



Wednesday, 3rd May 2023

7:00	Registration opens	
8:45 – 9:00	Welcome to CMBBE 2023; <i>Wafa Skalli, Sébastien Laporte, Aurélie Benoit</i> (Grand Amphi)	
9:10 – 10:40	A – 01 TRACK A – Grand Amphi	MULTI-SCALE MECHANICS AND MECHANOBIOLOGY FOR TOMORROW'S CARDIOVASCULAR MEDICINE <i>Chairs: Stéphane Avril, Nele Famaey</i>
A-01.1	9:10 – 9:25	PHYSICS-BASED MODELING AND MACHINE LEARNING SYNERGIES IN HUMAN HEART MODELING; <i>Mathias Peirlinck</i> (The Netherlands) [D]
A-01.2	9:25 – 9:40	PREDICTING AND UNDERSTANDING THE MECHANICAL BEHAVIOR OF SOFT TISSUE ACROSS THE SCALES BY DEEP LEARNING; <i>Christian J. Cyron</i> (Germany) [D]
A-01.3	9:40 – 9:55	A DATA-DRIVEN COMPUTATIONAL MODEL OF ENGINEERED HEART TISSUES; <i>Javiera Jilberto</i> (USA) [S]
A-01.4	9:55 – 10:10	MODELLING ARTERIAL RESPONSE TO MECHANO-BIOLOGICAL CUES: GETTING THROUGH OR BREAKING BAD?; <i>Michele Marino</i> (Italy) [D]
A-01.5	10:10 – 10:25	CELLULAR RESPONSES TO SUBSTRATE TOPOGRAPHY: OPPORTUNITIES FOR COMPUTATIONAL MODELING; <i>Abdul I. Barakat</i> (France) [D]
A-01.6	10:25 – 10:40	LAMELLAR UNDULATION, RESIDUAL STRESSES, AND HOMEOSTASIS: A MULTISCALE MATHEMATICAL APPROACH; <i>Claire Morin</i> (France) [D]
	B – 01 TRACK B – Amphi Bezier	SPORTS BIOMECHANICS: INJURIES AND MANAGEMENT <i>Chairs: Floren Colloud, Sébastien Laporte</i>
B-01.1	9:10 – 9:25	IN SILICO OPTIMIZATION OF HELMET MATERIAL PROPERTIES FOR TRAUMATIC BRAIN INJURY MITIGATION; <i>Vincent Varanges</i> (Switzerland) [S]
B-01.2	9:25 – 9:40	WHAT ARE THE INFLUENCE OF ANATOMICAL VARIABILITIES ON SKULL-BRAIN BEHAVIOR? A NUMERICAL APPROACH; <i>Sébastien Laporte</i> (France) [D]
B-01.3	9:40 – 9:55	MUSCULOSKELETAL MODELING OF RUSSIAN BAR PORTER'S TO ASSESS THEIR SPINAL LOADS DURING A PERFORMANCE; <i>Pierre André Schmidt</i> (Canada) [S]
B-01.4	9:55 – 10:10	BRAIN RESPONSES TO FOOTBALL IMPACTS IN REGIONS OF INTEREST: REFINEMENT OF A FINITE ELEMENT HEAD MODEL; <i>Véronique Bouvette</i> (Canada) [S]
B-01.5	10:10 – 10:25	ANALYSIS OF THE EFFECTIVENESS OF FOAM HEADGUARDS TO PROTECT AGAINST MTBI IN RUGBY; <i>Lucia Perez Del Olmo</i> (Ireland) [D]
B-01.6	10:25 – 10:40	PREDICTION OF BRAIN AND CERVICAL LOADING IN A SNOWBOARDING BACKWARD FALLS TO EVALUATE HELMETS; <i>Nicolas Bailly</i> (France) [D]
	C – 01 TRACK C – Amphi Fournel	CLINICAL BIOMECHANICS & TRANSLATIONAL RESEARCH I <i>Chairs: Nicola Hagemeister, Wafa Skalli</i>
C-01.1	9:10 – 9:25	HOW DOES KNEE ORTHOSIS MODELLING INFLUENCE THE PREDICTION OF CONTACT FORCES?; <i>Sacha Guitteny</i> (France) [S]
C-01.2	9:25 – 9:40	KNEE IMPLANT WEAR PREDICTION IS SENSITIVE TO CHOICE OF FORCE OR DISPLACEMENT CONTROL; <i>Michael J. Dreyer</i> (Switzerland) [S]
C-01.3	9:40 – 9:55	GEOMETRIC MRI-DERIVED BIOMARKERS AS PREDICTORS OF JOINT MECHANICS CHANGES AFTER PARTIAL MENISCECTOMY; <i>Brett Steineman</i> (USA) [D]
C-01.4	9:55 – 10:10	STATISTICAL SHAPE MODELING-BASED WORKFLOW FOR PATIENT-SPECIFIC PLANNING OF TIBIAL FRACTURE FIXATION; <i>Jet Zoë Mooleenaar</i> (The Netherlands) [S]
C-01.5	10:10 – 10:25	COMBINED SHAPE MODEL OF THE LOWER LIMB IN A PAEDIATRIC POPULATION PROVIDES ACCURATE BONE SHAPE ESTIMATION; <i>Julie Choisne</i> (New Zealand) [D]
C-01.6	10:25 – 10:40	3D RECONSTRUCTION OF THE PAEDIATRIC HIP: A COMPARISON OF DIFFERENT METHODS; <i>Claudio Vergari</i> (France) [D]
	D – 01 TRACK D – Salle des Conseils	METHODS IN MECHANICS FOR BIOLOGY AND MEDICINE I <i>Chairs: Sam Evans, Jeff Weiss</i>
D-01.1	9:10 – 9:25	SMOOTHED FINITE ELEMENT METHODS IN MODELLING AND SIMULATION OF ACTIVE CARDIAC CONTRACTION; <i>Denisa Martonová</i> (Germany) [S]
D-01.2	9:25 – 9:40	FASTER AND MORE RELIABLE SOLUTION ALGORITHMS FOR LARGE DEFORMATION FE MODELS; <i>Sam L Evans</i> (United Kingdom) [D]
D-01.3	9:40 – 9:55	UNIFIED POSITION-BASED DYNAMICS SOLVER FOR SURGICAL SIMULATION; <i>Rachel B Clipp</i> (USA) [D]
D-01.4	9:55 – 10:10	NUMERICAL SCHEME FOR DYNAMIC ELASTOGRAPHIC MEASUREMENTS ON THE CORNEA; <i>Giulia Merlini</i> (France) [S]
D-01.5	10:10 – 10:25	ONE DIMENSIONAL MODEL OF THE MICROVASCULAR NETWORK OF THE RETINA : APPLICATION TO MULTIPLES STENOSES; <i>Laureline Julien</i> (France) [S]
D-01.6	10:25 – 10:40	PRESTRESSING ALGORITHMS FOR ARTERIAL WALL MECHANICS: ANALYSIS OF THE ROBUSTNESS AND UNIQUENESS; <i>Klaas Vander Linden</i> (Belgium) [S]
	E – 01 TRACK E – Amphi A	MECHANOBIOLOGY I <i>Chairs: Paulo Ruis Fernandes, Bert van Rietbergen</i>
E-01.1	9:10 – 9:25	CONSIDERING NONLOCALITY IN CONTINUUM BONE REMODELLING - A MICROMORPHIC APPROACH; <i>Anna Titlbach</i> (Germany) [S]
E-01.2	9:25 – 9:40	REMODELING OF ISOTROPIC MATERIALS VIA THE HOMOGENIZED CONSTRAINED MIXTURE THEORY AND FINITE PLASTICITY; <i>Felipe Sempertegui</i> (France) [D]
E-01.3	9:40 – 9:55	COUPLED CHEMO-MECHANO-BIOLOGICAL SIMULATIONS OF EVOLVING OSTEOARTHRITIS: THEORY AND 3-D SIMULATIONS; <i>David Michael Pierce</i> (USA) [D]
E-01.4	9:55 – 10:10	EXTENSION OF BONE HEALING MODEL FROM 2D TO 3D USING FINITE ELEMENT ANALYSIS AND FUZZY LOGIC; <i>Pieter Ansoms</i> (Belgium) [S]
E-01.5	10:10 – 10:25	GLIOBLASTOMA RESISTANCE TO TEMOZOLOMIDE: MATHEMATICAL MODELS TO DESIGN OPTIMAL TREATMENTS; <i>Marina Pérez-Aliacar</i> (Spain) [S]
E-01.6	10:25 – 10:40	HYBRID APPROACH TO MODEL EPITHELIAL MONOLAYERS DURING INTRACELLULAR BACTERIAL INFECTION; <i>Raul Aparicio-Yuste</i> (Spain) [S]



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10:40 – 11:10	Coffee break, Posters & exhibition viewing	
11:10 – 12:00	Plenary lecture: THE POTENTIAL OF MACHINE LEARNING ALGORITHMS TO ALLEVIATE THE LACK OF DATA IN MEDICAL SIMULATION; <i>Stéphane Bordas</i> Chairs: <i>Pierre Yves Rohan, Gerard Ateshian</i> (Meeting room: Grand Amphi)	
12:10 – 13:10	A – 02 TRACK A – Grand Amphi	MULTI-SCALE MECHANICS AND MECHANOBIOLOGY FOR TOMORROW'S CARDIOVASCULAR MEDICINE Chairs: <i>Stéphane Avril, Nele Famaey</i>
A-02.1	12:10 – 12:25	ECM MECHANICS FOR EARLY DETECTION OF DISEASES; <i>Yanhang (Katherine) Zhang</i> (USA) [D]
A-02.2	12:25 – 12:40	A BOTTOM-UP APPROACH TO MODEL FAILURE IN SOFT COLLAGENOUS TISSUES; <i>Christian T. Gasser</i> (Sweden) [D]
A-02.3	12:40 – 12:55	MECHANOSENSITIVE PROTEASE NETWORK MODELING FOR PATIENT-SPECIFIC HEART FAILURE PREDICTIONS; <i>Will Richardson</i> (USA) [D]
A-02.4	12:55 – 13:10	EFFECT OF ATHEROMA PLAQUE ON DRUG TRANSPORT IN A CORONARY STENT; <i>Estefania Peña</i> (Spain) [D]
	B – 02 TRACK B – Amphi Bezier	HUMAN MOVEMENT: GAIT ANALYSIS, SPORTS AND INJURY MECHANISMS I Chairs: <i>Philippe Rouch, Laurent Gajny</i>
B-02.1	12:10 – 12:25	INVARIANT KINEMATIC CONSEQUENCES OF MUSCULAR ANTICIPATION DURING LANDING AND DROP-JUMPING; <i>Romain Bechet</i> (France) [S]
B-02.2	12:25 – 12:40	CLUSTERING OF KNEE OSTEOARTHRITIS PATIENTS BASED ON KINEMATIC DATA USING K-MEANS ALGORITHM; <i>Zahra Bensaddek</i> (Canada) [D]
B-02.3	12:40 – 12:55	DIGITAL SINGLE-LIMB STANCE ASSESSMENT BASED ON A 3-DIMENSIONAL KINEMATIC ALGORITHM; <i>Yu Yuan Lee</i> (Germany) [S]
B-02.4	12:55 – 13:10	UNIQUE TIBIOFEMORAL GEOMETRIC FEATURES AFFECT SIMULATED KNEE MECHANICS IN YOUNG FEMALE ATHLETES; <i>Mitchell George Andrew Wheatley</i> (USA) [D]
	C – 02 TRACK C – Amphi Fournel	CLINICAL BIOMECHANICS & TRANSLATIONAL RESEARCH II Chairs: <i>Irene Vignon-Clementel, Lorenzo Sala</i>
C-02.1	12:10 – 12:25	SUBJECT SPECIFIC MODELING FOR SURGERY COMPLICATIONS ANALYSIS: A PRELIMINARY CASE REPORT; <i>Raphael Badaoui</i> (France) [S]
C-02.2	12:25 – 12:40	FACET JOINT CAPSULAR LIGAMENT RESPONSE UNDER SIMPLE LOADING MODES FOR COMPUTATIONAL MODEL VALIDATION; <i>Stewart McLachlin</i> (Canada) [D]
C-02.3	12:40 – 12:55	QUASI-AUTOMATIC GEOMETRIC AND STRUCTURAL QUANTITATIVE ANALYSIS OF FRACTURED VERTEBRAS; <i>Lucas Le Gallo</i> (France) [D]
C-02.4	12:55 – 13:10	EXAMINING IMPLEMENTATION OF THE FACET JOINT CAPSULAR LIGAMENT IN A COMPUTATIONAL HUMAN BODY MODEL; <i>Gwennyth Alexandra Carroll</i> (Canada) [S]
	D – 02 TRACK D – Salle des Conseils	ENGINEERING INNOVATION IN WOMEN'S HEALTH Chairs: <i>Kristin Myers, Katrina Knight</i>
D-02.1	12:10 – 12:25	NUMERICAL SIMULATION OF THE ONSET OF SECOND STAGE OF LABOUR; <i>Antoine Jerusalem</i> (United Kingdom) [D]
D-02.2	12:25 – 12:40	DEVELOPING A BIOMECHANICAL MODEL TO STUDY OASIS; <i>Dulce Oliveira</i> (Portugal) [D]
D-02.3	12:40 – 12:55	FINITE ELEMENT MODELING OF CESAREAN SECTION SCARS; <i>Adrienne Kathleen Scott</i> (USA) [D]
D-02.4	12:55 – 13:10	DEVELOPMENT AND CALIBRATION OF A BILAYER FETAL MEMBRANE MODEL USING EXPERIMENTAL DATA; <i>Daniel Fidalgo</i> (Portugal) [S]
	E – 02 TRACK E – Amphi A	MECHANOBIOLOGY II Chairs: <i>Sam Evans, Benjamin Wheatley</i>
E-02.1	12:10 – 12:25	MECHANO-BIOLOGICAL OPTIMIZATION OF SCAFFOLDS TOWARDS ENHANCED BONE REGENERATION; <i>Sara Checa</i> (Germany) [D]
E-02.2	12:25 – 12:40	MSC MORPHOFUNCTIONAL PROGRAMMING FOR IMPROVED ORTHOPAEDIC IMPLANTATION OUTCOMES; <i>Francisca Melo-Fonseca</i> (Portugal) [S]
E-02.3	12:40 – 12:55	REGULATING CHONDROCYTE BIOSYNTHESIS THROUGH HYPOXIA AND THERMOMECHANICAL STIMULATION; <i>Theofanis Stampoultzis</i> (Switzerland) [S]
E-02.4	12:55 – 13:10	A BONE-ON-CHIP AS A 3D PLATFORM TO ASSESS THE EFFECT OF STEM AGE ON TISSUE FORMATION; <i>Elisa Reine Budyn</i> (France) [D]



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13:10 – 14:10	Lunch break & Poster sessions A and B	
14:10 – 15:40	A – 03 TRACK A – Grand Amphi	RECENT ADVANCES IN 3D MODELING, DIAGNOSIS AND TREATMENT OF SPINAL DEFORMITIES <i>Chairs: Saša Čuković, Luigi La Barbera</i>
A-03.1	14:10 – 14:25	AUTOMATIC SEGMENTATION OF VERTEBRAE AND INTERVERTEBRAL DISCS FROM SYNTHETIC CT IMAGES DERIVED FROM MR IMAGES; <i>Joeri Kok (The Netherlands) [D]</i>
A-03.2	14:25 – 14:40	DEEP-LEARNING-BASED 3D RECONSTRUCTION OF THE SPINE FROM LOW-DOSE BIPLANAR RADIOGRAPHS; <i>Matteo Bovio (France) [S]</i>
A-03.3	14:40 – 14:55	DEVELOPMENT OF A SUBJECT-SPECIFIC MUSCULOSKELETAL MODELING FRAMEWORK FOR SPINAL DEFORMITY PATIENTS; <i>Birgitt Peeters (Belgium) [S]</i>
A-03.4	14:55 – 15:10	GENERATION OF SUBJECT-SPECIFIC NUMERICAL MODELS TO INVESTIGATE THE SURGICAL TREATMENT OF AIS; <i>Benedikt Schlager (Germany) [D]</i>
A-03.5	15:10 – 15:25	CAN WE PREDICT THE RISK OF SURGERY REVISION FOR ADOLESCENT IDIOPATHIC SCOLIOSIS USING AN ENERGY-BASED APPROACH; <i>Baptiste Brun-Cottan (France) [D]</i>
A-03.6	15:25 – 15:40	3D INFERENCE OF THE SCOLIOTIC SPINE FROM DEPTH MAPS OF THE BACK; <i>Nicolas Comte (France) [S]</i>
	B – 03 TRACK B – Amphi Bezier	HUMAN MOVEMENT: GAIT ANALYSIS, SPORTS AND INJURY MECHANISMS II <i>Chairs: Floren Colloud, Julie Choisne</i>
B-03.1	14:10 – 14:25	TOWARD A PHYSICAL HUMAN THORAX SURROGATE DEDICATED TO BLUNT BALLISTIC IMPACTS BASED ON FE SIMULATIONS; <i>Martin Chaufer (France) [S]</i>
B-03.2	14:25 – 14:40	ROBUST AND TIME-EFFECTIVE MODELING OF CEREBROSPINAL FLUID FOR IMPACT BIOMECHANICS; <i>Claire Bruna-Rosso (France) [D]</i>
B-03.3	14:40 – 14:55	THE BENEFITS OF AERO HANDLEBARS ON AERODYNAMIC IN CYCLISTS USING COMPUTATIONAL FLUID DYNAMICS METHODS; <i>Delphine Périé (Canada) [D]</i>
B-03.4	14:55 – 15:10	ACTIVE NECK MUSCULAR REACTION DEPENDING ON THE SURROUNDING ENVIRONMENT; <i>María González-García (Germany) [D]</i>
B-03.5	15:10 – 15:25	EFFECT OF SEATBELTS ON SEATED PEDESTRIAN IMPACTS; <i>Daniel Grindle (USA) [S]</i>
B-03.6	15:25 – 15:40	ATHLETE 3D MOTION FROM VIDEO: APPLICATION TO INJURY PREVENTION IN ON-FIELD AND OFF-FIELD ENVIRONMENTS; <i>Ciaran Simms (Ireland) [D]</i>
	C – 03 TRACK C – Amphi Fournel	STRUCTURES AND SYSTEMS BIOMECHANICS I <i>Chairs: Christian T. Gasser, Aline Bel-Brunon</i>
C-03.1	14:10 – 14:25	DO ASSUMED PROBABILITY DISTRIBUTIONS OF ARTERY MODEL PARAMETERS MATTER DURING SENSITIVITY ANALYSIS?; <i>Friederike Schäfer (Norway) [S]</i>
C-03.2	14:25 – 14:40	PRESCRIBED-MOTION AND QUASI-STEADY CFD OF HEART HEMODYNAMICS – VALIDATION STUDY WITH 4D FLOW MRI; <i>Florian Hellmeier (Germany) [D]</i>
C-03.3	14:40 – 14:55	NON-INVASIVE LEFT VENTRICULAR HEMODYNAMICS ANALYSIS IN ALL SURVIVORS DURING EXERCISE; <i>Agathe Bedoux (Canada) [S]</i>
C-03.4	14:55 – 15:10	HIGH RESOLUTION SIMULATION OF BASILAR ARTERY INFARCT AND FLOW WITHIN THE CIRCLE OF WILLIS; <i>Jon McCullough (United Kingdom) [D]</i>
C-03.5	15:10 – 15:25	NUMERICAL INVESTIGATION OF RELATIONS BETWEEN TURBULENCE AND HEMOLYSIS IN VENTRICULAR ASSISTANCE DEVICE; <i>Louis Marcel (France) [S]</i>
C-03.6	15:25 – 15:40	THE EFFECT OF BLOOD FLOW RATE ON ARTERIAL REFLECTIVE PHOTOPLETYSMOGRAPHY; <i>Nikolaos Stergiopoulos (Switzerland) [D]</i>
	D – 03 TRACK D – Salle des Conseils	STRUCTURES AND SYSTEMS BIOMECHANICS II <i>Chairs: Kristin Myers, Dulce Oliveira</i>
D-03.1	14:10 – 14:25	IMPACT OF PERINEAL STRUCTURES IN THE BIOMECHANICAL ANALYSIS OF CHILDBIRTH; <i>Rita Moura (Portugal) [S]</i>
D-03.2	14:25 – 14:40	A FINITE ELEMENT MODEL OF PROLAPSE MESH INCLUDING FILAMENT-LEVEL INTERACTIONS; <i>Madeline Preece Hackett (USA) [S]</i>
D-03.3	14:40 – 14:55	COMPUTATIONAL HOMOGENIZATION OF HISTOLOGICAL MICROSTRUCTURES IN HUMAN PROSTATE AND CANCER; <i>Calum Anderson (United Kingdom) [S]</i>
D-03.4	14:55 – 15:10	VISCOELASTIC MATERIAL MODELS FOR PESSARY PROSTHETIC MODELLING; <i>Kyra Megan Wanuch (Canada) [S]</i>
D-03.5	15:10 – 15:25	AN IN-SILICO MECHANICAL TEST TO STUDY CERVICAL LOADING IN PATIENTS AT LOW- AND HIGH-RISK FOR PRETERM BIRTH; <i>Kristin Myers (USA) [D]</i>
D-03.6	15:25 – 15:40	TOWARDS A NUMERICAL MODEL OF A TRAINING OBSTETRICAL DUMMY TO ENHANCE VACUUM ASSISTED DELIVERY; <i>Yves Vallet (France) [S]</i>
	E – 03 TRACK E – Amphi A	MECHANOBIOLOGY III <i>Chairs: Mathias Peirlink, Heleen Fehervary</i>
E-03.1	14:10 – 14:25	AN IN SILICO MODEL TO INVESTIGATE STROMAL CELL-DRIVEN SPROUTING ANGIOGENESIS WITHIN AN ANISOTROPIC SCAFFOLD; <i>Chiara Dazzi (Germany) [S]</i>
E-03.2	14:25 – 14:40	UNRAVELING THE PHYSICS OF EPITHELIAL JAMMING USING AN ACTIVE FOAM MODEL; <i>Jef Vangheel (Belgium) [S]</i>
E-03.3	14:40 – 14:55	IMPROVING DRUG DELIVERY IN THE BRAIN USING MICROBUBBLES COMBINED WITH FOCUSED ULTRASOUND; <i>Qiyao Peng (The Netherlands) [D]</i>
E-03.4	14:55 – 15:10	PHYSICS INFORMED TISSUE ARCHITECTURE RECONSTRUCTION; <i>Jiri Pesek (France) [D]</i>
E-03.5	15:10 – 15:25	SPHEROID FUSION: ARRESTED COALESCENCE AND JAMMING; <i>Steven Ogenae (Belgium) [S]</i>
E-03.6	15:25 – 15:40	NEURAL CREST CELL CONTRACTION CAN DIRECT COLLECTIVE MIGRATION; <i>Ian Manificier (France) [D]</i>



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15:50 – 16:50	A – 04	STRUCTURES AND SYSTEMS BIOMECHANICS III
	TRACK C – Grand Amphi	<i>Chairs: Harry van Lenthe, Bert van Rietbergen</i>
	A-04.1 15:50 – 16:05	STORAGE DURATION EFFECTS ON THE PROPERTIES OF CORTICAL BONE - MODELLING IMPLICATIONS; <i>Nicholas Daras (South Africa)</i> [S]
	A-04.2 16:05 – 16:20	AN INTEGRATED FINITE ELEMENT APPROACH TO SIMULATE BONE STRAIN RESPONSE TO PHYSIOLOGICALLY REALISTIC LOADING CONDITIONS; <i>Timo van Leeuwen (Belgium)</i> [D]
	A-04.3 16:20 – 16:35	ANALYSIS OF THE INFLUENCE OF THE GEOMETRIC ANISOTROPY ON THE MECHANICAL BEHAVIOR OF TRABECULAR BONE USING A PARAMETRIC MODEL; <i>Nicolas Rogalski (France)</i> [S]
A-04.4 16:35 – 16:50	IMPORTANCE OF FIBRIL DISTRIBUTION IN MODELING OF BENNINGHOFF ARCHES IN ARTICULAR CARTILAGE; <i>Courtney A. Petersen (USA)</i> [S]	
B – 04	HUMAN MOVEMENT: GAIT ANALYSIS, SPORTS AND INJURY MECHANISMS III	
TRACK B – Amphi Bezier	<i>Chairs: Ilse Jonkers, Ayman Assi</i>	
B-04.1 15:50 – 16:05	DETECTING MUSCLE FATIGUE IN SURFACE EMG DATA THROUGH TOPOLOGICAL DATA ANALYSIS; <i>Benjamin Wheatley (USA)</i> [D]	
B-04.2 16:05 – 16:20	SIMULATIONS OF DYSFUNCTIONAL NEURO-MUSCULAR MECHANISMS EXPLAIN GRADUAL SPASTIC GAIT CHANGES; <i>Daniel F.B. Haeufle (Germany)</i> [D]	
B-04.3 16:20 – 16:35	LEARNING WITH MUSCLES: BENEFITS OF MUSCLE-ACTUATED MOTION IN ROBOTICS AND BIOLOGY; <i>Isabell Wochner (Germany)</i> [S]	
B-04.4 16:35 – 16:50	EMG-DRIVEN ESTIMATION OF MUSCLE MOMENTS REVISITED THROUGH INTEGRATION OF INTERMUSCULAR COHERENCE; <i>Emilie Mathieu (France)</i> [D]	
C – 04	MULTI-SCALE MECHANICS AND MECHANOBIOLOGY FOR TOMORROW'S CARDIOVASCULAR MEDICINE	
TRACK C – Amphi Fournel	<i>Chairs: Stéphane Avril, Nele Famaey</i>	
C-04.1 15:50 – 16:05	TOWARDS THE COMPUTATIONAL DEVELOPMENT OF AN IDEAL EXTERNAL SUPPORT FOR THE ROSS PROCEDURE; <i>Thibault Vervenne (Belgium)</i> [S]	
C-04.2 16:05 – 16:20	A MATHEMATICAL MODEL OF HIPSC CARDIOMYOCYTES IN ISCHEMIA/REPERFUSION; <i>Jussi Koivumäki (Finland)</i> [S]	
C-04.3 16:20 – 16:35	DATA-DRIVEN COMPUTATION OF GROWTH PATTERNS. APPLICATION TO HEART MORPHOGENESIS.; <i>Jose Munoz (Spain)</i> [D]	
C-04.4 16:35 – 16:50	FLUID STRUCTURE INTERACTION MODELING OF AORTIC VALVES USING THE LATTICE BOLTZMANN AND FEM METHODS; <i>Adi Morany (Israel)</i> [S]	
D – 04	ENGINEERING INNOVATION IN WOMEN'S HEALTH	
TRACK D – Salle des Conseils	<i>Chairs: Kristin Myers, Katrina Knight</i>	
D-04.1 15:50 – 16:10	COMPUTATIONAL MODELING OF CERVICAL SUPPORT DURING HUMAN PREGNANCY: IMPLICATIONS FOR THE TREATMENT OF CERVICAL INSUFFICIENCY; <i>Michael House (USA)</i> [K]	
D-04.2 16:10 – 16:25	INNOVATING FOR PROLAPSE REPAIRS USING A COMPUTATIONAL MODELING AND EXPERIMENTAL APPROACH; <i>Katrina Marquita Knight (USA)</i> [D]	
D-04.3 16:25 – 16:40	ESTABLISHMENT OF THE IN VIVO BIOMECHANICAL PROPERTIES OF THE BLADDER OF CONTINENT AND INCONTINENT WOMEN; <i>Elisabete Silva (Portugal)</i> [D]	
D-04.4 16:40 – 16:55	EXPERIMENTAL AND COMPUTATIONAL CHARACTERISATION OF OVINE PELVIC TISSUES; <i>Katie Harte (United Kingdom)</i> [S]	
E – 04	CANCER MECHANOBIOLOGY	
TRACK E – Amphi A	<i>Chairs: Valeria Panzetta, Sabato Fusco</i>	
E-04.1 15:50 – 16:10	DIGITAL NUCLEAR MECHANOBIOLOGY AND CANCER DIAGNOSTICS; <i>G.V. Shivashankar (Switzerland)</i> [K]	
E-04.2 16:10 – 16:25	CELL DEFORMABILITY HETEROGENEITY RECOGNITION FROM IN-FLOW MOTION PARAMETERS; <i>Maria Isabella Maremonti (Italy)</i> [D]	
E-04.3 16:25 – 16:40	BIOMECHANICAL ANALYSIS OF BRAIN CANCER CELL INVASION BY KINEMATIC FIELD MEASUREMENTS; <i>Aurélie Gangneux (France)</i> [S]	
E-04.4 16:40 – 16:55	MODELLING OF FORCES EXERTED BY CELLS ON THEIR DIRECT ENVIRONMENT; <i>Fred Vermolen (Belgium)</i> [S]	



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16:50 – 17:20	Coffee break, Posters & exhibition viewing	
17:20 – 18:50	A – 05 TRACK A – Grand Amphi	CLINICAL BIOMECHANICS AND TRANSLATIONAL RESEARCH III <i>Chairs: Christoph Bourauel, Ayman Assi</i>
A-05.1	17:20 – 17:35	A METHOD TO CHARACTERIZE POSTURE AND THE SCAPULOTHORACIC JOINT USING BIPLANAR RADIOGRAPHY; <i>Sandrine Bousigues (France) [S]</i>
A-05.2	17:35 – 17:50	MELT ELECTROWITTEN GRADIENT SCAFFOLD DEVELOPMENT FOR ROTATOR CUFF REPAIR; <i>Kirk Charles McGilvray (USA) [D]</i>
A-05.3	17:50 – 18:05	ON THE EVALUATION OF POSTOPERATIVE BIOMECHANICAL CONDITIONS IN RECONSTRUCTED HUMAN MANDIBLES: CAN WE PREDICT THE HEALING OUTCOME?; <i>Giorgio Biesso (Germany) [S]</i>
A-05.4	18:05 – 18:20	PATIENT-SPECIFIC APPROACH FOR ORTHOGNATHIC SURGERY: IN-SILICO DESIGN AND OPTIMIZATION OF 3D-PRINTED PLATES; <i>Ilaria Rota (Italy) [S]</i>
A-05.5	18:20 – 18:35	IN SILICO EVALUATION OF AN ARTIFICIAL TEMPOROMANDIBULAR JOINT DISC REPLACEMENT; <i>Christian Puttlitz (USA) [D]</i>
A-05.6	18:35 – 18:50	ADVANCING VIRTUAL SURGICAL PLANNING OF MANDIBULAR RECONSTRUCTION USING GRADIENT-BASED OPTIMIZATION; <i>Atabak Eghbal (Canada) [S]</i>
	B – 05 TRACK B – Amphi Bezier	PREDICTION OF HIP STRENGTH FROM CLINICAL DATA <i>Chairs: Philippe Zysset, Bert van Rietbergen</i>
B-05.1	17:20 – 17:40	FEMUR STRENGTH ASSESSMENT BY MERGING FE MODELING WITH CT IMAGES FOR HIP FRACTURE RISK PREDICTION; <i>Cristina Falcinelli (Italy) [K]</i>
B-05.2	17:40 – 18:00	THE BONE STRENGTH (BOS) SCORE: PREDICTING FRACTURE RISK IN PATIENTS WITH FEMORAL METASTASES USING A PATIENT-SPECIFIC FINITE ELEMENT MODEL; <i>Esther Tanck (The Netherlands) [D]</i>
B-05.3	18:00 – 18:20	PREDICTION OF HIP STRENGTH FROM CLINICAL DATA. WHAT IS NEXT?; <i>Benedikt Helgason (Switzerland) [D]</i>
B-05.4	18:20 – 18:35	PRACTICAL CONSIDERATIONS FOR THE USE OF 3D DXA-BASED FE ANALYSIS FOR THE ESTIMATION OF FEMORAL STRENGTH; <i>Yvan Gugler (Switzerland) [S]</i>
B-05.5	18:35 – 18:50	PHANTOMLESS CT CALIBRATION INCREASES STRATIFICATION ACCURACY IN A FEMORAL FRACTURE COHORT; <i>Carla Jane Winsor (USA) [D]</i>
	C – 05 TRACK C – Amphi Fournel	MECHANICAL CHARACTERIZATION OF MUSCLE ACROSS LENGTH SCALES <i>Chairs: Pierre-Yves Rohan, Benjamin Wheatley</i>
C-05.1	17:20 – 17:35	AN OVERVIEW OF THE STRUCTURE AND MECHANICS OF PASSIVE MUSCLE ACROSS DIFFERENT LENGTH SCALES; <i>Ciaran Simms (Ireland) [D]</i>
C-05.2	17:35 – 17:50	THE MECHANICAL ROLE OF EXTRACELLULAR MATRIX: FROM SKELETAL MUSCLE FIBER TO MUSCLE COMPARTMENTS; <i>Filiz Ates (Germany) [D]</i>
C-05.3	17:50 – 18:05	MULTISCALE EXPERIMENTS AND MODELLING OF SKELETAL MUSCLES; <i>Markus Böl (Germany) [D]</i>
C-05.4	18:05 – 18:20	A POROELASTIC FRAMEWORK TO REPRODUCE THE APPARENT VISCOELASTIC BEHAVIOUR OF MUSCLE UNDER COMPRESSION; <i>Pierre-Yves Rohan (France) [D]</i>
C-05.5	18:20 – 18:35	ACTIVE RUPTURE MODELING OF THE MUSCULOTENDINOUS COMPLEX WITH DISCRETE ELEMENT METHOD.; <i>Sébastien Laporte (France) [D]</i>
C-05.6	18:35 – 18:50	SKELETAL MUSCLE FINITE ELEMENT MODELING: ADAPTATION FROM CARDIAC TISSUE ACTIVATION LAWS; <i>Sonia Duprey (France) [D]</i>
	D – 05 TRACK D – Salle des Conseils	SIMVASCULAR WORKSHOP <i>Chairs: Shawn C. Shadden</i>
	E – 05 TRACK E – Amphi A	GIBBON WORKSHOP <i>Chair: Kevin Moerman</i>
19:00	Welcome reception, ENSAM (Conference Venue)	



Thursday, 4th May 2023

8:00	Registration opens		
9:00 – 10:30	A – 06		
	CLINICAL BIOMECHANICS AND TRANSLATIONAL RESEARCH IV <i>Chairs: Simona Celi, Heleen Fehervary</i>		
	TRACK A – Grand Amphi		
	A-06.1	9:00 – 9:15	A FINITE ELEMENT PROCEDURE FOR OPTIMAL ANNULOPLASTY RING SIZE ESTIMATION IN MITRAL VALVES WITH BARLOW'S DISEASE; Victorien Prot (Norway) [D]
	A-06.2	9:15 – 9:30	CONTROLLED COMPARISON OF SIMULATED HEMODYNAMICS ACROSS TRICUSPID AND BICUSPID AORTIC VALVES; Alexander Kaiser (USA) [D]
	A-06.3	9:30 – 9:45	INTEGRATION OF UNCERTAINTY QUANTIFICATION TO ADVANCE COMPUTATIONAL MODELS IN VASCULAR BIOMECHANICS; Lucas H. Timmins (USA) [D]
	A-06.4	9:45 – 10:00	PATIENT-SPECIFIC SIMULATION OF MITRAL VALVE REPAIR IN HUMANS WITH MITRAL REGURGITATION; Natalie T. Simonian (USA) [S]
	A-06.5	10:00 – 10:15	PRE-OPERATIVE PLANNING OF PIPELINE™ EMBOLIZATION DEVICE SIZING USING FINITE ELEMENT METHOD; Reza Abdollahi (Canada) [S]
	A-06.6	10:15 – 10:30	A MODEL OF HEART FAILURE PATIENTS FOR THE GENERATION OF AN IN-SILICO COHORT; Wouter Huberts (The Netherlands) [D]
	B – 06		
	COMPUTATIONAL EVALUATION OF ORTHOPAEDIC DEVICES <i>Chairs: Ruth Wilcox, Julie Choisne</i>		
	TRACK B – Amphi Bezier		
	B-06.1	9:00 – 9:20	ADVANCES IN EXPERIMENTAL AND COMPUTATIONAL SIMULATION OF TKA MECHANICS DURING ADLS; Chadd W Clary (USA) [K]
	B-06.2	9:20 – 9:35	ACETABULAR CUP ORIENTATION DURING GAIT: VARIATION AND IMPLICATIONS FOR HIP REPLACEMENT DEVICE TESTING; Alison Claire Jones (United Kingdom) [D]
	B-06.3	9:35 – 9:50	TESTING THA DESIGNS UNDER FEMORAL HEAD TO LINER RIM CONTACT CONDITIONS – USING COMPUTATIONAL MODELLING TO SUPPORT AND DEVELOP THE METHODOLOGY; Lee Etchels (United Kingdom) [D]
	B-06.4	9:50 – 10:05	IMPACT OF FEMORAL DEFECT SIZE ON PRIMARY STABILITY OF TAPERED SPLINED REVISION HIP STEM; Lin Wang (United Kingdom) [D]
	B-06.5	10:05 – 10:20	ON THE INFLUENCE OF INCORRECT IDEALIZED JOINT AXES TO THE DESIGN PROCESS OF ORTHOSES; Patrick Steck (Germany) [D]
	C – 06		
	HOW BIOMECHANICAL MODELS CAN IMPROVE DENTAL CLINICS? <i>Chairs: Aurélie Benoit, Ludger Keilig</i>		
	TRACK C – Amphi Fournel		
	C-06.1	9:00 – 9:20	COMBINED EXPERIMENTAL AND NUMERICAL STUDIES IN DENTAL BIOMECHANICS; Christoph Bourauel (Germany) [K]
C-06.2	9:20 – 9:35	CLINICAL AND NUMERICAL STUDY OF A LONG-TERM ORTHODONTIC TREATMENT; Vittorio Sansalone (France) [D], Gauthier Dot (France) [S]	
C-06.3	9:35 – 9:50	HOW THE TRIM LINE DESIGN OF ORTHODONTIC ALIGNERS AFFECTS THEIR BIOMECHANICAL BEHAVIOR; Tarek Elshazly (Germany) [S]	
C-06.4	9:50 – 10:05	FINITE ELEMENT MODELLING OF CANTILEVER SINGLE-RETAINER RESIN-BONDED FIXED DENTAL PROSTHESES; Aurélie Benoit (France) [D], Philippe Boitelle (France)	
C-06.5	10:05 – 10:20	BIOMECHANICAL SIMULATION OF HAEMOSTATIC SPONGES USED FOR SINUS LIFT PROCEDURE; Adrien Baldit (France) [D]	
C-06.6	10:20 – 10:35	CALIBRATION OF TRACTION-SEPARATION LAWS FOR THE ADHESIVE LAYER OF INDIRECT DENTAL RESTORATIONS; Yannick Yasothan (France) [S]	
D – 06			
EXPLORING BRAIN MECHANICS <i>Chairs: Silvia Budday, Lynne Bilston</i>			
TRACK D – Salle des Conseils			
D-06.1	9:00 – 9:20	THE EFFECTS OF RESPIRATORY AND OTHER PHYSIOLOGICAL FACTORS ON CNS FLUID MECHANICS AND TRANSPORT; Lynne Bilston (Australia) [K]	
D-06.2	9:20 – 9:35	PERSONALIZATION FRAMEWORK – APPLICATIONS ON HUMAN BRAIN, BODY MODELS AND BEYOND; Xiaogai Li (Sweden) [D]	
D-06.3	9:35 – 9:50	THE IMPORTANCE OF USING REGION-DEPENDENT MATERIAL PARAMETERS FOR FULL-SCALE HUMAN BRAIN SIMULATIONS; Emma Griffiths (Germany) [D]	
D-06.4	9:50 – 10:05	MECHANICAL CHARACTERIZATION OF HUMAN AND PORCINE BRAIN TISSUE AND HUMAN BRAIN ORGANOIDS; Nina Reiter (Germany) [S]	
D-06.5	10:05 – 10:20	MORPHOMETRIC AND BIOMECHANICAL INDICATORS OF CHIARI MALFORMATION I; Mehmet Kurt (USA) [D]	
E – 06			
MULTISCALE MECHANOBIOLOGY <i>Chairs: Juan Mora-Macias, José Sanz-Herrera</i>			
TRACK E – Amphi A			
E-06.1	9:00 – 9:20	MULTISCALE MECHANOBIOLOGICAL ANALYSIS OF THE NEWLY REGENERATED BONE; Esther Reina-Romo (Spain) [K]	
E-06.2	9:20 – 9:35	BIOMECHANICAL DESIGN AND CHARACTERIZATION OF SCAFFOLDS FOR TISSUE ENGINEERING; Paulo R. Fernandes (Portugal) [D]	
E-06.3	9:35 – 9:50	MULTISCALE MODELLING OF CHONDROCYTE MECHANICAL STIMULATION, A NUMERICAL AND EXPERIMENTAL APPROACH; Diego Alfredo Quexada Rodríguez (France) [S]	
E-06.4	9:50 – 10:05	FINITE ELEMENTS OF MULTISCALE MIXTURES (FE2M): APPLICATIONS TO SOFT TISSUES; David M. Pierce (USA) [D]	
E-06.5	10:05 – 10:20	COMPUTATIONAL CHARACTERISATION OF MECHANICAL ENVIRONMENT WITHIN TISSUE ENGINEERING SCAFFOLDS; Feihu Zhao (United Kingdom) [D]	
E-06.6	10:20 – 10:35	INFLUENCE OF CANCER-INDUCED ECM DEGRADATION ON TRACTION FORCE MICROSCOPY: AN IN SILICO STUDY; Alejandro Apolinar-Fernández (Spain) [S]	



Thursday, 4th May 2023

10:30 – 11:00	Coffee break, Posters & exhibition viewing	
11:00 – 12:45	A – 07 TRACK A – Grand Amphi	HEAD AND NECK BIOMECHANICS FOR COMPUTER ASSISTED MEDICAL INTERVENTIONS <i>Chairs: Yohan Payan, Geroges Bettega</i>
A-07.1	11:00 – 11:15	FINITE ELEMENT MODELLING OF RESPIRATORS INTERACTING WITH THE SOFT TISSUES OF THE FACE; <i>Sam Evans (United Kingdom)</i> [D]
A-07.2	11:15 – 11:30	MODEL-BASED SIMULATIONS OF THE INSERTION OF TENSOR THREADS IN PATIENT-SPECIFIC FACE: A PROOF OF CONCEPT; <i>Marie-Charlotte Picard (France)</i> [S]
A-07.3	11:30 – 11:45	FACIAL BEHAVIOR RECOGNITION AND REHABILITATION USING 3D BIOMECHANICAL FEATURES AND DEEP LEARNING APPROACH; <i>Duc-Phong Nguyen (France)</i> [D]
A-07.4	11:45 – 12:00	PREDICTING THE RISK OF FRACTURE OF OSTEOSYNTHESIS PLATES; <i>Yannick Tillier (France)</i> [D]
A-07.5	12:00 – 12:15	SIMULATION OF THE MECHANICAL BEHAVIOUR OF DIFFERENT PLATING SYSTEMS BRIDGING A SEGMENTAL BONE DEFECT; <i>Guillaume Dubois (France)</i> [S]
A-07.6	12:15 – 12:30	INFANT SKULL FRACTURE PREDICTION AND SUTURE MORPHOLOGY ANALYSIS; <i>Siyuan Chen (Sweden)</i> [S]
A-07.7	12:30 – 12:45	PREDICTION OF REAL-LIFE SKULL FRACTURE PATTERNS USING SUBJECT-SPECIFIC FE HEAD MODELS; <i>Natalia Lindgren (Sweden)</i> [S]
	B – 07 TRACK B – Amphi Bezier	IMAGE ANALYSIS AND PROCESSING METHODS FOR BIOLOGY AND MEDICINE I <i>Chairs: Sébastien Laporte, Kevin Moerman</i>
B-07.1	11:00 – 11:15	3D ULTRASOUND-BASED MECHANICAL AND GEOMETRICAL ANALYSIS OF ABDOMINAL AORTIC ANEURYSMS; <i>Esther Jorien Maas (The Netherlands)</i> [S]
B-07.2	11:15 – 11:30	A 3D PREOPERATIVE PLANNING TOOL FOR SELECTIVE CLAMPING DURING PARTIAL NEPHRECTOMY; <i>Saar Vermijs (Belgium)</i> [S]
B-07.3	11:30 – 11:45	TOWARDS AN IN-VIVO MRI-PATHOLOGY TOOL TO DECODE PLACENTAL ABNORMALITIES; <i>Romina Plitman Mayo (Israel)</i> [D]
B-07.4	11:45 – 12:00	EFFECT OF YAWNING ON CSF AND BLOOD FLOW THROUGH THE NECK; <i>Adam Dejan Martinac (Australia)</i> [S]
B-07.5	12:00 – 12:15	TOWARDS MECHANICAL CHARACTERIZATION OF BOTH AAA WALL AND INTRALUMINAL THROMBUS USING 3D+T ULTRASOUND; <i>Arjet H. M. Nievergeld (The Netherlands)</i> [S]
B-07.6	12:15 – 12:30	A BETTER UNDERSTANDING OF ABDOMINAL WALL BEHAVIOUR IN VIVO USING DYNAMIC MRI AND PRESSURE MEASUREMENTS; <i>Victoria Joppin (France)</i> [S]
B-07.7	12:30 – 12:45	NEW INSIGHTS INTO NANOSCALE ORGANIZATION OF DENTIN; <i>Margot C. Riou (France)</i> [S]
	C – 07 TRACK C – Amphi Fournel	MECHANISTIC MULTIPHASE MODELING OF SOFT TISSUES: IN VITRO/IN VIVO/IN SILICO APPROACHES TOWARD CLINICAL APPLICATION <i>Chairs: Giuseppe Sciumè, Stephane Urcun</i>
C-07.1	11:00 – 11:15	MODELING TUMOUR HETEROGENEITY; <i>Martine Ben Amar (France)</i> [D]
C-07.2	11:15 – 11:30	MICROMECHANICAL ANALYSIS OF THE EFFECTIVE STIFFNESS OF POROELASTIC COMPOSITES; <i>Raimondo Penta (United Kingdom)</i> [D]
C-07.3	11:30 – 11:45	A 3D IMAGE-BASED MATHEMATICAL MODEL COUPLING TUMOUR GROWTH TO MICROCIRCULATION TRANSPORT; <i>Hani Cheikh Sleiman (United Kingdom)</i> [D]
C-07.4	11:45 – 12:00	A FUNCTIONALLY GRADED ANISOTROPIC FRACTIONAL POROELASTIC MODEL TO SHADE LIGHT ON LUBRICATION MECHANISMS OF THE HUMAN MENISCUS DURING LOADING; <i>Olga Barrera (India)</i> [D]
C-07.5	12:00 – 12:15	DIGITAL FUNCTIONAL IMAGING AT MICROSCALE: OSTEOSARCOMA MICROENVIRONMENT AND TREATMENT RESISTANCE; <i>Pauline Assemat (France)</i> [D]
C-07.6	12:15 – 12:30	MALIGNANT TRANSFORMATION OF LOW GRADE ASTROCYTOMAS: IMAGING-INFORMED MODELLING; <i>Meryem Abbad Andaloussi (Luxembourg)</i> [S]
C-07.7	12:30 – 12:45	DIGITAL TWINNING OF THE CELLULAR CAPSULE TECHNOLOGY: A POROMECHANICAL APPROACH; <i>Giuseppe Sciumè (France)</i> [D]
	D – 07 TRACK D – Salle des Conseils	DIGITAL TWIN OF DIFFERENT SCALES AND BIOLOGICAL PROCESSES: THE EXAMPLE OF LIVER <i>Chairs: Irène Vignon-Clementel, Lorenzo Sala</i>
D-07.1	11:00 – 11:15	MULTISCALE MODELING OF LIVER METABOLIC PROCESSES: ACUTE AND CHRONIC DISEASES; <i>Jules Dichamp (France)</i> [D]
D-07.2	11:15 – 11:30	PHYSIOLOGICALLY-BASED MODELLING OF LIVER FUNCTIONS; <i>Lars Kuepfer (Germany)</i> [D]
D-07.3	11:30 – 11:45	INTEGRATED SPATIAL-TEMPORAL AGENT-BASED MODEL FOR SIMULATION OF FIBROTIC SCAR FORMATION; <i>Jieling Zhao (France)</i> [D]
D-07.4	11:45 – 12:00	A MULTISCALE AND MULTIPHASE DIGITAL TWIN OF FUNCTION-PERFUSION PROCESSES IN THE HUMAN LIVER; <i>Tim Ricken (Germany)</i> [D]
D-07.5	12:00 – 12:15	HOMOGENIZATION OF THE PERFUSION AND CONTRAST FLUID TRANSPORT IN THE LIVER LOBULES; <i>Eduard Rohan (Czech Republic)</i> [D]
D-07.6	12:15 – 12:30	MODELLING OF HEMODYNAMICS AND TRANSARTERIAL PARTICLE TRANSPORT IN THE LIVER AT DIFFERENT SCALES; <i>Charlotte Debbaut (Belgium)</i> [D]
	E – 07 TRACK E – Amphi A	MECHANOBIOLOGY IV <i>Chairs: Sophie Le Cann, Nicolas Bochud</i>
E-07.1	11:00 – 11:20	A MULTIMODAL HIGH RESOLUTION STRUCTURE-PROPERTY INVESTIGATION OF MINERALIZED FIBROCARILAGE; <i>Davide Ruffoni (Belgium)</i> [K]
E-07.2	11:20 – 11:35	EVALUATION OF ABDOMINAL HERNIA REPAIR USING FINITE ELEMENT MODELLING INCLUDING TISSUE DAMAGE; <i>Baptiste Pillet (France)</i> [D]
E-07.3	11:35 – 11:50	VALIDATION OF MAXIMUM SHEAR STRAIN AS FE MODEL-BASED PARAMETER FOR POST-TRAUMATIC CARTILAGE DEGENERATION UPON MECHANICAL LOADING; <i>Seyed Ali Elahi (Belgium)</i> [D]
E-07.4	11:50 – 12:05	FLUID SHEAR STRESS ON OSTEOCYTE UNDER ULTRASOUND STIMULATION: FINITE-ELEMENT MODEL; <i>Cécile Baron (France)</i> [D]
E-07.5	12:05 – 12:20	BIOMECHANICS OF VISCERAL PAIN: UNDERSTANDING AND MODELING PERITONEAL ADHESIONS.; <i>Madge Martin (France)</i> [D]
E-07.6	12:20 – 12:35	SPATIAL AND TEMPORAL WALL SHEAR STRESS DYNAMICS IN EMBRYONIC CHICK HEART AND VASCULATURE ANATOMIES; <i>Kirsten Berlin Giesbrecht (USA)</i> [S]
E-07.7	12:35 – 12:50	MATRIX DEPENDENT EMERGENCE OF BIOFILM STRUCTURE; <i>Tom Belpaire (Belgium)</i> [S]
E-07.8	12:50 – 13:05	A MULTISCALE MODEL OF VASCULAR GROWTH AND REMODELING INCLUDING NOTCH SIGNALING; <i>Jordy van Asten (The Netherlands)</i> [S]



Thursday, 4th May 2023

13:00 – 14:00	Lunch break & Poster sessions C and D	
13:00 – 14:00	BETA CAE Industry workshop (Amphi Bezier)	
14:00 – 14:50	Plenary lecture: ADVANCING THE USE OF CREDIBLE COMPUTER MODELLING AND SIMULATION FOR MEDICAL DEVICE REGULATORY DECISION MAKING: FROM PRECLINICAL TO IN SILICO CLINICAL TRIALS; <i>Brent Craven</i> ; Chairs: <i>Wafa Skalli, Jos Vander Sloten</i> (Meeting room: Grand Amphi)	
15:00 – 16:30	A – 08 TRACK A – Grand Amphi	VERIFICATION AND VALIDATION OF COMPUTATIONAL MODELS Chairs: <i>Nele Famaey, Sam Evans and Heleen Fehervary</i>
A-08.1	15:00 – 15:15	A TIERED VALIDATION APPROACH OF A PATIENT SPECIFIC HEART-VALVE MODEL; <i>Omar Zahalka (The Netherlands)</i> [D]
A-08.2	15:15 – 15:30	VERIFICATION AND VALIDATION OF transcatheter HEART VALVE IMPLANTATION IN A VIRTUAL HUMAN COHORT; <i>Salvatore Pasta (Italy)</i> [D]
A-08.3	15:30 – 15:45	HOW LARGE SHOULD A VESSEL WALL TEST SPECIMEN BE?; <i>Christian T. Gasser (Sweden)</i> [D]
A-08.4	15:45 – 16:00	C4BIO IN DEPTH: PROPAGATION OF VARIABILITIES AND UNCERTAINTIES IN PORCINE AORTA UNIAXIAL TENSILE TESTING; <i>Heleen Fehervary (Belgium)</i> [D]
A-08.5	16:00 – 16:15	VALIDATION OF FSI SIMULATIONS AGAINST A COMPLIANT AORTIC PHANTOM IN A HYBRID MOCK CIRCULATORY LOOP; <i>Simona Celi (Italy)</i> [D]
A-08.6	16:15 – 16:30	MATERIAL CHARACTERIZATION OF HETEROGENEOUS ATHEROSCLEROTIC ARTERIES; <i>Ali Cagdas Akyildiz (The Netherlands)</i> [D]
	B – 08 TRACK B – Amphi Bezier	METHODS IN MECHANICS FOR BIOLOGY AND MEDICINE II Chairs: <i>Michael Sacks, Sophie Le Cann</i>
B-08.1	15:00 – 15:15	SENSITIVITY ANALYSIS AND PARAMETER IDENTIFICATION OF BLOOD FLOW MODELS; <i>Patricia Cathalifaud (France)</i> [D]
B-08.2	15:15 – 15:30	IDENTIFICATION OF PATIENTS-SPECIFIC LEFT VENTRICLE STIFFNESS USING INVERSE FRAMEWORK OF MRI-BASED FINITE ELEMENT MODELING AND VIRTUAL FIELD METHOD; <i>Mehdi Ghafarinatanzi (Canada)</i> [S]
B-08.3	15:30 – 15:45	FROM AUTOMATED AND DATA-DRIVEN MODELLING TO MANUFACTURING OF MECHANO-ACOUSTIC PHANTOM-TWINS; <i>Stefanie Feih (Australia)</i> [D]
B-08.4	15:45 – 16:00	COMBINING 4D ULTRASOUND AND MODIFIED VIRTUAL FIELDS TO REGIONALLY CHARACTERIZE ABDOMINAL AORTIC ANEURYSMS; <i>Mirunalini Thirugnanasambandam (Germany)</i> [D]
B-08.5	16:00 – 16:15	BIOMECHANICAL CHARACTERIZATION OF YOUNG HUMAN CORNEA USING CLEAR LENTICULES; <i>Philippe Büchler (Switzerland)</i> [D]
B-08.6	16:15 – 16:30	MACHINE LEARNING-ASSISTED FINITE ELEMENT MODELING OF ADDITIVELY MANUFACTURED META-BIOMATERIALS; <i>Lennart Scheys (Belgium)</i> [D]
	C – 08 TRACK C – Amphi Fournel	STRUCTURES AND SYSTEMS BIOMECHANICS IV Chairs: <i>Mathieu Specklin, Jean-Louis Hébert and Mickael Lescroart</i>
C-08.1	15:00 – 15:15	UNDERSTANDING HOW TRANSPORT IN ORGAN VASCULAR TREES REFLECT THEIR ARCHITECTURE; <i>Jérôme Kowalski (France)</i> [S]
C-08.2	15:15 – 15:30	BIOMECHANICAL MODELLING OF FETAL HEART WITH AORTIC STENOSIS TO PREDICT INTERVENTION EFFECTIVENESS; <i>Laura Green (United Kingdom)</i> [D]
C-08.3	15:30 – 15:45	CORRELATIVE ANALYSIS OF HIGHLY RESOLVED AAA WALL COMPOSITION AND STRAIN IN MICE; <i>Christopher Blase (Germany)</i> [D]
C-08.4	15:45 – 16:00	THE RELATIONSHIP BETWEEN EMOTION AND INTERNET GAMING DISORDER: A MODEL MEDIATED BY HEART RATE VARIABILITY; <i>Tsai Chieh Lai (Taiwan)</i> [S]
C-08.5	16:00 – 16:15	THE EFFECT OF DRIVING PRESSURE ON LUNG COMPLIANCE IN PRONE AND SUPINE POSITION IN PATIENTS WITH ARDS; <i>Sjeng Quicken (The Netherlands)</i> [D]
C-08.6	16:15 – 16:30	IN SILICO PNEUMATIC SIMULATIONS OF PATIENTS VENTILATED WITH A NEW NON-INVASIVE CLOSED-LOOP BREATHING CIRCUIT; <i>Andrea Formaggio (Italy)</i> [S]
	D – 08 TRACK D – Salle des Conseils	STRUCTURES AND SYSTEMS BIOMECHANICS V Chairs: <i>Pierre-Yves Rohan, Benjamin Wheatley</i>
D-08.1	15:00 – 15:15	HYDROMECHANICAL MODELING OF PLANT TISSUE MORPHOGENESIS USING A 3D DEFORMABLE CELL MODEL; <i>Hans Van Cauteren (Belgium)</i> [S]
D-08.2	15:15 – 15:30	DIFFERENCES IN PROPHYLACTIC PERFORMANCE ACROSS WOUND DRESSING TYPES USED TO PROTECT FROM DEVICE-RELATED PRESSURE ULCERS CAUSED BY A CONTINUOUS POSITIVE AIRWAY PRESSURE MASK; <i>Aleksei Orlov (Israel)</i> [S]
D-08.3	15:30 – 15:45	CHARACTERIZATION AND COMPUTATIONAL MODELLING OF SKIN TO BONE INTERACTION THROUGH PEELING TEST; <i>Cédric Laurent (France)</i> [D]
D-08.4	15:45 – 16:00	COMPUTATIONAL MODELLING OF MICRONEEDLE INSERTION AND THERAPEUTIC DRUG DELIVERY; <i>Wenting Shu (Ireland)</i> [S]
D-08.5	16:00 – 16:15	VISCOELASTIC PROPERTIES OF GREY MATTER IN PORCINE SPINAL CORD; <i>Eric Wagnac (Canada)</i> [D]
D-08.6	16:15 – 16:30	IMPLEMENTATION OF THE PATELLAR TENDON REFLEX IN A MUSCLE-DRIVEN ROBOTIC LEG BASED ON BIOINSPIRED MOTOR CONTROL; <i>Tobias Nadler (Germany)</i> [S]
	E – 08 TRACK E – Amphi A	SOFA WORKSHOP Chairs: <i>Hugo Talbot</i>



Thursday, 4th May 2023

16:30 – 17:00	Coffee break + Poster sessions (coffee served in poster exhibition)		
17:00 – 18:30	A – 09	VERIFICATION AND VALIDATION OF COMPUTATIONAL MODELS	
	TRACK A – Grand Amphi	<i>Chairs: Nele Famaey, Sam Evans and Heleen Fehervary</i>	
	A-09.1	17:00 – 17:15	THE INFLUENCE OF GEOMETRICAL MEASUREMENTS ON MATERIAL PROPERTIES; <i>John J.E. Mulvihill (Ireland) [D]</i>
	A-09.2	17:15 – 17:30	VALIDATING THE MECHANICAL RESPONSE OF A MULTISCALE MODEL OF A KNITTED HERNIA IMPLANT; <i>Baptiste Pierrat (France) [D]</i>
	A-09.3	17:30 – 17:45	APPROACHING HUMAN GROUND RESIDUALS IN THE ANYBODY MODELING SYSTEM; <i>Simon Auer (Germany) [D]</i>
	A-09.4	17:45 – 18:00	COMPARISON OF TWO MODELS TO PREDICT VERTEBRAL FAILURE LOADS ON THE SAME EXPERIMENTAL DATASET; <i>Helene Follet (France) [D]</i>
	A-09.5	18:00 – 18:15	DEVELOPMENT OF A MODEL OF THE ABDOMINAL WALL: SENSITIVITY ANALYSIS AND EVALUATION OF ITS PERFORMANCE; <i>Arthur Jourdan (France) [D]</i>
	A-09.6	18:15 – 18:30	A VERIFICATION FRAMEWORK FOR FINITE ELEMENT MODELS TO PREDICT WEAR IN JOINT REPLACEMENTS; <i>Cristina Curreli (Italy) [D]</i>
	B – 09	METHODS IN MECHANICS FOR BIOLOGY AND MEDICINE III	
	TRACK B – Amphi Bezier	<i>Chairs: Lucas Timmins, Pierre Yves Rohan</i>	
	B-09.1	17:00 – 17:15	A MACHINE LEARNING TO INVESTIGATE THE EFFECT OF STRUCTURE ON MECHANICAL BEHAVIOR OF OPTIC NERVE HEAD AXONS; <i>Thao {Vicky} Nguyen (USA) [D]</i>
	B-09.2	17:15 – 17:30	BRIDGING TISSUE-SCALE MULTI-PHYSICS TO ORGAN-SCALE BIOMECHANICS THROUGH MULTI-FIDELITY MACHINE LEARNING; <i>Seyed Shayan Sajjadinia (Italy) [S]</i>
	B-09.3	17:30 – 17:45	MACHINE LEARNING BASED DESIGN OF TRIPLY-PERIODIC MINIMAL SURFACE SCAFFOLDS FOR BONE TISSUE ENGINEERING; <i>Luca D'Andrea (Italy) [S]</i>
	B-09.4	17:45 – 18:00	EMG-BASED IDENTIFICATION OF ADL GRASP TYPES WITH A DEEP-LEARNING APPROACH FOR PROSTHETIC USE; <i>Marta C. Mora (Spain) [D]</i>
	B-09.5	18:00 – 18:15	COMPUTING TRANSVALVULAR PRESSURE GRADIENT USING DEEP-LEARNING FROM SEGMENTED IMAGE DATA; <i>Pavlo Yevtushenko (Germany) [D]</i>
	B-09.6	18:15 – 18:30	A HYBRID AGENT-BASED MODEL TO UNRAVEL THE MECHANISMS OF VISCERAL LEISHMANIASIS PROGRESSION AND RELAPSE; <i>Margaretha M. Passier (The Netherlands) [S]</i>
	C – 09	HOW BIOMECHANICAL MODELS CAN IMPROVE DENTAL CLINICS?	
	TRACK C – Amphi Fournel	<i>Chairs: Aurelie Benoit, Ludger Keilig</i>	
	C-09.1	17:00 – 17:15	MICROMOBILITY AND GAP OPENING IN THE IMPLANT/ABUTMENT INTERFACE FOR DENTAL IMPLANTS – A SYSTEMATIC ANALYSIS; <i>Ludger Keilig (Germany) [D]</i>
	C-09.2	17:15 – 17:30	REAL-TIME FINITE ELEMENT ASSESSEMENT OF DENTAL IMPLANT REHABILITATION TREATMENT PERFORMANCE; <i>Mohsen Nakhaei (France) [D]</i>
	C-09.3	17:30 – 17:45	BIOMECHANICAL EVALUATION OF NARROW TMJ IMPLANT; <i>Rajdeep Ghosh (India) [D]</i>
C-09.4	17:45 – 18:00	BIOMECHANICAL ASSESSMENT OF MULTI-ROOTED ROOT ANALOGUE IMPLANTS; <i>Mostafa Aldesoki (Germany) [S]</i>	
C-09.5	18:00 – 18:15	APPLICATION OF A NEW IMPLANT FOR DENTAL RESTORATION IN CASE OF STRONGLY DEGRADATED MANDIBULAR BONE; <i>Cynthia Dreistadt (France) [D]</i>	
C-09.6	18:15 – 18:30	FINITE ELEMENT MODELING OF THE MASTICATORY SYSTEM: APPLICATION TO BRUXISM; <i>Yannick Tillier (France) [D]</i>	
D – 09	FEBIO WORKSHOP		
TRACK D – Salle des Conseils	<i>Chairs: Gerard Ateshian, Steve Maas and Jeffrey Weiss</i>		
E – 09	BIOPTIM WORKSHOP		
TRACK E – Amphi A	<i>Chairs: Francois Bailly, Amedeo Ceglia</i>		
20:00	Conference dinner cruise on the legendary Bateau mouche boat (Pont de l'Alma): Bateaux-Mouches, Port de la Conférence, pier located under the Pont de l'Alma, closest metro station: Alma Marceau		



Friday, 5th May 2023

8:00	Registration opens	
9:00 – 9:50	Plenary lecture: CHALLENGES IN SPORT BIOMECHANICS; <i>Christophe Baudot & Philippe Rouch</i> ; Chairs: Sébastien Laporte, Sam Evans (Meeting room: Grand Amphi)	
10:00 – 11:00	A – 10 TRACK A – Grand Amphi	CLINICAL BIOMECHANICS AND TRANSLATIONAL RESEARCH V Chairs: Philippe Zysset, Jos Vander Sloten
	A-10.1 10:00 – 10:15	DESIGNING AND TESTING AN IMPLANTABLE SENSOR WITH IN-SILICO TECHNIQUES; <i>Axel Seeger (Germany)</i> [D]
	A-10.2 10:15 – 10:30	ANALYSIS OF PATHOLOGICAL SKULL GROWTH PATTERNS; <i>Maya Geoffroy (France)</i> [S]
	A-10.3 10:30 – 10:45	SPATIO-TEMPORAL ATLAS OF THE 3D BONE DENSITY DISTRIBUTION IN THE PROXIMAL FEMUR; <i>Alice Dudle (Switzerland)</i> [S]
	A-10.4 10:45 – 11:00	EFFECT OF LABRUM SIZE ON CARTILAGE MECHANICS IN HIPS WITH CAM FEMOROACETABULAR IMPINGEMENT SYNDROME; <i>Luke Hudson (USA)</i> [S]
	B – 10 TRACK B – Amphi Bezier	HUMAN MOVEMENT: GAIT ANALYSIS, SPORTS AND INJURY MECHANISMS IV Chairs: Sébastien Laporte, Maude Creze
	B-10.1 10:00 – 10:15	QUANTIFYING THE IMPACT OF SYNTHETIC DATA IN MARKERLESS MOTION CAPTURE; <i>Tylan Templin (USA)</i> [D]
	B-10.2 10:15 – 10:30	TOWARDS BIOMECHANICAL ANALYSIS IN WORKPLACE ERGONOMICS USING MARKER-LESS MOTION CAPTURE; <i>Jindong Jiang (France)</i> [S]
	B-10.3 10:30 – 10:45	ADAPTIVE ISOKINETICS AND MULTICHANNEL HIGH-DENSITY ELECTROMYOGRAPHY FOR TRANSTIBIAL AMPUTATION; <i>Usha Kuruganti (Canada)</i> [D]
	B-10.4 10:45 – 11:00	BEST IMU SENSOR PLACEMENT TO PREDICT JOINT KINEMATICS AND KINETICS DURING GAIT USING A RANDOM FOREST MODEL; <i>Shima Mohammadi Moghadam (New Zealand)</i> [S]
	C – 10 TRACK C – Amphi Fournel	BIOMECHANICS OF CARDIOVASCULAR SYSTEM: MODELLING, SIMULATION AND IMAGING Chairs: Simona Celi; Lorenza Petrini
	C-10.1 10:00 – 10:12	ANGIOGRAPHY-BASED COMPUTATIONAL FLUID DYNAMICS SIMULATIONS TO PREDICT MYOCARDIAL INFARCTION; <i>Claudio Chiastra (Italy)</i> [D]
	C-10.2 10:12 – 10:24	A DISCUSSION ON STRATEGIES FOR THE IN SILICO DEPLOYMENT OF LEFT ATRIAL APPENDAGE OCCLUDERS; <i>Francesca Berti (Italy)</i> [D]
	C-10.3 10:24 – 10:36	NUMERICAL SIMULATIONS TO EVALUATE THE DEVICE-RELATED EFFECTS IN ATRIAL FIBRILLATION PATIENTS; <i>Emanuele Gasparotti (Italy)</i> [D]
	C-10.4 10:36 – 10:48	ON THE IMPORTANCE OF THOROUGH IN SILICO DRUG-COATED BALLOON REPLICAS TO SIMULATE COATING TRANSFER; <i>Efstathios Stratakos (Italy)</i> [S]
	C-10.5 10:48 – 11:00	MACHINE LEARNING FOR FAST COMPUTATIONAL FLUID DYNAMICS CARDIOVASCULAR ASSESSMENT; <i>Endrit Pajaziti (United Kingdom)</i> [S]
	D – 10 TRACK D – Salle des Conseils	METHODS IN MECHANICS FOR BIOLOGY AND MEDICINE IV Chairs: Michael Sacks, Klaas Vander Linden
	D-10.1 10:00 – 10:15	TOWARDS A REAL-TIME SIMULATOR OF FLOW DIVERTERS DEPLOYMENT BASED ON MODEL ORDER REDUCTION; <i>Beatrice Bisighini (France)</i> [S]
	D-10.2 10:15 – 10:30	GRAPH NEURAL NETWORKS TO PREDICT JUNCTION PRESSURE LOSSES IN REDUCED-ORDER CARDIOVASCULAR MODELLING; <i>Natalia L Rubio (USA)</i> [S]
	D-10.3 10:30 – 10:45	LEARNING REDUCED-ORDER MODELS FOR BLOOD FLOW SIMULATIONS USING GRAPH NEURAL NETWORKS; <i>Luca Pegolotti (USA)</i> [D]
D-10.4 10:45 – 11:00	AN APPROACH FOR NEURAL NETWORK FINITE ELEMENT BASED CARDIAC SIMULATIONS; <i>Shruti Motiwale (USA)</i> [S]	
E – 10 TRACK E – Amphi A	MECHANOBIOLOGY V Chairs: Aurélie Benoit, Areti Papastavrou	
E-10.1 10:00 – 10:15	INVESTIGATION OF THE MECHANOBIOLOGICAL REGULATION OF BONE REGENERATION WITHIN SCAFFOLDS IN LARGE BONE DEFECTS COMORBID WITH TYPE 2 DIABETES; <i>Mahdi Jaber (Germany)</i> [S]	
E-10.2 10:15 – 10:30	MECHANOBIOLOGICAL INFLUENCE OF FIXATION DEVICES ON THE DYNAMIC MANDIBULAR BONE HEALING PROCESS; <i>Vincenzo Orassi (Germany)</i> [S]	
E-10.3 10:30 – 10:45	EXPERIMENTAL CALIBRATION OF AN IN SILICO MECHANO-BIOLOGICAL MODEL OF BONE HEALING INFLAMMATORY RESPONSE WITH THE SUPPORT OF GENETIC ALGORITHM; <i>Edoardo Borgiani (Belgium)</i> [D]	
E-10.4 10:45 – 11:00	A HYBRID MODEL OF ORGANOID MORPHOGENESIS; <i>Daniel Camacho-Gomez (Spain)</i> [S]	



Friday, 5th May 2023

11:00 – 11:30	Coffee break, Posters & exhibition viewing	
11:30 – 13:00	A – 11 TRACK A – Grand Amphi	CLINICAL APPLICATIONS OF HIGH RESOLUTION CT <i>Chairs: Philippe Zysset, Bert van Rietbergen</i>
A-11.1	11:30 – 11:50	QUANTIFICATION OF BONE MICROSTRUCTURE USING CLINICAL CT; <i>Harry van Lenthe (Belgium) [K]</i>
A-11.2	11:50 – 12:10	THE APPLICATION OF HR-PQCT AND ADVANCED COMPUTATIONAL METHODS TO ASSESS PATIENT-SPECIFIC SKELETAL MECHANOBIOLOGY AND HEALTH; <i>Danielle Elizabeth Whittier (Switzerland) [D]</i>
A-11.3	12:10 – 12:25	THINKING ABOUT BONE LOSS ON THE ISS - AN 18-MONTH PERSPECTIVE; <i>Peter Fernandez (France) [S]</i>
A-11.4	12:25 – 12:40	CT-FREE NERF VOLUME RECONSTRUCTION FROM SPARSE INTRA-OPERATIVE FLUOROSCOPY FOR SURGICAL NAVIGATION; <i>Donald D. Anderson (USA) [D]</i>
A-11.5	12:40 – 12:55	STRESS DISTRIBUTION ANALYSIS IN THE LUMBAR FACET JOINT AFTER AN ARTHRODESIS OR AN ARTHROPLASTY; <i>François Zot (France) [S]</i>
	B – 11 TRACK B – Amphi Bezier	COMPUTATIONAL PULMONOLOGY: RECENT ADVANCES AND CHALLENGES <i>Chairs: Martin Genet, Aline Bel-Brunon</i>
B-11.1	11:30 – 11:45	MODELING THE BIAXIAL MECHANICAL BEHAVIOR OF THE BRONCHIAL TREE; <i>Mona Eskandari (USA) [D]</i>
B-11.2	11:45 – 12:00	MULTISCALE RESPIRATORY MECHANICS: LUNG MODELING AND APPLICATIONS TO MECHANICAL VENTILATION; <i>Daniel Hurtado (Chile) [D]</i>
B-11.3	12:00 – 12:15	MULTI-SCALE MODELING OF THE LUNG PARENCHYMA; <i>Mahdi Manoochehrtayebi (France) [S]</i>
B-11.4	12:15 – 12:30	MATERIALS SIMPLIFICATION IN TRACHEO-STENT ANALYSIS; <i>Carlos A. Campos (Portugal) [D]</i>
B-11.5	12:30 – 12:45	TREATMENT OF SUPRASYSTEMIC PULMONARY ARTERY HYPERTENSION: GEOMETRIC MULTISCALE AND REDUCED MODELS OF THE POTTS SHUNT; <i>Irène Vignon-Clementel (France) [D]</i>
	C – 11 TRACK C – Amphi Fournel	METHODS IN MECHANICS FOR BIOLOGY AND MEDICINE V <i>Chairs: Kevin Moerman, Qiyao Peng</i>
C-11.1	11:30 – 11:45	DAMAGE MECHANICS OF BIOLOGICAL TISSUES IN RELATION TO VISCOELASTICITY: COMPUTATIONAL IMPLEMENTATION; <i>Gerard Ateshian (USA) [D]</i>
C-11.2	11:45 – 12:00	A MODULAR FRAMEWORK FOR STRONG 3D/0D COUPLING IN CARDIAC MECHANICS SIMULATIONS; <i>Aaron Lin Brown (USA) [S]</i>
C-11.3	12:00 – 12:15	A SENSITIVITY-BASED STOCHASTIC FINITE ELEMENT FORMULATION FOR BIOLOGICAL SOFT MATTER MECHANICS; <i>Georges Limbert (United Kingdom) [D]</i>
C-11.4	12:15 – 12:30	DIGITAL TWIN TO PREDICT VENTRICULAR TACHYCARDIA; <i>Carljin Buck (The Netherlands) [D]</i>
C-11.5	12:30 – 12:45	MECHANICAL BEHAVIOUR OF SOFT SPHERICAL TISSUE CONSTRUCTS IN MICROFLUIDIC CULTURE; <i>Willy V. Bonneuil (Sweden) [D]</i>
C-11.6	12:45 – 13:00	THE APPARENT MODULUS OF TRABECULAR BONE: EXPERIMENTS VS MICROSTRUCTURAL FINITE ELEMENT MODELS; <i>Trevor John Cloete (South Africa) [D]</i>
	D – 11 TRACK D – Salle des Conseils	METHODS IN MECHANICS FOR BIOLOGY AND MEDICINE VI <i>Chairs: Sébastien Laporte, Yohan Payan</i>
D-11.1	11:30 – 11:45	A COHORT OF PATIENT-SPECIFIC AND VIRTUAL FINITE ELEMENT MODELS OF INTERVERTEBRAL DISCS; <i>Estefano Muñoz-Moya (Spain) [S]</i>
D-11.2	11:45 – 12:00	FINITE ELEMENT MODELLING OF PRESS-FIT IMPLANT INSERTION; <i>Xiaoyi Min (United Kingdom) [S]</i>
D-11.3	12:00 – 12:15	DEFINING A PROCESS FOR STRESS REDUCTION IN THE KEEL TRAY INTERFACE IN UNICOMPARTMENTAL KNEE REPLACEMENT TIBIAL COMPONENTS; <i>Laurence Marks (United Kingdom) [D]</i>
D-11.4	12:15 – 12:30	IN SILICO CHARACTERIZATION OF MICRO-CT BASED BIOACTIVE GLASS-CERAMIC SCAFFOLDS; <i>Anna De Cet (Italy) [S]</i>
D-11.5	12:30 – 12:45	A PIPELINE FOR IMAGE BASED MODELING OF FASCIA TISSUE IN THE LOWER LEG IN VIVO; <i>Meeghage Randika Perera (New Zealand) [S]</i>
D-11.6	12:45 – 13:00	MODELLING MICRONEEDLE INDENTATION AND PENETRATION INTO A SKIN SUBSTITUTE USING A COHESIVE ZONE METHOD; <i>Rachael Joyce (United Kingdom) [S]</i>
	E – 11 TRACK E – Amphi A	MODELLING AND SIMULATION OF MUSCULOSKELETAL MECHANOBIOLOGY <i>Chairs: Areti Papastavrou, Julie Choisne</i>
E-11.1	11:30 – 11:45	POTENTIAL APPLICATIONS FOR MUSCULOSKELETAL MODELLING IN PATIENT CARE; <i>Anna-Maria Liphardt (Germany) [D]</i>
E-11.2	11:45 – 12:00	“IN THE WILD” MOVEMENT ANALYSIS OF ARBITRARY MOTIONS; <i>Anne D. Koelewijn (Germany) [D]</i>
E-11.3	12:00 – 12:15	ON THE INCLUSION OF MOTION CAPTURE DATA IN OPTIMAL CONTROL SIMULATIONS OF THE HUMAN HAND; <i>Simon Heinrich (Germany) [S]</i>
E-11.4	12:15 – 12:30	MODELING AND SIMULATION OF SURFACE BONE GROWTH BASED ON THERMODYNAMIC PRINCIPLES; <i>Jean-François Ganghoffer (France) [D]</i>
E-11.5	12:30 – 12:45	OSTEOARTHRITIS PATIENTS CLASSIFICATION BASED ON SUPPORT VECTOR MACHINES; <i>Maria Segarra-Queralt (Spain) [S]</i>
E-11.6	12:45 – 13:00	FEMORAL GROWTH PLATE STRESSES IN CHILDREN QUANTIFIED WITH A SEMI-AUTOMATED MULTI-SCALE MODELING WORKFLOW; <i>Willi Koller (Austria) [S]</i>



Friday, 5th May 2023

13:00 – 14:00	Lunch break & Poster sessions E and F	
14:00 – 15:45	A – 12 TRACK A – Grand Amphi	CLINICAL BIOMECHANICS & TRANSLATIONAL RESEARCH VI <i>Chairs: Jean Marc Allain, Sam Evans</i>
A-12.1	14:00 – 14:15	COMBINED IMAGING, DEFORMATION AND REGISTRATION METHODOLOGY FOR PREDICTING RESPIRATOR FITTING; <i>Silvia Caggiari (United Kingdom) [D]</i>
A-12.2	14:15 – 14:30	CORNEAL MECHANICS FOR THE EARLY DETECTION OF THE KERATOCONUS; <i>Jean-Marc Allain (France) [D]</i>
A-12.3	14:30 – 14:45	COMPUTATIONAL MODELING FOR CEREBRAL VASCULOPATHY IN EARLY CHILDHOOD IN SICKLE CELL DISEASE.; <i>Weiqiang Liu (France) [D]</i>
A-12.4	14:45 – 15:00	3D FE MODELING OF THE LATERAL SEMICIRCULAR CANAL OF THE INNER EAR; <i>Manon Blaise (France) [S]</i>
A-12.5	15:00 – 15:15	TRANSVERSE FLOWS IN MODELS OF THE COCHLEAR DUCT VALIDATED BY 3D MICRO PARTICLE IMAGE VELOCIMETRY; <i>Noëlle Claudia Harte (Switzerland) [S]</i>
A-12.6	15:15 – 15:30	A CORRECTED EJECTION FRACTION MEASURE CAN BETTER REPRESENT FUNCTION AND PREDICT OUTCOMES; <i>Choon Hwai Yap (United Kingdom) [D]</i>
A-12.7	15:30 – 15:45	INLET ASYMMETRY IN ACOM ARTERY ANEURYSMS: COMPUTATIONAL VERSUS CLINICAL APPROACH; <i>Bhanu Jayanand Sudhir (India) [D]</i>
	B – 12 TRACK B – Amphi Bezier	3D MOVEMENT ANALYSIS AND SUBJECT-SPECIFIC MUSCULOSKELETAL MODELING - ORGANIZED JOINTLY WITH ESMAC <i>Chairs: Ayman Assi, Hans Kainz</i>
B-12.1	14:00 – 14:10	TACKLING SUBJECT SPECIFICITY IN MSK DISORDERS ANALYSIS: METHODOLOGICAL CHALLENGES AND RECENT ADVANCES; <i>Wafa Skalli (France) [K]</i>
B-12.2	14:10 – 14:25	QUANTITATIVE FUNCTIONAL ASSESSMENT IN THE SETTING OF ADULT SPINAL DEFORMITY USING SUBJECT-SPECIFIC 3D MUSCULOSKELETAL DATA; <i>Ayman Assi (Lebanon) [K]</i>
B-12.3	14:25 – 14:40	SUBJECT-SPECIFIC KINEMATIC MODELLING OF THE SPINE AND LOWER LIMBS BASED ON STANDING BIPLANAR RADIOGRAPHY FOR 3D MOVEMENT ANALYSIS; <i>Lennart Scheys (Belgium) [D]</i>
B-12.4	14:40 – 14:55	PATIENT-SPECIFIC CERVICAL SPINE MUSCULOSKELETAL MODEL FROM REDUCED IMAGE ACQUISITION; <i>Christophe Muth-Seng (France) [S]</i>
B-12.5	14:55 – 15:10	DETERMINANTS OF KNEE JOINT LOADING IN MEDIAL KNEE OA: INSIGHTS FROM POPULATION-BASED MODELING APPROACHES; <i>Ilse Jonkers (Belgium) [D]</i>
B-12.6	15:10 – 15:25	A 3D SUBJECT-SPECIFIC MUSCULOSKELETAL MODEL TO CALCULATE MUSCLE LENGTHS DURING WALKING; <i>Guillaume Rebeyrat (France) [D]</i>
B-12.7	15:25 – 15:40	DECREASING RECTUS FEMORIS ACTIVITY CAN DECREASE KNEE LOADS IN PEOPLE WITH INCREASED FEMORAL ANTEVERSION; <i>Basilio Goncalves (Austria) [D]</i>
	C – 12 TRACK C – Amphi Fournel	IMAGE ANALYSIS AND PROCESSING METHODS FOR BIOLOGY AND MEDICINE II <i>Chairs: Claudio Vergari, Heleen Fehervary</i>
C-12.1	14:00 – 14:15	WEAKLY SUPERVISED CONVOLUTIONAL NEURAL NETWORKS-BASED 3D RECONSTRUCTION FROM MEDICAL IMAGES GUIDED BY PARAMETRIC GEOMETRIC MODELS; <i>Jean-Rassaire Fouefack (France) [D]</i>
C-12.2	14:15 – 14:30	ADOLESCENT IDIOPATHIC SCOLIOSIS DETECTION USING SURFACE TOPOGRAPHY AND CONVOLUTIONAL NEURAL NETWORKS; <i>Nada Mohamed (Canada) [S]</i>
C-12.3	14:30 – 14:45	PREDICTING THE PREMORBID ANATOMY OF THE SCAPULA USING AUTOENCODERS; <i>Osman Berk Satir (Switzerland) [S]</i>
C-12.4	14:45 – 15:00	BAYESIAN NETWORK ANALYSIS OF ROTATOR CUFF MUSCLE DEGENERATIONS; <i>Pezhman Eghbali (Switzerland) [S]</i>
C-12.5	15:00 – 15:15	DEEP LEARNING CARDIAC SEGMENTATION OF DUAL ULTRASOUND AND PHOTOACOUSTIC IMAGE DATA; <i>Pierre Sicard (France) [D]</i>
C-12.6	15:15 – 15:30	AUTOMATIC INTERPRETATION OF POINT-OF-CARE LUNG ULTRASOUND USING DEEP LEARNING; <i>Sandro Queirós (Portugal) [D]</i>
C-12.7	15:30 – 15:45	AUTOMATIC GENERATION OF MULTI-VIEW SYNTHETIC ECHOCARDIOGRAPHIC IMAGES; <i>João Pedro Freitas (Portugal) [S]</i>
	D – 12 TRACK D – Salle des Conseils	METHODS IN MECHANICS FOR BIOLOGY AND MEDICINE VII <i>Chairs: Jose Munoz, Lorenza Petrini</i>
D-12.1	14:00 – 14:15	A DATA-DRIVEN REDUCED ORDER MODEL TO SIMULATE LEFT ATRIUM FLOWS; <i>Caterina Balzotti (Italy) [D]</i>
D-12.2	14:15 – 14:30	ASSESSMENT OF IMMERSED BOUNDARY METHODS FOR THE DESIGN OF MEDICAL CIRCULATORY SUPPORT DEVICES; <i>Mathieu Specklin (France) [D]</i>
D-12.3	14:30 – 14:45	PREOPERATIVE HEMODYNAMIC SIMULATION OF A PATIENT SPECIFIC EVAR PROCEDURE; <i>Francesco Bardi (France) [S]</i>
D-12.4	14:45 – 15:00	A NOVEL MODEL FOR PASSIVE MYOCARDIUM THAT INCORPORATES COMPLETE DIFFUSION TENSOR INFORMATION; <i>Michael Sacks (USA) [D]</i>
D-12.5	15:00 – 15:15	HEMOLYSIS PREDICTION IN BIOMICROFLUIDIC DEVICES USING RESOLVED CFD-DEM NUMERICAL SIMULATION; <i>Carmin Porcaro (Austria) [S]</i>
	E – 12 TRACK E – Amphi A	CURRENT CHALLENGES OF IN VIVO SUBJECT-SPECIFIC CONSTITUTIVE MODELLING OF BIOLOGICAL SOFT TISSUES <i>Chairs: Pierre-Yves Rohan, Gerard Ateshian</i>
E-12.1	14:00 – 14:15	THEORETICAL CONSIDERATIONS FOR PATIENT-SPECIFIC MODELLING BASED ON OBSERVABLE STATE VARIABLES; <i>Gerard Ateshian (USA) [D]</i>
E-12.2	14:15 – 14:30	VERTEBRAL BODY TETHERING FOR IDIOPATHIC SCOLIOSIS: A PARAMETRIC FEM STUDY OF IMPLANT AND PATIENT FACTORS; <i>Paige J. Little (Australia) [D]</i>
E-12.3	14:30 – 14:45	PATIENT-SPECIFIC SIMULATION OF AORTIC ANEURYSM GROWTH FOLLOWING ENDOLEAKS; <i>Stéphane Avril (France) [D]</i>
E-12.4	14:45 – 15:00	IN-VIVO BILAYER MATERIAL YOUNG MODULI IDENTIFICATION UNDER SMALL DEFORMATION USING ONLY SUCTION; <i>Nathanael Connesson (France) [D]</i>
E-12.5	15:00 – 15:15	STIFFNESS MATTERS: AN IMPROVED IN VIVO FAILURE RISK ASSESSMENT OF ASCENDING THORACIC AORTIC ANEURYSMS; <i>Klaas Vander Linden (Belgium) [S]</i>
E-12.6	15:15 – 15:30	BIOMECHANICAL MODELING OF ABDOMINAL AORTIC ANEURYSM TOWARDS OBJECTIVE CLINICAL DECISION MAKING; <i>Christian T. Gasser (Sweden) [D]</i>
E-12.7	15:30 – 15:45	POROMECHANICAL MODELLING OF KNEE JOINT: SUBJECT-SPECIFIC VS GENERIC MODELS BASED ON 39 PATIENTS; <i>Le Ping Li (Canada) [D]</i>



Friday, 5th May 2023

16:00 – 17:30	A – 13		CLINICAL BIOMECHANICS & TRANSLATIONAL RESEARCH VII
	TRACK A – Grand Amphi		<i>Chairs: Claudio Vergari</i>
	A-13.1	16:00 – 16:15	CLINICAL RISK ASSESSMENT AND MITIGATION OF POST-TAVR THROMBOGENICITY IN BAV USING IN SILICO MODELING; <i>Salwa Anam (USA) [S]</i>
	A-13.2	16:15 – 16:30	COMPLIANCE-MATCHING AORTIC GRAFT: COMPUTATIONAL MODELING AND MULTI-PARAMETER OPTIMIZATION; <i>Georgios Rovas (Switzerland) [S]</i>
	A-13.3	16:30 – 16:45	CT-BASED COMPUTATIONAL FLUID DYNAMICS ANALYSIS OF THE LEFT VENTRICLE ANEURYSM HEMODYNAMICS AFTER SURGERY; <i>Leonid Goubergrits (Germany) [D]</i>
	A-13.4	16:45 – 17:00	COMPUTED FFR BASED ON WINDKESSEL MODELS WITH DIFFERENT NUMBER OF ELEMENTS; <i>Sónia I. S. Pinto (Portugal) [D]</i>
	A-13.5	17:00 – 17:15	PARTIAL HEPATECTOMY HEMODYNAMICS DIGITAL TWIN: A SENSITIVITY ANALYSIS STUDY; <i>Lorenzo Sala (France) [D]</i>
	A-13.6	17:15 – 17:30	FINITE ELEMENT STUDY OF STRAINS AROUND SACRAL AND HEEL PRESSURE ULCERS WITH A NEW BI-LAYER DRESSING; <i>Nolwenn Fougeron (France) [D]</i>
	B – 13		DIGITAL TWINS FOR PERSONALIZED MEDICINE
	TRACK B – Amphi Bezier		<i>Chairs: Julie Choisne, Philippe Rouch</i>
	B-13.1	16:00 – 16:15	PIPELINES FOR MODEL AND DIGITAL TWIN PERSONALISATION IN PULMONARY HYPERTENSION; <i>Prashanna Khwaounjoo (New Zealand) [D]</i>
	B-13.2	16:15 – 16:30	TRUNCATION STRATEGIES FOR PERSONALIZED CFD MODELS OF SELECTIVE LIVER RADIOEMBOLIZATION; <i>Tim Bomberna (Belgium) [S]</i>
	B-13.3	16:30 – 16:45	PREDICTION OF RIGHT VENTRICLE PRESSURE FOLLOWING PULMONARY ENDARTERECTOMY USING A DIGITAL TWIN; <i>Finbar John Argus (New Zealand) [D]</i>
	B-13.4	16:45 – 17:00	EFFICIENT PARAMETER ESTIMATION IN CARDIAC MODELS BASED ON PHYSICS-INFORMED NEURAL NETWORKS; <i>Federica Caforio (Austria) [D]</i>
	B-13.5	17:00 – 17:15	HUMAN BODY IMAGING TOWARD THE DEVELOPMENT OF FULL BODY SCAFFOLDS FOR PERSONALISED DIGITAL TWINS; <i>Alexander William Dixon (New Zealand) [D]</i>
	C – 13		STRUCTURES AND SYSTEMS BIOMECHANICS VI
TRACK C – Amphi Fournel		<i>Chairs: Silvia Budday, Lynne Bilston</i>	
C-13.1	16:00 – 16:15	IN VIVO MEASUREMENT OF HUMAN BRAIN MATERIAL PROPERTIES UNDER QUASI-STATIC LOADING.; <i>Nicholas Bennion (United Kingdom) [D]</i>	
C-13.2	16:15 – 16:30	NUMERICAL SIMULATION FOR BRAIN CHARACTERISATION: ISOTROPIC AND ANISOTROPIC HYPERELASTIC MATERIAL; <i>Wael Alliliche (France) [S]</i>	
C-13.3	16:30 – 16:45	QUANTIFYING BRAIN CONNECTIVITY DURING RESTRICTED KNEE MOVEMENT; <i>Fatimah Al-ani (United Arab Emirates) [D]</i>	
C-13.4	16:45 – 17:00	TRANSCRANIAL DIRECT CURRENT STIMULATION FOR OCD PATIENTS : A FINIT ELEMENTS STUDY USING PYANSYS; <i>Julien Gosez (France) [D]</i>	
C-13.5	17:00 – 17:15	A PHYSICAL MULTIFIELD COMPUTATIONAL MODEL EXPLAINS THE ROLE OF DIFFERENT CELL TYPES IN CORTICAL FOLDING.; <i>Mohammad Saeed Zarzor (Germany) [D]</i>	
C-13.6	17:15 – 17:30	COMPUTATIONAL MODELING OF THE CEREBROSPINAL FLUID FLOW: EFFECT OF CILIA-INDUCED VELOCITY; <i>Shunichi Ishida (Japan) [D]</i>	
D – 13		METHODS IN MECHANICS FOR BIOLOGY AND MEDICINE VIII	
TRACK D – Salle des Conseils		<i>Chairs: Mathieu Specklin, Cedric Laurent</i>	
D-13.1	16:00 – 16:15	ANALYSIS OF SKIN TENSION USING MACHINE LEARNING EMULATION TECHNIQUES; <i>Aisling Ní Annaidh (Ireland) [D]</i>	
D-13.2	16:15 – 16:30	CEREBROSPINAL FLUID FORMULATION AFFECTS THE SPINAL CORD DYNAMICS IN TRAUMATIC EVENTS; <i>Lucien Diotalevi (Canada) [S]</i>	
D-13.4	16:30 – 16:45	A UNIFIED FORMULATION FOR FLUID-STRUCTURE-CONTACT INTERACTION; <i>Fannie Maria Gerosa (USA) [D]</i>	
D-13.5	16:45 – 17:00	VISUALIZING MINERAL STRAIN IN HUMAN BONE BASED ON WIDE-ANGLE X-RAY SCATTERING (WAXS) WITH IN SITU INDENTATION; <i>Imke A. K. Fiedler (Germany) [D]</i>	
E – 13		MECHANOBIOLOGY VI	
TRACK E – Amphi A		<i>Chairs: Juan Mora-Macias, Pierre Yves Rohan</i>	
E-13.1	16:00 – 16:15	APONEUROSIS HETEROGENEOUS MATERIAL PROPERTIES: EVIDENCE AND IMPLICATIONS FOR MUSCLE STRAIN; <i>Benjamin Wheatley (USA) [D]</i>	
E-13.2	16:15 – 16:30	MECHANICAL CHARACTERIZATION OF NORMAL AND DECELLULARIZED BREAST TISSUES; <i>Ana Margarida Teixeira (Portugal) [S]</i>	
E-13.3	16:30 – 16:45	MYXOMATOUS DEGENERATION OF THE MITRAL VALVE; COLLAGEN STRUCTURE AND MECHANICAL BEHAVIOR; <i>Mohammad Javad Sadeghinia (Norway) [S]</i>	
E-13.4	16:45 – 17:00	IN SILICO AVATARS OF CELLS TO PREDICT CELL MIGRATION ON TRAVELLING WAVES; <i>Jean-Louis Milan (France) [D]</i>	
E-13.5	17:00 – 17:15	COMPUTED-TOMOGRAPHIC IMAGING FOR THE IN VIVO REGENERATION OF CRITICAL-SIZED CERAMIC SCAFFOLDS; <i>Juan Mora-Macias (Spain) [D]</i>	
E-13.6	17:15 – 17:30	BIOMECHANICS OF BACTERIA : THEORY AND EXPERIMENT; <i>Jinju Chen (United Kingdom) [D]</i>	
17:30	Closing session & CMBBE awards (Grand Amphi)		