oral |
| 8. | 106 | DSS-AI III | Automatic Subject Independent Pain Intensity Estimation using a Deep Learning Approach | Marilena-Cătălina Dragomir, Corneliu Florea, Valentin Pupezescu | Oral |
| 9. | 108 | DSS-AI III | Ambient Assisted Living Environment based on Blockchain for Elderly Care | Andrei Vasilateanu, Andreea-Teodora Diaconu | Oral |

Decision support systems, AI, Bioinformatics, Learning IV - DSS-AI IV
FRIDAY, 30 October, 11:15 – 13:30, Room I

| | | | | | |
|----|-----|------------------|--|---|--------|
| 1. | 113 | DSS-AI IV | A New M-voting System for COVID-19 Special Situation in Iraq | Naseer Abdulkarim Jaber Al-Habeeb, Dr. Nicolae Goga,, Haider Abdullah Ali, Sarmad Monadel Sabree Al-Gayar | Oral |
| 2. | 117 | DSS-AI IV | Preliminary Design of an Interactive Web-based Platform for Regional Health Profiles of Bulgaria | Nikolay Dukov | Oral |
| 3. | 118 | DSS-AI IV | Application of 3D Printed Anthropomorphic Phantoms for Research and Educational Purposes in Digital Radiology | Kristina Bliznakova, Nikiforos Okkalidis, Nikolay Dukov, Stavros Zikopoulos, Zhivko Bliznakov | Oral |
| 4. | 119 | DSS-AI IV | Similarities between the Evolution of COVID-19 Number of Cases in Romanian Counties | Cristina Gena Dascalu, Gabriel Dimitriu, Magda Ecaterina Antohe, Daniela Anistoroaei, Loredana Golovcencu, Georgeta Zegan | Oral |
| 5. | 148 | DSS-AI IV | Predicting Human Acceptor Splice Site Regions using Text Distance Methods | Cristian G. Zimbru, Nicoleta Andreescu, Adela Chirita-Emandi, Maria Puiu | Poster |
| 6. | 151 | DSS-AI IV | Machine Learning Algorithms for Posture Identification of Obstructive Sleep Apnea Patients using IoT Solutions | Asma Channa, Muhammad Yousuf, Nirvana Popescu | Oral |
| 7. | 162 | DSS-AI IV | Hospital Management and Scheduling with Multi Agents Approach | Kristijan Cincar | Oral |
| 8. | 171 | DSS-AI IV | A Machine-Learning Approach to Survival Time-Event Predicting: Initial Analyses using Stomach Cancer Data | Lubomír Štěpánek, Filip Habarta, Ivana Malá, Luboš Marek, Filip Pazdírek | Oral |

Hospital information systems, internet applications - HIS

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|----|-----|------------|---|---|------|
| 1. | 159 | HIS | Integrated Software System for Registering of Patients with Stroke in Varna Region: Design and Initial Implementation | Kristina Bliznakova, Virginia Atanasova, Mihael Tsalta, Dimitrinka Rosenova, Silva Andonova, Klara Dokova | Oral |
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Medical devices, Instrumentation, Modeling/Simulation, Robotics I - MD I**THURSDAY, 29 October, 9:30 – 11:30, Room I**

| | | | | | |
|----|----|-------------|---|---|--------|
| 1. | 6 | MD I | Pre- and Post-surgical Monitoring by Laser Bio-photometry | Cristian Ravariu, Ala Bondarciuc | Oral |
| 2. | 3 | MD I | Au-NPs/ZnO single nanowire nanosensors for health care applications | Vasile Postica, Heather Cavers, Rainer Adelung, Thierry Pauporté, Lee Chow and Oleg Lupan | Oral |
| 3. | 28 | MD I | Improvements of a Simple Piezoresistive Array Armband for Gesture Recognition | Daniele Esposito, Gaetano Dario Gargiulo, Caitlin Polley, Giovanni D'Addio and Paolo Bifulco | Oral |
| 4. | 29 | MD I | Path Simulation using Inertial Sensor | Mihaela Hnatiuc, Joseph Dussart | Poster |
| 5. | 35 | MD I | A Statistical Interpretation of the Classical Action with Implications in the Dynamics of Non-Linear Growth Biostructures | Vlad Ghizdovăţ, Cipriana Ştefănescu, Irena Cristina Grierosu, Dan Dimitriu, Alexandra Iuliana Saviuc, Mihail Frăsilă, Ştefan Andrei Irimiciuc, Roxana Iacob, Maricel Agop | Oral |
| 6. | 45 | MD I | Accuracy and Precision Improvement for the Biochemistry Assays by Using an Automatic Ultrasonic Cleaning System | Manole-Ştefan Niculescu, Adriana Florescu, Sever Paşca | Oral |
| 7. | 47 | MD I | Systems for Monitoring Hands Hygiene of Medical Staff in Hospitals | A. Repanovici, D. Cotoros, M. Haineala, C. Nemet, E. Dinu | Oral |
| 8. | 51 | MD I | AudiTread: Towards a Low-cost Wireless Auditory Feedback and Gait Analysis System | Utkarsh Tripathi, Samir Sangani, Liam Le Yu Liu, Anouk Lamontagne | Oral |
| 9. | 66 | MD I | Identification of 'Manas' (States of Mind): Simulation Studies in Biophotonics | Shishir Prasad, Renu Prasad, Vikas Prasad, Rai Sachindra Prasad | Poster |

Medical devices, Instrumentation, Modeling/Simulation, Robotics II - MD II**THURSDAY, 29 October, 11:45 – 13:45, Room I**

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|----|----|--------------|---|---|--------|
| 1. | 68 | MD II | FPGA Implementation of Multinomial Logistic Regression For Vibrotactile Feedback In a Robotic Hand | İsmail Erbaş, David Alejandro Vargas, Burak Güçlü | Oral |
| 2. | 69 | MD II | Automatic Recognition of Numeric Values from the Monitor of Vital Signs | Petr Kudrna, Michaela Soukopová | Oral |
| 3. | 71 | MD II | Mechanical Test Lung Simulation Device | Iulian Constantin Coropeţchi, Andrei Ioan Indreş, Florin Moţa, Alexandru Vasile | Oral |
| 4. | 75 | MD II | Machine Learning Approaches based on Wearable Devices for Respiratory Diseases Diagnosis | Elena-Anca Paraschiv, Cătălina-Maria Rotaru | Oral |
| 5. | 77 | MD II | On Predictive Control Stabilization of Periodic Orbits in a Chaotic Mapping Describing Tumor Growth: A Numerical Analysis | Deleanu Dumitru, Constantin Louis Dumitrache | Poster |
| 6. | 78 | MD II | Extending the Range of Stability for the Periodic Orbits of a Prey – Predator Chaotic System | Deleanu Dumitru, Mariana Panaitescu | Poster |

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| 7. | 92 | MD II | A Novel Screening Tool to Identify Cancerous Skin Lesions in Biophotonics | Vikas Prasad, Shishir Prasad, Gautam Kumar Singh, Rai Sachindra Prasad | Oral |
| 8. | 93 | MD II | Freezing of Gait Detection for Parkinson's Disease Patients using Accelerometer Data: Case Study | Alexandra-Maria Tăuțan, Alexandra-Georgiana Andrei, Bogdan Ionescu | Oral |

Medical devices, Instrumentation, Modeling/Simulation, Robotics III - MD III
THURSDAY, 29 October, 14:00 – 16:00, Room III

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|----|-----|---------------|--|---|--------|
| 1. | 97 | MD III | Blood (RBC/HGB) Analysis Using Colorimetry | Lorant Andras Szolga, Florin Mudure | Oral |
| 2. | 98 | MD III | Nitrates and Nitrites Detection System in the Drinking Water Using UV Absorption | Lorant Andras Szolga, Teodor Radu Cilean | Oral |
| 3. | 99 | MD III | Arduino Based Fatigue Level Measurement in Muscular Activity using RMS Technique | Muhammad Ayaz, Muhammad Waqas Ayub, Imran Ahmad Qureshi | Oral |
| 4. | 114 | MD III | Analysis of Enzyme Attachment onto Electrode for Glycemic Measurement | Klara Fiedorova, Jan Kubicek, Matej Komar, Dominik Vilimek, Marek Penhaker, Martin Augustynek, Petr Kudrna, Ondrej Kejcar, Kamil Kuca | Poster |
| 5. | 125 | MD III | Vision-Based System for Driver Posture Tracking to Prevent Musculoskeletal Disorders | Gheorghe-Daniel Voinea, Florin Girbacia | Poster |
| 6. | 126 | MD III | Head Posture Monitor Based On 3 IMU Sensors: Consideration Toward Healthcare Application | Ionuț-Cristian Severin | Oral |
| 7. | 133 | MD III | LabVIEW and Android BCI Chat App Controlled By Voluntary Eye-Blinks Using NeuroSky Mindwave Mobile EEG Headset | Oana Andreea Rușanu, Luciana Cristea, Marius Cristian Luculescu | Oral |
| 8. | 9 | MD III | Increasing Autonomy In Health Care Management With Teal Organizations | Cristina Elena Mazilu, Radu Dobrescu | Oral |

Medical devices, Instrumentation, Modeling/Simulation, Robotics IV - MD IV
FRIDAY, 30 October, 9:00 – 11:00, Room III

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|----|-----|--------------|---|---|------|
| 1. | 134 | MD IV | Porous Trabecular Implants - Surface Analysis, Design and 3D Printing Prototyping | Dan Laptoiu, Ștefan Laptoiu, Marian Miculescu | Oral |
| 2. | 137 | MD IV | Microfluidic Channel from Gelatin Using Laser Printer | Chanin Lochotinunt, Thitirat Teechot, Suejit Pechprasarn, Treesukon Treebupachatsakul | Oral |
| 3. | 138 | MD IV | Network Centric Therapy for Machine Learning Classification of Hemiplegic Gait through Conformal Wearable and Wireless Inertial Sensors | Robert LeMoyne, Timothy Mastroianni | Oral |

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| 4. | 139 | MD IV | Diadochokinesia Distinction of Hemiparesis through Quantification of Conformal Wearable and Wireless Inertial Sensor with Machine Learning | Robert LeMoyne, Timothy Mastroianni | Oral |
| 5. | 140 | MD IV | Conformal Wearable and Wireless Inertial Sensor System for Machine Learning Classification of Hemiplegic Reduced Arm Swing | Robert LeMoyne, Timothy Mastroianni | Oral |
| 6. | 157 | MD IV | Virtual Proprioception for Eccentric Training through Conformal Wearable and Wireless Inertial Sensor Systems | Robert LeMoyne, Timothy Mastroianni | Oral |
| 7. | 142 | MD IV | Auto Focusing Ophthalmoscope for Smartphone | Nitipon Navaitthiporn, Preeyarat Rithcharung, Chuttima Wongpa, Treesukon Treebupachatsakul, Suejit Pechprasarn | Oral |
| 8. | 144 | MD IV | Program Extension for Data Analysis from Operating Rooms | Valeriia Trukhan, Lenka Horakova, Martin Rozanek | Oral |

| Medical devices, Instrumentation, Modeling/Simulation, Robotics V - MD V | | | | | |
|---|-----|-------------|--|---|--------|
| FRIDAY, 30 October, 13:45 – 15:45, Room I | | | | | |
| 1. | 152 | MD V | Using Eye-tracking Technologies in Vision Teachers' Work – a Norwegian Perspective | Qasim Ali, Ilona Heldal, Mads G. Eide, Carsten G. Helgesen, Gunvor Birkeland Wilhelmsen | Oral |
| 2. | 155 | MD V | State-of-the-art and Future Directions for Using Augmented Reality Head Mounted Displays for First Aid Live Training | Tord Hettervik Frøland, Ilona Heldal, Elisabeth Ersvær, Gry Sjøholt | Oral |
| 3. | 177 | MD V | A Numerical Model for the Assessment of the Transcranial Magnetic Stimulation | Alin A. Dobre, Alexandru M. Morega, Mihaela Morega | Oral |
| 4. | 156 | MD V | Accuracy Improvement for the Biochemistry Assays by Using Total Dissolved Solids and Turbidimetry Measurements | Manole-Ștefan Niculescu, Adriana Florescu, Pașca Sever | Oral |
| 5. | 167 | MD V | Computing the Caloric Expenditure During Kick Scooter Activity | George-Calin Seritan, Bogdan-Adrian Enache, Felix-Constantin Adochiei, Florin-Ciprian Argatu, Anrei-Sebastian Petrescu, Ioana-Raluca Adochiei, Daniel Iulian Voiculescu | Poster |
| 6. | 168 | MD V | Drivers' Drowsiness Detection and Warning Systems for Critical Infrastructures | Ioana-Raluca Adochiei, Oana-Isabela Știrbu, Narcis - Iulian Adochiei, Matei Pericle-Gabriel, Ciprian- Marius Larco, Stefan-Mircea Mustata, Diana Costin | Poster |
| 7. | 169 | MD V | Electronic System for Real-Time Indoor Air Quality Monitoring | Felix-Constantin Adochiei, Șerban - Teodor Nicolescu, Ioana-Raluca Adochiei, George-Calin Seritan, Bogdan-Adrian Enache, Florin-Ciprian Argatu, Diana Costin | Poster |
| 8. | 176 | MD V | Young's Modulus Evaluation for the Blood Vessel Walls using Intravascular Optical Coherence Tomography | A. Yu. Potlov, S.G. Proskurin, S.V. Frolov | Oral |

| Biomedical Signal Processing I – SP I | | | | | |
|---|----|-------------|--|--|--------|
| THURSDAY, 29 October, 9:30 – 11:30, Room III | | | | | |
| 1. | 44 | SP I | Study on How Catheter Ablation Affects Atrial Structures in Patients with Paroxysmal Atrial Fibrillation: The Case of the Coronary Sinus | Aikaterini Vraka, Vicente Bertomeu-Gonzalez, Joaquin Osca, Flavia Ravelli, Raul Alcaraz, Jose J. Rieta | Oral |
| 2. | 48 | SP I | OculusGraphy: Overview of Retinal Toxicity Methods Based on Biomedical Signals Analysis | Anton Yu. Dolganov, Aleksei E. Zhdanov, Evdochim Lucian, Xinqi Bao, Vasiliu I. Borisov, Victor N. Kazajkin, Vyacheslav O. Ponomarev, Alexander V. Lizunov, Leonid G. Dorosinskiy | Oral |
| 3. | 52 | SP I | Reliable Paroxysmal Atrial Fibrillation Substrate Assessment During Sinus Rhythm Through Optimal Estimation of Local Activation Waves Dynamics | Aikaterini Vraka, Fernando Hornero, Aurelio Quesada, Luca Faes, Raúl Alcaraz, José J. Rieta | Poster |
| 4. | 70 | SP I | A Straightforward Methodology to Distinguish Complex Fractionated Atrial Electrograms of Paroxysmal from Persistent Atrial Fibrillation | Emanuela Finotti, Edward J Ciaccio, Hasan Garan, Vicente Bertomeu-Gonzalez, Raul Alcaraz, Jose J Rieta | Poster |
| 5. | 74 | SP I | On the Classification of ECG Signals Subject to Various Degrees of Dimensionality Reduction | Monica Fira, Liviu Goras | Oral |
| 6. | 76 | SP I | Assessing the Stability of Complex Fractionated Atrial Electrograms for the Characterization of Atrial Substrate in Atrial Fibrillation | Emanuela Finotti, Edward J Ciaccio, Hasan Garan, Fernando Hornero, Raul Alcaraz, Jose J Rieta | Oral |
| 7. | 80 | SP I | Deep Learning Detection of Corrupted Segments in Recordings from Wearable Devices to Improve Atrial Fibrillation Screening | Alvaro Huerta, Arturo Martinez-Rodrigo, Miguel A. Arias, Phillip Langley, Jose J. Rieta, Raul Alcaraz | Oral |
| 8. | 79 | SP I | Comparison of Pre-Trained Deep Learning Algorithms for Quality Assessment of Electrocardiographic Recordings | Alvaro Huerta, Arturo Martinez-Rodrigo, Alberto Puchol, Marta I. Pachon, Jose J. Rieta, Raul Alcaraz | Poster |
| 9. | 82 | SP I | Refined Electrical Cardioversion Outcome Prediction with Bipolar Surface Standard Leads for Patients in Persistent Atrial Fibrillation | Eva M. Cirugeda, Sofia Calero, Aurelio Quesada, Victor M. Hidalgo, Jose J. Rieta, Raul Alcaraz | Poster |

| Biomedical Signal Processing II – SP II | | | | | |
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| THURSDAY, 29 October, 14:00 – 16:00, Room I | | | | | |
| 1. | 83 | SP II | Prediction of Early Failure in Electrical Cardioversion of Atrial Fibrillation Using Refined Multiscale Entropy | Eva M. Cirugeda, Sofia Calero, Victor M. Hidalgo, Jose Enero, Jose J. Rieta, Raul Alcaraz | Oral |
| 2. | 84 | SP II | Multidimensional Fibrillatory Waves Analysis for Improved Electrical Cardioversion Outcome Prediction in Persistent Atrial Fibrillation | Eva M. Cirugeda, Sofia Calero, Eva Plancha, Jose Enero, Jose J. Rieta, Raul Alcaraz | Poster |
| 3. | 85 | SP II | Time Variability of P-wave Features from the Preoperative Electrocardiogram Predicts Recurrence After Catheter Cryoablation of Atrial Fibrillation | Antonio Ruiz, Miguel A. Arias, Alberto Puchol, Marta I. Pachon, Jose J. Rieta, Raul Alcaraz | Oral |

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| 4. | 89 | SP II | An Experimental Review on Obstructive Sleep Apnea Detection Based on Heart Rate Variability and Machine Learning Techniques | Daniele Padovano, Arturo Martinez-Rodrigo, Jose Manuel Pastor, Jose Joaquin Rieta, Raul Alcaraz | Oral |
| 5. | 90 | SP II | Novel Time-Frequency Features of the Fibrillatory Waves Improve Catheter Ablation Outcome Prediction of Persistent Atrial Fibrillation | Pilar Escribano, Juan Ródenas, Miguel A. Arias, Philip Langley, José J. Rieta, Raúl Alcaraz | Oral |
| 6. | 91 | SP II | Atrial Fibrillation Surgical Ablation Long-term Outcome Prediction Just with One Lead of the Preoperative Surface Electrocardiogram | Manuel García, Pilar Escribano, Juan Ródenas, Miguel Martínez-Iniesta, Fernando Hornero, José J. Rieta, Raúl Alcaraz | Poster |
| 7. | 105 | SP II | Low Latency Automated Epileptic Seizure Detection: Individualized vs. Global Approaches | Alexe Ciurea, Cristina-Petruta Manoila, Alexandra-Maria Tautan, Bogdan Ionescu | Oral |
| 8. | 127 | SP II | OculusGraphy: Literature Review on Electrophysiological Research Methods in Ophthalmology and Electroretinograms Processing Using Wavelet Transform | Aleksei E. Zhdanov, Anton Yu. Dolganov, Victor N. Kazajkin, Vyacheslav O. Ponomarev, Alexander V. Lizunov, Vasili I. Borisov, Evdochim Lucian, Xinqi Bao, Leonid G. Dorosinskiy | Poster |
| 9. | 146 | SP II | Analysis of Some EMG Signals Using Multiresolution and Time-Frequency Techniques | Radu Matei, Daniela Matei | Oral |

| Medicine & Informatics I - MI I | | | | | |
|---|-----|-------------|---|---|--------|
| THURSDAY, 29 October, 14:00 – 16:00, Room II | | | | | |
| 1. | 172 | MI I | Cytokinesis–Block Micronucleus (CBMN) Assessment for Medical Personnel Occupationally Exposed to Ionizing Radiation | Diana Costin, Irina-Anca Popescu, Mirela-Mihaela Cîmpeanu | Oral |
| 2. | 14 | MI I | Dose-Dependent Effect of Angiotensin II on Uterine Smooth Muscle Motility | Roxana Mihaela Barbu, Georgiana Butura, Ioana Armasu, Bogdan Stana, Cristina Maria Gavrilescu, Walther Bild | Oral |
| 3. | 39 | MI I | Biomechanical Devices Used for the Treatment of Open Bite Malocclusion | Anistoroaei Daniela, Zegan Georgeta, Cernei Eduard Radu, Sodor-Botezatu Alina, Dascalu Cristina Gena, Golovcencu Loredana | Oral |
| 4. | 41 | MI I | Iloprost treatment in systemic sclerosis – effects on autonomic nervous system assessed through heart rate variability parameters | Elena Esmeralda Saramet, Doina-Clementina Cojocar, Sorin Ungurianu, Robert D. Negru | Poster |
| 5. | 43 | MI I | Relationship between Maxillary and Mandibular Base Length and Type of Malocclusion | Golovcencu Loredana, Zegan Georgeta, Sodor-Botezatu Alina, Cernei Eduard Radu, Dascalu Cristina Gena, Anistoroaei Daniela | Oral |
| 6. | 61 | MI I | Regression Study of Cephalometric Measurements Involved in Establishing Skeletal Classes | Zegan Georgeta, Anistoroaei Daniela, Golovcencu Loredana, Cernei Eduard Radu, Sodor-Botezatu Alina, Dascalu Cristina Gena | Oral |
| 7. | 94 | MI I | Rehabilitation in Fecal Incontinence in Geriatric Patients Using an Implantable Electrical Stimulator of the Sacral Nerves | Gabriel Statescu, Dragos Andrei Chiran, , Marius Constantin Moraru, Alin Horatiu Nedelcu, Simona Alice Partene-Vicleanu, Irina Mihaela Jemnoschi-Hreniuc, Dragos Valentin Crauciuc, Cristina Luca | Oral |

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| 8. | 95 | MI I | The Association between Psychiatric Diseases and Hormonal Dysfunctions | Roxana Mihaela Barbu, Ioana Armasu, Cristina Maria Gavrilescu, Cristina Oprisa, Catalin Pohaci-Antonesei, Bogdan Stana, Elena Cojocaru, Luiza Pohaci-Antonesei | Oral |
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| Medicine & Informatics II - MI II FRIDAY, 30 October, 13:45 – 15:45, Room II | | | | | |
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| 1. | 147 | MI II | A Systemic Review with Visualization using Adjutant: Application in Case of Febrile Seizure Research | Ionela Maniu, George Maniu | Poster |
| 2. | 158 | MI II | Cut-off Values for Biomarkers. A Review of Statistical Methods and an Application Study on the Association Between UTI and CRP in Febrile Seizure | Ionela Maniu, Raluca Costea, Bogdan Mihai Neamtu | Poster |
| 3. | 160 | MI II | Management of Urological Geriatric Patients in Hospital Healthcare | Adina Carmen Ilie, Anca Iuliana Pislaru, Ioana Alexandra Sandu, Ramona Stefaniu, Ioana Dana Alexa | Oral |
| 4. | 161 | MI II | Importance of CT – Scan in Fragility Fracture of the Pelvis | Ioana Dana Alexa, Bogdan Veliceasa, Ovidiu Alexa, Claudiu Carp, Alexandru Filip | Oral |
| 5. | 173 | MI II | 3D Prints are not a Panacea, but Definitely Support Orthopedic Surgery | Rodica Marinescu, Diana Popescu | Oral |
| 6. | 180 | MI II | Romanian Citizens' Attitudes and Opinions over the Course of the Covid-19 Pandemic | Daniel Boldureanu, Ioana Roman, Dragos Sardaru, Gabriela Gladiola Andruseac | Poster |

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| Medical Imaging and Image Processing I - MIIP I THURSDAY, 29 October, 11:45 – 13:45, Room III | | | | | |
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| 1. | 4 | MIIP I | Variational Quantum Denoising Technique for Medical Images | Tudor Barbu | Oral |
| 2. | 10 | MIIP I | Robust Technique to Detect COVID-19 using Chest X-ray Images | Asma Channa, Nirvana Popescu, Najeeb ur Rehman Malik | Oral |
| 3. | 16 | MIIP I | A hybrid approach for automatic breast cancer detection | Ahmed Bouziane, Sara Boumali, Nada Berkane and Fedoua Sabrine Guendouz | Oral |
| 4. | 17 | MIIP I | Two Steps Iris Recognition with SIFT Descriptors and Texture Features | Ioan Păvăloi, Anca Ignat | Oral |
| 5. | 22 | MIIP I | Animal Tracking Method Used in Neuroscience Experiments | Florin Rotaru, Silviu-Ioan Bejinariu, Hariton Costin, Ramona Luca, Cristina Diana Niță | Oral |
| 6. | 42 | MIIP I | A Novel Image Quality Assessment Index for Edge-Aware Noise Reduction in Low-Dose Fluoroscopy: Preliminary Results | Emilio Andreozzi, Maria Agnese Pirozzi,, Antonio Fratini, Giuseppe Cesarelli, Mario Cesarelli, Paolo Bifulco | Oral |

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| 7. | 62 | MIIP I | Automatic Detection of Infantile Hemangioma using Convolutional Neural Network Approach | Balazs Horvath, Cătălina Neghină, Andreea Griparis, Alina Sultana | Oral |
| 8. | 64 | MIIP I | Coronary Artery Identification on Echocardiograms for Kawasaki Disease Diagnosis | Tomas Mantecon, Elisa-Fernandez-Cooke, Capucine Bertrand, Carlos Grasa, Ana Barrios, Belen Toral, Leticia Albert, Pablo Rojo, Julian Cabrera | Oral |
| 9. | 67 | MIIP I | Objective Method for Colon Cleansing Evaluation Using Color CIELAB Features | Adrian Ciobanu, Mihaela Luca, Vasile Drug | Oral |

Medical Imaging and Image Processing II - MIIP II

FRIDAY, 30 October, 11:15 – 13:30, Room III

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|----|-----|----------------|--|---|------|
| 1. | 143 | MIIP II | A Supervised Generative Model for Efficient Rendering of Medical Volume Data | Marius Gavrilescu | Oral |
| 2. | 100 | MIIP II | Kidney Cancer Staging: Deep Learning Neural Network Based Approach | Nathan Hadjiyski | Oral |
| 3. | 120 | MIIP II | Deep Learning Based Human Locomotion Recognition in Video Sequences | Silviu-loan Bejinariu, Hariton Costin, Florin Rotaru, Ramona Luca, Camelia Lazăr | Oral |
| 4. | 122 | MIIP II | Physical Anthropomorphic Breast Phantoms for Xray Imaging Techniques: Manufacturing Approach | Kristina Bliznakova, Nikiforos Okkalidis, Antonio Sarno, Nikolay Dukov, Giovanni Mettivier, Paolo Russo, Zhivko Bliznakov | Oral |
| 5. | 123 | MIIP II | Diagnosis of Alzheimer’s Disease by Canonical Correlation Analysis Based Fusion of Multi-Modal Medical Images | Anahita Baninajjar, Hamid Soltanian-Zadeh, Sajad Rezaie, Ali-Reza Mohammadi-Nejad | Oral |
| 6. | 128 | MIIP II | A Review of Glaucoma Detection from Digital Fundus Images using Machine Learning Techniques | Ana-Maria Ștefan , Elena-Anca Paraschiv, Silvia Ovreiu , Elena Ovreiu | Oral |
| 7. | 131 | MIIP II | An Exploratory Study for Glaucoma Detection using Densely Connected Neural Networks | Silvia Ovreiu, Irina Cristescu, , Florian Balta, Elena Ovreiu | Oral |
| 8. | 136 | MIIP II | Pneumonia Detection on Chest X-Ray Images using Convolutional Neural Networks Designed for Resource Constrained Environments | Alin Cococi, Iulian Felea, Daniel Armanda, Radu Dogaru | Oral |

Telemedicine, e/p/m-health I - TM I

FRIDAY, 30 October, 9.00-11.00, Room IV

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| 1. | 13 | TM I | Mobile application for the monitoring and control of the diet in people with Anemia | Michael Cabanillas-Carbonell, Harold Ñahuiña-Balbuena, Jhan Soto-Justiniano, Oswaldo Casazola-Cruz | Oral |
| 2. | 21 | TM I | Mobile Application for Registration and Diagnosis of Respiratory Diseases: a Review of the Scientific Literature between 2010 and 2020 | Jazmin Flores-Rodriguez, Michael Cabanillas-Carbonell | Oral |
| 3. | 26 | TM I | A New Integrated Platform for Gathering and Managing Multivariable and Multisensor Data in Diabetes Clinical Studies | Cossu Luca, Cappon Giacomo, Sparacino Giovanni, Facchinetti Andrea | Oral |

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| 4. | 30 | TM I | A Framework for Internet of Things-Based Body Mass Index Estimation and Obesity Prediction | Chukwuemeka Obasi, Ijeoma Ndu, Ogechukwu Iloanusi | Oral |
| 5. | 32 | TM I | Gait Pattern Analysis with Accelerometer Data From a Smartphone in PAD Patients | Kassandra Renner, Vitor Filipe, Luis Torres Pereira, Ivone Silva, Hugo Paredes | Oral |
| 6. | 33 | TM I | eHealth Perspective Co-designed and Implemented with Romanian Elders for Independent Living | Cristian Vizitiu, Călin Bîră, Adrian Dinculescu, Mihai Mandu, Alexandru Nistorescu, Mihaela Marin | Oral |
| 7. | 57 | TM I | Benefits of Using Mobile Applications to Keep Under Control, Detect, Attenuate and Monitor COVID-19 Pandemic | Cristian Vladoescu, Marius Tunea, Loredana Stanciu | Poster |

| Telemedicine, e/p/m-health II - TM II | | | | | |
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| FRIDAY, 30 October, 13.45-15.45, Room IV | | | | | |
| 1. | 60 | TM II | Assisted Environment Comprehension using a Mobile Terminal Application | George Nitroi, Corneliu Florea, Mihai Badea | Oral |
| 2. | 121 | TM II | Mesh Networks with Interconnected Li-Fi and Wi-Fi Communications Applied to Telepresence Robots for Medical Emergency Situations | Paul Țoța, Mircea-F. Vaida, Ligia Chiorean | Oral |
| 3. | 124 | TM II | Improved Secure Internet of Things System using Web Services and Low Power Single-board Computers | Ciubotaru Bogdan-Iulian, Sasu Vasiliică-Gabriel, Mitrea Dan Alexandru, Goga Nicolae, Vasilățeanu Andrei | Oral |
| 4. | 129 | TM II | Security and Privacy Risks for Remote Healthcare Monitoring Systems | Marilena Ianculescu, Dora Coardoș, Ovidiu Bica, Victor Vevera | Oral |
| 5. | 130 | TM II | Low Cost and Integrable Healthcare Services Using VoIP for Remote Patient Monitoring | Mihai Oproiu, Cristian Mușuroi, Marius Volmer | Oral |
| 6. | 135 | TM II | Growing the E-Health Business with Personalised Models for a Non-Invasive Monitoring and Health Assessment System Assisting Elderly People | Gabriela Florescu, Valentin Florescu | Poster |
| 7. | 145 | TM II | A Digital Services Centre for Improving Home Assistance | Sorin Pușcoci, Virginia Săndulescu, Monica Petre, Alexandru Gîrlea, Viorel Bota | Oral |
| 8. | 165 | TM II | Development of a Wearable Device for Monitoring People with Heart Problems | Cristina-Daniela Enache, Simona Gabriela Tudorache, Coriolan Emil Ulmeanu, Daniel Iulian Voiculescu, Cristina-Adriana Becheanu, Andreea Daniela Florea | Poster |