

PROGRAMME

Oral Presentations and keynotes

Tuesday, October 16

17:00 – 18:30

Early Registration

Wednesday, October 17

8:00 – 8:45

Registration

8:45 – 9:00

Welcome

Room B032

9:00 – 10:30

Keynotes I

Room B032

Computational Bioimaging and Visualization
Chris Johnson
Robust Algorithms for Deformable Contours
Jorge S. Marques

10:30 – 11:00

Coffee Break

11:00 – 12:30

Oral Presentations

Room B032

Chairs:

Manuel Hidalgo, Andreas Obereder

ORAL I

11:00 – 11:20 Human head models for the EEG forward problem
R. Rytzar, T. Pun

11:20 – 11:40 Numerical experiments for segmenting medical images using level sets
A. Araújo, D. M. G. Comissiong, G. Stadler

11:40 – 12:00 Clustering of BOLD signals recorded during rest reveals more inter-subject constancy than EEG-fMRI correlation maps
S. I. Gonçalves, P. J. W. Pouwels, J. P. A. Kuijter, R. M. Heethaar, J. C. de Munck

12:00 – 12:20 Medical and biological imaging with optical coherence tomography
Carla Carmelo Rosa, Michael Leitner, Adrian Gh. Podoleanu

Room B035

Chairs:

Rui Lima, João Figueiredo

ORAL II

11:00 – 11:20 Movement detection in 2D images with variable dimension cells
Frederico Lapa Grilo, João M. G. Figueiredo, O. P. Dias, T. G. Amaral

11:20 – 11:40 Fast and straightforward method to estimate sub-pixel level displacement field
A. Sousa, J. Morais, V. Filipe, A. Jesus, M. Vaz

11:40 – 12:00 A new semiautomatic method for ICH segmentation and tracking from CT head images
N. Pérez, J. A. Valdés, M. A. Guevara, L.A. Rodríguez, A. Silva

12:00 – 12:20 Video sequences analysis for eye tracking
A. De Santis, D. Iacoviello

12:20 – 14:00

Lunch

14:00 – 15:30

Keynotes II

Room B032

Multimodality in Brain Imaging: methodologic aspects and applications
Sonia I. Goncalves-Verheij
Fast Curve and Surface Segmentation by finding geodesics
Laurent Cohen

15:30 – 16:30

Oral Presentations

Room B032

Chairs:

Rajab Said, Romana Rytzar

ORAL III

15:30 – 15:50 Automatic Couinaud Liver segmentation using CT images
D.A.B. Oliveira, R.Q. Feitosa, M.M Correia

15:50 – 16:10 Brain volumetry estimation based on a suitable combination of statistic and morphological techniques
J. M. Molina, A. Silva, M. A. Guevara, J.P. Cunha

16:10 – 16:30 Multiscale analysis of short-term cardiorespiratory signals
L. Angelini, T. M. Creanza, R. Maestri, D. Marinazzo, M. Pellicoro, G. D. Pinna, S. Stramaglia, S. Tupputi

Room B035

Chairs:

Andrea Chincarini, Mahmoud El-Sakka

ORAL IV

15:30 – 15:50 Fuzzy morphology based on uninorms: image edge-detection. opening and closing.
Manuel González-Hidalgo, Arnau Mir Torres, Daniel Ruiz-Aguilera, Joan Torrens Sastre

15:50 – 16:10 Use of statistic texture descriptors to classify boar sperm images applying, discriminant analysis
Sir Suarez, Enrique Alegre, Manuel Castejón, Lidia Sánchez

16:10 – 16:30 Automatic extraction and classification of DNA profiles in digital images
Cristina Caridade, A.R.S. Marçal, T. Mendonça

16:30 – 17:00

Coffee Break

17:00 – 17:30

Posters

Atrium

17:30 – 18:30

Oral Presentations

Room B032

Chairs:

Borges Pires, João Martins

ORAL V

17:30 – 17:50 Behaviour of the medial gastrocnemius and soleus muscles during human drop jumps
F. Sousa, J.P. Vilas-Boas, M. Ishikawa & P.V. Komi

Room B035

Chairs:

Eurico Seabra, Paulo Flores

ORAL VI

17:30 – 17:50 Medical interface for echographic free-hand images
J.B. Santos, D. Celorico, J. Varandas, J. Dias

17:50 – 18:10 Measurement of the IMT using a semi-automated software (ThichSoft): a validation study
Anton Vernet, Honorio Pallas, Lluís Masana, Blai Coll

18:10 – 18:30 Individualizing biomechanical shoulder models using scaling, morphing and fittings
Germano T. Gomes, Emmanuel A. Audenaert, Lieven De Wilde, Katharina D'Herde

17:50 – 18:10 The use of Computational Fluid Dynamic in swimming research
D.A. Marinho, A.J. Silva, A.I. Rouboa, L.T. Leal, L.S. Sousa, V.M. Reis, F.B. Alves, J.P. Vilas-Boas

18:10 – 18:30 3D object reconstruction from uncalibrated images using a single off-the-shelf camera
Teresa C. S. Azevedo, João Manuel R. S. Tavares, Mário A. P. Vaz

19:30 Welcome Port of Honour Music House

Thursday, October 18

9:00 – 10:30 Keynotes III Room B032

From Geometrical Models to Physiological Models of the Human Body
Juan J. Villanueva
Automatic Generation of Computer Models from Multi-modal Bio-medical Imaging
Chandrajit Bajaj

10:30 – 11:00 Coffee Break

11:00 – 12:30 Oral Presentations

Room B032

Chairs:
Sushil Kumar Mendiratta, Michel Audette

ORAL VII

11:00 – 11:20 Microscale flow dynamics of red blood cells in a circular microchannel
R. Lima, M. Nakamura, T. Ishikawa, S. Tanaka, M. Takeda, Y. Imai, K. Tsubota, S. Wada, T. Yamaguchi

11:20 – 11:40 Carotid artery ultrasound image segmentation using graph cuts
Amr R. Abdel-Dayem, Mahmoud R. El-Sakka

11:40 – 12:00 3D reconstruction of the retinal arterial tree based on fundus images using a self-calibration approach
D. Liu, N.B. Wood, X.Y. Xu, N. Witt, A.D. Hughes, S.A. McG. Thom

12:00 – 12:20 Alternative lossless compression algorithms in X-ray cardiac images
D.R. Santos, C. M. A. Costa, A. Silva, J. L. Oliveira, A. J. R. Neves

Room B035

Chairs:
João Paulo Vilas-Boas, Filipa Sousa

ORAL VIII

11:00 – 11:20 Fuzziness measure approach to automatic histogram threshold
Nuno Vieira Lopes, Humberto Bustince, Vítor Filipe, Pedro Melo Pinto

11:20 – 11:40 Coarse comparison of outlines shapes descriptors
Saliha Aouat, Slimane Larabi

11:40 – 12:00 Analysis of pupil fluctuations for detection of deception
D. Iacoviello

12:00 – 12:20 Volume properties of the hippocampal region as predictors of DAT development
A. Chincarini & G. Gemme, P. Calvini, M.A. Penco, S. Squarcia, F.M. Nobili, G. Rodriguez

12:20 – 14:00 Lunch

14:00 – 15:30 Keynotes IV Room B032

Automatic Construction of Statistical Shape Models using Non-Rigid Registration
Tim Cootes
Theory of Digital Manifolds and its Applications to Medical Imaging
Valentin Brimkov

15:30 – 16:30 Oral Presentations

Room B032

Chairs:
Carla Carmelo Rosa, Luis Paulo Reis

ORAL IX

15:30 – 15:50 Direct approach for constructing volumetric meshes from 3D image data
V. Bui Xuan, P. G. Young, G. R. Tabor & T. Collins, R. Said, M. Gomes, V. M. B. Martins-Augusto

15:50 – 16:10 Automatic accuracy evaluation for distance measurement by medical ultrasound scanners
F.P. Branca, A. D'Orazio, S.A. Sciuto, A. Scorza

16:10 – 16:30 Geometry calibration for X-Ray equipment in radiation treatment devices
B. P. Selby, G. Sakas, S. Walter, U. Stilla

Room B035

Chairs:
Daniela Iacoviello, Alberto de Santis

ORAL X

15:30 – 15:50 A novel model of bottom-up visual attention using local energy
A. García-Díaz, X.R. Fdez-Vidal, R. Dosil, X.M. Pardo

15:50 – 16:10 Acrosome integrity classification of boar spermatozoon images using DWT and texture descriptors
Maribel González, Enrique Alegre, Rocío Alaiz, Lidia Sánchez

16:10 – 16:30 Test of algorithms for z localization of pathology in optical micrographs stack of a cell
A. C. Pinho, A. Silva & A. R. Borges, B. S. K. Mendiratta

16:30 – 17:00 Coffee Break

17:00 – 17:30 Posters Atrium

17:30 – 18:30 Oral Presentations

Room B032

Chairs:
Daniele Marinazzo, Florian Fruehauf

ORAL XI

17:30 – 17:50 Detection of synthetic singularities in digital mammographies using spherical filters
Céline Gouttière, Joël De Coninck

17:50 – 18:10 Image processing on the Poisson ratio calculation of soft tissues
P. Martins, R. Natal Jorge, A. Fernandes, A. Ferreira, T. Mascarenhas

18:10 – 18:30 A simple mathematical model for the woman's breast geometry and its use in the breast characterisation
Paulo G. Macedo, Elisabete A. Mota, Vera M. Sá

Room B035

Chairs:
Blai Coll, Anton Vernet

ORAL XII

17:30 – 17:50 Customized implant optimization for maxillo-mandibular osteotomy
C. Pereira, F. Ventura, M.C. Gaspar, A. Mateus

17:50 – 18:10 Nonlinear 3D foot FEA modelling from CT scan medical images
P.J. Antunes, G. R. Dias, A.T. Coelho, F. Rebelo, T. Pereira

18:10 – 18:30 Kinematic analysis of human locomotion based on experimental data
Fernando Meireles, Miguel Silva, Paulo Flores

19:30 Farewell Dinner Taylor's - Porto Wine Cellars

Friday, October 19

9:30 – 10:30

Keynotes V

Room B032

Image Sequence Evaluation

Hervé Delingette

Processing of Simultaneous acquisition of EEG and fMRI

Mario Forjaz Secca

10:30 – 11:00

Coffee Break

11:00 – 12:30

Oral Presentations

Room B032

Chairs:

Renato Natal Jorge, João Tavares

ORAL XIII

11:00 – 11:20 A Drusen volume quantification method based on a segmentation algorithm

Fernando Moitinho, André Mora, Pedro Vieira, José Fonseca

11:20 – 11:40 Normalization of local variations of volume along the hippocampus in Epilepsy

M. Forjaz Secca, J. Cannas Simões, C. Cardoso

11:40 – 12:00 A tissue relevance and meshing method for computing patient-specific anatomical models in endoscopic sinus surgery simulation

M.A. Audette, I. Hertel, O. Burgert, G. Strauss,

12:00 – 12:20 Fluid-Structure interaction applied to blood flow simulations

J. S. Pérez, E. Soudah, J. García, E. Escolano, E. Oñate, A. Mena, E. Heidenreich, J. F. Rodríguez, M. Doblare

12:45

Closing

Room B032

Posters

Wednesday, October 17

A system for ploidy analysis of malignant nuclei

S. Isotani, Y.I. Sakai, A.T. Sakai, O.M. Capeli, A.R.P.L. de Albuquerque

Acquisition electronic system for visualization, registering and filtering of ECG signals

Ricardo E. Martines, Rosa C. David, Juan M. Vilardy, Cesar O. Torres, Lorenzo Mattos

Macerals detection and quantization in coal using optical methods

Jose C. Peña, Yamelys Navarro, Cesar O. Torres

Analysis of manual segmentation in medical image processing

K. Tingelhoff, K.W. Eichhorn, I. Wagner, F. Bootz, M.E. Kunkel, A.I. Moral, R. Westphal, M. Rilk, F. Wahl

Paranasal sinuses segmentation/reconstruction for robot assisted endonasal surgery

A.I. Moral, M.E. Kunkel, M. Rilk, F.M. Wahl, K. Tingelhoff & F. Bootz

Eye detection using a deformable template in static images

Fernando Jorge Soares Carvalho, João Manuel R. S. Tavares

A geometric modeling pipeline for bone structures based on computed, tomography data: a veterinary study

D.S. Lopes, J.A.C. Martins, E.B. Pires, L.B. Rodrigues, E.B. de Las Casas, R.R. Faleiros

Filtering ECG signals using fractional Fourier transform

Juan M. Vilardy, Cesar O. Torres, Lorenzo Mattos

New method of segmentation using color component

Jose C. Peña, Yamelys Navarro, Cesar O. Torres

Predicting muscle fascicule paths for use in customized biomechanical models

E. A. Audenaert, G. T. Gomes, A. Audenaert

Computer-Aided detection system for nodule detection in lung CTs

Gianfranco Gargano

Thursday, October 18

ECG Self – diagnosis system at P- R Interval

Pedro R. Gomes, Filomena O. Soares, J. H. Correia

Lung and Chest Wall structures segmentation in CT images

J.H.S. Felix, P.C. Cortez, M.A. Holanda, V.H.C. Albuquerque, D.F. Colaço, A.R. Alexandria

Measuring critical exponents with a low cost camera in a human standing task

A. S. Fonseca, F. Vistulo de Abreu

Segmentation of objects in images using physical principles

Patrícia C. T. Gonçalves, João Manuel R. S. Tavares, Renato Natal Jorge

A didactic application for creating new sights from multiple images using Light Fields

Brigida Monica Faria, A. Augusto de Sousa, Luis Paulo Reis

Advanced graphical tools on modelling and control of automation systems

E. Seabra, J. Machado, P. Flores

3D reconstruction of pelvic floor for numerical simulation purposes

Fátima Alexandre, Rania F. El Sayed, Teresa Mascarenhas, R.M. Natal Jorge, M.P. Parente, A. A. Fernandes, J. Manuel R.S. Tavares

Matching contours in images using curvature information

Francisco P. M. Oliveira, João Manuel R. S. Tavares

Teaching kinematics and dynamics by using virtual reality capabilities

Paulo Flores

An application of hough transform to identify breast cancer in images

E.M.P. de F. Chagas, D. L. Rodrigues, J.M.R.S. Tavares, A.M. Reis, D. Miranda, R. Duarte