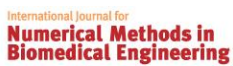




## Conference Programme



Associação Portuguesa de Mecânica Teórica, Aplicada e Computacional



Co-Chairs:

João Manuel R. S. Tavares ([tavares@fe.up.pt](mailto:tavares@fe.up.pt))

Renato M. Natal Jorge ([rnatal@fe.up.pt](mailto:rnatal@fe.up.pt))



# PROGRAMME

## Tuesday, October 11

17:00 – 18:30

Early Registration

Lobby Prais

## Wednesday, October 12

8:00 – 8:45

Registration

Lobby Prais

8:45 – 9:00

Welcome

Room: Armona II

9:00 – 10:30

Keynotes I

Room: Armona II

*Learning Classifier Families for Object Detection and Parameter Estimation*

**Stan Sclaroff**

*Thoracic Image Processing for Nanoparticle Delivery*

**Marc Thiriet**

10:30 – 11:00

Coffee Break

Foyer I + II

11:00 – 12:20

Oral Presentations

Room: Armona II		ORAL I
<b>Chairpersons:</b> <i>Dawid Larysz, João Nunes</i>		
11:00 – 11:20	The finite element analysis of skull deformation after correction of scaphocephaly <i>W. Wolański, M. Gzik, E. Kawlewska, D. Larysz, P. Larysz</i>	
11:20 – 11:40	Database implementation for clinical and computer assisted diagnosis of dermoscopic images <i>B.S.R. Amorim, T. Mendonca, A.R.S. Marcal, J.S. Marques, J. Rozeira</i>	
11:40 – 12:00	Modeling and simulation of trigonocephaly correction with use of Finite Elements Method <i>M. Gzik, W. Wolański, E. Kawlewska, K. Kawlewski, D. Larysz</i>	
12:00 – 12:20	Computer-aided diagnosis of dementia using medical imaging processing and artificial neural networks <i>Gavidia, R. López, E. Soudah</i>	

Room: Deserta I		ORAL II
<b>Chairpersons:</b> <i>Hamimah Ujir, Rui Ruben</i>		
11:00 – 11:20	Facial Expression Recognition using MPEG-4 FAP-based 3D MMM <i>H. Ujir, M. Spann</i>	
11:20 – 11:40	Using Aerial Photographs and Characteristic Points for Automatic Estimation of Altitude of the References Points <i>M.A.P. Domiciano, E.H. Shiguemori, O.D. Zaloti Júnior, L.A.V. Dias</i>	
11:40 – 12:00	Development of an automated procedure for a patient specific segmentation of the human femur body from CT scan images <i>D. Almeida, J. Folgado, P.R. Fernandes, R.B. Ruben</i>	
12:00 – 12:20	Vision-based hand segmentation techniques for human-robot interaction for real-time applications <i>P. Trigueiros, F. Ribeiro, G. Lopes</i>	

12:30 – 14:00

Lunch

Real Restaurant

14:00 – 14:45

Keynotes II

Room: Armona II

*Finite-context Models for Image Compression*

**Armando J. Pinho**

15:00 – 16:00

Oral Presentations

Room: Armona II		ORAL III
<b>Chairpersons:</b> <i>Sandra Ventura, Elisa Souza</i>		
15:00 – 15:15	Morphometric and immunohistochemical image analysis in pre-pubertal lamb tests after prenatal betamethasone treatment <i>G. Pedrana, E. Souza, M.H. Viotti, C. Trouche, D. Sloboda, G.B. Martin</i>	
15:15 – 15:30	A local invariant features approach for classifying acrosome integrity in boar spermatozoa <i>L.F. Robles, V. González-Castro, O. García-Olalla, M.T. García-Ordás, E. Alegre</i>	
15:30 – 15:45	Speech Articulation Assessment using Dynamic Magnetic Resonance Imaging Techniques <i>S.R. Ventura, M.J.M. Vasconcelos, D.R. Freitas, I.M. Ramos, J.M.R.S. Tavares</i>	
15:45 – 16:00	Fovea and Optic Disc Detection in Retinal Images <i>J. Pinão, C.M. Oliveira</i>	

Room: Deserta I		ORAL IV
<b>Chairpersons:</b> <i>Enrique Nava, Sofie Van Cauwer</i>		
15:00 – 15:15	Evaluation of wavelets in noise reduction of Electromyographic signals <i>F. Ballesteros, J. de Castro</i>	
15:15 – 15:30	Analysis System of Sodomotor Function using Digital Image Processing <i>J.L. Quintero, E.Nava, M.S.Dawid</i>	
15:30 – 15:45	Comparison between some time-frequency analysis methods on electromyography (EMG) signal <i>H.A. Weiderpass, C.G.F. Pachi, J.F. Yamamoto, I.C.N. Sacco, A. Hamamoto, A.N. Onodera</i>	
15:45 – 16:00	Assessing the detection of embolic signals using Continuous Wavelet Transform <i>I.B. Gonçalves, A. Leiria, M.M.M. Moura</i>	

16:00 – 16:30

Coffee Break

Foyer I + II

16:30 – 17:00

Posters

Room: Deserta II

17:00 – 18:00

Oral Presentations

Room: Armona II		ORAL V
<b>Chairpersons:</b> <i>Manuel Ujaldón, Teresa Mendonça</i>		
17:00 – 17:15	A new interface for manual segmentation of dermoscopic images <i>P.M. Ferreira, T. Mendonça, P. Rocha, J. Rozeira</i>	
17:15 – 17:30	InVesalius - An open-source imaging application <i>T.F. Moraes, P.H.J. Amorim, F.S. Azevedo, J.V.L. Silva</i>	
17:30 – 17:45	GPU Acceleration of Legendre Moments as Biomarkers of Bone Tissue <i>J.A. Lachiondo, M. Ujaldón</i>	
17:45 – 18:00	Generation of Planar Radiographs from 3D Anatomical Models using the GPU <i>A.S. Cardoso, D.C. Moura, J.G. Barbosa</i>	

Room: Deserta I		ORAL VI
<b>Chairpersons:</b> <i>Pedro Talaia, Jiri Dvořák</i>		
17:00 – 17:15	Identification of Foliar Diseases in Cotton Crop <i>A.A. Bernardes, J.G. Rogeri, N. Marranghello, A.S. Pereira, A.F. Araujo, J.M.R.S. Tavares</i>	
17:15 – 17:30	Bone Registration using a Robotic Ultrasound Probe <i>P.M.B. Torres, P.J.S. Gonçalves, J.M.M. Martins</i>	
17:30 – 17:45	Fast identification of individuals based on iris characteristics for biometric systems <i>J.G. Rogeri, M.A. Pontes, A.S. Pereira, N. Marranghello, et al.</i>	
17:45 – 18:00	Pseudo Fuzzy Colour Calibration for Sport Video Segmentation <i>C.B. Santiago, A. Sousa, L.P. Reis</i>	

18:30

Welcome Port of Honour

Hotel pool terrace

# Thursday, October 13

9:00 – 9:45

Keynotes III

Room: Armona II

3D from Video for Static and Dynamic Scenes  
Marc Pollefeys

09:50 – 10:30

Oral Presentations

Room: Armona II		Room: Deserta I	
Thematic Session on Imaging of Biological Flows: Trends and Challenges I			
Chairpersons:	ORAL VII	Chairpersons:	ORAL VIII
Rui Lima, Mónica S. N. Oliveira		Manuel González-Hidalgo, Arnau Mir	
09:50 – 10:10	Analysis of mixing of a clothoid based passive micromixer: a numerical study F.Pennella, S.Ripandelli, L.Ridolfi, F.Mastrangelo, M.A.Deriu, F.M.Montevecchi, U.Morbiducci, M.Rasponi, M.Rossi, C.J. Kähler	09:50 – 10:10	2D MRI Brain Segmentation by using feasibility constraints V. Padoia, E. Binaghi, S. Balbi, A. Benedictis, E. Monti, R. Minotto
10:10 – 10:30	Flow visualization of trace particles and red blood cells in a microchannel with a diverging and converging bifurcation V. Leble, C. Fernandes, R. Dias, R. Lima, T. Ishikawa, Y. Imai, T. Yamaguchi	10:10 – 10:30	Stochastic bone remodeling process: from isotropy to anisotropy Nedra Mellouli, Anne Ricordeau

10:30 – 11:00

Coffee Break

Foyer I + II

11:00 – 12:20

Oral Presentations

Room: Armona II		Room: Deserta I	
Thematic Session on Imaging of Biological Flows Trends and Challenges II			
Chairpersons:	ORAL IX	Chairpersons:	ORAL X
Rui Lima, Alberto Gambaruto		Nilson Roberty, Amr Abdel-Dayem	
11:00 – 11:20	Does fluid shear stress represent the degree of a red blood cell deformation? M. Nakamura, S. Wada	11:00 – 11:20	Level set framework for detecting arterial lumen in ultrasound images A.R. Abdel-Dayem
11:20 – 11:40	Flow of red blood cells through a microfluidic extensional device: an image analysis assessment T. Yaginuma, A. I. Pereira, P. J. Rodrigues, R. Lima, M. S. N. Oliveira, T. Ishikawa, T. Yamaguchi	11:20 – 11:40	An Object-based Image Analysis Approach to Spine Detection in CT Images Michael Schwiery, Teodora Chitiboi, Lars Bornemann, Horst K. Hahn
11:40 – 12:00	An Automatic Method to Track Red Blood Cells in Microchannels D. Pinho, F. Gayubo, A. Isabel, R. Lima	11:40 – 12:00	Reconstruction of a stratified flow inside a duct using X ray transform for constant by parts functions A.R. Teixeira, N.C. Roberty
12:00 – 12:20	Carotid Artery Atherosclerosis Plaque Analysis Using CT and Histology F. Santos, A. Joutsen, J. Salenius, H. Eskola	12:00 – 12:20	Automated extraction of the femoral shaft axis and its distal entry point from full and reduced 3D models S.V. Cauter, M. Beule, A. Van Haver, P. Verdonk, B. Verheghe

12:30 – 14:00

Lunch

Real Restaurant

14:00 – 15:00

Keynotes IV

Room: Armona II

Segmentation of Pelvic Organs and Muscles on Axial T2-weighted MR Images of Female Pelvic Cavity  
Zhen Ma

15:00 – 16:20

Oral Presentations

Room: Armona II		Room: Deserta I	
Chairpersons:	ORAL XI	Chairpersons:	ORAL XII
Susana Branco, Nuno Machado		Henryk Palus, Graça Almeida	
15:00 – 15:15	Current quality control procedures in digital Radiography S.D. Kordolaimi, A.N. Salvara, M.E. Lyra	15:00 – 15:15	Discrete t-norms in Noisy Image Edge Detection M. González-Hidalgo, S. Massanet, A. Mir
15:15 – 15:30	The Breast lesions characterization by b values variation in the DW - Magnetic Resonance Imaging A. Fernandes, M. Ribeiro, J. Janardo, S. Jaguegivane, M. Pereira	15:15 – 15:30	Comparing different filtering and enhancement methods to evaluate the impact on the geometry reconstruction for medical images A.J. João, A.M. Gambaruto, A. Sequeira
15:30 – 15:45	The Breast Phantom Construction for a research purpose M. Ribeiro, J. O'Neill, J. Mauricio	15:30 – 15:45	Displacement measurements with block motion algorithms G. Almeida, J. Fonseca, F. Melício
15:45 – 16:00	Monte Carlo simulation of PET images for injection dose optimization J. Boldyš, J. Dvořák, O. Bělohávek, M. Skopalová	15:45 – 16:00	Colour quantisation as a preprocessing step for image segmentation H. Palus, M. Frackiewicz
16:00 – 16:15	On the Accurate Classification of Bone Tissue Images J.E. Gil, J.P. Aranda, E. Mérida-Casermeyro, M. Ujaldón	16:00 – 16:15	An On-Line System for Medical and Biological Image Sharing G.M. Porcides, L.A.P. Neves, L.C.M. Aquino, G.A. Giraldi

16:20 – 16:50

Coffee Break

Foyer I + II

16:50 – 17:30

Posters

Room: Deserta II

17:30 – 18:30

Oral Presentations

Room: Armona II		Room: Deserta I	
Chairpersons:	ORAL XIII	Chairpersons:	ORAL XIV
Thorsten Riess, Fernanda Gentil		Ricardo Simões, César Pariente	
17:30 – 17:50	Automated quantification of histone relocation in cell nuclei T. Rieß, C. Dietz, M. Horn, O. Deussen, M. Leist, T. Waldmann, D. Merhof	17:30 – 17:50	Parallelization Environment of Digital Images Processing for Medical Applications C.A. Bravo Pariente, P.E. Ambrósio
17:50 – 18:10	Efficient Lesion Segmentation using Support Vector Machines J. Fiot, L.D. Cohen, P. Raniga, J. Fripp	17:50 – 18:10	Monitoring feet temperature using thermography D. Bento, F.C. Monteiro, A.I. Pereira
18:10 – 18:30	Stapes replacement - Different ways to replace its function F. Gentil, C. Garbe, M. Parente, P. Martins, et al.	18:10 – 18:30	The use of medical thermal imaging in obstetrics R. Simões, C. Nogueira-Silva

19:00

Farewell Dinner – Buses Departure (from the Hotel)

Pousada de Tavira

# Friday, October 14

**9:00 – 9:45** **Keynotes V** **Room: Armona II**

*Towards Human-Sequence Evaluation*  
**Xavier Roca Marvà**

**09:50 – 10:30** **Oral Presentations**

<b>Room: Armona II</b>		<b>Room: Deserta I</b>	
<b>Thematic Session on Satellite Image Analysis for Environmental Risk Assessment I</b>		<b>Thematic Session on Dental Imaging and Processing Techniques I</b>	
<b>Chairpersons:</b> <i>Daniela Iacoviello, Alberto De Santis</i>	<b>ORAL XV</b>	<b>Chairpersons:</b> <i>André Correia, J.C. Reis Campos</i>	<b>ORAL XVI</b>
<b>09:50 – 10:10</b>	Texture analysis and pattern recognition in X-band SAR images for urban forestry <i>S. Canale, A. De Santis, D. Iacoviello, F. Pirri, S. Sagratella</i>	<b>09:50 – 10:10</b>	The use of 3D mandibular movement simulation in total denture construction <i>P. Fonseca, J. Reis-Campos, M.H. Figueiral, N. Viriato, M. Vaz</i>
<b>10:10 – 10:30</b>	Identification of wildfire precursor conditions: Linking satellite based fire and soil moisture data <i>C. Aubrecht, C.D. Elvidge, K.E. Baugh, S. Hahn</i>	<b>10:10 – 10:30</b>	A practical and robust image processing method for evaluating the external apical root resorption <i>S. Alves, N.G. Posada, M.A.G. López</i>

**10:30 – 11:00** **Coffee Break** **Foyer I + II**

**11:00 – 12:20** **Oral Presentations**

<b>Room: Armona II</b>		<b>Room: Deserta I</b>	
<b>Thematic Session on Satellite Image Analysis for Environmental Risk Assessment II</b>		<b>Thematic Session on Dental Imaging and Processing Techniques II</b>	
<b>Chairpersons:</b> <i>Daniela Iacoviello, Alberto De Santis</i>	<b>ORAL XVII</b>	<b>Chairpersons:</b> <i>André Correia, Mário Vaz</i>	<b>ORAL XVIII</b>
<b>11:00 – 11:20</b>	Feature extraction from satellite imagery and LiDAR to update exposure to tsunamis and improve risk assessment in dynamic urban areas <i>S. Freire, T. Santos, J.A. Tenedório</i>	<b>11:00 – 11:20</b>	Preliminary study of the clinical application of the clinical decision support system ORAD II in a university dental clinic <i>A.F. Simões, A. Correia, T. Marques, R. Figueiredo</i>
<b>11:20 – 11:40</b>	Cosmo-SkyMed SAR data for urgency situations – study of a real case <i>R.L. Paes, E.H. Shiguemori, M. Habermann, M.R. Neto, R.M. Andrade</i>	<b>11:20 – 11:40</b>	Medicine Application of Laser Holography and Speckle Interferometry <i>V.A. Antonov, M.H. Grossmann, A.I. Larkin, A.V. Osintsev, V.P. Schepinov</i>
<b>11:40 – 12:00</b>	Using satellite imagery to develop a detailed and updated map of imperviousness to improve flood risk management in the city of Lisbon <i>T. Santos, S. Freire, J.A. Tenedório, A. Fonseca</i>	<b>11:40 – 12:00</b>	Image processing techniques in the analysis of the stresses exerted on the abutment tooth for a Removable Partial denture <i>M.J. Santos, M.H. Figueiral, A. Correia, M. Vaz, J. Monteiro</i>
<b>12:00 – 12:20</b>	Situational Awareness on Rio de Janeiro's terrain sliding using Cosmo-SkyMed data – study of a real case <i>R.L. Paes, O.D. Zaloti Jr, F.M. Barros, C.H.L. Ribeiro</i>	<b>12:00 – 12:20</b>	Micromovement measurements of endosseous dental implants with 3D Digital Image Correlation (DIC) method <i>A.T. Rodrigues, C.P. Nicolau, M.A. Neto</i>

**12:30 – 12:45** **Closing** **Room: Armona II**

# Posters

(Room: Deserta II)

Engineer methods of assistance of toraco-chirurgical operation

*B. Gzik-Zroska, W. Wolański, M. Gzik, J. Dzielicki*

Multimodality Imaging Population Analysis using Manifold Learning

*J. Fiot, L.D. Cohen, P. Bourgeat, P. Raniga, O. Acosta, V. Villemagne, O. Salvado, J. Fripp*

Image Segmentation Algorithms on Female Pelvic Ultrasound Images

*P.F. Silva, Z. Ma, J.M.R.S. Tavares*

Image Segmentation Algorithms and their use on Doppler Images

*T.D.C.A. Silva, Z. Ma, J.M.R.S. Tavares*

Automatic Segmentation of the Secondary Austenite-phase Island Precipitates in a Superduplex Stainless Steel Weld Metal

*V.H.C. Albuquerque, R.Y.M. Nakamura, J.P. Papa, C.C. Silva, J.M.R.S. Tavares*

3D geometry reconstruction from gray and RGB medical images

*P. Talaia, M. Parente, A. Fernandes, R.N. Jorge*

Simple and Fast Shape Based Image Retrieval

*J.F. Nunes, P.M. Moreira, J.M.R.S. Tavares*

Stress analysis of the tympanic membrane through image

*C. Garbe, M. P. L. Parente, P. Martins, R.M.N. Jorge, F. Gentil, J. Paço*

Simulation and Modeling the Thermal Behaviour of Textile Structures

*M.J. Gerales, L. Hes, M. Araújo*

Reaction force produced in the coccyx in different degrees of prolapse

*T.H. Da Roza, R. Natal Jorge, M. Parente, T. Mascarenhas, J. Loureiro, S. Duarte*

Combining Hierarchical Watershed Metrics and Normalized Cut For Image Segmentation

*T.W. Pinto, M.A.G. Carvalho*

Computational algorithms for the segmentation of the human ear

*E.M. Barroso, Z. Ma, J.M.R.S. Tavares, F. Gentil*

An automated vehicle counting system from UAV images

*A.M.R. Neto, E.H. Shiguemori, A.P.A. Castro*

Tracking rural and urban landmarks for UAV autonomous navigation

*R.M. Andrade, E.H. Shiguemori, A.P.A. Castro*

A Comparison between Segmentation Algorithms for Urinary Bladder on T2-weighted MR images

*Z. Ma, R.N. Jorge, J.M.R.S. Tavares*

# Local



**REAL MARINA HOTEL & SPA**

**Olhão, Portugal**

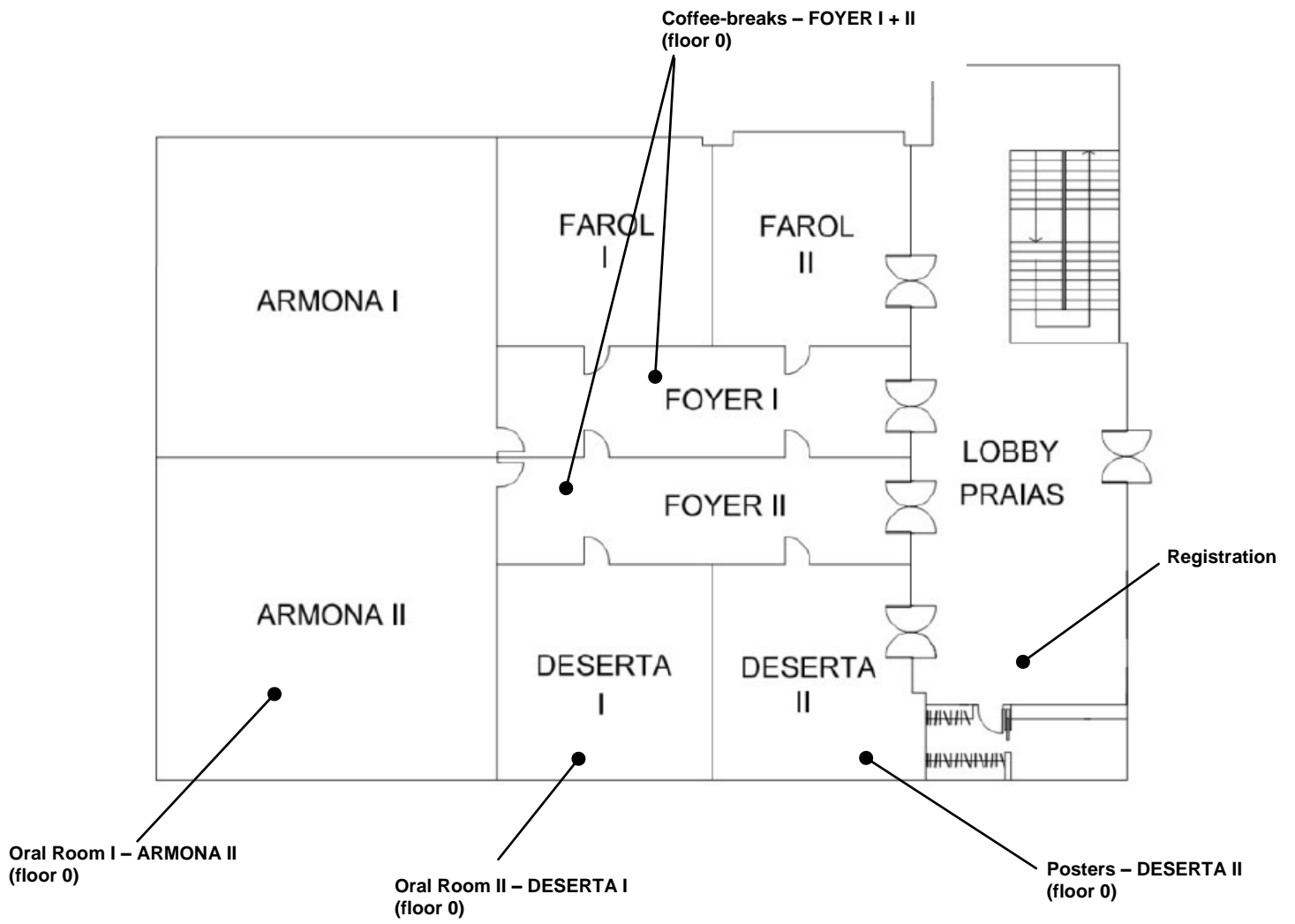
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**Web: [www.realhotelsgroup.com/RealMarina](http://www.realhotelsgroup.com/RealMarina)**

**GPS coordinates: 37°01'24.66"N 7°50'49.53"O**

# Rooms (floor 0)



# SOCIAL PROGRAMME SCHEDULE

**Wednesday, October 12**

18h30 – 19h15: Welcome Port of Honour at the Hotel pool terrace



**Real Marina Hotel & SPA**  
Avenida 5 de Outubro  
8700-307 Olhão

**Thursday, October 13**

19h00 – Transfer from Hotel Real Marina to Pousada de Tavira

19h30 – Arrival to Pousada de Tavira

Welcome drink served in the cloisters followed by dinner in the Conventual room.



**Pousada de Tavira**  
Rua D. Paio Peres Correia  
8800-407 Tavira

