	Tuesday 30 July 2024					
	Great Hall South	MR 2301	MR3 2306	MR 2309		
8:00am-8:30am	Morning coffee					
8:30am – 8:45am	Opening Ceremony & Land Aknowledgement (Great Hall South)					
8:45am – 10:15am	A 01 SOFT TISSUE MECHANICS, DAMAGE, AND REMODELING I	B.01 WEARABLES TECHNOLOGIES FOR MUSCULOSKELETAL HEALTH MONITORING	C 01 NECK MUSCULOSKELETAL MODELS: CHALLENGES AND SOLUTIONS	D 01 PATIENT-SPECIFIC MODELING I		
	8:45am – 9:00am CONTINUUM GROWTH MECHANICS: RECONCILING TWO COMMON FRAMEWORKS; 6:45am – 9:15am COUPLING SYSTEMS BIOLOGY AND KINEMATIC GROWTH IN OPEN-SOURCE FINITE ELEMENT SOFTWARE; S. A. LaBelle 9:15am – 9:30am FULL-FIELD MECHANICS METHODS DEFINE MULTIMODAL TISSUE INJURY CRITERIA; c. Luetkemeyer 9:30am – 9:45am A CHEMO-MECHANO-BIOLOGICAL FRAMEWORK FOR EVOLVING CARTILAGE: PREDICTING DEGENERATION USING 3-D BIPHASIC FINITE ELEMENTS; D. M. Pierce 9:45am – 10:00am MULTISCALE MECHANICS OF SOFT-TISSUE DAMAGE: A ROLE FOR MULTISCALE FINITE ELEMENT DS; J. M. Rerson 10:00am – 10:15am HIGH-THROUGHPUT MANUFACTURING OF BIOMIMETIC FIBROUS SCAFFOLDS; Q. Liu	 8:45am – 9:00am MAXIMIZING UTILITY OF FREE-LIVING INERTIAL SENSOR DATA; R. D. Gurchiek 9:00am – 9:15am DEVELOPMENT OF A MOBILE WEARABLE SENSOR-BASED BIOMECHANICS LAB FOR ASSESSING BALANCE AND GAIT; B. Berg-Johansen 9:15am – 9:30am DISTILLING FULLBODY 3D SKELETAL TRACKING DATA INTO MOVEMENT QUALITY SCORES FOR CLINICAL UTILITY; E. Archibeck 9:30am – 9:45am DISCOVERING BIOMECHANICAL DIGITAL BIOMARKERS FOR USE AS NOVEL ENDPOINTS IN DECENTRALIZED CLINICAL TRIALS; R. S. McGinnis 9:45am – 10:00am AN EXPLAINABLE, MULTI-FACTORIAL, GAIT THRESHOLDS-DRIVEN APPROACH TO ASSESS FALL-RISK IN OLDER ADULTS; N. B. Singh 10:00am – 10:15am ESTIMATING GROUND REACTION FORCES FROM VIDEO; P. Kudzia 	8:45am – 9:00am PREDICTING INTERVERTEBRAL KINEMATICS IN NECK MUSCULOSKELETAL MODELS; A. Vasavada 9:00am – 9:15am ROLE OF MUSCLE AND COLUMN MORPHOMETRY ON INTRINSIC NECK LOADS IN MUSCULOSKELETAL INJURY MODELS: CHALLENGES AND OPPORTUNITIES; N. Yoganandam 9:15am – 9:30am PEDIATRIC NECK MODELS; OVERCOMING CHALLENGES IN DEVELOPING BIOFIDELIC AND VALIDATED MODELS; J. F. Luck 9:30am – 9:45am MODELLING AND SIMULATION OF CERVICAL SPINE RESPONSE DURING IMPACT EVENTS IN SPORTING SCENARIOS; D. Cazzola 9:45am – 10:00am EXPLORING CHRONIC INJURY PATHWAYS IN THE CERVICAL SPINE; J. M Barrett 10:00am – 10:15am ESTIMATING CERVICAL SPINE LOADS WITH VARIABLE SEGMENTAL CONTRIBUTIONS DURING DYNAMIC FLEXION; K. Moglo	8:45am – 9:00am EXPLORING CROUCH GAITS IN INDIVIDUALS WITH WEAK PLANTARFLEXORS USING SYNERGY FEEDFORWARD CONTROL; <i>H. Li</i> 9:00am – 9:15am REPRODUCING LOWER LIMB MALALIGNMENT WITH SCALING AND EFFECT ON KNEE JOINT REACTION FORCE ESTIMATIONS; <i>S. P. Herath</i> 9:15am – 9:30am DEVELOPMENT OF A NOVEL, OPEN-SOURCE PERSONALIZABLE MARKER-BASED CONSTRAINED KINEMATIC SHOULDER MODEL; <i>C. V. Hammond</i> 9:30am – 9:45am AUTOMATED FEM SIMULATION OF 396 MRI-BASED, PATIENT-SPECIFIC INTERVERTEBRAL DISC; <i>K. Nispel</i> 9:45am – 10:00am USING AN ATLAS MODEL OF THE TONGUE TO SIMULATE SUBJECT SPECIFIC TONGUE DEFORMATIONS; <i>L. E. Bilston</i> 10:00am – 10:15am A SUBJECT-SPECIFIC FINITE ELEMENT WORKFLOW TO PREDICT LOCAL MECHANICS IN HEALING FEMORAL FRACTURES; <i>F. Muhib</i>		
10:30am – 12:00pm	A.02 SOFT TISSUE MECHANICS, DAMAGE, AND REMODELING II	B.02 BIOMECHANICAL MODELING FOR POPULATION-BASED ASSESSMENT OF FALL AND	C.02 SPINE BIOMECHANICS I	D.02 FEBIO WORKSHOP		
	10:30am – 10:45am UNRAVELING THE ROLE OF MECHANICS IN GENETIC CARDIOMYOPATHIES USING BIOMECHANICAL MODELS OF ENGINEERED HEART TISSUES; J. Jilberto 10:45am – 11:00am MECHANICAL CONSEQUENCES OF GROWTH AND REMODELING ON UTERINE CONTRACTILE FUNCTION; K. Yoshida 11:00am – 11:15am EXPLORING THE BIOMECHANICAL CONSEQUENCES OF SUBSEQUENT CHILDBIRTH ON THE FEMALE PELVIC FLOOR; D. Oliveira 11:15am – 11:30am – 11:30am ARTIFICIAL INTELLIGENCE FRAMEWORK FOR PREDICTING PELVIC FLOOR MUSCLE BEHAVIOR DURING CHILDBIRTH; R. Moura 11:30am – 11:45am PREGNANCY BEFORE THE ONSET OF LABOR: A HOLISTIC BIOMECHANICAL ANALYSIS; D. Fidalgo 11:45am – 12:00pm REACTIVE VISCOELASTIC MATERIAL MODEL OF THE ANNULUS FIBROSUS – APPLICATIONS FOR FATIGUE MODELING; S. Shaffer	FRACTURE RISK 10:30am – 10:45am COUPLING AUTONOMOUS FINITE ELEMENT ANALYSIS AND MACHINE LEARNING FOR HIP FRACTURE PREDICTIONS – A CLINICAL STUDY; Z. Yosibash 10:45am – 11:00am ASSESING HIP FRACTURE RISK IN CLINICAL COHORTS USING DXA-DERIVED BIOFIDELIC FEMS; D. Jha 11:00am – 11:15am LEVERAGING WEARABLES TOWARDS DEVELOPING A COMPREHENSIVE, PERSONALISED AND SELF-LEARNING ASSESSMENT OF FALL RISK IN OLDER ADULTS; N. B. Singh 11:15am – 11:30am TOWARDS PATIENT-SPECIFIC PREDICTION OF REFRACTURES AND MORTALITY: A MULTI- STATE MODELLING APPROACH; A. Praveen 11:30am – 11:45am QUANTIFYING THE EFFICACY OF TREATMENTS FOR HIP FRACTURE PREVENTION USING A CRITICAL VELOCITY METRIC; A. Fung 11:45am – 12:00pm PROPHYLACTIC USE OF THE GAMMA NAIL TO PREVENT HIP FRACTURE: AN EXPERIMENTAL-COMPUTATIONAL EVALUATION; E. K Bliven	 10:30am – 10:45am ESTIMATING SPINAL KINEMATICS USING A 3D SHAPE MODEL OF THE HUMAN BACK DURING DYNAMIC MOVEMENT; <i>M. Kaiser</i> 10:45am – 11:00am AUTOMATED CT-BASED GENERATION OF KINEMATIC MODELS FOR PATIENTS WITH SPINAL DEFORMITY; <i>B. Peeters</i> 11:00am – 11:15am VALIDATION OF 3D SCOLIOSIS ASSESSMENTS OBTAINED FROM SCOLIOSIM – A PILOT STUDY; <i>S. Cukovic</i> 11:15am – 11:30am EFFECTS OF THORACIC DISC STIFFNESS ON MUSCULOSKELETAL SPINE MODEL LOADING IN AXIAL ROTATION; <i>M. Abdullah</i> 11:30am – 11:45am A MOTION-CAPTURE-DRIVEN MODEL WITH A FULLY ARTICULATED SPINE FOR DYNAMIC SIMULATION OF SUBJECT-SPECIFIC SAGITTAL ALIGNMENT; <i>D. Ignasiak</i> 11:45am – 12:00pm ACTIVE CONTRIBUTION OF TRUNK SOFT TISSUES ON SPINAL GEOMETRIC COMPENSATION; <i>M. Driscall</i> 	Organized by: Jeffrey Weiss, Gerard A Ateshian, Anne-Sofie Madsen Staples The FEBio workshop will offer participants an overview of the latest developments in FEBio and FEBio Studio. After a short introduction on the FEBio project, the presenters will demo several capabilities of the software. The topics covered will include basic features, such as geometry import, meshing, running FEBio, and post- processing. Then, more advanced topics will be discussed, such as setting up mixtures and generating fiber distributions, and contact. Finally, new developments will be demonstrated, including 3D image import and visualization, using Python with FEBio, and plugin generation. After the workshop, participants will have a good understanding of the capabilities of the FEBio software project, current development efforts, and future directions. Learning objectives: Basic understanding of the FEBio project, current status, and future directions		
12:00pm – 1:00pm	Lunch					
1:00pm – 2:00pm	Plenary lecture I: THE VIRTUAL PREGNANCY: USING COMPUTATIONAL MODELS TO PROBE HUI	MAN REPRODUCTION; Michelle L. Oyen				
2:15pm – 3:45pm	A.03 CARDIOVASCULAR FLUID DYNAMICS I	B.03 MUSCULOSKELETAL DYNAMICS AND NEUROMUSCULAR CONTROL I	C.03 SPINE MEETS CLINIC SYMPOSIUM I	D.03 RECENT ADVANCES IN SKIN BIOMECHANICS		
	2:15pm - 2:30pm IMPACT OF TEMPORAL VARIATION IN INLET WAVEFORM ON HEMODYNAMIC PREDICTION IN THE DESCENDING AORTA; F. Tajeddini 2:30pm - 2:45pm A FLUID-STRUCTURE INTERACTION APPROACH TO DISTINGUISH BETWEEN TRUE AND PSEUDO-SEVERE AORTIC STENOSIS; S. C. F. P. M. Verstraeten 2:45pm - 3:00pm EXPERIMENTAL VALIDATION FOR AORTIC VALVE FLUID-STRUCTURE INTERACTION NUMERICAL SIMULATION; N. Bueno 3:00pm - 3:15pm NUMERICAL SIMULATION OF THROMBUS FORMATION INDUCED BY A CENTRAL VENOUS CATHETER; K. Manning 3:15pm - 3:30pm COMPARISON OF FLOW AND WALL-SHEAR STRESS USING 4D FLOW MRI AND CFD IN CAROTID PHANTOMS WITH DIFFERENT STENOSIS LEVELS; A. Mokhtari 3:30pm - 3:45pm COMPUTATIONAL MODELING OF UTEROPLACENTAL HEMODYNAMICS; N. Grande Gutierrez	2:15pm - 2:30pm REAL WORLD VALIDATION OF THE EFFICACY OF A PLACEMENT ADAPTABLE FALL AND NEAR-FALL DETECTION ALGORITHM; R. A. Gumbe 2:30pm - 2:45pm ADVANCING FALL RISK ASSESSMENT: DATA-DRIVEN MACHINE LEARNING FOR PREDICTING INJURIOUS FALLS; P. Fahimi 2:45pm - 3:00pm EVALUATING THE EFFECT OF STATURE AND SEX DIFFERENCES ON THE EFFECTIVENESS OF ENERGY ABSORBER LANYARDS; F. Khorami 3:00pm - 3:15pm PHYSIOLOGICAL SETPOINT OF STANDING BALANCE DESCRIBED BY A REINFORCEMENT LEARNING MODEL; A. M Nasrabadi 3:15pm - 3:30pm EXPLORING HABITUATION AND ADAPTATION STRATEGIES IN POSTURAL CONTROL; F. Pescaglia 3:30pm - 3:45pm PROFILING POSTURAL CONTROL USING BIOSIGNALS AND VIRTUAL REALITY; L. Guerrini	 2:15pm – 2:45pm 2:45pm – 3:05pm 2:45pm – 3:05pm 3:05pm – 3:25pm 3:05pm – 3:25pm 3:25pm – 3:25pm 3:25pm – 3:45pm 3:25pm – 3:45pm 	 2:15pm – 2:30pm A MACHINE LEARNING APPROACH TO PREDICT IN VIVO SKIN GROWTH; A. Ni Annaidh 2:30pm – 2:45pm A BAYESIAN APPROACH TO CHARACTERIZING ANISOTROPIC PROPERTIES OF SKIN FROM SUCTION TESTS; T. Lee 2:45pm – 3:05pm THE APPLIED FORCE OF AUTOINJECTORS LEAD TO LARGE TISSUE DEFORMATION S AND SUBSEQUENT "LOCK UP"; AS.M. Staples 3:05pm – 3:20pm CALIBRATION AND VALIDATION OF PATIENT SPECIFIC MODELS OF POST-MASTECTOMY BREAST RECONSTRUCTION; A. Buganza Tepole 3:20pm – 3:35pm THE COMPUTATIONAL MODELLING OF MICRONEEDLE-SKIN INTERACTION WITH SKIN FOR THERAPEUTICS; A. Ni Annaidh 		
3:45pm – 4:45pm	POSTER SESSION A, Coffee break		C.03B SPINE MEETS CLINIC SYMPOSIUM II 3:45pm - 4:05pm LUMBAR SPINE MUSCLE ANATOMY, PHYSIOLOGY, AND PLASTICITY IN HEALTH AND DISEASE; S. Ward 4:05pm - 4:15pm FRAILTY AND SARCOPENIA IN SPINE SURGERY; E. Moskven 4:15pm - 4:30pm ESTIMATING SCOLIOTIC SPINAL CURVATURES FROM BACK SCANS: A DEEP LEARNING APPROACH; M. Bertsch 4:30pm - 4:45pm ENHANCING PROXIMAL JUNCTIONAL FAILURE PREDICTION THROUGH SUBJECT-SPECIFIC MUSCULOSKELETAL MODELING; N. Ashjaee			
4:45pm – 6:15pm	A.04 CARDIOVASCULAR MECHANICS	B.04 MUSCULOSKELETAL DYNAMICS AND NEUROMUSCULAR CONTROL II	C.04 SPINE MEETS CLINIC SYMPOSIUM III	D.04 BONE AND SOFT TISSUE BIOMECHANICS		
	4:45pm - 5:00pm AN IMAGE-BASED COMPUTATIONAL FRAMEWORK TO EVALUATE MATERIAL PROPERTIES OF HUMAN CORONARY LESIONS; Y. J. Wang 5:00pm - 5:15pm REGIONAL VARIATIONS IN RADIODENSITY CORRELATE WITH STIFFENSS IN AN ATHEROSCLEROTIC HUMAN AORTA; C. L. Donahue 5:15pm - 5:30pm PHASE-FIELD FINITE ELEMENT APPROACH TO SIMULATE IN-VITRO EXPERIMENTAL VASCULAR TISSUE FRACTURE; M. Aliosio 5:30pm - 5:45pm VALIDATING A COMPUTATIONAL FRAMEWORK TO PREDICT THE 3D ARTERIAL MECHANICAL ENVIRONMENT; C. C. Berggren 5:45pm - 6:00pm OPTIMIZATION OF VASCULAR GRAFT MECHANICAL BEHAVIOR BASED ON COMPLIANCE AND BUCKLING-RESISTANCE; D. Jiang 6:00pm - 6:15pm PERSONALIZED INTERVENTION CARDIOLOGY FOR TAVR WITH A DOPPLER-EXCLUSIVE DIAGNOSTIC FRAMEWORK; Z. K. Motamed	4:45pm - 5:00pm APPLICATION OF THE THREE COMPARTMENT FATIGUE MODEL TO NECK MUSCLE FATIGUE SIMULATION; M. D. Yates 5:00pm - 5:15pm MINIMIZATION OF MUSCLE FATIGUE INDUCED BY FUNCTIONAL ELECTRICAL STIMULATION: A PREDICTIVE SIMULATION; K. CO 5:15pm - 5:30pm PED0BAR0GRAPHY TO MEASURE CHANGE IN PLANTAR PRESSURE FOLLOWING MYOACTIVATION® THERAPY; B. Gonzales 5:30pm - 5:45pm PAIRWISE CORRELATION MAPPING FOR SURFACE ELECTROMYOGRAPHIC SHIFT QUANTIFICATION IN LOWER LIMBS; F. Douglas 5:45pm - 6:00pm MUSCLE ACTIVATION PREDICTED AND MEASURED EMG DATA; A. A. V. A Hulleck 6:00pm - 6:15pm EFFECTS OF MUSCLE MASS ON MUSCLE FORCE PREDICTIONS IN HUMAN DAILY ACTIVITIES; IJ. Chen	4:45pm – 5:05pm PARASPINAL MUSCLE DYSFUNCTION IN SPINE DEGENERATION PATIENTS: IMPACTS ON SPINE MODEL OUTCOMES; S. Brown 5:05pm – 5:25pm CHALLENGES IN ADULT SPINAL DEFORMITY SURGERY; J. T. Street 5:25pm – 6:15pm Discussion	4:45pm – 5:00pm PUNCTURING SOFT SOLIDS WITH HOLLOW NEEDLES; Y. Wu 5:00pm – 5:15pm AN EFFICIENT ALGORITHM FOR APPLYING PRESTRESS TO COMPUTATIONAL MODELS OF LOADED GEOMETRY; B. K. Zimmerman 5:15pm – 5:30pm THE HYGRO-MECHANICAL RESPONSE OF SWELLING BONE IMPLANTS IN ARTIFICIAL BONES; A. R. Najafi 5:30pm – 5:45pm A VOXEL-BASED STOCHASTIC TOOL TO PREDICT VARIATION IN BONE MECHANICS IN PATIENT POPULATIONS; S. Pouresmaeeli 5:45pm – 6:00pm DEVELOPMENT OF A MESHLESS CONTINUUM-LEVEL FINITE ELEMENT MODEL TO REPRESENT UNCONSTRAINED INDENTATION OF TRABECULAR BONE ASSOCIATED WITH IMPLANT SUBSIDENCE; R. Benais 6:00pm – 6:15pm RELATIONSHIP BETWEEN THE CRITICAL SHOULDER ANGLE AND BIOMECHANICAL RISK FACTORS OF GLENOID LOOSENING; D. Soyeux		

6:30pm – 8:00pm Welcome reception (the NEST, UBC)

:15pm – 2:30pm	A MACHINE LEARNING APPROACH TO PREDICT IN VIVO SKIN GROWTH; A. Ní Annaidh
:30pm – 2:45pm	A BAYESIAN APPROACH TO CHARACTERIZING ANISOTROPIC PROPERTIES OF SKIN FROM
	SUCTION TESTS; T. Lee
:45pm – 3:05pm	THE APPLIED FORCE OF AUTOINJECTORS LEAD TO LARGE TISSUE DEFORMATION S AND
	SUBSEQUENT "LOCK UP"; AS.M. Staples
:05pm – 3:20pm	CALIBRATION AND VALIDATION OF PATIENT SPECIFIC MODELS OF POST-MASTECTOMY
	BREAST RECONSTRUCTION; A. Buganza Tepole
:20pm – 3:35pm	THE COMPUTATIONAL MODELLING OF MICRONEEDLE-SKIN INTERACTION WITH SKIN
	FOR THERAPEUTICS; A. Ní Annaidh

Wednesday 31 July 2024

	Great Hall South	MR 2301	MR3 2306	MR 2309
6:30am – 7:30am	Morning run (Location: UBC campus)			
8:00am – 8:30am	Morning coffee			
8:30am - 10:00am	A.05 COMPUTATION MODELING OF CARDIAC DIASTOLE	B.05 MACHINE LEARNING AND ARTIFICIAL INTELLIGENCE	C.05 CELLULAR MECHANOBIOLOGY AND MORPHOGENESIS I	D.05 INVERSE PROBLEMS AND PARAMETER IDENTIFICATION
	8:30am – 8:45am COMPUTATIONAL MODELING OF PASSIVE BIOMECHANICS IN DESMOPLAKIN CARDIOMYOPATHY; D. Nordsletten 8:45am – 9:00am OPTIMIZATION OF DIASTOLIC MATERIAL PARAMETERS: SHAPE-BASED OF IN CONJUNCTION WITH A FEASIBILITY CLASSIFIER; M. Ratcliffe 9:00am – 9:15am THE EFFECT OF ELEMENT TYPE ON MODEL STIFFNESS AND COMPUTATIONAL TIME IN AN EXPLICIT BIVENTRICULAR MODEL OF THE HEART; J. Shen Sampas 9:15am – 9:30am IMPACT OF POSITIVE PRESSURE VENTILATION VIA A CARDIOPULMONARY MODEL INCORPORATING A NOVEL ALVEOLI OPENING MECHANISM; M. Cabeleira 9:30am – 9:45am IN-SILICO ANALYSIS OF AN EXTERNAL PERISTALTIC PUMP TO ASSIST FAILING FONTAN CIRCULATION: A PROOF-OF-CONCEPT; Y. Pourmoghadam	 8:30am – 8:45am COMPARING AUTOMATED ANATOMICAL MEASUREMENTS USING A NOVEL DEEP LEARNING MODEL WITH SURGEON ANNOTATIONS; A. Mohammadi Nasrabadi 8:45am – 9:00am CHARACTERIZING ORGANIC AND INORGANIC CONTENTS IN BONES USING COMPUTER SIMULATED CT SCANS: A PRELIMINARY STUDY WITH CONVOLUTIONAL NEURAL NETWORK; Y. Luo 9:00am – 9:15am MACHINE LEARNING-BASED DECOMPOSITION OF AORTIC PRESSURE WAVE INTO FORWARD AND BACKWARD COMPONENT; A. Sen 9:15am – 9:30am MACHINE LEARNING BASED SLEEP STAGING IN HEALTHY AND SLEEP DISORDERED PEDIATRIC PATIENTS WITH EEG SIGNALS; Y. Gao 9:30am – 9:45am A NOISE SUPPRESSION FRAMEWORK USING DEEP NEURAL NETWORKS; B. Bahmei 9:45am – 10:00am 	 8:30am – 8:50am HOW DO FORCES TRANSMITTED FROM A CELL'S ENVIRONMENT AFFECT DNA ORGANIZATION?; <i>V. Shenoy</i> 8:50am – 9:10am COLLECTIVE CELL MIGRATION DRIVES GEOMETRY-MEDIATED WOUND HEALING; <i>K.J. Hsia</i> 9:10am – 9:25am NUCLEAR ENVELOPE INVAGINATIONS AND THE MECHANICAL REGULATION OF TENSION; M. Bacca 9:25am – 9:40am OPTIMIZATION OF THERAPEUTIC T CELLS THROUGH BIOPHYSICAL MODELING; <i>R. Alonso-Matilla</i> 9:40am – 9:55am EXPLORING THE EFFECTS OF LOW INTENSITY ULTRASOUND STIMULATION ON NEURONAL MECHANORECEPTORS: A COMPUTER SIMULATION STUDY; <i>M. Mosayebi Samani</i> 	8:30am – 8:45am STOCHASTIC MATERIAL PARAMETER IDENTIFICATION FROM BULGE INFLATION TESTS USING BAYESIAN INFERENCE; P. Vandemaele 8:45am – 9:00am JAX AUTOMATIC DIFFRENTIATION FOR INVERSE PARAMETER IDENTIFICATION OF INVIVO TISSUE COMPRESSION; A. B. Mandel 9:00am – 9:15am IDENTIFYING DYNAMIC MATERIAL PROPERTIES OF SOFT TISSUE USING WEARABLE INERTIAL MEASUREMENT UNIT SENSORS; V. M. Aathresh 9:15am – 9:30am MECHANICAL CHARACTERIZATION OF 3D PRINTABLE POLYMERS TO REPLICATE THE FAILURE OF METASTATIC VERTEBRA; R. Forni 9:30am – 9:45am CARTILAGE MECHANICAL CHARACTERIZATION: A COMBINED FINITE ELEMENT AND VIRTUAL FIELDS METHOD APPROACH; I. Mohout 9:45am – 10:00am VISCOELASTIC CHARACTERIZATION OF ARPE-19 CELLS BY MICROPIPETTE ASPIRATION TECHNIQUE; E. Brito Jara
10:15am – 11:45am	A.06 PATIENT SPECIFIC MODELING II	B.06 AI-BASED BRAIN BIOMECHANICS	C.06 CELLULAR MECHANOBIOLOGY AND MORPHOGENESIS II	D.06 BETA WORKSHOP
	 10:15am – 10:30am CONSTRUCTING SUBJECT-SPECIFIC MIDPENTRICOLAR MODELS FROM DENSE MRI AND CDTI TO COMPUTE CARDIAC STRAINS; L. E. Perotti 10:30am – 10:45am AUTOMATED WORKELOW FOR CONSTRUCTING VIRTUAL TWINS FOR HAEMODYNAMIC ANALYSIS OF STENOSED AORTIC VALVES; C. Teleanu 10:45am – 11:00am HEMODYNAMIC AND BIOMECHANICAL VALIDATION OF CUSTOM-MADE MITRAL VALVE: AN IN VITRO STUDY; V. Stanova 11:00am – 11:15am A PATIENT-SPECIFIC MITRAL VALVE DIGITIAL TWIN FOR TRANSCATHETER EDGE-TO-EDGE REPAIR OUTCOMES; N. Simonian 11:15am – 11:30am NEOINTIMAL HYPERPLASIA IN ARTERIOVENOUS GRAFTS: A NOVEL PATIENT-SPECIFIC MODELLING WORKFLOW; F. Ninno 11:30am – 11:45am LIVING LIVER: A MULTISCALE LIVER VIRTUAL TWIN FOR DRUG TOXICITY PREDICTION; S. Camara Dit Pinto 	 10:35am – 10:35am COMBINING DATA-DRIVEN AND PHYSICS-DASED MODELING TO PREDICT THE BEHAVIOR OF HUMAN BRAIN TISSUE; S. Budday 10:35am – 10:50am DEEP LEARNING BASED INVERSION IN SHEAR WAVE ELASTOGRAPHY USING TRAVELING WAVE EXPANSION; Y. Feng 10:50am – 11:05am MULTISCALE MODELING OF AXONAL RESPONSES IN TRAUMATIC BRAIN INJURY: A DEEP LEARNING APPROACH; S. Ji 11:05am – 11:20am NEURAL NETWORK EFFICACY IN IDENTIFYING MS LESIONS; A. C. Szekely – Kohn 11:20am – 11:35am TOWARD PREDICTING TRAUMATIC BRAIN INJURY USING BRAIN MODEL WITH FUNCTIONAL REGIONS AND AXON TRACTS; K. Bian 	 10:15am – 10:30am FROM SINGLE IO COLLECTIVE CELL MIGRATION: AN GEOMETRIC-BULK-SURFACE PDE IMAGE-BASED MODELLING APPROACH; F. Yang 10:30am – 10:45am PERSISTENT RANDOM WALK MODEL OF CELL MIGRATION OVER CURVED SUBSTRATES; G. Carlin 10:45am – 11:00am CELL-MATRIX FEEDBACK CONTROLS STRETCH-INDUCED CELLULAR MEMORY AND FIBROBLAST ACTIVATION; F. Alisafaei 11:00am – 11:15am UNRAVELING CELL-CELL SIGNALLING MECHANOREGULATION TO SPATIOTEMPORALLY CONTROL ANGIOGENIC SPROUTING; T. Ristori 11:15am – 11:30am HOW DO CELLULAR MECHANICS AND BIOCHEMICAL SIGNALLING CONTROL CELL FATE?; H. Kaul 11:30am – 11:45am HOW ANTIMICROBIAL PEPTIDES FROM THE IMMUNE SYSTEM MEDIATE CARDIOVASCULAR OUTCOMES; H. Alimohamadi 	Digital twins are proving to be valuable tools, capable to faithfully represent and investigate complex scenarios. During this workshop, we will explore one of the key prerequisite for ensuring the definition of a reliable digital twin: the modelling procedure. More precisely, we will focus on the definition of a patient-specific aortic arch model starting from an MRI scan. Throughout the live demonstration, we will deepen all the crucial stages which lead to the generatio of high-quality hexahedral mesh and the definition of the study case in terms of material property and boundary conditions. Finally, we will address the common as well as strategic task of how to accurate post-process the obtained results and communicate them in a clear and comprehensible way to clinicians.
11:45am – 12:45pm	Lunch			
12:45pm – 1:45pm	Plenary lecture II: SCALING CARDIAC DIGITAL TWINS; Steven Niederer			
2:00pm – 3:30pm	A.07 ADVANCING PERSONALIZED CARDIOVASCULAR MEDICINE: INTEGRATING MACHINE LEARNING AND MECHANISTIC MODELING 2:00pm - 2:15pm AUTOMATED CONSTITUTIVE MODEL DISCOVERY AND UNIVERSAL FEA MATERIAL MODELING OF SOFT MATTER; M. Peirlinck 2:15pm - 2:30pm HIGH-SPEED ANATOMICALLY REALISTIC CARDIAC MECHANICS SIMULATIONS USING A NEURAL NETWORK FINITE ELEMENT APPROACH; M. S Sacks 2:30pm - 2:45pm A DEEP-LEARNING AUTOMATED PIPELINE FOR CORONARY SEGMENTATION AND MORPHOMETRIC ANALYSIS; A. Redaelli 2:45pm - 3:00pm AN AUTOMATED WORKFLOW TO ASSESS PATIENT-SPECIFIC HEMODYNAMICS OF ATHEROSCLEROTIC CAROTID ARTERIES; L. Jannetti 3:00pm - 3:15pm BEYOND DIAMETER: AI-DRIVEN APPROACHES FOR IMPROVING THE ASCENDING AORTIC ANEURYSM RISK ASSESSMENT; L. Geronzi 3:15pm - 3:30pm A MACHINE LEARNING APPROACH TO PREDICTION OF PATIENT-SPECIFIC ARTERIAL WALL MECHANICAL PROPERTIES; M. Jadidi	B.07 INJURY BIOMECHANICS 2:00pm - 2:15pm LATE TRIGGER TAGGED MRI FOR EVALUATING IN VIVO BRAIN DEFORMATION DURING MILD HEAD IMPACTS; YC. Lu 2:15pm - 2:30pm CHANGES IN BRAIN STRAIN PATTERNS FROM REPETITIVE SUBCONCUSSIVE HEAD IMPACTS AFTER ONE RUGBY SEASON; V. Shim 2:30pm-2:45pm MULTIDOMAIN ASSESSMENTS OF MILD TRAUMATIC BRAIN INJURY: FROM BIOMECHANICS TO NEUROIMAGING; L. Wu 2:30pm - 2:45pm IMPLICATIONS OF CERVICAL MUSCLE ACTIVATION ON SIX-YEAR-OLD PEDIATRIC HEAD IMPACT RESPONSE; S. T. Middleton 2:45pm - 3:00pm NECK BIOMECHANICAL DYNAMIC SIMULATION FOR INJURY PREDICTION AND PREVENTION USING HIGH-G SLED TESTS; A. Vasavada 3:00pm - 3:15pm PARAMETRIC INVESTIGATION OF INJURY TO OPTIC PATHWAY; S. Ji	COT MULTISCALE MODELING USING COMBINED MULTIBODY AND FINITE ELEMENT SIMULATION 2:00pm - 2:15pm COMBINING FINITE ELEMENT AND MULTBODY MODELING TO SIMULATE JOINT STRESS DURING DYNAMIC TASKS; <i>B. Sagl</i> 2:15pm - 2:30pm PREDICTING TMJ DISC RESPONSE TO JAW RECONSTRUCTION SURGERY: A COMPUTER MODELING APPROACH; <i>H. Aftabi</i> 2:30pm - 2:45pm TOWARDS PATIENT SPECIFIC FEM SHOULDER MODELING; <i>E. C. Herbst</i> 2:45pm - 3:00pm PATIENT-SPECIFIC SIMULATION OF CARTILAGE SHEAR STRESS IN HIGHLY ASPHERICAL HIP JOINTS: A PILOT STUDY; <i>L. G. Johnson</i> 3:00pm - 3:15pm A MULTIBODY FINITE ELEMENT MODEL OF THE ANKLE JOINT; <i>Q. Yetman</i> 3:15pm - 3:30pm ANALYSIS OF THE LUMBAR SPINE L4-L5 DISC WITH A HYBRID FINITE ELEMENT AND RIGID BODY MUSCULOSKELETAL MODEL; <i>N. Ashjaee</i>	D.07 OPENSIM WORKSHOP Organized by: Nicholas August Bianco, Scott L. Delp, Ayman Habib, Alberto Casas Ortiz, Carmichael Ong Musculoskeletal simulations provide a way to gain deep insights into how movement is coordinated. New tools for rapidly developing musculoskeletal simulations are enabling more researchers to leverage simulations by reducing the barrier to entry. In this workshop, we will present how our ecosystem of OpenSim tools for rapidly creating simulations, including from smartphone videos using OpenCap, and new features we've added to our Python and Jupyter notebook interfaces make it easier to generate simulation With a combination of didactic portions and hands- on examples, participants will learn about OpenSim's tools for creating simulations, and how to import movement data, create muscle-driven simulations, and analyze the results.
3:30pm – 4:30pm	POSTER SESSION B, Coffee break			
4:30pm – 6:00pm	A.08 MICROSCOPIC BLOOD FLOWS AND BLOOD CELL DYNAMICS 4:30pm – 4:45pm MEMBRANE VISCOUS EFFECTS ON RED BLOOD CELL DYNAMICS IN FLOW FIELD; P. Li, J. Zhang 4:45pm – 5:00pm MODELLING BLOOD CELL DISTRIBUTION AND THROMBUS FORMATION BASED ON	B.08 FINITE ELEMENT BIOMECHANICS 4:30pm – 4:45pm MODELLING OF SUPERFICIAL CEREBRAL VEIN ON LATERAL HEMISPHERE OF THE BRAIN: A FEM STUDY; S. Kumar 4:45pm – 5:00pm INFLUENCE OF POSTMORTEM DEGRADATION ON MECHANICAL PROPERTIES OF HUMAN	Co8 USING PARAMETRIC FINITE ELEMENT APPROACHES TO GUIDE TISSUE ENGINEERING STRATEGIES AND EXPERIMENTAL PROTOCOLS FOR ORTHOPAEDIC APPLICATIONS II 4:30pm – 4:45pm DIRECT ELECTROMAGNETIC COUPLING FOR FRACTURE OUTCOME PREDICTION; K. McGilvray	D.08 ARTISYNTH WORKSHOP Organized by: John E Lloyd, Benedikt Sagl, Ian Stavness, Sidney Fels We will show how to create and simulate combined multi-body/FEM models using, ArtiSynth, a free, open source, 3D biomechanical simulation platform that supports multibody and finite element methods (FEM)
	SINGLE BLOOD CELL DYNAMICS; Ki. Isubota 5:00pm – 5:15pm DIFFUSE INTERFACE MODEL FOR CELL INTERACTION AND AGGREGATION WITH LENNARD-JONES TYPE POTENTIAL; S. Xu 5:30pm – 5:45pm THE INFLUENCE OF CLOT PERMEABILITY ON THROMBUS GROWTH IN VARYING	5:00pm – 5:15pm RELATIONSHIP BETWEEN HUMAN BRAIN STIFFNESS, MICROSTRUCTURAL INTEGRITY, BETA-AMYLOID ACCUMULATION; <i>M. Kurt</i> 5:15pm – 5:30pm BIOMECHANICS EXPLAINS FUNCTIONAL AND BRAIN SHAPE DIFFERENCES IN ADHD;	4:45pm – 5:00pm TEMPOROMANDIBULAR DISC REPLACEMENT; K. Labus 5:00pm – 5:15pm PARAMETRIC FINITE ELEMENT ANALYSIS OF EXTERNAL FIXATION CONSTRUCTS; B. C. Gadomski 5:15pm – 5:30pm PARAMETRIC FINITE ELEMENT ANALYSIS FOR THE DEVELOPMENT OF A GRADIENT	anowing users to model within a single application both large scale components (e.g., rigid bodies, point- to-point muscles) and fine scale components requiring stress/strain analysis. It provides a Java-based API f model creation, together with a highly interactive graphical interface, and has been used to simulate numerous human biomechanical structures, including head and neck, spine, lower limb, foot and shoulde

5:30pm – 5:45pm

5:30pm – 5:45pm

5:45pm – 6:00pm

J. Fernandez

M. H. Beauséjour

BRAIN TISSUE COMPLIANCE; P. Fillingham

CERVICAL SPINE INJURY IN LATERAL HEAD IMPACTS: FINITE ELEMENT ANALYSIS;

WHOLE BRAIN COMPUTATIONAL SIMULATION FOR EVALUATING CSF DYNAMICS AND

for model creation, together with a highly interactive graphical interface, and has been used to simulate numerous human biomechanical structures, including head and neck, spine, lower limb, foot and shoulder. We will discuss new features including: An OpenSim importer that converts key components of an OpenSim multibody model into an ArtiSynth model, that can then be augmented with finite element models in areas B. C. Gadomski PARAMETRIC FINITE ELEMENT ANALYSIS FOR THE DEVELOPMENT OF A GRADIENT SCAFFOLD; K. McGilvray FRACTURE RISK PREDICTION OF PATIENTS WITH BONE TUMOURS OF THE KNEE JOINT: A FINITE ELEMENT ANALYSIS; *E. Cameron* ASSESS CREDIBILITY OF DENTAL IMPLANT PRIMARY FIXATION FINITE ELEMENT MODEL of interest. Elastic foundation and impulse-based contact Implementations of Millard 2012 and Thelen 2003 equilibrium muscles available in OpenSim.

5:45pm – 6:00pm AS PER ASME V&V 40; B. Yang

7:30pm – 11:00pm Conference dinner cruise (Magic Yacht Charter)

5:45pm – 6:00pm

HEMODYNAMIC SETTINGS; N. Mohammadi Bagheri

A. Blanch Granada

IN SILICO ANGIOGRAMS FOR OPTIMAL AVM PRE-INTERVENTIONAL PLANNING;

Thursday 01 Aug 2024

	Current Hall County	UD 2201	ND 3306	ND 2200
	Great Hall South	MR 2301	MR3 2306	MR 2309
8:30am – 9:00am	Morning coffee			
9:00am – 10:30am	A.09 WEARABLE AND NEARABLES I	B.09 EMERGING TOPICS	C.09 IMPLANTS, ORTHOTICS, PROSTHETICS, DEVICES, AND BIOLOGICS	D.09 BONE AND CARTILAGE BIOMECHANICS I
	9:00am - 9:15am EFFECT OF WALKING/RUNNING MODES ON PREDICTING JOINT ANGLE FROM IMU SENSOR USING A DEEP LEARNING MODEL; V. Shah, P. C. Dixon 9:15am - 9:30am IDENTIFYING MOVEMENTS ASSOCIATED WITH INJURY USING WEARABLE INERTIAL MEASUREMENT UNIT SENSORS; S. Yakubu 9:30am - 9:45am JOINT ANGLE ESTIMATION FOR TIMED UP-AND-GO TEST USING REGRESSION BASED MACHINE LEARNING; M. T. Adii 9:45am - 10:00am DEVELOPMENT AND VALIDATION OF A NEW IMU-BASED 2-SEGMENT FOOT MODEL FOR GAIT ANALYSIS; L. Bauer 10:00am - 10:15am WEARABLE SENSOR-BASED RULA FOR HEALTHCARE WORKERS DURING FLUOROSCOPIC PROCEDURES; W. R Bonin 10:15am - 10:30am WEARABLE-MEASURED PHYSICAL ACTIVITY AS A DIGITAL BIOMARKER FOR MENTAL WELLBEING IN COLLEGE STUDENTS; G. Mascia	9:00am - 9:15am DEVELOPING A MULTIDOMAIN METRIC OF AROUSAL INSTABILITY TO QUANTIFY SLEEP DISRUPTION IN SLEEP APNEA PATIENTS; R. Takagi 9:15am - 9:30am HEART RATE ESTIMATION ACCURACY: PHOTOPLETHYSMOGRAM (PPG) MEASUREMENT ANALYSIS ON EIGHT ANATOMICAL SITES; M. Khalili 9:30am - 9:45am APPLICATION OF GENERALIZED EIGEN DECOMPOSITION FOR EEG MOTION ARTIFACT REMOVAL IN AMBULATORY SETTINGS; S. Sattari 9:45am - 10:00am SOFTWARE TOOLS FOR ANALYZING LARGE IMAGE-BASED DATASETS OF ENGINEERED CARDIAC MICROBUNDLES; H. Kobeissi 10:00am - 10:15am AUTOMATED SAFETY AND USABILITY ASSESSMENT METHODS FOR OUTDOOR STREET CROSSINGS; J. Paterson 10:15am - 10:30am VIRTUAL EVALUATION OF A NOVEL FOLDABLE AND PRE-INFLATED HELMET CONCEPT; N. Lubbe	9:00am – 9:15am INFLUENCE OF PATELLAR BUTTON THICKNESS ON THE KNEE JOINT BIOMECHANICS AFTER TOTAL KNEE ARTHROPLASTY; <i>N. Guo</i> 9:15am – 9:30am DOES ROUGHNESS AFFECT LUBRICATION AND WEAR BEHAVIOUR OF ARTIFICIAL KNEE JOINTS?; <i>S. A. Qazi</i> 9:30am – 9:45am ROLE OF ACL SLACK ON KNEE MECHANICS IN YOUNG, FEMALE ATHLETES: COMPUTATIONAL SENSITIVITY ANALYSIS; <i>E. C Reznick</i> 9:45am – 10:00am REGIONAL ACETABULAR COVERAGE AND CONTACT MECHANICS DIFFERENCES BETWEEN NORMAL AND DYSPLASTIC HIP JOINTS; <i>H. D. Aitken</i> 10:00am – 10:15am PHOTOACOUSTIC PROBING OF INTERVERTEBRAL DISCS MIMICKING PHANTOMS; <i>R. Allais</i>	9:00am – 9:15am STRAIN RATE-DEPENDENT NON-LINEAR CONSTITUTIVE MODEL OF BONE: FROM QUASISTATIC TO IMPACT LOADING SCENARIOS; G. Gerber 9:15am – 9:30am COMPUTATIONAL STUDY ON THE INTEGRATION OF AN ENERGY HARVESTING SYSTEM INTO AN UNCEMENTED HIP STEM; F. Geiger 9:30am – 9:45am INTRAMEMBRANOUS AND ENDOCHONDRAL HEALING PATHWAYS IN COMPUTATIONAL FRACTURE HEALING USING FUZZY LOGIC; P. Ansoms 9:45am – 10:00am MECHANO-REGULATION OF BONE FRACTURE HEALING STARTS FROM THE EARLY INFLAMMATORY STAGE: AN IN SILICO STUDY; E. Borgiani 10:00am – 10:15am A MICRO-FINITE ELEMENT MODEL OF TRABECULAR BONE ADAPTATION WITH VALIDATION; M. Zojaji 10:15am – 10:30am ARTICULAR CARTILAGE VIRTUAL TWIN TO PREDICT MECHANOBIOLOGICAL TISSUE DEGRADATION POST-INJURY; P. Tanska
11:00am – 12:00pm	Plenary lecture III: ADVANCES IN COMPUTATION FOR UNDERSTANDING HUMAN MOVEMENT	DYNAMICS; Scott L. Delp		
12:00pm – 1:00pm	Lunch			
1:00pm – 2:30pm	A. 10 BIOMECHANICS OF MOVEMENT AND REHABILITATION 1:00pm – 1:15pm FOOT ORIENTATION AND TRAJECTORY VARIABILITY IN LOCOMOTION: EFFECTS OF REAL-WORLD TERRAIN; J. M. Charlton 1:15pm – 1:30pm DOES PERSONALIZING FOOT-GROUND CONTACT MODELS IMPROVE DYNAMIC CONSISTENCY OF GAIT MODELS?; S. Williams 1:30pm – 1:45pm RECURRENT NEURAL NETWORK GAIT SIGNATURES ENCODE SPEED-INDUCED CHANGES IN POST-STROKE GAIT QUALITY; M. C Rosenberg 1:45pm – 2:00pm COORDINATION VARIATION – A NOVEL MEASURE TO ASSESS LOWER AND UPPER LIMBS MOVEMENT DURING WALKING; K. Z. Tan 2:00pm – 2:15pm A REMOTE APPROACH TO 3D BIOMECHANICS DATA CAPTURE AND VISUALIZATION USING AUGMENTED REALITY; B. C. Shkwarok 2:15pm – 2:30pm HIP, KNEE, AND ANKLE JOINT FORCES DURING EXOSKELETAL-ASSISTED WALKING; G. B. DE Carvalho	B.10 FROM CELLS TO SYSTEMS: COMPUTATIONAL MODELING OF SOFT TISSUES ACROSS SCALES 1:00pm - 1:15pm IMPLEMENTING OPEN SCIENCE BEST PRACTICES TO ENABLE DATA-DRIVEN MODELING OF MECHANOBIOLOGICAL SYSTEMS; <i>E. Lejeune</i> 1:15pm - 1:30pm COMPUTATIONAL MODELLING OF ARTERIAL MECHANOBIOLOGY: APPLICATION TO CEREBRAL VASOSPASM AND TREATMENT; <i>G. Pederzani</i> 1:30pm - 1:45pm CONSTITUTIVE NEURAL NETWORKS FOR MODEL DISCOVERY OF MYOCARDIAL TISSUE; <i>D. Martonová</i> 1:45pm - 2:00pm FIBRIN CLOT FORMATION MODELING: FROM IN VITRO VALIDATION TO 3D SIMULATIONS; <i>J. Cruts</i> 2:00pm - 2:15pm FLEXODEAL: A NEW 3D FINITE ELEMENT TOOL FOR STUDYING MUSCULOSKELETAL DYNAMICS; <i>J. Almonacid</i>	C.10 COMPUTER-AIDED SURGERY AND IMPLANTS, ORTHOTICS, PROSTHETICS, DEVICES, AND BIOLOGICS 1:00pm - 1:15pm AUTOMATED ACETABULAR COVERAGE CALCULATION FOR VIRTUAL PERIACETABULAR OSTEOTOMY; D. J. L. Rivas 1:15pm - 1:30pm A NOVEL IN-HOUSE VIRTUAL SURGICAL PLANNING SYSTEM FOR MANDIBULAR RECONSTRUCTION - A CASE SERIES; R. Birk 1:30pm - 1:45pm KNEE ARTHROPLASTY INDUCIBLE DISPLACEMENT EXAMS USING WEIGHT-BEARING COMPUTED TOMOGRAPHY; M. Teeter 1:45pm - 2:00pm THE EFFECT OF SIMULATED RADIATION INDUCED FIBROSIS ON TONGUE PROTRUSION; N. AI-Zanoan 2:00pm - 2:15pm FRACTURE STABILISATION OF A BIODEGRADABLE MAGNESIOM ALLOY SCREW - A NUMERICAL ANALYSIS; L. Keilig 2:15pm - 2:30pm BULLSEYE EVD - TOWARDS CLINICAL TRANSLATION OF A EXTERNAL VENTRICULAR DRAIN INSERTION WORKFLOW; Z. Fishman	D.10 BONE AND CARTILAGE BIOMECHANICS II 1:00pm – 1:15pm MODELLING THE EFFECTS OF ELASTIC COMPRESSION ON INTERSTITIAL FLUID DYNAMICS IN THE LOWER LIMB; <i>M. Reda</i> 1:15pm – 1:30pm VALIDATION OF A SIMPLIFIED MODELING APPROACH TO PREDICT LABRAL STRAIN IN NORMAL AND FAIS HIPS; <i>L. Hudson</i> 1:30pm – 1:45pm INCLUDING FLUID MECHANICS CAUSES LARGE LOCAL STRAIN VARIATIONS IN FE MODELS OF CARTILAGE IMPACT INJURY; <i>N. E Szabo</i> 1:45pm – 2:00pm MACHINE LEARNING MODEL FOR RAPID ESTIMATION OF CARTILAGE MATERIAL PROPERTIES; <i>J. Tuppurainen</i> 2:00pm – 2:15pm STATISTICAL SHAPE MODELS FOR CARTILAGE PREDICTION OF ARTHRITIC KNEES; <i>A. Gounot</i> 2:15pm – 2:30pm MULTISCALE FIBRIL-REINFORCED PORO-HYPERELASTIC MODEL FOR CARTILAGE AND CHONDROCYTE MECHANOBIOLOGY; <i>T. R. Faisal</i>
2:45pm—3:45pm	A.11 BIOMECHANICAL MODELING IN ORTHOPAEDICS: TRANSLATIONAL PERSPECTIVES FROM CLINICIAN-SCIENTISTS 2:45pm – 3:00pm TRANSLATING BIOMECHANICAL MODELING OF HUMAN MOVEMENT INTO PAEDIATRIC ORTHOPAEDIC CLINICAL PRACTICE; L. Leveille 3:00pm – 3:15pm DECODING KNEE BIOMECHANICS: THE CRUCIAL ROLE OF BIOMECHANICS IN ORTHOPAEDIC SURGERY; S. Tomescu 3:15pm – 3:30pm A TEAM BASED APPROACH TO TRANSLATING CRANIOMAXILLOFACIAL MODELLING INTO	B.11 GROWTH AND REMODELING 2:45pm - 3:00pm A REACTIVE VISCOELASTIC MODEL OF THE MACAQUE RHESUS CERVIX TO STUDY CERVICAL REMODELING; C. A. Duarte Cordon 3:00pm - 3:15pm CORTICAL BONE ADAPTATION RESPONE IS SENSITIVE TO PTH DOSE - INSIGHTS FROM THE MOUSE TIBIA LOADING MODEL; N. M. Castoldi 3:15pm - 3:30pm ADAPTATION AFTER THE ROSS PROCEDURE: WHEN PULSATILITY DRIVES GROWTH & REMODELING; T. Vervenne	C.11 BIOFLUID TRANSPORT 2:45pm - 3:00pm FRACTIONAL POROELASTICITY FOR ANOMALOUS DIFFUSION IN SOFT TISSUES; S. Gunda 3:00pm - 3:15pm A FLUID-STRUCTURE INTERACTION MODEL TO COMPARE DACRON AND ELECTROWRITTEN AORTIC GRAFTING; G. Nannini 3:15pm - 3:30pm SIMULATING TRANSPORT THROUGH KIDNEY GLOMERULAR ULTRASTRUCTURE USING FEBIO; A. N. Ford Versypt 3:30pm - 3:45pm FLUID-STRUCTURE INTERACTION ANALYSIS OF INFLUENCE OF SINOTUBULAR JUNCTION	D.11 MECHANICAL LOADING IN BONE-CANCER CROSS TALK 2:45pm – 3:05pm GENERATION OF INDUCED TUMOUR-SUPPRESSING CELLS USING MECHANOELECTRICAL STIMULATIONS; H. Yokota 3:05pm – 3:20pm MECHANICAL SIGNALS, OSTEOCYTES, AND BONE METASTASTIC BREAST CANCER; M. E. Lynch 3:20pm – 3:35pm MECHANICAL LOADING'S EFFECT ON OSTEOCYTE-CANCER CELL CROSS TALK; L. You

SIZE ON TAVR LEAFLET THROMBOSIS; D. Oks

3:30pm – 3:45pm GEOMETRIC CONTRIBUTIONS TO WRINKLING AND POROSITY IN A NOVEL AUXETIC MEMBRANE FOR PROLAPSE REPAIR; *S. Lewis*

4:00pm – 4:30pm Closing ceremony (Great Hall South)

PRACTICE; C. Whyne

3:30pm – 3:45pm USING STATISTICALLY DERIVED SHOULDER MSK MODELS TO ANSWER CLINICALLY RELEVANT BIOMECHANICAL QUESTIONS; E. R Hourston

