

EHB 2013 Conference Programme

Wednesday, November 20-th, 2013

19⁰⁰ – Welcome cocktail – Traian Restaurant, The Union Square (Piata Unirii)

Thursday, November 21-st, 2013

8⁰⁰ – 9⁰⁰ Participants registration

9⁰⁰ – 10⁴⁵ Conference opening and invited plenary lectures (I), 'Emil Palade' Auditorium (Room A): prof. N. Pallikarakis, Mr. Steli Loznen

10⁴⁵ – 11⁰⁰ Coffee break

11⁰⁰ – 13³⁰ Dedicated Session: Biosignal processing (Room A)

Chairs: **Rangaraj Rangayyan** – Schulich School of Engineering, University of Calgary, Canada
Anca Lazăr – Grigore T. Popa University of Medicine and Pharmacy, Iasi, Faculty of Medical Bioengineering, Iasi
Radu Negoescu – Public Health Institute of Bucharest, Romania

- 1. Fetal Heart Rate Variability Study with Recurrence Plot Analysis, Bogdan Hurezeanu, G.Mihaela Ungureanu, Angela Digulescu, Alexandru Serbanescu, Hariton Costin, Rodica Strungaru - Id:19**
- 2. Time-Variant Connectivity Analysis Between EEG Signals as Well as Between EEG-Envelopes and Heart Rate Variability Before, During and After Epileptic Seizure: A Methodological Study, Diana Piper, Karin Schiecke, Britta Pester, Lutz Leistriz, Martha Feucht, Franz Benninger, Rodica Strungaru, Mihaela Ungureanu, Herbert Witte - Id:75**
- 3. Reflection Wave Analysis Based on Ensemble Empirical Mode Decomposition, Sheng-Chi Kao, Chia-Chi Chang, Hung-Yi Hsu, Tzu-Chien Hsiao - Id:80**
- 4. The P300 Event-related Potential Detection - a Morphological Approach, Anca Mihaela Lazar, Radu Ursulean - Id:90**
- 5. Perceptual Details of Depression Detection in Romanian Language, Ioan Pavaloi, Elena Musca - Id:131**
- 6. Frequency Domain and Symbolic Dynamics Analysis for the Study Of Cardiac Pathologies, Maria Romano, Mario Cesarelli, Luigi Iuppariello - Id:144**

7. **Shuffled Data in the Investigation Of Complex Dynamics of the Neuromotor Saccadic System**, Corina Astefanoaei, Elena Pretegiani, Lance Optican, Dorina Creanga, Alessandra Rufa - Id:177
8. **Spline Interpolation to Evaluate Foveation Parameters in Congenital Nistagmus Recordings**, Mario Cesarelli, Fabrizio Clemente, Antonio Fratini - Id:189
9. **Changed Neuronal Coupling in Schizophrenia**, Felix-Constantin Adochiei, Ioana-Raluca Edu, Hariton Costin, K.J. Baer, M. Bolz, Andreas Voss - Id:233
10. **QT Interval Variability Is It a Measure of Sympathetic Drive to Ventricles in Humans? Nevermind, yet Certainly a Meaningful Correlate if Appropriately Handled**, Radu Negoescu - Id:2013

POSTERS

11. **Symbolic Dynamics in CTG Monitoring**, Maria Romano, Gianni D'Addio, Paolo Bifulco - PId:47
12. **G-code Programming Applied in Human Voice Frequency Analysis**, Diana Cazangiu, Ileana Constanta Rosca - PId:113
13. **Use of Feature Extraction Algorithm in Real Time Echo Detection Application Development**, Diana Cazangiu, Ileana Constanta Rosca - PId:114
14. **Fourier and Wavelet Transformation of Eye Movement Temporal Series**, Corina Astefanoaei, Elena Pretegiani, Lance Optican, Dorina Creanga, Alessandra Rufa - PId:176
15. **Emotion Recognition in Romanian Language using LPC Features**, Silvia Monica Feraru, Marius Dan Zbancioc - PId:195
16. **Increased QT Variability Index as a Marker for a Cardiac Autonomic Dysregulation in Schizophrenia**, Hariton Costin, Steffen Schulz, Karl-Jürgen Bär, Ioana Alexa, Felix Adochiei, Andreas Voss - PId:223

11³⁰ – 13¹⁵ Dedicated session: Hospital information systems, Medical records, Healthcare networks, 'Petrovanu' Hall - Anatomy Building (Room B)

Chairs: **Gabriel Dimitriu** - Grigore T. Popa University of Medicine and Pharmacy, Iasi, Romania
Dragoș Arotăriței – Grigore T. Popa University of Medicine and Pharmacy, Faculty of Medical Bioengineering, Iasi, Romania

1. **Improving Recall of k-Nearest Neighbor Algorithm for Classes of Uneven Size**, Vasile Lucian Boiculese, Gabriel Dimitriu, Mihaela Moscalu - Id:79
2. **An Analysis of Variance Type Method to Describe and Compare Steady States in Clinical Data**, Dammon Ziaian, Stefan Zimmermann, Lutz Duembgen, Astrid E. Berggreen, Martin Grossherr, Hartmut Gehring, Andreas Hengstenberg - Id:94
3. **Cloud Computing for Improved Healthcare: Techniques, Potential and Challenges**, Roma Chauhan, Amit Kumar - Id:102

4. **Statistical Methods for Variables Space Reduction in Cephalometric Studies**, *Cristina Gena Dascalu, Georgeta Zegan - Id:121*
5. **Assisted Prescription Based on Successful Treatments**, *Oana Sorina Lupse, Lacramioara Stoicu-Tivadar, Cristina Golie - Id:160*
6. **Secondary Uses of EHR Systems: A Feasibility Study**, *Fabrizio Pecoraro, Daniela Luzi, Fabrizio L. Ricci - Id:175*
7. **ICT Solution for Assisted Diagnosis Based on Monitoring in Cardiology Departments**, *Mihaela Marcella Crisan-Vida, Andrada Marcovici, Lacramioara Stoicu-Tivadar - Id:227*

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8. **Epi InfoTM - An Useful Tool in Epidemiological Investigations and Statistical Analysis of Hip Fractures**, *Ovidiu Alexa, Bogdan Veliceasa, Ioan Sorin Stratulat, Doina Azoicai - PId:59*
9. **The Integration of a Medical Team Through an Online Medical Platform for the Supervision of Bronchial Asthma**, *Cristina Elena Singer, Gindrovel Dumitra, Mihaela Baritz - PId:106*
10. **Enterprise Architecture for e-Health System**, *Natalia Costeschi, Mihnea Alexandru Moisescu, Ioan Stefan Sacala, Calin Aurel Munteanu, Aurelian Mihai Stanescu - PId:135*
11. **Medical Services Modelling Based on Business Process Model Framework**, *Natalia Costeschi, Mihnea Alexandru Moisescu, Ioan Stefan Sacala, Calin Aurel Munteanu, Aurelian Mihai Stanescu - PId:155*

13³⁰ – 15³⁰ Lunch break; Traian restaurant

15³⁰ – 18⁰⁰ Dedicated session: e/m/p-Health, Telemedicine, Wearable systems (Room D – Mihai Duca Hall, near Anatomy Building)

Chairs: **Hariton Costin** – Grigore T. Popa University of Medicine and Pharmacy, Iasi, Faculty of Medical Bioengineering, Iasi, Romania
Octavian Postolache – Institute of Telecommunications, Setubal, Portugal
Victor Şontea – Technical University of Moldova, Kishinev

1. **Smart Sensors and Pervasive Computing for Healthcare**, *Octavian Postolache, Mario Ribeiro, Pedro Silva Girão, Gabriela Postolache - Id:156*
2. **Textile-, Conductive Paint-Based Wearable Devices for Physical Activity Monitoring**, *Horia-Nicolai Teodorescu - Id:11*
3. **A Web Tool for an Open and Linked Health Ecosystem**, *Stella Christopoulou, Theodore Kotsilieris, Nikoletta Dimopoulou - Id:15*

- 4. First Results about the Use of a Patient Portal by People with Diabetes in a Rural Area,** *Dimitris Manousos, Franco Chiarugi, Vasilis Kontogiannis, Ioannis Karatzanis, Angelina Kouroubali, Emmanouil G. Spanakis, Kostas Marias, Joanna Fursse, Shona Thomson, Russell W. Jones, Vivek Verma, Malcolm Clarke - Id:48*
- 5. A Novel Solution for Tasks Management of Critical Telemedicine Mobile Equipment,** *Vlad Valeanu, Vladimir Vasiliu, Mihaela Marin, Cristian Vizitiu, Alexandru Nistorescu - Id:50*
- 6. Portable Mobile Real Time Oxygen Monitoring Auto-Ventilation System,** *Esuabom Dijemeni, Robert Dickinson - Id:56*
- 7. Intelligent Clothes with a Network of Painted Sensors,** *Marius Hagan, Horia-Nicolai Teodorescu - Id:63*
- 8. Developing a Wireless Electrocardiography Device for Mobile and At-Home Healthcare Applications,** *Lucian Cojocariu, Mihai Dimian, Marius Prelipceanu - Id:76*
- 9. Energy-aware Routing for e-Health Wireless Sensor Networks,** *Nicolae Botezatu, Robert Lupu, Andrei Stan - Id:116*
- 10. Real Time Health Monitoring and Wireless Transmission: A μ Controller Application to Improve Human Medical Needs,** *Eriola Shanko, Michalis Papoutsidakis - Id:122*

POSTERS

- 11. mHealth Approach In Resource Poor Settings,** *Usman Iqbal, Shabbir Syed-Abdul, Hsu-Tien Wan, Yu-Chuan (Jack) Li - PId:25*
- 12. Implementation of a Telemedicine System for Optimal on Site Medical Response in Case of Disasters and for Emergency Situations Management,** *Ciprian Lupu, Vasile Olaru, Dorel Bivolau, Andreea Udrea - PId:125*
- 13. Actual Portable Devices as Base for Telemedicine and E-Health: Research and Case Study Application,** *Ciprian Lupu, Cosmin Mihai - PId:126*
- 14. An Overview of Remote Patient Monitoring Applications Market Using WMTS and WLAN Implementations for Reliable Telemedicine Systems,** *Irina Tache, Constantin-Eugen Cornel, Ciprian Lupu - PId:148*
- 15. A Structured Approach of the Internet-of-Things eHealth Use Cases,** *Elena Poenaru, Calin Poenaru - PId:179*
- 16. Wireless Skin Temperature Measurement System for Circadian Rhythm Monitoring,** *Cristian Rotariu, Hariton Costin, Alexandru Pasarica, Ciprian Cristea, Bogdan Dionisie - PId:234*

15³⁰–18⁰⁰ Dedicated session: Medical devices, Measurements, Instrumentation, Medical Physics (I) (Room B - 'Anatomy' Hall)

Chairs: Radu Ciupa – Technical University of Cluj – Napoca, Romania

Alexandru Morega – POLITEHNICA University of Bucharest, Romania

Radu Ciorap – Grigore T. Popa University of Medicine and Pharmacy, Iasi, Faculty of Medical Bioengineering, Iasi, Romania

- 1. Evaluation of Emotional Influence on EEG Activity in the Frontal Lobes,** *Bogdan-Andrei Tabacaru – Id:17*
- 2. Important Role of Radiation Protection in Specific Applications of X-Ray and Radionuclides in Bioengineering,** *Jozef Sabol, Rebeka Ralbovská, Jana Hudzietzová – Id:27*
- 3. The Accuracy of Manual and Digital Measurements on Conventional Lateral Cephalograms,** *Georgeta Zegan, Cristina Gena Dascalu – Id:38*
- 4. Improved Method to Perform FES&BCI Based Rehabilitation,** *Danut Irimia, Marian Silviu Poboroniuc, Rupert Ortner – Id:58*
- 5. Monitoring of Pulmonary Embolism using Electrical Impedance Tomography: a Case Study,** *Vladimir Sobota, Jan Suchomel - Id:93*
- 6. EHR-Centric Integration of Health Information Systems,** *Luca Dan Șerbănați, Fabrizio L. Ricci – Id:97*
- 7. Inspiratory and Expiratory Flow Rates Determination,** *Bogdan Marius Ciurea, Sorin Kostrakievici, Mircea Iulian Nistor - Id:109*
- 8. Eye Tracking Mouse for Human Computer Interaction,** *Robert Gabriel Lupu, Florina Ungureanu, Valentin Siriteanu - Id:112*
- 9. Use of Electrical Impedance Tomography for Quantitative Evaluation of Disability Level of Bronchopulmonary Dysplasia,** *Kristyna Buzkova, Jan Suchomel - Id:187*

POSTERS

- 10. Noninvasive Assessment of Breast Pathologies During Pregnancy,** *Silvana Ojica, Anca Ifemie - PId:120*
- 11. Fall Detection Algorithm Based on Triaxial Accelerometer Data,** *Mihail Dumitrache, Sever Pasca - PId:143*
- 12. Noninvasive Cuffless Estimation of Blood Pressure using Photoplethysmography without Electrocardiograph Measurement,** *Rohan Samria, Ridhi Jain, Ankita Jha, Sandeep Saini, Shubhajit Chowdhury - PId:151*
- 13. Considerations about the Influence of Colloidal Solutions on Human Energy Informational Field. Part I: Testing Basic Method,** *Ioan Curta, Ileana Constanta Rosca, Zoltan Marosy, Alexandru Catalin Micu, Ionel Mohirta - PId:152*
- 14. Considerations about the Influence of Colloidal Solutions on Human Energy Informational Field. Part II: Testing with GDV Compact Camera,** *Ioan Curta, Ileana Constanta Rosca, Zoltan Marosy, Alexandru Catalin Micu, Ionel Mohirta - PId:153*

- 15. Concentric Bipolar Active Electrode for Noninvasive Biopotential Measurement in Autonomic Nervous System**, *Shogo Hasegawa, Yuto Aoki, Yutaka Fukuoka, Gert Cauwenberghs, Shigeo Wada, Yuuki Shimizu, Naoki Nishimura, Satoshi Iwase, Akinori Ueno - PId:159*
- 16. Handheld Surgical Drill With Integrated Thrust Force Recognition**, *Markus Hessinger, Jürgen Hielscher, Peter Pott, Roland Werthschützky - PId:182*
- 17. The Importance of Measuring Electrical Impedance in the Analysis of Human Physiological Parameters**, *Calin Corciova, Doru-Ionut Andritoi, Catalina Luca, Radu Ciorap - PId:228*

19⁰⁰ – Social program

Friday, November 22-nd, 2013

8³⁰ – 10⁰⁰ Dedicated Poster Session

10⁰⁰ – 11⁰⁰ Invited plenary lectures (II) (Room A): prof. A. Morega, prof. R. Rangayyan

11⁰⁰ – 11¹⁵ Coffee break

11¹⁵–13⁰⁰ Dedicated session: Medical devices, Measurements, Instrumentation, Medical Physics (II) (Room A)

Chairs: **Sever Pașca** – POLITEHNICA University of Bucharest, Romania
Fabrizio Clemente – National Research Council, Roma, Italy
Călin Corciovă – Grigore T. Popa University of Medicine and Pharmacy, Faculty of Medical Bioengineering, Iasi, Romania

- 1. A New Approach for Healthcare Monitoring**, *Sever Pasca, Marius Rosu - Id:171*
- 2. Spectral Control of Light Action on Biological Particles inside Soft Biological Tissue**, *Vladimir Barun, Serghei Dick, Victor Sontea, Alexandr Seryakov, Konstantin Yashin - Id:110*
- 3. Effects of the Low Level Light therapy on Skin Wound using LED**, *Victor Sontea, Ion Pocaznoi, Denis Furtuna, Alexandr Seryakov, Vladimir Barun - Id:111*
- 4. Syncope Detection Electronic System**, *Lidia Dobrescu, Radu Vadim Caramaliu, Silviu Stanciu - Id:136*

5. **A Concise Index from Electrical Impedance Spectroscopy Measurements to Characterize Muscular Tissue**, *Fabrizio Clemente, Maria Romano, Giovanni D' Angelo - Id:145*
6. **The Heating Level Analysis of Facial Tissue During the Exposure of Electromagnetic Radiations Provided from a Mobile Phone**, *Loredana Ungureanu, Luciana Cristea - Id:245*
7. **Clinical Intravenous Applications by Neonates: Variable Pressure and the EN 1615 Guideline PN Nutrition**, *Stanny Britting - Id:2001*

11³⁰–13¹⁵ Dedicated session: Decision support systems, Artificial Intelligence in Medicine, Bioinformatics (Room B – 'Anatomy' Hall)

Chairs: **Svetlana Cojocar** – Academy of Sciences of Moldova, Kishinev
Mihail Popescu – University of Missouri-Columbia, USA
Gladiola Andrusac – Grigore T. Popa University of Medicine and Pharmacy, Faculty of Medical Bioengineering, Iasi, Romania

1. **The Evaluation of DSS SonaRes - the Initial Results**, *Svetlana Cojocar, Constantin Gaindric, Serghei Puiu - Id:133*
2. **Distances and Numerical Similarities in DNA Repeats Detection**, *Petre G. Pop, Mircea F. Vaida - Id:16*
3. **Pattern Recognition Techniques Applied for the Detection of Amphetamines Based on Infrared Laser Spectroscopy**, *Stefanut Ciochina, Mirela Praisler - Id:41*
4. **Evaluation of Predictive Learners for Cancer Incidence and Mortality**, *Smita Kachroo, William Melek, Joseph Kurian - Id:61*
5. **Detection of Abnormal Sensor Patterns in Eldercare**, *Zahra Hajihashemi, Mihail Popescu - Id:62*
6. **Virtual Agent Organizations Supporting Disease Specific Communities**, *Andrei Vasilateanu, Alina Margarit, Ana Cristina Radulescu - Id:78*
7. **Computer Assisted Osteosclerosis Detection Using Fuzzy Inference System**, *Norbert Gal, Diana Andrei, Vasile Stoicu-Tivadar, Dan Surducan, Dan Ion Nemes, Emanuela Georgiana Nadasan - Id:158*

POSTERS

8. **Medical Signal Processing by Means of Immune Algorithms**, *Hariton Costin, Silviu Bejinariu - PId:6*
9. **Further Exploration of the Hybrid Fuzzy-Rough Dendritic Cell Immune Classifier**, *Zeineb Chelly, Zied Elouedi - PId:18*
10. **PCA Evaluation of Quantum Cascade Lasers as Radiation Sources for Portable IRAS Systems Detecting Amphetamines**, *Mirela Praisler, Stefanut Ciochina - PId:42*
11. **Prediction Potential of Different Handwriting Tasks for Diagnosis of Parkinson's Disease**, *Peter Drotár, Jiří Mekyska, Irena Rektorová, Lucia Masarová, Zdeněk Smékal, Marcos Faundez-Zanuy - PId:51*

12. **Online Monitoring of the Artificial Pancreas**, *Luis Omar Avila, Ernesto Carlos Martinez - PId:137*
13. **Nonlinear Dynamics, Artificial Neural Networks and Neuro-Fuzzy Classifier for Automatic Assessing of Tremor Severity**, *Oana Geman - PId:157*
14. **A Markov Model for Analyzing the Health Status of the Romanian Population until 2020**, *Oana Geman - PId:170*

13³⁰ – 15³⁰ Lunch break; Traian restaurant

15³⁰ – 18⁰⁰ Dedicated Session: *Biomaterials and Biotechnologies (Room A- 'Emil Palade' Auditorium)*

Chairs: **Jacques Desbrieres** – University of Pau, France

Liliana Verestiuc – Grigore T. Popa University of Medicine and Pharmacy, Faculty of Medical Bioengineering, Iasi

Anca Galaction – Grigore T. Popa University of Medicine and Pharmacy, Faculty of Medical Bioengineering, Iasi

1. **Original Concept to Produce Low (non)Toxic Biomaterials for Advanced Drug Delivery**, *Jacques Desbrieres, M. Popa, Catalina Peptu*
2. **Collagen Structures in Pericardium and Aortic Heart Valves and Their Significance for Tissue Engineering**, *Elena Filova, Zuzana Burdikova, Lubica Stankova, Daniel Hadraba, Hynek Chlup, Eva Gultova Jan Vesely, Lukas Horny, Zdenek Svindrych, Frantisek Straka, David Schornik, Rudolf Zitny, Jan Pirk, Lucie Bacakova - Id:55*
3. **Electrochemical Deposition of Hydroxyapatite (HA) on Titanium Alloys for the Implant Surface Bio-functionalization**, *Ionut Stirbu, Petrica Vizureanu, Mihaela Ratoi, Nicanor Cimpoesu - Id:88*
4. **Influence of Contact Frequencies on Corrosion Behavior of Ti-6Al-4V Alloy during Fretting in Physiological Solution**, *Lidia Benea, Eliza Danaila, Jean Pierre Celis - Id:98*
5. **Surface Investigations of Vacuum Teflon Thin Films Deposited on Different Materials Suitable for Bioengineering and Medical Applications**, *Marius Prelipceanu, Adrian Graur, Lucian-Nicolae Cojocariu - Id:99*
6. **Active Thermography Method Using an CO₂ Laser for Thermal Excitation, Applied to Defect Detection in Bioceramic Materials**, *Razvan Gabriel Dragan, Ileana-Constanta Rosca, Sam-Ang Keo, Florin Breaban - Id:104*
7. **Designing Polymer-based Immunosensing Platforms for Cancer Biomarker Detection**, *Anca Florea, Mihaela Tertis, Alexandru Cristea, Robert Sandulescu, Cecilia Cristea - Id:115*
8. **Fractionation of Carboxylic Acids Mixture by Succinic Acid Fermentation Using**, *Madalina Postaru, Lenuta Kloetzer, Corina Ciobanu, Anca-Irina Galaction, Dan Cascaval - Id:172*
9. **Automated Dynamic Bioreactor for 2D Endothelial Structures**, *Roman Matejka, Jozef Rosina, Elena Filova, Jana Havlikova, Jaroslav Chlupac, Jana Stepanovska - Id:196*

- 10. Functionalized Superparamagnetic Nanoparticles as Versatile Carriers for Targeted Antioxidant Enzyme Therapy**, Vera Balan, Maria Butnaru, Ovidiu Bredetean, Lenuta Profire, Florentina Geanina Lupascu, Aurica Chiriac, Loredana Nita, Iordana Neamtu, Liliana Verestiuc - Id:224

POSTERS

- 11. Bending-Rotation Tests of NiTi Superelastic Wires Used in Medical Applications**, Lucian Bogdan, Cristian Nes, Angelica Enkelhardt, Nicolae Faur, Jenel Marian Patrascu - PId:23
- 12. Monitoring the Thermal Effects in the Magnetic Hyperthermia**, Iordana Astefanoaei, Ioan Dumitru, Alexandru Stancu, Horia Chiriac - PId:66
- 13. Obtaining Hydroxyapatite (HA) by Sol-Gel Method on Ti6Al4V Alloys Aiming the Implant's Surface Bio-Functionalization**, Ionut Stirbu, Petrica Vizureanu, Mihaela Ratoj, Ramona Cimpoesu - PId:89
- 14. Effect of Electroplating Parameters on UHMWPE Co-Deposition into Cobalt Matrix**, Marilena Mardare - Pralea, Lidia Benea, Iulian Bounegru, Eliza Danaila - PId:100
- 15. Active Thermography Based on the Heat Transfer Process in Determining the Influence of Micro Defects in Bio-ceramic Materials Surface**, Razvan Gabriel Dragan, Ileana-Constanta Rosca, Franck Brachelet, Florin Breaban- PId:105
- 16. Antioxidant Properties of Halotolerant Penicillium Vhrysogenum var. Chrysogenum Secondary Metabolites**, Zerrin Canturk, Miris Dikmen, Nilgun Ozturk, Ercin Kocabiyik, Semra Ilhan- PId:149
- 17. Importance of Phytosterols and their Determination in Herbal Medicines**, Bianca Ivanescu, Laurian Vlase, Andreia Corciova- PId:166
- 18. Interfacial Mass Transfer in Direct Extraction of Propionic Acid from Propionibacterium acidipropionici Broths with Tri-n-Octylamine**, Alexandra Carlescu, Alexandra Cristina Blaga, Marius Turnea, Amalia Bompa, Dan Cascaval, Anca irina Galaction - PId:167
- 19. Comparative Studies on Oxygen Mass Transfer in Different Fermentation Broths in Presence of Oxygen Vectors**, Ramona Matran, Maria Filibiu, Alexandra-Cristina Blaga, Marius Turnea, Anca-Irina Galaction, Dan Cascaval - PId:173
- 20. Use of Bacterial Cellulose-Glycerol-Poly(vinyl alcohol) Composites in Drug Release**, Ramona-Daniela Pavaloiu, Tanase Dobre, Cristina Hlevca - PId:193
- 21. Antiangiogenic and Antiproliferative Effects of Halotolerant Penicillium chrysogenum var. Chrysogenum on the Human Umbilical Vein Endothelial Cells (HUVECs)**, Miriş Dikmen, Zerrin Canturk, Selin Engur, Buket Demirtaş, Semra Ilhan - PId:205
- 22. Synthesis and Characterization of Magnetic Nanoparticles Based on N-Palmitoyl-Chitosan with Potential Applications in Cancer Theranostics**, Vera Balan, Maria Butnaru, Liliana Verestiuc- PId:211
- 23. Compartmental Analysis Using Electrical Impedance Applied for Real Fermentation Broths**, Marius Turnea, Calin Corciova, Doru Andrito, Mariana Rotariu - PId:220
- 24. Novel semi-Interpenetrating Polymer Networks Based on Functionalized Chitosan and Poly(acrylic acid) with Potential Applications in Soft Tissue Engineering**, Alina Gabriela Rusu, Marcel Ionel Popa, Maria Butnaru, Liliana Verestiuc - PId:229

- 25. Biocompatible composites based on mixtures of biopolymers (chitosan and hyaluronic acid) and calcium phosphate for bone tissue engineering, Andreea Marian, Florina Daniela Ivan, Maria Butnaru, Liliana Verestiuc - PId:230**
- 26. Degradation Mechanisms and Surface Analysis of the Polyethylene Components of Total Knee Prostheses, Iulian Antoniac, Marius Niculescu, Diana Popescu- PId:249**
- 27.The Failure Mechanism in the Case of One Customized Implant Used for a Tumoral Reconstruction of the Femur, Iulian Antoniac, Marius Niculescu, Diana Popescu- PId:250**

15³⁰–18⁰⁰ Dedicated session: *Medical imaging and image processing(I) (Room B – 'Anatomy' Hall)*

Chairs: Horia-Nicolai Teodorescu – Gh. Asachi Technical University of Iasi, Romania
 Constantin Vertan – POLITEHNICA University of Bucharest, Romania
 Mircea-Florin Vaida – Technical University of Cluj-Napoca, Romania

- 1. Software Tools for Medical Diagnosis Support Automatic Interpretation of Digital X-ray Films, Constantin Vertan, Corneliu Florea, Laura Florea, Alina Sultana - Id:71**
- 2. Adaptive Beamforming with Coded Excitation in Ultrasound Imaging, Teodora Szasz, Mircea-Florin Vaida - Id:20**
- 3. Introducing an Acceptability Metric for Image Compression in PACS - a Model, Dinu Dragan, Dragan Ivetic, Veljko Petrovic - Id:31**
- 4. Pseudo-Granulometry and Morphological Covariance for Color Psoriasis Image Segmentation, Alexandru Caliman, Mihai Ivanovici, Radu-Mihai Coliban - Id:69**
- 5. Design and Analysis of Contour-Independent Features for Classification of Mammographic Lesions, Paola Casti, Arianna Mencattini, Marcello Salmeri, Antonietta Ancona, Fabio Mangieri, Maria Luisa Pepe, Rangaraj Mandayam Rangayyan - Id:77**
- 6. A Computer Vision System that Ensure the Autonomous Navigation of Blind People, Ruxandra Georgiana Tapu, Bogdan Cosmin Mocanu, Titus Zaharia - Id:138**

POSTERS

- 7. Digital Templating in Surgical Treatment of Trochanteric Fractures, Ovidiu Alexa, Bogdan Veliceasa, Diana Cimpoesu - PId:54**
- 8. Content-Based Image Retrieval using Local Binary Pattern, Intensity Histogram, and Color Coherence Vector, Oana Astrid Vatamanu, Mirela Frandes, Mihaela Ionescu, Simona Apostol - PId:72**
- 9. Comparative Study of Contour Detection Methods for Intestinal Sessile Polyps, Mihaela Ionescu, Oana Astrid Vatamanu, Cristin Constantin Vere, Simona Apostol, Mirela Frandes, Marius Eugen Ciurea, Gheorghe Ioan Mihalas - PId:81**
- 10. Comparison of Low Computational Complexity Filters Suitable for Real-Time Fluoroscopy Image Denoising, Paolo Bifulco, Maria Romano, Luigi Iuppariello - PId:146**

- 11. Implementation of Medical Image Processing Algorithm on Reconfigurable Hardware,** *Iuliana Chiuchisan - PId:178*
- 12. A New FPGA-based Real-Time Configurable System for Medical Image Processing,** *Iuliana Chiuchisan - PId:180*
- 13. Comparison of 2D and 3D Total Variation Minimization Methods in Breast Tomosynthesis Imaging,** *Metin Ertas, Isa Yildirim, Mustafa Kamasak, Aydin Akan - PId:181*
- 14. Evaluating the Effect of Acquisition Parameters in Digital Breast Tomosynthesis System with Iterative Reconstruction Methods on Image Quality,** *Saeed Seyyedi, Isa Yildirim, Mustafa Kamasak - PId:197*

11⁰⁰ – 13³⁰ Dedicated Session: *Bioengineering in dental and oral health, Faculty of Medical Bioengineering, M. Kogalniceanu str. 9-13, Room P7 (ground floor)*

Chairs: **Norina Forna** – Grigore T. Popa University of Medicine and Pharmacy, Iasi, Romania
Magda Antohe – Grigore T. Popa University of Medicine and Pharmacy, Iasi, Romania

- 1. Features of the Implanto-Prosthetic Treatment with Early Functional Loading,** *Svetlana Melnic - Id:67*
- 2. Electronic and Software Aspects of an Automatic Periodontal Probe,** *Bogdan - Marius Ciurea, Mircea Iulian Nistor, Sorin Kostrakievici, Emilia - Mihaela Buzatu, Silvia - Nicoleta Miu, Doina Bucur - Id:130*
- 3. A Comparative Study on the Repeatability and Reliability Between the Manual and Computer-Assisted Cephalometric Measurement,** *Mihnea Iacob, Danut Cozma, Irina Nicoleta Zetu - Id:134*
- 4. Functional Surface Area in Biomechanical Integration of Endosseous Implant,** *Nicoleta Ioanid, Gavril Musca - Id:183*
- 5. The Effects of LED Photo-Activated Disinfection On Periodontal Clinical Parameters In Patients With Chronic Periodontitis And Osteoporosis,** *Irina-Georgeta Ursarescu, Sorina Solomon, Liliana Pasarin, Monica Scutaru, Alexandra Martu, Radu-Madalin Boatca, Silvia Martu - Id:192*
- 6. Role of TLR4 and IL1A Polymorphisms in Generalized Aggressive Periodontitis in a Romanian Population,** *Teodora Virginia Barnea (Popa), Marcel Costuleanu - Id:206*

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- 7. The Antimicrobial Activity of Photodynamic Therapy Against Streptococci Species in Dental Biofilm Using Different Photosensitizers: An in Vitro Study,** *Aurelia Spinei, Iurie Spinei - PId:86*
- 8. Characteristics of Structural and Chemical Composition of Dental Enamel in Children with Severe Neuromotor Disabilities,** *Aurelia Spinei - PId:87*

9. Crystallogenesis of Oral Fluid in the Diagnosis of Dental Caries and Inflammatory Periodontal Diseases, Spinei Iurie, Spinei Aurelia, Balteanu Olga, Stepco Elena - PId:154

10. Avulsed Immature Incisor: From Computed Tomography to Finite Element Analysis, Catalina Farcasiu, Rodica Luca, Alexandru Titus Farcasiu, Aneta Muntean, Oana-Cella Andrei - PId:184

19⁰⁰ – Gala dinner – Traian restaurant

Saturday, November 23-rd, 2013

9⁰⁰ – 10³⁰ Dedicated session: Medical imaging and image processing (II) (Room A)

Chairs: **Florin Rotaru** – Institute of Computer Science of Romanian Academy Iasi Branch
Hariton Costin – Grigore T. Popa University of Medicine and Pharmacy, Faculty of Medical Bioengineering, Iasi, Romania
Cristian Rotariu – Grigore T. Popa University of Medicine and Pharmacy, Faculty of Medical Bioengineering, Iasi, Romania

- 1. Enhanced Visualization of Cerebral Blood Vessels for X-Ray Angiograms, Irina Tache, Andreea Udrea, Dan Stefanoiu, Ciprian Lupu - Id:83**
- 2. Parallel Image Registration using Bio-inspired Computing, Silviu-Ioan Bejinariu, Hariton Costin, Florin Rotaru, Cristina Nita, Ramona Luca - Id:95**
- 3. New Optic Disc Localization Approach in Retinal Images, Florin Rotaru, Silviu-Ioan Bejinariu, Cristina Nita, Ramona Luca, Camelia Lazar - Id:96**
- 4. Masking Procedures and Measures of Angular Similarity for Detection of Bilateral Asymmetry in Mammograms, Paola Casti, Arianna Mencattini, Marcello Salmeri, Rangaraj Rangayyan - Id:129**
- 5. Iris Classification Using WinICC and LAB Color Features, Ioan Pavaloi, Adrian Ciobanu - Id:147**
- 6. Iris Features using Dual Tree Complex Wavelet Transform in Texture Evaluation for Biometrical Identification, Anca Ignat, Mihaela Luca, Adrian Ciobanu - Id:174**

8⁰⁰ – 10⁰⁰ Dedicated session: Biomechanics ('Anatomy' Hall - Room B)

Chairs: **Carlo Frigo** – Politecnico di Milano, Italy
Mihaela Baritz – University Transilvania Brasov, Romania
Sorin Kostrakievici – POLITEHNICA University of Bucharest, Romania

- 1. Ground Reaction Recordings in Handball Throw Correlated with Body Compensatory Movements, Anton Prisacariu Bogdan - Id:43**

- 2. The Influence of the Rocker Sole Profile's Orientation on the Sagittal Plane Ankle Range of Motion**, Daniel Petcu, Doina Bucur, Hüseyin Ata Karavana, Mircea-Iulian Nistor, Mirela Pantazi, Mihai Georgesc - Id:74
- 3. Design and Realization of a Personalized Acetabular Cage for a Patient in Need of Acetabular Revision**, Serban Costin, Constantin Anton Micu, Stefan Cristea - Id:91
- 4. Thermographic Analysis of Hand Structure when Subjected to Controlled Effort**, Mihaela Baritz, Diana Cotoros - Id:107
- 5. Study of Pupil Reflex Under Chromatic Light Radiation Incidence**, Mihaela Baritz, Diana Cotoros, Cristina Singer - Id:108
- 6. Walking Efficiency Assessment Through the Analysis of Mechanical Energy and Energy Recovery Index**, Firooz Salami, Mariangela Dipaola, Carlo Albino Frigo - Id:204
- 7. Influence of Shoes and Cover Characteristics on the Prosthetic Feet Energy Storage and Release Mechanism**, Mihaela Buzatu, Carlo Frigo, Esteban Pavan, Doina Bucur, Octavian Dontu - Id:246

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- 8. Nitinol Artificial Anterior Cruciate Ligament: A Finite Element Study**, Lucian Bogdan, Renato Natal Jorge, Marcos Parente, Nicolae Faur, Jenel Marian Patrascu - PId:22
- 9. Biomechanical Study of Myringotomy Through Simple Incision and Drainage Tube Insertion**, Karla-Noemy Berdich, Fernanda Gentil, Marco Parente, Renato Natal-Jorge, Nicolae Faur - PId:60
- 10. Workspace Measurement of the Surgeon's Upper Limb During an Arthroscopy and three Laparoscopy Operations Using Inertial Sensor Systems**, Ali Soroush, Farzam Farahmand - PId:168
- 11. A Proposal for Construction Surface Pressure Map Distribution with Tribological Considerations at Stump-Liner Interface in Prosthetic Application**, Mariana Rotariu, Marius Turnea, Dragos Arotaritei, Robert Filep, Mihai Ilea - PId:169
- 12. Discussions on the Procedure and Results of an Evaluation Health Program Regarding Spinal Deformity in School-Aged Children**, Alis Gabriela Garaiman, Corina Mihaela Gruescu, Erwin Christian Lovasz, Jenel Marian Patrascu, Bogdan Corneliu Andor, Mihaela Amarandei - PId:186
- 13. Preliminary Experimental Testing on Fatigue Resistance for Silicone Rubbers Proposed within Lumbar Disc Prosthesis**, Iuliana Rotaru, Carmen Bujoreanu, Dumitru Olaru, Adrian Bele, Maria Cazacu - PId:231

8⁰⁰ – 10³⁰ Dedicated session: *Modeling, Simulation ('Anatomy' small Hall - Room C)*

Chairs: **Alexandru Morega** – POLITEHNICA University of Bucharest, Romania
Dragoș Arotăriței – Grigore T. Popa University of Medicine and Pharmacy, Faculty of Medical Bioengineering, Iasi, Romania
Adrian Barbu – Florida State University, USA

- 1. A Feature-Correlation Based Fusion Method for Fingerprint and Palmprint Identification Systems, Sorin Soviany, Sorin Puscoci - Id:13**
- 2. Towards a Forward Engineered Simulation of the Cardinal Movements of Human Childbirth, Zelimkhan Gerikhanov, Vilius Audinis, Rudy Lapeer - Id:70**
- 3. A Novel Approach for Computing Pressure Drop in Healthy and Mildly Stenosed Arteries, Olivia Florea - Id:85**
- 4. Probabilistic Gate Matrix Applied for Array of Gates in Axon-inspired Communication, Dragoș Arotăriței, Valeriu Beiu, Marius Turnea, Mariana Rotariu - Id:123**
- 5. An Experimental Study on the Effect of Fat Conductivity on Voltage Distribution and Muscle Recruitment Using Tissue-Equivalent Phantoms, Yuto Fukuhara, Jose Gomez, Wenwei Yu - Id:132**
- 6. Study of Suitability of New Materials for Use with Physical Breast Phantoms, Kristina Bliznakova, Ivan Buliev, Zhivko Bliznakov, Nikola Kolev, Jordan Kolev - Id:225**
- 7. Numerical Simulations for Modeling the Insulin Analogues Using Reduced Order Techniques, Gabriel Dimitriu, Lucian Vasile Boiculescu, Mihaela Moscalu - Id:232**
- 8. Patient-Specific Modeling of Blood Glucose Level and Epileptic Activity by 3D Visual Membrane Petri Nets, Aurelia Profir, Roman Damaschin, Gheorghe Chernisov, Laura Prepelita, Olga Leticevscaia, Antonio Prepelita - Id:236**
- 9. Experimental and Numerical Evaluation of the Retention Force for Metallic Matrix Attachment Systems, Paul Virgil Rosu, Mihai Mihaila-Andres, Camelia Ionescu, Felix Adochiei - Id:239**
- 10. Patient-Specific Modeling of ECG Representation and Thyroid Hormones Regulation by 3D Visual Membrane Petri Nets, Aurelia Profir, Antonio Prepelita, Laura Prepelita, Roman Damaschin, Carolina Opinca - Id:242**

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- 11. Modeling and Simulation Methodology for Aging, Constantin Munteanu, Diana Munteanu, Marius Turnea - PId:84**
- 12. Software Monitor of Vital Functions for a Mannequin Realized on Tablet PC, Martin Rozanek, Petr Kudrna, Jiri Hozman, Petr Kopecky - PId:202**

13. Numerical Study on Magnetic Effect on Drug Delivery Vehicle Motion in Tumor-defective Blood Vessels using Arbitrary Lagrangian-Eulerian Algorithm, Yu-Chung Liao, Rei-Yu Chein - PId:214

14. Pilots' Performances Optimizing in Complex Simulated Environment: Contribution of Longitudinal Component of Virtual Flight, Pericle Gabriel Matei, Constantin Rotaru, Ioana-Raluca Edu - PId:238

10³⁰ – 11⁰⁰ Invited plenary lectures (III) (Room A): assoc. prof. A. Barbu

11⁰⁰ – 11¹⁵ Coffee break

11¹⁵–13⁰⁰ Dedicated session: Teaching, e-Learning, Management in Health Care (Room A)

Chairs: **Anca Colibaba** – Grigore T. Popa University of Medicine and Pharmacy, Iasi, Romania

Fabrizio Clemente – National Research Council, Roma, Italy

Dan Zaharia – Grigore T. Popa University of Medicine and Pharmacy, Faculty of Medical Bioengineering, Iasi, Romania

- 1. A Review of 3D Virtual Worlds in Medical and Health Education, Stella Christopoulou, Theodore Kotsilieris, Nikoletta Dimopoulou, John Papoutsis - Id:24**
- 2. Teaching Foreign Languages Through the Glottodrama Method, Cristina Anca Colibaba, Claudia Elena Dinu, Irina Gheorghiu, Stefan Colibaba - Id:32**
- 3. MyStory - Digital Kit for Story Telling as a Therapy, Anca Cristina Colibaba, Stefan Colibaba, Lucia Elena Petrescu - Id:36**
- 4. Multimedia Supporting Modern Demosthenes, Odette Arhip, Cristian Arhip - Id:40**
- 5. The Intergenerational Bilfam Project and Its Therapeutical Effects on Elderly People, Cristina Anca Colibaba, Irina Gheorghiu, Rodica Gardikiotis, Cintia Lucia Colibaba - Id:45**
- 6. Process Modeling of Devices Management in Home Care, Fabrizio Clemente, Giuliana Faiella, Giuseppe Stecca - Id:46**
- 7. Psychiatry and Suicide Writers, Cristian Arhip, Odette Arhip - Id:52**
- 8. Infrared Method to Assess the Student's Anticipative Examination Stress, Marius Mateas, Endre Ianos - Id:68**
- 9. Biomedical Engineering Education Initiative in Eastern Neighbouring Area, Zhivko Bliznakov, Anastassia Rodina-Theocharaki, Nicolas Pallikarakis - Id:237**

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10. **Improving Quality of Life of Very Old Patients by Improving Treatment Adherence**, *Ioana Dana Alexa, Gabriel Ioan Prada - PId:53*
11. **Recommender Systems in Healthcare Services: A Literature Review on Health Recommender Systems**, *Emre Sezgin, Sevgi Özkan - PId:117*
12. **Innovation Approaches for Engineering-Medicine-Marketing Interdisciplinary Research Teams**, *Elena-Laura Trifan, Serban Costin, Elena Poenaru, Constantin Anton Micu - PId:188*
13. **Technological Interventions in Medicine - Ethic Considerations and Guidelines for the Medical Practice**, *Elena Toader - PId:212*
14. **Software Applications Integrated in the Management of the Patient with Chronic Liver Disease**, *Elena Toader - PId:213*
15. **Migration of White Coats. Alsace and Lorraine – An Important Pole of Concentration of Romanian Doctors**, *Despina Vasilcu - PId:244*
16. **Managerial Strategies to Improve the Activity of the Elena Doamna Obstetrics and Gynecology Clinical Hospital Iasi**, *Roxana Covali, Daniel Boldureanu, Gabriela Boldureanu, Gladiola Andruseac - PId:247*

11¹⁵–13⁰⁰ Dedicated session: *Medicine and Informatics ('Anatomy' small Hall - Room C)*

Chairs: **Paraschiva Postolache** – Grigore T. Popa University of Medicine and Pharmacy, Iasi, Romania
Clementina Cojocar – Grigore T. Popa University of Medicine and Pharmacy, Iasi, Romania
Florin Topoliceanu – Grigore T. Popa University of Medicine and Pharmacy, Iasi, Romania

1. **The Effect of Mental Strategy in Lexical Training upon Improving Psychometric Reaction Time**, *Bogdan Dionisie, Hariton Costin, Cristian Rotariu - Id:118*
2. **Anatomical and Imagistic Correlations in Evaluating of the Inferior Rectal Neoplasms Vascularization**, *Delia Hinganu, Marius Hinganu, Cristinel Stan, Dumitru Paduraru - Id:150*
3. **Viscosupplementation Treatment Method in Light and Medium Arthrosis**, *Luana Macovei, Corneliu Botez, Radu Madalin Boatca, Silvia Martu, Monica Scutariu - Id:194*
4. **Nicotinic Withdrawal Rate Assessment by Applying Minimal Advice and Measurement of CO in the Exhaled Air in Smoking Patients with Tuberculosis**, *Roxana Nemes, Florin Mihălțan, Ramona Nedelcu, Paraschiva Postolache, Mimi Nitu, Maria Luiza Băean, Doina Todea - Id:216*
5. **Pharmacotherapy for Smoking Cessation - the Experience of a Smoking Cessation Center**, *Paraschiva Postolache, Doina-Clementina Cojocar, Marian Olaru, Doina Todea, Roxana Nemes - Id:222*

- 6. Bodyplethysmography and Helium Dilution Method in Patients with Copd: Correlation Between Functional and Respiratory Clinical Parameters,** *Roxana-Maria Nemes, Paraschiva Postolache, Marian Olaru, Maria-Luiza Baean, Doina Todea, Doina-Clementina Cojocararu - Id:226*
- 7. Assessing Treatment Effectiveness by the Use of Paracetamol, Tramadol and Fentanyl on the Patients from the Emergency Department of the "Sf Spiridon" Emergency Hospital, Iasi,** *Viorica Popa, Diana Carmen Cimpoesu, Elena Butnaru - Id:235*

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- 8. Optical and Electron Microscopy in Detecting Degenerative Changes at Patients with Primary and Ischemic Myocardic Diseases,** *Tudor Branishte, Andrei Braniste - PId:33*
- 9. Permeabilised Cell and Fiber Technique in the Investigations Concerning the Degree of Intraoperative Myocardial Protection with Cardioplegic Solution Containing Phosphocreatine,** *Tudor Branishte, Andrei Braniste - PId:34*
- 10. Validation of Language Recognition Specificity of N400 Cognitive Evoked Potential,** *Bogdan Dionisie, Hariton Costin, Veronica Luca - PId:119*
- 11. The Human Behaviour and Preference Food Intake Impact Above Nutritional Status,** *Florentina Carmen Oleniuc, Daniela Maria Buliga, Oana Geman - PId:162*
- 12. Modifications of Electrophysiological Parameters in Patients with Multiple Sclerosis,** *Orest Bolbocean, Bogdan Ignat, Cristina Grosu, Dragos Popescu, Daniela Matei, Cristian Dinu Popescu - PId:219*
- 13. Nerve Conduction Studies in Peripheral Arterial Disease With and Without Type 2 Diabetes Mellitus,** *Daniela Matei, Calin Corciova, Radu Matei, Orest Bolbocean, Bogdan Ignat, Daniel Alexa, Cristian Dinu Popescu - PId:221*

13⁰⁰ – Conference closing. Award ceremony (Room A)

3³⁰ – Annual meeting of the IEEE-EMB Romanian Chapter (Room A)