

## Thursday, January 28, 2021

[Thu Jan 28] [Fri Jan 29] [compact]

ROOM 1	ROOM 2	ROOM 3	ROOM 4
<b>12:15 Opening ceremony</b>			
<p><b>12:30 Surgery &amp; Intervention - I</b></p> <p><b>Patient Specific Instrumentation in ACL Reconstruction. A novel technique using 3D printed guides.</b> <i>Mark Zee, Joep Kraeima, Alain Viddeleer, Ron Diercks</i></p> <p><b>Subtrochanteric fracture location effect on surgical management using proximal femoral nail antirotation (PFNA) versus dynamic hip screw (DHS): a finite element method analysis</b> <i>Omid Daqiq, Hans Hendrickx</i></p> <p><b>Measuring soft tissue forces and orientation during hip arthroplasty with device usability assessment</b> <i>Jonathan Wei, Bryan Blaauw, Jenny Dankelman, Tim Horeman</i></p>	<p><b>12:30 Heart - I</b></p> <p><b>Temporal influence in ECG parameters for myocardial infarction detection</b> <i>Alfonso Aranda Hernandez, Pietro Bonizzi, Joel Karel, Ralf Peeters</i></p> <p><b>Model-based characterization of de novo POAF and persistent AF using 12-lead ECG signals</b> <i>Hanie Moghaddasi, Borbála Hunyadi, Alle-Jan van der Veen, Natasja M.S. de Groot, Richard C. Hendriks</i></p> <p><b>The impact of different regularization parameter values in electrocardiographic imaging</b> <i>Tiantian Wang, Joel Karel, Pietro Bonizzi, Ralf Peeters</i></p> <p><b>Fragmented QRS dynamics towards electrical storm in ICD patients</b> <i>Amalia Villa, Sebastian Ingelaere, Sabine Van Huffel, Rik Willems, Carolina Varon</i></p>	<p><b>12:30 Motion</b></p> <p><b>Portable gait lab: tracking gait kinetics and kinematics using only three inertial measurement units</b> <i>Mohamed Irfan Mohamed Refai, Bert-Jan F. van Beijnum, Jaap H. Buurke, Peter H. Veltink</i></p> <p><b>3D-Printed sensing system to asses pathological synergies of the upper extremities</b> <i>Gerjan Wolterink, Gijs Krijnen, Peter Veltink, Bert-Jan Van Beijnum</i></p> <p><b>A data-driven approach to time series analysis - application of Singular Spectrum Analysis to motor adaptation data</b> <i>Sander Swart, Rob den Otter, Claudine Lamoth</i></p> <p><b>Multi-camera motion capture system without markers</b> <i>Jinne Geelen, Mariana P. Branco, Winfred Mugge, Alfred Schouten, Frans van der Helm</i></p>	<p><b>12:30 Brain - I</b></p> <p><b>Diagnostic value of stimulation-induced epileptic seizures: concordance with spontaneous seizures and association with clinical outcome: a stereo-electroencephalography study</b> <i>Daniel Kreiter, Raf van Hoof, Karolina Gasztych, Balu Krishnan, Olaf Schijns, Louis Wagner, Albert Colon, Simon Tousseyn</i></p> <p><b>Validation of multipin, dry EEG electrodes</b> <i>Janne Heijs, Jurjan Havelaar, Patrique Fiedler, Richard van Wezel, Ciska Heida</i></p> <p><b>EEG-in-a-dish towards precision medicine for epilepsy</b> <i>Areti Sfakianou, Eline van Hugte, Nael Nadiif Kasri, Michel J.A.M. van Putten, Monica Frega</i></p> <p><b>A method to experimentally estimate the conductivity of chronic stroke lesions</b> <i>Joris van der Cruijssen, Maria Carla Piastra, Ruud Selles, Thom Oostendorp</i></p>
<b>13:30 BREAK</b>			
<p><b>13:40 Rehabilitation - I</b></p> <p><b>Robotic classification of different elbow impairment phenotypes in patients with an upper motor neuron lesion</b> <i>Levinia van der Velden, Bram Onneweer, Joyce Benner, Claudia Haarman, Marij Roebroek, Gerard Ribbers, Ruud Selles</i></p>	<p><b>13:40 Vascular - I</b></p> <p><b>Heterogeneous material property characterization of atherosclerotic human carotid arteries</b> <i>Su Guvenir, Hakki M. Torun, Hendrik H.G. Hansen, Ali C. Akyildiz</i></p> <p><b>Geometry and strain assessment of the healthy and aneurysmal abdominal aorta with a semi-3D ultrasound</b></p>	<p><b>13:40 Neuro-muscular - I</b></p> <p><b>Alternate finger tapping: Repeatability, target distance and cueing effects in healthy volunteers</b> <i>Soma Makai-Bölöni, Eva Thijssen, Geert Jan Groeneveld, Robert-Jan Doll</i></p> <p><b>Towards closed-loop HD-EMG-driven trans-spinal electrical</b></p>	<p><b>13:40 Endo &amp; Laparoscopy</b></p> <p><b>Multimodal markers for augmented surgical navigation</b> <i>Mohamed Benmahdjoub, Wiro J. Niessen, Eppo B. Wolvius, Theo van Walsum</i></p> <p><b>The subjective perception and objective measurement of image quality of laryngoscopes</b></p>

<p>Can machine learn from biomechanics? Fatigue detection with machine learning in a fatiguing outdoor run <i>Luca Marotta, Jasper Reenalda</i></p> <p>Hip joint torque limits for postural balance of paraplegic subjects with an orthosis activated in the hip joint <i>Mahboubeh Keyvanara, Mohammad Jafar Sadigh, Kenneth Meijer</i></p> <p>Pushing wheelchairs from the side for enhanced communication: Simple mechanical steering compensation <i>Lucy Bennett, Bram Sterke, Nicole Luitwieler, Heike Vallery</i></p>	<p>imaging approach <i>Larissa Jansen, Hans-Martin Schwab, Frans van de Vosse, Marc van Sambeek, Richard Lopata</i></p> <p>Towards including the intraluminal thrombus in patient-specific models of AAAS based on 4-D ultrasound <i>Arjet Nievergeld, Esther Maas, Joerik de Ruijter, Frans van de Vosse, Marc van Sambeek, Richard Lopata</i></p> <p>Robust Flow Monitoring Using Cross-sectional Doppler and Adaptive Transmits <i>Luuk van Knippenberg, Ruud van Sloun, Arthur Bouwman, Sergei Shulepov, Massimo Mischi</i></p>	<p>stimulation of motor circuitries <i>Antonio Gogeochea, Alexander Kuck, Edwin van Asseldonk, Francesco Negro, Jan Buitenweg, Utku Yavuz, Massimo Sartori</i></p> <p>Subject-specific modelling of neuromechanical response to transcutaneous spinal cord stimulation <i>Rafael Ornelas Kobayashi, Antonio Gogeochea Hernandez, Massimo Sartori</i></p> <p>Monitoring heart rate in Parkinson's disease to distinguish voluntary from involuntary gait arrests <i>Helena Cockx, Ying Wang, Bas Bloem, Ian Cameron, Richard van Wezel</i></p>	<p><i>Geert Geleijnse, Laura Veder, Marieke Hakkesteegt, Mick Metselaar</i></p> <p>External force compensation in a tendon-driven flexible robotic endoscope using Cosserat Rod modeling <i>Willem Hoitzing, Yoeko Xavier Mak, Momen Abayazid</i></p> <p>The influence of Trocar design on gas leak <i>Daniel Robertson, Frank Sterke, Tim Horeman</i></p>
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14:40 BREAK

14:45 **Keynote by Professor Dr. Jolanda Kluin (Academic Medical Center, Amsterdam)**Tissue Engineered Heart Valves and Hybrid Hearts  
*Jolanda Kluin*

15:15 BREAK

<p>15:20 <b>Knee</b></p> <p>Musculoskeletal simulation of cruciate-retaining total knee arthroplasty to predict the biomechanical effects of tibial polyethylene thickness <i>Periklis Tzanetis, Marco Marra, René Fluit, Bart Koopman, Nico Verdonschot</i></p> <p>BIOMECHANICAL ANALYSIS OF MORPHOLOGICAL KNEE JOINT PHENOTYPES AND THEIR POTENTIAL EFFECTS ON THE OUTCOMES OF TOTAL KNEE ARTHROPLASTY <i>Oğulcan Güldeniz, Periklis Tzanetis, Marco A. Marra, René Fluit, Nico Verdonschot</i></p> <p>Modelling kinematic and kinetic changes around the knee during</p>	<p>15:20 <b>Heart - II</b></p> <p>Estimation of cardiac tissue conductivity using confirmatory factor analysis <i>Miao Sun, Natasja M.S. de Groot, Richard C. Hendriks</i></p> <p>Qualitative evaluation of metrics used in deep learning for medical imaging segmentation <i>Leonardus van den Oever, W.A. van Veldhuizen, Geertuida de Bock, Peter van Ooijen</i></p> <p>High resolution plane wave compounding via a model based neural architecture <i>Nishith Chennakeshava, Ben Luijten, Oded Drori, Massimo Mischi, Yonina C. Eldar, Ruud J. G. van Sloun</i></p>	<p>15:20 <b>Wearable</b></p> <p>Decision-support system (DSS) that derives one's health condition from wearable sensors <i>Mohd Khalil Abu Hantash, Elisabeth Wilhelm, G.J. Verkerke, Ming Cao</i></p> <p>Data imputation framework to handle missing physiological data from wearable sensors <i>Carlijn Braem, Utku Yavuz, Peter Veltink</i></p> <p>Durability optimisation of powerful soft actuators for wearables <i>Suraj Giri, Allan Veale, Herman van der Kooij</i></p> <p>Feasibility of using smartwatches in clinical trials to observe drug induced changes in the heart rate</p>	<p>15:20 <b>Brain - II</b></p> <p>3D segmentation of nuclei and axons in third harmonic generation images of human brain tissue with U-net <i>Max Blokker, Pieter Wesseling, Philip de Witt Hamer, Mitko Veta, Marloes Groot</i></p> <p>In vivo magnetic resonance imaging using a custom built 50 mT scanner <i>Tom O'Reilly, Bart de Vos, Andrew Webb</i></p> <p>Automatic collateral scoring from 3D CTA images <i>Jiahang Su, Lennard Wolff, Adriaan C.G.M van Es, Wim van Zwam, Charles Majoie, Diederik W.J Dippel, Aad van der Lugt, Wiro .J Niessen, Theo van Walsum</i></p>
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<p><b>fatiguing run</b> <i>Robbert van Middelaar</i></p>	<p><b>Joint learning of model-based beamforming with sparse channel arrays</b> <i>Ben Luijten, Iris A.M. Huijben, Frederik J. de Bruijn, Harold A.W. Schmeitz, Massimo Mischi, Ruud van Sloun</i></p>	<p><i>Willem O. Elzinga, Laura Borgmans, Vasileios Exadaktylos, Geert Jan Groeneveld, Robert -Jan Doll</i></p>	<p><b>Wavelet function evaluation for ASD classification in adolescents based on functional MRI</b> <i>Ramona Cirstian</i></p>
16:20 <b>BREAK</b>			
<p><b>16:30 Lung &amp; Respiration - I</b></p> <p><b>Recurrent convolutional neural network for snore detection using audio data</b> <i>Jiali Xie, Xavier Aubert, Long Xi, Johannes van Dijk, Bruno Arsenali, Pedro Fonseca, Sebastiaan Overeem</i></p> <p><b>Detection and classification of patient-ventilator asynchrony</b> <i>Tom Bakkes, Roel Montree, Massimo Mischi, Francesco Mojoli, Simona Turco</i></p> <p><b>Multi-planar deep convolutional networks for nodule detection in CT scans</b> <i>Sunyi Zheng, Ludo J. Cornelissen, Xiaonan Cui, Xueping Jing, Raymond N. J. Veldhuis, Matthijs Oudkerk, Peter M.A. van Ooijen</i></p> <p><b>Prognostic outcome prediction for early stage non-small cell lung cancer using deep learning</b> <i>Sunyi Zheng, Jiapan Guo, Johannes A. Langendijk, Stefan Both, Ludo J. Cornelissen, Raymond N. J. Veldhuis, Matthijs Oudkerk, Peter M.A. van Ooijen, Robin Wijsman, Nanna M. Sijtsema</i></p>	<p><b>16:30 Vascular - II</b></p> <p><b>Endmember determination of multispectral photoacoustic imaging for carotid plaque vulnerability assessment</b> <i>Camilo Cano, Min Wu, Marc van Sambeek, Richard Lopata</i></p> <p><b>Physical resilience indicators in patients undergoing major thoracic aortic surgery</b> <i>Marjolein Klop, Marit Sanders, Richard van Wezel, Jurgen Claassen</i></p> <p><b>Automatic 3D+t ultrasound-based geometry and elasticity determination of abdominal aortic aneurysms</b> <i>Esther Maas, Hans-Martin Schwab, Joerik de Ruijter, Emiel van Disseldorp, Frans van de Vosse, Marc van Sambeek, Richard Lopata</i></p> <p><b>Analysis of carotid haemodynamics in an aging virtual population</b> <i>Irene Suriani, Massimo Mischi, Kevin D. Lau</i></p>	<p><b>16:30 Neurophysiology</b></p> <p><b>Multisine frequency modulation of intra-epidermal electric pulse sequences to study nociceptive processing: Methods and limitations</b> <i>Boudewijn van den Berg, Mana Manoochehri, Mindy Kasting, Alfred Schouten, Frans van der Helm, Jan Buitenweg</i></p> <p><b>Cortical plasticity of visual evoked potentials in patients with neurofibromatosis type 1</b> <i>J. Castricum, J.H.M. Tulen, A.M. Heuvelmans, D.C.G. Straver, G. Geleijnse, Y. Elgersma</i></p> <p><b>Freezing of gait detection in patients with Parkinson's disease using multi-modal physiological signals</b> <i>Ying Wang, Floris Beuving, Jorik Nonnekes, Mike X Cohen, Xi Long, Ronald M Aarts, Richard Van Wezel</i></p> <p><b>Development of dorsal root ganglion (DRG) multichannel stimulator prototype for use in early clinical trials</b> <i>Konstantina Kolovou-Kouri</i></p>	<p><b>16:30 Oncology - I</b></p> <p><b>Automatic trajectory planning for IRE treatment in liver tumours A numerical study</b> <i>Girindra Wardhana, Adriana Leticia Vera Tizatl, Momen Abayazid, Jurgen J Fütterer</i></p> <p><b>Phantom-based investigation of the relationship between microvascular architecture and ultrasound-contrast-agent kinetics</b> <i>Peiran Chen, Simona Turco, Ruud van Sloun, Andreas Pollet, Jaap den Toonder, Hessel Wijkstra, Massimo Mischi</i></p> <p><b>Deep synthesis from MR to CT using U-Net</b> <i>Bingjiang Qiu</i></p> <p><b>AUTOMATED CONE-BASED BREAST ULTRASOUND SCANNER FOR SCREENING AND BIOPSY</b> <i>Anton Nikolaev, Leon de Jong, Gert Wijers Wijers, Vincent Groenhuis, Françoise Siepel, Stefano Stramigioli, Hendrik Hansen, Chris de Korte</i></p>
17:30 <b>Closure day 1</b>			