

# CONFERENCE PROGRAM

AND

ABSTRACTS



Porto  
Portugal

## CONFERENCE PROGRAM

BioMedWomen covers several fields of knowledge related to women's health. It gathers the clinical and bioengineering perspectives from different professionals from around the world: gynecologists, urologists, physiotherapists, nutritionists, sport scientists, radiologists, neurologists, engineers, dermatocosmetologists, gerontologists, psychologists, dentists, among others.

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## SCIENTIFIC PROGRAM

Monday, 22 June	
8:30	<b>Registration</b>
9:00h	<b>Opening session</b> Renato Natal Jorge Teresa Mascarenhas José Alberto Duarte Isabel Ramos Maria Emília Costa Maria Helena Figueiral Olívia Pinho João Manuel RS Tavares
9:15h	<b>Room 1, Chairpersons: Maria Emília Costa / José Alberto Duarte</b> <b>Invited Lecture</b> <u>Improving women's health via the bio-psycho-social model: fibromyalgia management as a case study.</u> <i>H. L. Rogers</i> <b>Oral Presentations, Chairpersons: João Manuel RS Tavares / Olívia Pinho</b>
10:00h	<u>Save-My-Mom: an innovative medical device for autotransfusion in life threatening postpartum hemorrhage in low resource settings.</u> <i>H. Esmailbeigi, V. Dobiesz, N. Robinson, P. Kutz &amp; S. Geller</i> <u>Screening prevalence of depressive disorder in diabetic women.</u> <i>H. Jahangiri &amp; S. A. Mirbagheri</i> <u>Eating behaviour and risk factors for eating disorders in women submitted to abdominoplasty.</u> <i>V. Y. Suzuki, F. X. Nahas, F. Furtado, M. J. De Brito &amp; L. M. Ferreira</i>
11:00h	<b>Coffee break</b>

Monday, 22 June	
11:30h	<b>Room 1, Chairpersons: Thuane da Roza / Augusto Gil Pascoal</b> <b>Oral Presentations</b> <u>The quality of enzymatic dispersion viability and cryopreservation of human skin cells.</u> <i>R. Yamamoto, S. Gaiba, F. Zanata, J. França &amp; L. Ferreira</i> <u>Acute management of hand burns.</u> <i>F. Zanata, A. Oliveira &amp; L. M. Ferreira</i> <u>Ultrasound imaging transducer orientation and displacement during diastasis recti assessment.</u> <i>P. Mota, A. G. Pascoal, C. Vaz, F. João, A. Veloso &amp; K. Bø</i> <u>Adolescent health, hygiene and nutritional consciousness among slum girls in Mumbai.</u> <i>N. Beena</i> <u>Symptoms of eating disorders in at term pregnancy.</u> <i>F. Volpe, G. Tesolat, A. Andrisani, R. Maione, G. Straface &amp; V. Zanardo</i>
13:10h	<b>Lunch</b>

Monday, 22 June	
11:30h	<p><b>Room 2, Chairpersons: MPL Parente / João Manuel RS Tavares</b></p> <p><b>Oral Presentations</b></p> <p><u>Evaluation of factors of senior fragility of the clients of third age at the university FTK UP.</u>  <i>T. Podzimeková, M. Přidalová &amp; M. Cínařová</i></p> <p><u>Relationship between quadriceps echo intensity, muscle thickness and pain intensity in aged women with knee osteoarthritis.</u>  <i>L. Carrão, R. Santos, S. Amado, H. Almeida, P. Faria, P. Armada-da-Silva, A. Veloso &amp; M. Espanha</i></p> <p><u>The effect of exercise training programs on balance in older women.</u>  <i>A. Dunsky, T. Yahalom &amp; R. Lidor</i></p> <p><u>Ultrasound evaluation of musculotendinous structures in elderly population submitted to a physical activity program.</u>  <i>R. Santos &amp; A. P. Amaral</i></p> <p><u>Are computerized respiratory sounds in COPD gender dependent?</u>  <i>C. Jácome &amp; A. Marques</i></p>
13:10h	<b>Lunch</b>

Monday, 22 June	
14:30h	<p><b>Room 1, Chairpersons: Teresa Mascarenhas / Renato Natal Jorge</b></p> <p><b>Invited Lecture</b></p> <p><u>Biomechanics of female pelvic floor: bridging experiments, modelig, and clinical practice.</u>  <i>M. Damaser</i></p> <p><b>Oral Presentations, Chairpersons: Teresa Mascarenhas / Renato Natal Jorge</b></p>
15:10h	<p><u>Simulation on the effect of pubococcygeous muscle avulsion on the anterior vaginal wall support.</u>  <i>L. Chen, J. Ashton-Miller &amp; J. DeLancey</i></p> <p><u>Simulated surgical repair of cystocele with mesh.</u>  <i>J. Luo, L. Chen, J. Ashton-Miller &amp; J. DeLancey</i></p> <p><u>Significance of fibre geometry on passive-active response of pelvic muscles to evaluate pelvic dysfunction.</u>  <i>A. Bhattarai, R. Frotscher &amp; M. Staat</i></p> <p><u>The effects of fetal head trajectory on stress distribution in levator ani during vaginal delivery.</u>  <i>L. Havelková, L. Krofta, L. Hynčík &amp; J. Feyereisl</i></p>
16:30h	<b>Coffee break</b>

Monday, 22 June	
16:30h	<p><b>Room 2, Chairpersons: Sofia Brandão / J Belinha</b></p> <p><b>Poster Session</b></p> <p><u>Differences between pelvic floor dynamometers.</u> V. Sousa, D. Orth, P. Driusso, F. Araújo-Moreira &amp; N. Parizotto</p> <p><u>Optimization of hyperelastic constitutive parameters for the female pelvic floor muscles.</u> E. Silva, M. Parente, S. Brandão, R. Natal Jorge &amp; T. Mascarenhas</p> <p><u>Biomechanical study on bladder neck displacement during valsalva maneuver.</u> P. Rocha, M. Parente, S. Brandão, T. Mascarenhas &amp; R. Natal Jorge</p> <p><u>Constitutive modeling of vaginal tissue in the transverse direction of fibers.</u> R. Martins, P. Martins, T. Mascarenhas &amp; R. Natal Jorge</p> <p><u>The biomechanical effect of damage on the pelvic floor muscles behavior.</u> D. Oliveira, M. Parente, B. Calvo, T. Mascarenhas &amp; R. Natal Jorge</p> <p><u>The meshless simulation of the atherosclerotic plaque tissue using an elasto-plastic model.</u> J. Belinha, L. M. J. S. Dinis &amp; R.M. Natal Jorge</p> <p><u>Otosclerosis - ear disease in women</u> F. Gentil, C. Santos, M. Parente, P. Martins, E. Almeida &amp; R. Natal Jorge</p>

Monday, 22 June	
17:00h	<p><b>Room 1, Chairpersons: H Almeida / Augusto Gil Pascoal</b></p> <p><b>Thematic Session: Biomechanics and numerical simulation of pregnancy</b></p> <p><b>Organizers:</b> Henrique A. Almeida, Sandra Amado &amp; Rui B. Ruben</p> <p><u>Pregnancy and ergonomics.</u> <b>H. Almeida</b> <u>Kinematic adaptations throughout pregnancy and postpartum in sagittal plane.</u> <b>M. Branco, R. Santos-Rocha, F. Vieira, L. Aguiar &amp; A. P. Veloso</b> <u>Effect of parity on step width during walking as pregnancy progresses: a case study.</u> <b>W. Gilleard</b> <u>Uterine smooth cells force generation from electrical properties.</u> <b>M. Yochum, J. Laforet &amp; C. Marque</b> <u>Reliability of a vaginal finger-cot device for measuring pelvic floor muscles strength.</u> <b>A.G. Pascoal, P. Silva &amp; F. Sancho</b></p>
20.00h	<p><b>Conference Dinner - Pestana Palácio do Freixo</b></p> <p>(the bus leaves atmosfera m at 19:30h)</p>

Monday, 22 June	
17.00h	<p><b>Room 2, Chairpersons: M Helena Figueiral / JC Reis Campos</b></p> <p><b>Thematic Session: Female oral medicine</b></p> <p><b>Organizers:</b> M. Helena Figueiral, J. Reis Campos &amp; Patricia Fonseca</p> <p><u>Oral-health related quality of life in patients with removable dentures.</u> A. Assis, S. Pina-Neves, J. C. Reis-Campos, M. Sampaio-Fernandes, M. H. Figueiral &amp; A. Correia</p> <p><u>Personality impact on prosthodontics patients.</u> F. Dantas, <b>A. Correia</b>, J. C. Reis-Campos, P. Fonseca &amp; M. H. Figueiral</p> <p><u>Prevalence of denture-related stomatitis.</u> M. H. Figueiral, J. C. Reis-Campos; T. Pereira-Leite, A. Correia &amp; <b>P. Fonseca</b></p> <p><u>Differences between genders in oral rehabilitation with complete denture.</u> <b>P. Fonseca</b>, M. Sampaio-Fernandes &amp; M. H. Figueiral</p> <p><u>Osteonecrosis of jaw by bisphosphonates: about a case.</u> M. Sampaio-Fernandes, J. G. Carvalho, T. Pereira-Leite &amp; J. Sampaio-Fernandes</p> <p><u>The biomechanical response of a restored tooth due to bruxism: a meshless approach.</u> C. Tavares, J. Belinha, L. M. J. S. Dinis &amp; R.M. Natal Jorge</p> <p><u>Facial cleft prenatal ultrasound diagnosis at 11 weeks – is it possible?</u> P. Vaz, T. Semedo, M. Seabra, V. Campos, <b>R. Nogueira</b> &amp; F. Valente</p>
20.00h	<p><b>Conference Dinner - Pestana Palácio do Freixo</b></p> <p>(the bus leaves atmosphere at 19:30h)</p>

Tuesday, 23 June	
9:20h	<p><b>Room 1, Chairpersons: Thuane da Roza / Rui Viana</b></p> <p><b>Oral Presentations</b></p> <p><u>Selected body composition fractions in relation to meeting recommended physical activity in overweight and obese women.</u> T. Sofková &amp; M. Přidalová</p> <p><u>Pelvic floor muscle electromyography during different running speeds - an exploratory and reliability study.</u> H. Luginbühl, R. Naeff, A. Zahnd, J-P. Baeyens, A. Kuhn &amp; L. Radlinger</p> <p><u>Bone mineral content and density in female adolescent athletes: comparison between participants of sports contrasting mechanical impact.</u> <b>M. J. Coelho-e-Silva</b>, J. P. Duarte, A. Osorio, L. Luz, J. Valente-dos-Santos, O. Tavares, A. Seabra &amp; D. Courteix</p> <p><u>Effective and enjoyable physical activity sessions for women with schizophrenia.</u> E. Gomes, T. Bastos, M. Probst, <b>R. Costa</b> &amp; R. Correadeira</p> <p><u>Effects of a 3-month physical activity program on manual dexterity and physical activity levels in a woman with schizophrenia: a case study.</u> <b>R. Costa</b>, E. Gomes, O. Vasconcelos, R. Correadeira &amp; T. Bastos</p>
11.00h	<b>Coffee break</b>

Tuesday, 23 June	
9:20h	<b>Room 2, Chairpersons: PALS Martins / Sofia Brandão</b> <b>Oral Presentations</b> <u>Structural differences between breast lesion by diffusion kurtosis imaging.</u> <i>L. Nogueira, S. Brandão, R. G. Nunes, J. Loureiro, I. Ramos &amp; H. Ferreira</i> <u>The effect of late mastectomy with and without breast reconstruction on balance and body posture.</u> <i>A. P. Ribeiro, T. Maniaes, A. Hamamoto &amp; S. M. A. João</i> <u>Capsular weakness around breast implant – a non-recognized complication.</u> <i>F. X. Nahas, F. Zanata, P. Arquero, T. Rosewick &amp; L. M. Ferreira</i> <u>Evaluation of the shell properties of the PIP breast implants.</u> <i>N. Ramião, P. Martins, A. A. Fernandes, M. L. Barroso, D. Santos</i>
11:00h	<b>Coffee break</b>

Tuesday, 23 June	
11:30h	<b>Room 1, Chairpersons: J Belinha / Renato Natal Jorge</b> <b>Oral Presentations</b> <u>Optimizing self-esteem and sexual quality of life after burn trauma and childhood abuse: a case report.</u> <i>M. Pocolo, R. P. Lobo &amp; R. P. Daher</i> <u>Levonorgestrel-releasing intrauterine device (LNG-IUD) Mirena® and myomas: clinical effects.</u> <i>J. López-Olmos</i> <u>Quality of life in women with urinary incontinence in rehabilitation treatment.</u> <i>M. G. Pereira, B. Lynch, M. Hall-Faul &amp; S. Pedras</i> <u>Maternal pathology and fetal abnormalities.</u> <i>P. Vaz, I. Côte-Real, V. Campos, B. Assunção, A. C. Braga &amp; F. Valente</i>
13:10h	<b>Lunch</b>



Tuesday, 23 June	
11:30h	<p><b>Room 2, Chairpersons:</b> Henrique A Almeida / Rita MT Ascenso</p> <p><b>Thematic Session:</b> Bioinformatics and optimization algorithms for women's health</p> <p><b>Organizers:</b> Henrique A. Almeida, Eunice Oliveira, Rita M. T. Ascenso</p> <p><u>Mathematical modelling for assessing fracture risk associated with osteoporosis.</u>  <b>D. Monteiro</b>, A. Pereira, M. Baptista &amp; E. Fonseca</p> <p><u>Bodyshifter – somatotype determination and optimization.</u>  C. Silva, E. Oliveira, H. Almeida &amp; R. Ascenso</p> <p><u>Validation of the kaolin/carrageenan model as an experimental model of osteoarthritis in female rats.</u>  D. Amorim, A. Lima, A. David-Pereira, R. Nogueira, N. Seivas, A. Almeida &amp; F. Pinto-Ribeiro</p> <p><u>Image software and statistical analysis applied to expression of RAB25 in breast cancer.</u>  <b>M. Rocha</b>, S. Maia, D. Santos, H. Cardoso, J. Ramalho, M. Martins, M. Seabra &amp; T. Barona</p> <p><u>Decision support systems for screening BBD in plastic surgery patients.</u>  <b>M. J. De Brito</b>, M. Sabino Neto, N. R. Ortega, F. X. Nahas, C. A. Santos Filho &amp; L. M. Ferreira</p>
13:10h	<b>Lunch</b>

Tuesday, 23 June	
14:30h	<p><b>Room 1, Chairpersons:</b> Thuane da Roza / PALS Martins</p> <p><b>Oral Presentations</b></p> <p><u>Critical review on assessment technologies of pelvic floor muscles.</u>  V. Sousa, D. Orth, P. Driusso, F. Araújo-Moreira &amp; N. Parizotto</p> <p><u>The impact of surgical wound dehiscence on women's sexuality and social adjustment.</u>  M. F. Duarte, <b>M. J. De Brito</b>, M. M. Resende, N. F. Corrêa, F. S. Santos &amp; L. M. Ferreira</p> <p><u>New anti-candidiasis women's cotton underwear.</u>  C. Mouro, F. Nogueira &amp; I. Gouveia</p>
16:30h	<b>Coffee break</b>

Tuesday, 23 June	
16:30h	<p><b>Room 2, Chairpersons: Sofia Brandão / PALS Martins</b></p> <p><b>Poster Session</b></p> <p><u>Body dysmorphic disorder in women seeking plastic surgery.</u> M. J. De Brito, F. X. Nahas G. A. Félix, G. M. Dini, T. A. Cordás &amp; L. M. Ferreira</p> <p><u>Body investment and body satisfaction in women undergoing reduction mammoplasty.</u> C. C. Fonseca, M. J. De Brito, E. S. Garcia, M. M. Carvalho, G. A. A. Félix, D. F. Veiga &amp; L. M. Ferreira</p> <p><u>Diagnostic performances of DCE and DWI in breast imaging.</u> L. Nogueira, S. Brandão, R. G. Nunes, H. Ferreira, J. Loureiro &amp; I. Ramos</p> <p><u>Developing a FON CMU breast model as a teaching aid for breastfeeding.</u> S. Yimyam &amp; S. Kannasutra</p> <p><u>The influence of BMI and C-section on the accuracy of CT scan on rectus abdominis diastasis diagnosis.</u> F. X. Nahas, F. Zanata, R. Busch, N. F. Neto &amp; L. M. Ferreira</p> <p><u>Temperature assessment in the drilling of ex-vivo bovine and porcine cortical bone.</u> M. Fernandes, E. Fonseca, R. Natal &amp; M. I. Dias</p> <p><u>Structural and vascular performance of biodegrading scaffolds within bioreactors.</u> S. Almeida, D. Freitas, H. Almeida &amp; P. Bártolo</p> <p><u>Differences in the influence of Nordic walking and walking on the anthropometric characteristics of women.</u> N. Čokorilo &amp; M. Mikalački</p>

Tuesday, 23 June	
17:30h	<b>Biomedwomen 2015 Closing Session</b>

## ABSTRACTS

### Institutional Organizers



### Institutional Support



### Publication



**Temperature Assessment in the Drilling of *Ex vivo* Bovine and  
Porcine Cortical Bone Tissue**

*M. G. Fernandes<sup>1</sup>; E. M. M. Fonseca<sup>2</sup>; R. J. Natal<sup>1</sup>; M. I. Dias<sup>3</sup>*

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<sup>3</sup> CITAB, Vila Real, Portugal

**Abstract:** Thermal damage in bone tissue is a common problem in drilling processes. The main goal of this work is to analyze the cutting conditions that generate the lower temperature, avoiding the occurrence of thermal bone necrosis. In this work, the effects of the drill speed and the feed-rate were studied during the drilling of cortical bovine and porcine bone tissue. In the *ex vivo* drilling operations, two methodologies were performed on several fresh femur bone samples. The present study showed that the combinations of cutting conditions in the drilling process of *ex vivo* cortical bovine and porcine bone tissue, produced temperatures far below the critical values. It was concluded that the temperature increases with an increasing drill speed and decreases with high feed-rates. To the drill speed, the difference is less clear than that the feed-rate. The drilling temperatures on the bovine samples were higher than porcine samples.

**Structural and Vascular Performance of Biodegrading Scaffolds Within Bioreactors**

*S. R. Almeida<sup>1,2</sup>; D. Freitas<sup>1,2</sup>; H.A. Almeida<sup>1</sup>; P. J. Bártolo<sup>2</sup>*

<sup>1</sup> School of Technology and Management, Polytechnic Institute of Leiria, Portugal

<sup>2</sup> Manchester Biomanufacturing Centre, School of Mechanical, Aerospace and Civil Engineering,  
Manchester Institute of Biotechnology, University of Manchester, UK

**Abstract:** The organization of tissue engineered cultured cells can be guided by growing them on a 3D substrate known as a scaffold. The cell-seeded scaffold may then be placed in a bioreactor enhancing the cell proliferation and differentiation before implantation. During this process, scaffolds tend to degrade due to enzymatic and/or hydrolytic phenomenon's while the tissue regeneration occurs. Another critical issue during the degradation process is the variation of the scaffold's mechanical properties. With the aid of combined numerical simulations, computational fluid dynamics and structural simulations, this research intends to predict the scaffold's mechanical performance while evaluating its vascular performance in order to optimise the working parameters of bioreactors of biodegrading polymer scaffolds for tissue engineering applications. These parameters are evaluated according to the pressures induced on the scaffolds and their influence on the shear stress caused on the cells which may be stimulated or destroyed on the scaffolds surface.