

Final Program

16.Feb.2017		
8:00	9:00	Registration
9:00	9:30	Opening Cerimony
9:30	10:00	Keynote Talk - Functional imaging and translational research in neuroscience Miguel Castelo Branco
		Session I.I - Biomedical Imaging
10:00	10:15	Real-time fMRI neurofeedback based on interhemispheric functional connectivity: a motor imagery paradigm João Pereira
10:15	10:30	Dicom metadata aggregation from multiple healthcare facilities Milton Santos
10:30	11:00	Coffee Break - Poster Session I
11:00	11:30	Keynote Talk - Entrepreneurship in the field of regenerative medicine and genetics: Challenges and opportunities José Domingos Santos
		Session I.II - Biomaterials, Cellular and Tissue Engineering and Modelling
11:30	11:45	Bioactivity gradients of cytoprotective and anticancer catechins in skin: simulation studies for the design of controlled release system João Silva
11:45	12:00	Cellular interactions of bone grafts based on calcium phosphates Rita Fonseca
12:00	12:15	Magnesium alloy biodegradable scaffolds: simulation of casting and manufacturing Vítor Lopes
12:15	12:30	The structural analysis of chitosan tubes using meshless methods Joana Gomes
12:30	14:00	Lunch break
14:00	14:30	Keynote Talk - Optical tools for cell probing and manipulation Pedro Jorge
		Session I.III - Instrumentation and Biomedical Signal Processing
14:30	14:45	Data acquisition and laser scanning synchronism in SS-OCT – an experimental apparatus José Paulo Domingues
14:45	15:00	Non invasive ECG recording for zebrafish Vítor Silva
15:00	15:15	Construction of a small radiation detector for measuring the arterial input function in PET Carlos Pereira
15:15	15:30	Thermal modeling of an implantable brain focal cooling device Hugo Dinis
15:30	15:45	Computational modeling of red blood cells trapping using optical fiber tweezers Joana Paiva
15:45	16:00	Validation of a similarity measurement method for clustering cardiac signals Adell Kianimajd
16:00	16:30	Coffee Break - Poster Session I
16:30	17:00	Keynote Talk - Data mining techniques for cardiovascular risk assessment Jorge Henriques
		Session I.IV - Special Session: "Signal processing in the context of p-Health systems"
17:00	17:15	LINK: linking excellence in biomedical knowledge and computational intelligence research for personalized management of CVD within PHC Ricardo Couceiro
17:15	17:30	Epileptic seizure prediction based on stacked regularized autoencoders: a deep machine learning approach Ricardo Barata
17:30	17:45	Noise detection in heart and lung sounds Adriana Leal
17:45	18:00	Detection of wheezes and crackles using a multi-feature approach Luís Mendes
18:00	18:15	Algorithm for syncope prediction based on PPG signals alone Nuno Pinheiro
18:15	18:30	Closing Remarks

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8:30	9:00	Registration
9:00	9:30	Keynote Talk - Reliability of P300-based Brain Computer Interfaces Gabriel Pires
		Session II.I - Medical and Bio-Robotics and Biomechanics
9:30	9:45	Functional feedback vibrotactile system for patients with Parkinson's disease: freezing of gait Helena Gonçalves
9:45	10:00	Robotic head with emotional expressions for human-robot Ricardo Loureiro
10:00	10:15	Hydrogel-silicone conjunction as epidermal and dermal layers of bio-inspired soft finger skin Mahmoud Tavakoli
10:15	10:45	Coffee Break - Poster Session II
10:45	11:15	Keynote Talk - Miniaturization of bioprocesses for biological applications using microfluidic devices Raquel Aires Barros
		Session II.II - Biomolecular and Bioprocess Engineering
11:15	11:30	Purification of recombinant interferon alpha-2b using biocompatible ionic liquids Joana Antunes
11:30	11:45	Src signaling in Alzheimer's disease-associated oxidative stress Lígia Fão
11:45	12:00	Spectral biomarkers of gastric adenocarcinome cells infection by Helicobacter Pylori Sandra Aleixo
12:00	12:15	Stability assay of Candida Rugosa lipase in miniemulsion system to synthesis of biodegradable polymers Ana Pfluck
12:15	12:30	Biopharmaceuticals production monitoring based on infrared spectroscopy according to quality by design Kevin Sales
12:30	14:00	Lunch break
14:00	14:30	Keynote Talk - Contribution of biomechanics to urogynecology Renato Natal Jorge
		Session II.III - Biomechanics and Rehabilitation
14:30	14:45	Identification of contact properties of the foot in the stance phase of walking Inês Barbosa
14:45	15:00	Structural computational biomechanics with advanced discretization techniques Jorge Belinha
15:00	15:15	Piezoelectric patches to improve cardiac electrical integrity on a mouse model of myocardial infarction Luís Monteiro
15:15	15:30	Characterization of the biomechanical properties of the pubovisceralis muscle of two women - one with pelvic organ prolapse and other without pathology Elisabete Silva
15:30	15:45	The free vibration computational analysis of the cupula in the inner ear Carla Santos
15:45	16:15	Coffee Break - Poster Session II
16:15	16:45	Keynote Talk - Medical image analysis: Applications in ophthalmology Ana Maria Mendonça
		Session II.IV - Biomedical Image and Signal Processing
16:45	17:00	In vivo detection of cornea structural changes in an animal model of diabetes mellitus José Pedro Oliveira
17:00	17:15	Optical coherence tomography in transgenic mouse models of Alzheimer's disease: a statistical classification Gilberto Silva
17:15	17:30	Biomedical signal recovery: genomic variant detection in family lineages Mario Banuelos
17:30	18:15	Debate: Open Topic Miguel Castelo Branco Nikolaos Papanikolaou Urbano Nunes
18:15	18:30	Closing Remarks

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8:30	9:00	Registration	
9:00	9:30	Keynote Talk - Radiomics and imaging biomarkers clinical research: The role of Biomedical Engineer	Nikolaos Papanikolaou
		Session III.I - Radiations in Medicine and Imaging Biomarkers	
9:30	9:45	Gamma-index and dose-volume histograms (based on voxel dosimetry) to evaluate the predictive power of ^{99m} Tc-MAA spect maps in comparison with post- radioembolization ⁹⁰ Y PET/CT images	Paulo Ferreira
9:45	10:00	Differentiating malign thyroid nodule with statistical classifiers based on demographic and ultrasound features	Miguel Patrício
10:00	10:15	Simulation study of orthoCT viability for monitoring head/lung/prostate irradiations	Ana Lopes
10:15	10:30	Effects of high energy X-rays on cell morphology and functions	Valeria Panzetta
10:30	11:15	Coffee Break - Master Thesis Discussion: Poster Session	
		Session III.II - Modelling, Biomechanics and Rehabilitation	
11:15	11:30	Pre and post surgery evaluation of patients with hallux pathology using an insoles measurement system of plantar pressure distribution	Linda Pinto
11:30	11:45	Inertial measurement units: a brief state of the art on gait analysis	Nuno Ribeiro
11:45	12:00	An innovative robotic walker for mobility assistance and lower limbs rehabilitation purposes	João Paulo
12:00	12:15	Overview of the ASBGo++ smart walker	Joana Alves
12:15	12:45	Prizes and Closing Remarks	

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Poster Session I

Augmenting data when training a CNN for retinal vessel segmentation: how to warp?	Américo Oliveira	P1
Healthcare quality management in portugal: a brief state of the art	Ana Silva	P2
Hybrid feature selection algorithm for gene selection and gene importance evaluation in microarray data	Carlos Fernandes	P3
Ensemble learning based classification for BCI applications	Carlos Lima	P4
High gene delivery efficiency promoted by a combined polymeric-based nanosystem	Daniela Santo	P5
Structural reinforcements on AFOs: a study using computer aided designing and finite element method	Gonçalo Gomes	P6
Predicting frail syndrome using adverse geriatric health outcomes: comparison of different statistical classifiers	Guilherme Furtado	P7
Finite element analysis of stent expansion: influence of stent geometry on performance parameters	Inês Gomes	P8
Image segmentation of femur bone and its stress analysis by meshless methods	João Graça	P9
Methodology to assess medical processes based on a failure modes and effect analysis (FMEA)	José Sobral	P10
Strategy to improve the mechanical properties of three dimensional dense chitosan-based structures by adding glycerol	Lúgia Figueiredo	P11
Segmentation of magnetic resonance images of mice brain based on edge-detection	Lorena Petrella	P12
Comprehensive methodology for custom-design and manufacture of soft-tissue prosthesis: orbital case-study	Mafalda Couto	P13
Meshless analysis of 2D trabecular patches using a fabric tensor obtained from micro-CT images	Marco Marques	P14
A first approach to engineerization of DAP (dose area product) information for medical record	Mariagabriella Pugliese	P15
The velocity analysis of blood vessels using meshless techniques	Mariana Santos	P16
Analysis of breast implants durability	Nilza Ramião	P17
Segmentation of bladder tumors in cystoscopic images using a map approach in different color spaces	Nuno Freitas	P18
Automated nanopublications generation from biomedical literature	Pedro Sernadela	P19
Immersive visualization of childbirth computational simulations	Petterson Diniz	P20
Intraoperative bone registration: an implementation in orthopaedic surgery using polaris vicra system	Roberto Barbosa	P21
High biological activity mediated by a tailor-made tri-block copolymer-based	Rosemeyre Cordeiro	P22
A computational stress analysis of endodontic-periodontal lesions	Rui Costa	P23
On hierarchical brain tumor segmentation in MRI using fully convolutional neural networks: a preliminary study	Sérgio Pereira	P24

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Poster Session II

Optimization of a bioassay to evaluate Escherichia Coli stress responses	Bernardo Cunha	P1
A numerical study of the human ear	Bruno Areias	P2
Detection of drusen related with AMD in OCT images using random forests	Carlos Silva	P3
Experimental viability of the use of megavoltage beams for orthogonal ray imaging	Carolina Travassos	P4
The computational simulation of cellular growth	Catarina Maia	P5
Influence of sample preparation and acquisition conditions in infrared metabolic fingerprinting	Cecília Calado	P6
Validation of a wireless communication protocol to monitor human gait using IMUs	Cristina Santos	P7
Development of the mechanical support of an active exoskeleton for gait assistance in elders	Daniel Pina	P8
Red blood cells deformability as a malaria biomarker	Daniela Paço	P9
Automated subretinal fluid volume quantification using multi-surface segmentation and sparse high order potentials	Fernando Carvalho	P10
Development of a database to gait analysis and data organization in ASBGo smart	Inês Caetano	P11
Hemozoin and hemoglobin characterization by optical absorption towards a miniaturized spectrophotometric malaria diagnostic system	Ivo Silva	P12
Instrumented insole system for ambulatory and robotic walking assistance: first	Joana Figueiredo	P13
Numerical modeling of cardiovascular physiology: beat-by-beat study of dynamic changes during autonomic reflexes	João Apura	P14
3D printed endoskeleton with a soft skin for upper-limb body actuated prosthesis	João Lourenço	P15
Modelling brain tissues intensities using Dirichlet processes	João Mestre	P16
Emotional state detection based on EMG and EOG biosignals: a short survey	João Perdiz	P17
Composition and in vitro antioxidant activity of Chamaerops Humilis l. extracts	José Coelho	P18
The influence of wearing a wallet in your sitting posture - a quantitative study using an intelligent chair	Leonardo Martins	P19
A contribution in the evaluation and monitoring of the spastic march in post-stroke patients	Luís Roseiro	P20
Patellar instability: traditional surgical interventions and a robotic approach	Luís Serrador	P21
A novel model for bone remodelling: cellular dynamics and mechanical loading	Madalena Peyroteo	P22
Powered knee orthosis for human gait rehabilitation: first advances	Paulo Félix	P23
Bluetooth low energy profile for MPU9150 IMU data transfers	Pedro Amaro	P24
Development of the ASBGo smart walker system architecture using ROS	Pedro Guimarães	P25
The numerical analysis of chromosomes using advanced discretization techniques	Vítor Sá	P26

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Master Thesis Poster Session

Brain connectivity analysis for real-time fMRI neurofeedback experiments	Alexandre Campos	P1
High-throughput bioassay for mechanism of action determination of antibacterial	Bernardo Cunha	P2
Mid-Infrared Spectroscopy: a groundbreaking tool for monitoring mammalian cells processes	Filipa Rosa	P3
Assistive locomotion strategies for active lower limb devices	Joana Figueiredo	P4
Regeneration of the peripheral nerve – development and evaluation of guide tubes of biodegradable polymer	Joana Gomes	P5
Exploring tissue characterization by temperature induced changes on ultrasound backscattered energy	Mário Pastrana-Chalco	P6
OneCare Spiro: mobile application for monitoring and pre-diagnosis of Chronic Obstructive Pulmonary Disease	Marta Pinto	P7
Epileptogenic focus localization using complexity analysis of BOLD signals	Vânia Tavares	P8
Mirroring and recognizing emotions through facial expressions for a RoboKind	Vinícius Silva	P9