

Tuesday, 6th September 2022

09:00	Registration	
10:00 - 13:00	Workshop 1: Using CompuCell3D as a platform to construct multi-scale multicellular agent-based virtual-tissue simulations of development and disease	<i>Room 3</i>
14:00 - 16:00	Workshop 2: Simcardiotest open source ofware – demo on oasis	<i>Room 2</i>
14:00 - 17:00	Workshop 3: Public and patient outreach and engagement for in silico medicine	<i>Room 3</i>

Wednesday, 7th September 2022

07:30	Registration	
08:30 - 09:00	Opening session; <i>Liesbet Geris, Joao Manuel, R.S. Tavares</i>	Main Auditorium
09:00 - 9:45	Plenary lecture 1: Patient-specific models in tumor growth: integrating organoids and image-based biomarkers; <i>José Manuel García-Aznar</i>	Main Auditorium
9:45 - 10:15	Coffee break + Posters	
10:15 - 12:15	<p>Session 1: Cardiovascular 1</p> <ul style="list-style-type: none"> • A continuum model of a fibrin rich clot; <i>Mohammad Rezaeimoghaddam, Netherlands</i> • Advancing the physics and performance of blood flow simulations towards exascale; <i>Jon McCullough, United Kingdom</i> • Arterial flows as social networks: a novel approach to disentangle hemodynamic complexity; <i>Karol Calò, Italy</i> • Computational models for hemodynamic management in critically ill patients: a systematic review; <i>Marijn Mulder, Netherlands</i> • Evaluating the risk of myocardial ischemia in patients with Kawasaki Disease using patient-specific simulations of coronary hemodynamics; <i>Karthik Menon, United States</i> • Impact of coronary artery stenting on the wall shear stress topological skeleton features; <i>Valentina Mazzi, Italy</i> • Parametric aortic valve geometric modeling for subject-specific blood flow simulations using a resistive approach; <i>Giorgia Pase, Netherlands</i> • Simulating the hemodynamic effect of an edge-to-edge repair of mitral valve regurgitation using a lumped parameter model; <i>Juliana Franz, Germany</i> 	Main Auditorium
	<p>Session 2: Computational modeling in health and disease 1</p> <ul style="list-style-type: none"> • The 12 Labours Project: Digital Twins for Personalised Medicine; <i>Julie Choisine, New Zealand</i> • Towards a patient-specific fetal cardiac growth model by using digital twin technology.; <i>Bettine van Willigen, Netherlands</i> • Virtual cutaneous leishmaniasis patient: modeling the natural history of infection and preliminary assessment of drug efficacy using Universal Immune System Simulator (UISS); <i>Elena Crispino, Italy</i> • Simulating radiation-induced pulmonary fibrosis through personalised in silico modelling; <i>Vasileios Vavourakis, Cyprus</i> • Personalized, automatized brain stimulation modelling partly explains intersubject behavioral response variability.; <i>Melanie Steiner, Switzerland</i> • Computational analysis of subject-specific muscle-driven ankle-foot kinematics; <i>Okan Avci, Germany</i> • Subject-specific knee joint in musculoskeletal modelling : prediction of contact forces and moments during gait for two patients with total knee arthroplasty; <i>Sacha Guitteny, France</i> • Towards automatic generation of patient-specific knee models for total knee arthroplasty; <i>Elaheh Elyasi, France</i> 	Room 2
	<p>Session 3: In silico clinical trials 1</p> <ul style="list-style-type: none"> • A physiology-driven model for the generation of a virtual cohort of dyssynchronous heart failure patients; <i>Claudia Alessandra Manetti, Netherlands</i> • A virtual population approach to support atopic dermatitis clinical trial design and biomarker identification; <i>Igor Faddeenkov, France</i> • An in Silico clinical trial on coronary fractional flow reserve as a replacement for the original clinical trial: A feasibility study; <i>Pjotr Hillhorst, Netherlands</i> • Hemodynamics of 1st stage Norwood patient through computer-generated statistical patient cohorts; <i>Canberk Yildirim, Turkey</i> • Identification of virtual patient cohorts for in silico clinical trials of cardiopulmonary devices from a database of 331 ECMO patients with diagnosed ARDS; <i>Micha Landoll, Germany</i> • In silico clinical trials for treatment of acute ischemic stroke; <i>Raymond Padmos, Netherlands</i> • In silico trial of baroreflex activation therapy for the treatment of diastolic heart failure; <i>John Clemmer, United States</i> 	Room 3
	<p>Session 4: Medical device modelling 1</p> <ul style="list-style-type: none"> • A computational investigation of the fluid dynamic in dialysis catheters for paediatric patients: towards the design optimization; <i>Claudia Bruno, United Kingdom</i> • Computational Biomechanics as a tool to improve mesh anchoring technique in pelvic organ prolapse repair surgery; <i>Elisabete Silva, Portugal</i> • Exploiting computational modelling to investigate the in-vitro performance of bioresorbable wire-braided stents; <i>Agnese Lucchetti, Germany</i> • High-fidelity model of the TEVAR procedure: patient-specific cases; <i>Francesco Migliavacca, Italy</i> • On the credibility of finite element modelling of self-expanding nickel-titanium stents: verification and validation activities; <i>Martina Bernini, Ireland</i> • Performance assessment of braided venous stent designs through computational modeling; <i>Rene Ubachs, Netherlands</i> • TEE-based Simulation Study on the Influence of Transcatheter Edge-to-Edge Device Position on Diastolic Hemodynamic Parameters; <i>Katharina Vellguth, Germany</i> 	Room 4
12:15 - 13:30	Lunch with Meet the Mentor programme	
13:30 - 14:30	Poster session 1, Poster session 2	Main Auditorium
	Session: Industry session	Room 2
	Session: Industry session	Room 3

14:30 - 16:00	<p>Session 5: Computational tools and simulation in biomechanics 1</p> <ul style="list-style-type: none"> • Definition of intended learning outcomes for in silico trials; <i>Els De Swerdt, Belgium</i> • C4Bio: Community challenge towards consensus on characterization of biological tissue; <i>Nele Famaey, Belgium</i> • Pressure estimation in physiological brain geometry from magnetic resonance elastography data; <i>Felipe Galarce, Germany</i> • Agent-based digital twin simulations of denosumab treatment, discontinuation and placebo scenarios explore the role of osteomorphs; <i>Charles Ledoux, Switzerland</i> • Neural network simulation based finite element modeling of heart mechanics; <i>Michael Sacks, United States</i> • Validation of a Synthetic Cohort of Aortic Stenosis Patients; <i>Jan Brüning, Germany</i> 	Main Auditorium
	<p>Session 6: Computational modeling in health and disease 2</p> <ul style="list-style-type: none"> • Analysis of functionally graded and uniform scaffolds based on mechano-biology and cell diffusion; <i>Mervenaz Sahin, Turkey</i> • Inverse calculation of multiscale bone composition out of DXA images; <i>Jerome Noailly, Spain</i> • Modelling the mechano-inflammatory regulation of chondrocyte in early osteoarthritis; <i>Maria Segarra-Queralt, Spain</i> • Nucleus pulposus cell network modelling in early intervertebral disc degeneration; <i>Sofia Tseranidou, Spain</i> • Open source computational model to investigate patient-device interaction during extracorporeal life support; <i>Jan-Niklas Thiel, Germany</i> • Use of a mechanistic model of chronic viral hepatitis B to investigate the dynamics and variability of serum viral markers in response to drug treatments; <i>Anne Schneider, France</i> 	Room 2
	<p>Session 7: Clinical imaging, Image-based in-vivo analysis, Imaging and visualization</p> <ul style="list-style-type: none"> • Can a transformer architecture match convolutional neural networks for segmentation of anatomic structures in 3D computed tomography?; <i>Gonçalo Almeida, Portugal</i> • Dynamic analysis of pelvic mobility using Magnetic Resonance Images; <i>Pauline Lecomte-Grosbras, France</i> • iTwin4Face: A Digital Twin of the Human Face for Enhancing Facial Paralysis Grading and Rehabilitation Precision; <i>Tan-Nhu Nguyen, France</i> • Modelling the fetal face growth from 3D US; <i>Raphael Sivera, United Kingdom</i> • Super-resolution of 4D-Flow MRI in the left ventricle using physics-informed neural networks; <i>Fergus Shone, United Kingdom</i> • Virtual Reality for Teaching and Treating Congenital Heart Disease; <i>Endrit Pajaziti, United Kingdom</i> 	Room 3
	<p>Session 8: Medical device modeling 2</p> <ul style="list-style-type: none"> • Antibody engineering through machine learning approaches_ case study on antibody anticancer drug trastuzumab; <i>Koushika R, India</i> • Device induced deformation, damage, and puncture of arterial porcine tissue; <i>Mathieu Oude Vrielink, Netherlands</i> • Digital twins of electrical stimulation devices for tissue engineering applications; <i>Julius Zimmermann, Germany</i> • Hardware Density Reduction Avids T3 PJF In Adult Spine Surgery: FE Simulation; <i>Morteza Rasouligandomani, Spain</i> • In silico modelling of cancer cell response to cold helium plasma jet and chemotherapy; <i>Vasileios Vavourakis, Cyprus</i> • In silico rational design of Antibodies: from Molecular Modeling to Deep Learning approaches; <i>Anne Goupil, France</i> 	Room 4
16:00 - 16:15	Coffee break + Posters	

16:15 - 18:15	Session 9: Industry clinical session	Main Auditorium
	Session 10: Computational modeling in health and disease 3	Room 2
	<ul style="list-style-type: none"> • A cardiovascular modelling approach for non-invasive estimation of chamber pressure and diagnosis of heart disease; <i>Finbar Argus, New Zealand</i> • A one-dimensional patient-specific model of the hemodynamics in the microvascular network of the retina using multimodal imaging; <i>Laureline Julien, France</i> • ADAVN: An anatomically detailed arterial and venous network model; <i>Lucas Omar Müller, Italy</i> • Blood flow simulations for understanding sickle cell disease across age; <i>Weiqiang Liu, France</i> • Distinguishing hypertensive renal injury from diabetic nephropathy using MR imaging and computational modelling of renal blood flow; <i>Ning Wang, United Kingdom</i> • High-rate atrial pacing to reduce left heart filling pressures: a combined computational-clinical study; <i>Tim van Loon, Netherlands</i> • Impact of Image Segmentation Variability on Hemodynamic Prediction of Flow Quantities in AAA; <i>Antonio Martínez, Italy</i> • Sensitivity analysis on the modeling parameters of a cardiovascular model simulating partial hepatectomy; <i>Lorenzo Sala, France</i> 	
	Session 11: In silico trials for medical product development	Room 3
	<ul style="list-style-type: none"> • A 3D finite-element analysis of residual limb biomechanics in transfemoral subjects; <i>Animesh Ranjan, Germany</i> • A fully regulated hybrid in silico - in vitro cardiorespiratory simulator for comprehensive testing of cardiac assist devices; <i>Libera Fresiello, Netherlands</i> • A paradigm shift in decomposing motor units: In silico trials show superiority of magnetomyography over electromyography; <i>Thomas Klotz, Germany</i> • AI-powered modeling approaches to predict the efficacy of new therapies for autoimmune diseases; <i>Philippe Moingeon, France</i> • Effect of flow diverter deployment variability on velocity reduction in intracranial aneurysms; <i>Benjamin Csippa, Hungary</i> • Modelling endogenous tissue restoration using a homogenized constrained mixture theory; <i>Thibault Vervenne, Belgium</i> • Pathway activation models for deep brain stimulation in rodents; <i>Jan Philipp Payonk, Germany</i> • Towards in silico trials to assess the performance of thrombectomy devices; <i>Sara Bridio, Italy</i> 	
	Session 12: Mathematical biomedical models 1	Room 4
	<ul style="list-style-type: none"> • A 1D co-axial model for coupled blood-CSF flow simulations in cerebral vascular-perivascular networks; <i>Beatrice Ghitti, Italy</i> • A chemotaxis model of peritoneal adhesions; <i>Madge Martin, France</i> • A mechanistic model of 3rd generation tyrosine kinase inhibitor on lung adenocarcinoma evolution; <i>Martin Bastien, France</i> • Age and sex informed uncertainty quantification of a 1D-model of the common carotid artery; <i>Friederike Schäfer, Norway</i> • Clinical testing of a non-invasive method for lung compliance estimation during pressure support ventilation; <i>Rob S.P. Warnaar, Netherlands</i> • Combining machine learning and mathematical modeling in the estimation of T1 relaxation time from cardiac magnetic resonance imaging data; <i>Radek Galabov, Czech Republic</i> • Computational insights on the roles of DLL4-Notch and uPARAP in lymphangiogenic sprouts; <i>Sophie Bekisz, Belgium</i> • Model-based personalized anemia therapy: A clinical implementation; <i>Doris Helene Fuertinger, Germany</i> 	
18:15 - 19:15	VPH Institute General Assembly	
19:15 - 21:00	Welcome reception in the Garden of the Venue	

Thursday, 8th September 2022

08:00	Registration	
08:30 - 10:30	Session 13: Cardiovascular 2 <ul style="list-style-type: none"> A method for evaluating the performance of a novel percutaneous Left Ventricular Assist Device and optimizing its design; <i>Bar Vinder, Israel</i> A newborn digital twin for cardiovascular modelling in early life; <i>Robyn May, New Zealand</i> Deep learning framework for cardiac electrophysiology model error correction; <i>Victoriya Kashtanova, France</i> Dynamic response of cerebrovascular networks to fluctuations in arterial blood pressure; <i>Stephen Payne, Taiwan</i> Effect of septal and left bundle branch pacing on right ventricular function: a model study; <i>Roel Meiburg, Netherlands</i> Extreme scale excitation-contraction modelling of the heart: from small molecule-protein interaction to full heart mechanics for drug testing in hypertrophic cardiomyopathy; <i>Jazmin Aguado-Sierra, Spain</i> Generation of a digital aortic valve twin for transcatheter aortic valve implantation; <i>Marcos Loureiro-Ga, Spain</i> Non-parametric statistical shape modelling for in silico trials of TAVI; <i>Sabine Verstraeten, Netherlands</i> 	Main Auditorium
	Session 14: Multiscale modeling <ul style="list-style-type: none"> A GPU-accelerated model of neuroblastoma to predict disease outcome and find drug targets; <i>Kenneth Wertheim, United Kingdom</i> An interconnected multi-level mechanistic model of the human brain; <i>Nicolas Sundqvist, Sweden</i> Assessing the accuracy and efficiency of a binning strategy on a multiscale tumours' growth model; <i>Vinicius Varella, Italy</i> Calibration and validation of a multiscale model to study the role of mechanics and inflammation in osteoarthritis; <i>Satanik Mukherjee, Belgium</i> Data-driven multiscale model of macaque auditory thalamocortical circuits; <i>Erica Griffith, United States</i> Demand-driven multiscale modelling of myocardial perfusion in the (a)synchronous heart; <i>Anneloes Munneke, Netherlands</i> Electromechanical Remodelling During Heart Failure in Dilated Cardiomyopathy: a Systematic in silico Investigation; <i>Tobias Gerach, Germany</i> Multiscale mathematical modelling of nanoparticle distribution in a realistic tumour following direct injection; <i>George Caddy, United Kingdom</i> 	Room 2
	Session 15: Mechanobiology <ul style="list-style-type: none"> A computer modelling approach to investigate the role of extrinsic and intrinsic mechanical signals on sprouting angiogenesis; <i>Chiara Dazzi, Germany</i> A mechanobiological approach of growth plate morphological evolution; <i>Diego Quexada, France</i> Agent-based models for vocal fold regenerative biomaterials: a parameter optimization study; <i>Grace Yu, United States</i> An in silico framework for virtual optimization of tissue engineering cartilage repair approaches; <i>Seyed Ali Elahi, Belgium</i> Computational modelling of the mechanical competition within an epithelial cell monolayer under infection; <i>Raúl Aparicio-Yuste, Spain</i> Design and manufacturing of 3D printed porous scaffolds for critical size bone defects: Three clinical cases; <i>Beat Schmutz, Australia</i> In silico investigation of the mechanobiological influence of fixation devices on mandibular fracture healing; <i>Vincenzo Orassi, Germany</i> Multiscale model based on cell populations to describe bone remodeling in a sheep tibia; <i>Lidia Carvalho, Portugal</i> OMIBONE: OMics-driven computer model of Bone regeneration for personalized medicine; <i>Mahdi Jaber, Germany</i> 	Room 3
	Session 16: Big data and machine learning <ul style="list-style-type: none"> A correlation study between morphological parameters and hemodynamics indices: an integrated deep learning and statistical shape modeling approach; <i>Martino Andrea Scarpolini, Italy</i> A framework of decision support system for facial rehabilitation based on reinforcement learning coupled with finite element model; <i>Duc-Phong Nguyen, France</i> An image-based machine learning and morphometric pipeline for the prediction of liver resection complexity; <i>Omar Ali, France</i> Artificial intelligence based in silico models for the prediction of resilience related psychological, psychiatric and functional trajectories in women with early breast cancer; <i>Georgios Stamatakis, Greece</i> Automatic segmentation of the human pelvis organs using a generative adversarial network and MRI data; <i>Duyen Nguyen-Le, France</i> Predicting miRNA-mRNA interactions with graph neural networks; <i>Maciej Malawski, Poland</i> Towards the development of deep generative model for tree-structured geometries; <i>Rajarajeswari Ganesan, Netherlands</i> An artificial neural network to predict 3D human posture during one- and two-handed load-handling tasks; <i>Mahdi Mohseni, Iran</i> 	Room 4
10:30 - 11:00	Coffee break + Posters	
11:00 - 11:45	Plenary lecture 2: Microstructure-informed in silico modeling of the human brain; <i>Silvia Budday</i>	Main Auditorium
11:45 - 12:45	Lunch break	
12:45 - 13:45	Poster session 3, Poster session 4	Main Auditorium
	Session: Industry session	Room 2
	Session: Industry session	Room 3

13:45 - 15:00	<p>Session 17: Computational tools and simulation in biomechanics 2 <i>Main Auditorium</i></p> <ul style="list-style-type: none"> • Validation of Internal Parameters of Adolescent Idiopathic Scoliosis Evaluated using ScolioSIM Solution - Preliminary Results; <i>Sasa Cukovic, Switzerland</i> • Development of a fully-parametric thoracolumbar spine model with articulated rib cage; <i>Luigi La Barbera, Italy</i> • A poro-aniso-hyperelastic model coupled with solute transfer model for in-silico study of intervertebral disc degeneration, a high-performance computing application; <i>Dimitrios Lialios, Spain</i> • The effect of tibiofemoral joint morphology on contact mechanics under simulated gait conditions: A finite element modelling study; <i>Rosti Readioff, United Kingdom</i> • Prevention of asymmetric maxillary expansion via simulation - evaluation of clinical outcome; <i>Jan Hertwig, Germany</i>
	<p>Session 18: Reproductive and pregnancy modelling <i>Room 2</i></p> <ul style="list-style-type: none"> • Cytokine Profiling in Cultured Endometrial Cells after Hormonal Treatment; <i>Mark Gavriel, Israel</i> • Effect of Fetal Membrane Adhesion on Stretch in the Fetal Membrane and Cervix; <i>Erin Louwagie, United States</i> • Mechanobiology of a multi-cell co-culture model of the endometrium-myometrium interface; <i>Yael Shlomo, Israel</i> • Patient-Specific Simulation of Childbirth - A parametric model linked to medical images; <i>Olivier Mayeur, France</i> • Pelvic Organ Prolapse: Pre-Operative Evaluation of Surgical Techniques thanks to Numerical Simulation; <i>Olivier Mayeur, France</i>
	<p>Session 19: In silico clinical trials 2 <i>Room 3</i></p> <ul style="list-style-type: none"> • Computer modelling and simulation in clinics: mapping usage and opinions for advancing in silico medicine; <i>Raphaëlle Lesage, Belgium</i> • Artificial Retinal Microvascular Networks: Virtual Populations for In Silico Trials; <i>Wahbi El-Bouri, United Kingdom</i> • In silico clinical trials to investigate the effect of trunk morphology on lumbar belt efficacy using representative virtual patients; <i>Aicha Errabity, France</i> • Validation of a comprehensive in silico clinical trial for a humeral replacement; <i>Philippe Favre, Switzerland</i> • v-Patients: The web-based end-to-end virtual trial solution for medical device developers; <i>Simon Sonntag, Germany</i>
	<p>Session 20: Cancer early detection and therapy <i>Room 4</i></p> <ul style="list-style-type: none"> • Machine self-semantic learning of cancer disease: a case study on brain tumour early progression; <i>Jose Sousa, Poland</i> • Model-Based Optimisation Reveals Evolutionary Dynamics Conducive to Effective Therapy for Neuroblastoma; <i>Matteo Italia, Italy</i> • Modeling tumor heterogeneity evolution in lung adenocarcinoma; <i>Claire Couty, France</i> • Novel antenna for regional microwave hyperthermia cancer treatment; <i>Matouš Brunát, Czech Republic</i> • Virtual instances or avatars of a nephroblastoma digital twin: creating a performance efficient architecture for the clinical adaptation of the Nephroblastoma Oncosimulator; <i>Georgios Stamatakos, Greece</i>
15:00 - 15:45	<p>Plenary lecture 3: Contributions of myocardial hypertrophy and stiffening to right-ventricular remodeling in pulmonary arterial hypertension; <i>Daniela Valdez-Jasso</i> <i>Main Auditorium</i></p>
15:45 - 16.15	Coffee break + Posters
16:15 - 18:15	<p>In Silico trials panel plenary /Ecosystem for Digital Twins <i>Main Auditorium</i> organized by the VPH Institute</p>
19:30	Conference dinner at the Taylors winery

Friday, 9th September 2022

08:00	Registration	
08:45 - 10:15	<p>Session 21: The role of exascale computing in Computational Biomedicine Main Auditorium</p> <ul style="list-style-type: none"> • How exascale supercomputers can help with complex multiphysics models: virtual populations in cardiovascular therapies; <i>Mariano Vazquez, Spain</i> • Phase III In Silico Trials of new treatments for osteoporosis using exascale supercomputers; <i>Marco Viceconti, Italy</i> • A drop of blood at exascale: new answers that large-scale blood simulations can give in thrombotic and diabetic diseases; <i>Gabor Zavodszky, Netherlands</i> • Finding new cures from old drugs: ensemble Molecular Dynamics with exascale supercomputers enables high-throughput binding affinity for drug repurposing; <i>Peter Coveney, UK</i> • Panel discussion: Speakers discuss with the audience opportunities and challenges of using exascale computing in Computational Biomedicine, and the services the CompBioMed Centre of Excellence can offer to the research community 	
	<p>Session 22: Computational modeling in health and disease 4 Room 2</p> <ul style="list-style-type: none"> • Whole heart mesh reconstruction for in vitro numerical simulations; <i>Diogo F. Almeida, Germany</i> • Digital twin predicting diet response before and after long-term fasting; <i>Oscar Arrestam, Sweden</i> • Prediction of thrombosis in the arteriovenous grafts; <i>Lotte Piek, Netherlands</i> • Prediction of ventricular mechanics based on the degree of pre-operative ventricular outflow tract obstruction: in silico pulmonary valve replacement; <i>Maria Gusseva, France</i> • The Impact of Capillary Ageing on In Silico Brains: A Stroke Comparison; <i>Wahbi El-Bouri, United Kingdom</i> • Let's talk about sex differences in diabetic kidney; <i>Sangita Swapnasrita, Netherlands</i> 	
	<p>Session 23: Computational tools and simulation in biomechanics 3 Room 3</p> <ul style="list-style-type: none"> • Deep Learning for Fast 3D Aortic CFD Simulations; <i>Endrit Pajaziti, United Kingdom</i> • Development of a real-time numerical tool for endovascular navigation by active catheterization; <i>Arif Badrou, France</i> • In-silico calibration of thrombosis models using clinical incidence rates of spontaneous thrombosis in intracranial aneurysms; <i>Qiongyao Liu, United Kingdom</i> • In-silico flow diverter performance assessment in posterior communicating artery aneurysms; <i>Michael Macrauld, United Kingdom</i> • Uncertainty Quantification of Hemodynamic Parameters for Cerebral Aneurysm Rupture Risk Assessment; <i>Adriano Schlieff, Germany</i> • Coronary flow and ffr prediction: part 1 - numerical modelling and experimental validation; <i>Boris Chernyavsky, France</i> 	
	<p>Session 24: Musculoskeletal biomechanics Room 4</p> <ul style="list-style-type: none"> • A Quantitative Imaging Method for Reconstruction of Muscle Architecture using 3D Ultrasound; <i>Annika Sahrman, Germany</i> • The role of muscle pre-stretches in three-dimensional continuum-mechanical musculoskeletal system models; <i>Oliver Röhrle, Germany</i> • Towards a digital paediatric twin: A statistical shape model for bone shape and clinical bone measurement prediction; <i>Laura Carman, New Zealand</i> 	
10:15 - 10:45	Coffee break + Posters	
10:45 - 11:30	Plenary lecture 4: Kinetic modelling and network analysis of total-body PET data; <i>Adriana Tavares</i>	
11:30 - 12:30	<p>Session 25: Computational tools and simulation in biomechanics 4 Main Auditorium</p> <ul style="list-style-type: none"> • M4-health: digital twins that follow you throughout your health journey; <i>Gunnar Cedersund, Sweden</i> • Prediction of successful course of vaginal delivery in relation of bony pelvis anatomy and fetal head size using design of experiment; <i>Ludek Hyncik, Czech Republic</i> • Simulation-based digital twin platform for abdominal aortic aneurysms; <i>Alexander Pugachev, Germany</i> • Toward a deep learning-driven prediction of dynamic soft tissue deformations for a real-time mixed reality simulator of the childbirth processes; <i>Abbass Ballit, France</i> 	
	<p>Session 26: Computational modeling in health and disease 5 Room 2</p> <ul style="list-style-type: none"> • An image-based 3D electrophysiological torso model for simulating maternal and fetal ECG; <i>Lena Myklebust, Norway</i> • Hybrid modelling to predict pregnancy complications; <i>Pascalie Wijntjes, Netherlands</i> • Modeling a female pelvic floor and foresight biomechanical injuries during vaginal delivery; <i>Rita Moura, Portugal</i> • Multicellular model of effects of cell-to-cell heterogeneity on antiviral timing and potency in an infected patch of epithelial tissue; <i>James Glazier, United States</i> 	
	<p>Session 27: Agent based models Room 3</p> <ul style="list-style-type: none"> • An agent-based model to simulate DIPG migration in microfluidic devices; <i>Daniel Camacho-Gómez, Spain</i> • Calibrating a multiscale model of bone healing with immunofluorescent images; <i>Liesbet Geris, Belgium</i> • Integrated spatial-temporal mathematical model for simulation of fibrotic scar formation; <i>Jieling Zhao, France</i> • Quantitatively Comparing Tumor Images to Agent-Based Models for Parameter Fitting; <i>Colin Cess, United States</i> 	
	<p>Session 28: Mathematical biomedical models 2 Room 4</p> <ul style="list-style-type: none"> • A 3D in silico model of fracture healing to investigate craniofacial bone defects; <i>Laura Lafuente-Gracia, Belgium</i> • High-performance computational modeling of metallic biomaterials biodegradation; a case-study of a personalized biodegradable porous acetabular implant; <i>Mojtaba Barzegari, Belgium</i> • Modeling osteoporosis to design and optimize pharmacologic therapies comprising multiple drug classes; <i>David Jörg, Germany</i> • The PNT-Methodology: a novel high-level top-down network modelling approach applied to the intervertebral disc; <i>Laura Baumgartner, Spain</i> 	
12:30 - 13:15	Lunch break	
13:15 - 14:15	VPH Institute Awards	Main Auditorium