PROGRAM OVERVIEW

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Computer Methods
CMBBE2016
in Biomechanics and Biomedical Engineering

Monday, **19 September**

15:30-18:30	Registration

Tuesday, **20 September**

	Israel A	Israel C	Israel D
7:30-18:00	Registration		
08:45-09:00	Welcome; (Israel A hall)		
9:00-10:35	**Session 1 - Advances in modelling and simulations of biological soft matter;** Chair: ***Oded Farago*** ▪ Computational analysis of x-ray data and high-resolution modelling of self-assembled bio-structures; ***Uri Raviv*** ▪ Large-scale coarse-grained simulations of biomembranes using meshless membrane model and lattice monge MC model; ***Hiroshi Noguchi*** ▪ Accurate discrete-time isothermal and isobaric molecular dynamics; ***Niels Grønbech-Jensen*** ▪ Influence of periodic boundary conditions on lateral diffusion in membranes; ***Frank Brown*** ▪ Numerical simulations for the determination of chemical gradients induced in collagen and fibrin hydrogels; ***Mar Cóndor***	**Session 6 - Computational modelling in cardiovascular diseases and therapies 1;** Chairs: ***Thomas Franz, Jacob Bortman*** ▪ Quantifying the effect of in vivo alginate injections on healthy myocardial tissue structure; ***Kevin Sack*** ▪ On solution of the cox (1968) problem; ***Raz Hechter*** ▪ Coherent structures govern white blood cell transport in cerebral aneurysms; ***Mark Epshtein*** ▪ Fluid-structure interaction bio-mechanical models of bicuspid aortic valves; ***Karin Lavon*** ▪ Fluid-structure simulation of a transcatheter aortic valve implantation: Potential application to patient specific cases; ***Francesco Migliavacca*** ▪ Computational fluid dynamics for intracranial aneurysm ruprure prediction & post treatment hemodynamic analysis; ***Albert Einstein George***	**Session 11 - Dental biomechanics;** Chairs: ***Christoph Bourauel, Tamar Brosh*** ▪ How and why do dental implant fracture; ***Keren Shemtov-Yona*** ▪ Biomechanical evaluation of pre and post – bilateral sagittal split mandibular osteotomy on 3D models for obstructive sleep apnea using finite element analysis; ***Aishwarya Srinivasan*** ▪ Studying implant osseointegration in the sika deer antler; ***Christoph Bourauel*** ▪ Influence of tooth dimension on the initial mobility – a numerical study; ***Cornelius Dirk*** ▪ Numerical analysis of a combined implant-residual tooth supported prosthesis after tooth hemisection - Influence of residual root number and bone density; ***Ludger Keilig*** ▪ Numerical modelling of dental implant-bone interface; ***Raoof Korabi***
10:35-11:00	Coffee break in the exhibition foyer		
11:00-12:45	**Session 2 - Skin bioengineering;** Chair: ***Georges Limbert*** ▪ Diabetic foot ulceration and the importance of plantar skin temperature; ***Andrew Weightman*** ▪ Comparison of anisotropic models to simulate the mechanical response of facial skin; ***Cormac Flynn*** ▪ In vivo quantification of skin tension and stiffness using surface wave propagation; ***Aisling Ní Annaidh*** ▪ On the mechanics of skin wrinkles: the role of skin microrelief; ***Georges Limbert*** ▪ Modelling skin mechanics under shear deformation in 3D; ***Jibbe Soetens***	**Session 7 - Computational modelling in cardiovascular diseases and therapies 2;** Chairs: ***Thomas Franz, Jacob Bortman*** ▪ A multi-resolution analysis of the mitral valve geometry for the development of personalized models; ***Michael Sacks*** ▪ Mechanical stress-strain relations of pig's myocardium, experiments and constitutive models; ***Avihai Spizzichino*** ▪ A fung-type exponential constitutive model accurately captures and differentiates between strain- and remodelling-induced stiffening in conduit pulmonary arteries; ***Mark Golob*** ▪ Comparison of different strain-based parameters to identify human left ventricular myocardial infarct: a three-dimensional finite element study; ***Gerardo Kenny Rumindo*** ▪ Patient-specific simulations of aortic valve flows; ***Arnas Kačeniauskas*** ▪ Validation of a four chamber porcine model; ***Brian Baillargeon***	**Session 12 - Neural engineering and injuries to the brain, central nervous system, and eyes;** Chairs: ***Lynne Bilston, Brittany Coats, Susan Margulies*** ▪ Brain injury metric based on computed axon strains; ***Remy Willinger*** ▪ Dynamic micro indentation of animal neural tissue; ***David MacManus*** ▪ Integration of finite element analysis with MR imaging for estimation of in vivo brain deformation; ***Brittany Coats*** ▪ Development of a physical brain-skull model for the study of neurosurgical brain shift; ***Matthew Potts*** ▪ Evaluation of a mechanically-coupled reaction-diffusion model for macroscopic brain tumor growth; ***Daniel Abler*** ▪ Development of a computational model to aid prediction of neurosurgical brain shift; ***Nicholas Bennion*** ▪ Theoretical analysis of the potential ultrasonic neuromodulation mechanisms; ***Michael Plaksin***

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12:45-14:00	Lunch in the lunch hall		
14:00-14:50	**Plenary 1: Mechanisms of pediatric TBI – integrating computational and experimental approaches to understanding brain injury; *Prof. Susan Margulies***; (Israel A hall)		
15:00-16:00	**Session 3 - Patient specific computational modelling and tissue properties 1;** Chair: ***Anath Fischer*** ▪ Personalized FEA may reduce unnecessary prophylactic surgeries in femurs with metastatic tumors - a clinical study; ***Zohar Yosibash*** ▪ Topology optimization for design of porous scaffolds for bone tissue engineering; ***Oded Amir*** ▪ The generic modelling fallacy: is it happening in your lab?; ***Daniel Robertson***	**Session 8 - Computational respiratory mechanics and flows 1;** Chair: ***Josue Sznitman*** ▪ The instantaneous stokes number for aerosol transport and deposition in the respiratory airways; ***Laura Nicolaou*** ▪ Fate of inhaled aerosols in heterogeneous pulmonary acini; ***Josue Sznitman*** ▪ Recruitment and derecruitment in a comprehensive computational lung model; ***Wolfgang A. Wall***	**Session 13: Simpleware workshop;** Image-based modelling for simulation in biomechanics; Chair: ***David Harman***
16:00-16:30	Coffee break in the exhibition foyer		
16:30-18:25	**Session 4 - Patient specific computational modelling and tissue properties 2;** Chair: ***Anath Fischer*** ▪ Characterization of irreversible physio-mechanical processes in stretched fetal membranes; ***Yulia Marom*** ▪ Patient-specific modelling in the absence of materials property data: Combining experimental and computational techniques to gain insights; ***Douglas Cook*** ▪ About unloading control at leg orthotics; ***Il'ya Dashevskiy*** ▪ A database of pelvis finite element models for a high-throughput pipeline of dynamic, biofidelic, sideways fall impact simulations; ***William Enns-Bray*** ▪ Patient-specific model generation for foot pressure ulcer prevention; ***Antoine Perrier*** ▪ Prediction of subject specific cartilage degeneration within the knee and comparison to experiments: data from the osteoarthritis initiative; ***Mika Mononen*** ▪ Contact pressure variation between eight subject-specific finite element models of the first metatarso-phalangeal joint; ***Jennifer Boyd***	**Session 9 - Computational respiratory mechanics and flows 2;** Chair: ***Josue Sznitman*** ▪ Distribution of nano-and micro-particle depositions in a murine pulmonary acinar model; ***Toshihiro Sera*** ▪ In silico assessment of mouth-throat effects on regional deposition in the conducting human airways; ***Stavros Kassinos*** ▪ Multi-D models for respiration and aerosol in health and disease; ***Irene Vignon-Clementel*** ▪ Chest wall kinematics using triangular cosserat point elements in helathy and neuromuscular subjects; ***Dana Solav***	**Session 14 - Multiscale computer modelling in rehabilitation biomechanics;** Chairs: ***Arthur Mak, Sigal Portnoy*** ▪ Computational models of foot and ankle for foot support design; ***Ming Zhang*** ▪ Multiphysics modelling of the effects of toxic biowastes from mechanically damaged muscle cells on the damage propagation of deep tissue injury; ***Arthur Mak*** ▪ Inverse analysis of biaxial tensile testing on human skin; ***Jibbe Soetens*** ▪ Finite-element analysis and experimental investigation of grooved and porous collar in inducing extra-cortical bone growth for mechanical fixation; ***Vee San Cheong*** ▪ A preliminary study on the influence of cadence on path optimized handle-based propulsion for wheelchairs; ***Margit Gföhler***
18:25-19:15	**Session 5: BETA CAE systems SA workshop (18:25 - 19:25);** Advanced modelling techniques for biomechanics; Chair: ***Evangelos Karatsis***		**18:10-19:25 Session 15 - Computational approaches in synthetic biology, biomedical informatics, and molecular genetics**; Chair: ***Tamir Tuller*** ▪ Reliable analog and digital computation in living cells; ***Ramez Daniel*** ▪ What can mutation patterns observed in antibody sequences tell us about antibody-antigen interactions, and about the dynamics of the adaptive immune response?; ***Gur Yaari*** ▪ Following the footsteps of the ribosome throws light on protein evolution and the design principles of gene expression engineering; ***Renana Sabi*** ▪ Yeast response to multiple carbon sources: a case study of combinatorial signal integration, ***Yonatan Savir***

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Wednesday, **21 September**

	Israel A	Israel C	Israel D
8:30–9:15	**Plenary 2: Computational models of angiogenesis: relevance for tissue engineering and relation to cell mechanics**; ***Prof. Hans Van Oosterwyck***; (Israel A hall)		
9:15–10:15	**Session 16 - Reproductive biomechanics;** Chair: ***Andrea Westerwelt*** ▪ Transitional hemodynamics and gas exchange in premature postpartum adaptation: Delayed vs. immediate cord clamping; ***Kerem Pekkan*** ▪ Patient-specific biomechanical simulations of pregnancy; ***Andrea Westervelt*** **Session 16 - Computational biomedical image-analysis and simulation 1;** Chair: ***Joao Tavares*** ▪ Statistical shape models to reconstruct whole femur surface from pelvic radiographs; ***John O'Connor*** ▪ Image-based transport modeling in human placental terminal villi; ***Romina Plitman Mayo***	**Session 20 - Computer modelling of tissue engineering processes;** Chair: ***Hans van Oosterwyck*** ▪ Neotissue growth in a perfusion bioreactor system: a multiscale multiphysics model; ***Hans van Oosterwyck*** ▪ Combining an in silico model with in vitro experiments to create a framework for process optimization. Case study: Optimizing the production of aggregates in a micro-well; ***Maxim Cuvelier*** ▪ Computational analysis of flow and biochemical transport in a multichamber bioreactor; ***Laura Iannetti*** ▪ Multiscale cell-based modeling of mechanical cell-matrix feedback during collective cell behavior; ***Roeland Merks***	**Session 24 - Modelling mechanical and frictional interactions of tissues and cells 1;** Chairs: ***Ben Fabry, Ana Smith*** ▪ Adhesive, contractile, and resistive forces during cancer cell invasion in connective tissue; ***Ben Fabry*** ▪ Artificial hydrogels to study cell-matrix-mechanics; ***Florian Rehfeldt*** ▪ Mechanical and molecular mechanisms driving intercellular communication during collective cell migration; ***Assaf Zaritsky*** ▪ Two distinct actin networks mediate traction oscillations to confer mechanosensitivity of focal adhesions, ***Jian Liu***
10:15–10:45	Coffee break in the exhibition foyer		
10:45–12:45	**Session 17 - Modelling and simulations of vascular diseases;** Chair: ***Pinhas Bar-Yoseph*** ▪ High-Fidelity numerical simulations of vortical structures and cardiovascular disease; ***Steven Frankel*** ▪ Patient-specific numerical model of calcific aortic stenosis and its treatment by balloon-expandable transcatheter aortic valve: Effect of positioning on the anchorage; ***Gil Marom*** ▪ Pulmonary arterial biaxial tissue mechanics in PAH; ***Daniela Valdez-Jasso*** ▪ Modelling and computational simulation of hemodynamically induced atherosclerosis; ***Pinhas Bar-Yoseph*** ▪ Modelling of microstructure and mechanics of healthy and aneurysmatic abdominal aortas; ***Justyna Niestrawska*** ▪ Results of in-vitro tests on a 2:1 prototype of a percutaneous ventricular assist device; ***Alen Karabegovic***	**Session 21 - Interfaces in medicine and biology: from fracture to adhesion 1;** Chair: ***Guillaume Haiat*** ▪ An isogeometric finite element model for the mechanics of lipid bilayer membranes; ***Roger Sauer*** ▪ Multiscale moving contact line theory and simulation of cell motility; ***Shaofan Li*** ▪ Simulating contact phenoma in dental biomechanics; ***Christoph Bourauel*** ▪ Manufacturability of custom endosteal dental implants by selective laser melting; ***Eric Wagnac*** ▪ Preclinical analysis to assess aseptic loosening of orthopaedic implants; ***Heidi-Lynn Ploeg*** ▪ Measuring the biomechanical properties of the bone-implant interface: a multiphysical approach; ***Guillaume Haiat***	**Session 25 - Modelling mechanical and frictional interactions of tissues and cells 2;** Chairs: ***Ben Fabry, Ana Smith*** ▪ Physics of adhesion regulation: The case of cadherin; ***Ana Suncana Smith*** ▪ Force application model for defining mechanical mechanisms of metastatic invasion; ***Martha Alvarez*** ▪ Theoretical analysis of stress distribution and cell polarization surrounding a model wound; ***Yonit Maroudas-Sacks*** ▪ Micromechanics, wrinkling formation, and wave propagation in soft matrix-fiber and layered biological tissues; ***Stephan Rudykh***
12:45–13:15	Lunch in the lunch hall		
13:15–14:15	Poster viewing in Israel B		

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14:15–15:00	**Plenary 3: Growth-induced mechanobiological processes are determinants of adult tissue structure and mechanics – A multi-scale multi-phase analysis; *Prof. Yoram Lanir***, (Israel A hall)		
15:00–16:45	**Session 18 - Models of drug transport and nano-medicine;** Chair: ***Netanel Korin*** ▪ Computer simulation of electroporation and drug transport through membranes; ***Nenad Filipovic*** ▪ Targeted delivery in upper airways using inhaled magnetic particles; ***Yan Ostrovski*** ▪ Multifunctional Nanoconstructs for cancer theranosis: from in silico to preclinical models; ***Paolo Decuzzi*** ▪ Designing shear responsive nano-medicine for targeted drug delivery; ***Netanel Korin*** ▪ Drug-eluting implants: Release mechanisms and models; ***Meital Zilberman***	**Session 22 - Interfaces in medicine and biology: from fracture to adhesion 2;** Chair: ***Guillaume Haiat*** ▪ Mechanobiology of bone-implant interface; a mixed theoretical and experimental approach; ***Pascal Swider*** ▪ Wave propagation in generalized continua in presence of interfaces; ***Giuseppe Rosi*** ▪ Tunable porous biomaterial to reduce stress-shielding in total hip arthroplasty; ***Burnett Johnston*** ▪ Improving acetabular reaming quality for total hip arthroplasty using a serrated blade reamer; ***Yvan Petit*** ▪ Computer modelling of the spine to support next generation of prevention and intervention injuries and pathologies; ***Yvan Petit***	**Session 26 - Mathematical models in injury and disease;** Chairs: ***Fred Vermolen, Etelvina Javier*** ▪ Mathematical modelling of burns; ***Fred Vermolen*** ▪ Agent-based multi-level simulations of drug-induced liver damage and regeneration: from data to models and back; ***Dirk Drasdo*** ▪ Modelling fibroblast populated collagen lattice contraction; ***John Dallon*** ▪ A robust and efficient adaptive multigrid solver for the optimal control of phase field formulations of geometric evolution laws; ***Anotida Madzvamuse*** ▪ Implications of anomalous kinetics on the course of wound contraction and closure; ***Etelvina Javierre***
16:45–17:15	Coffee break in the exhibition foyer		
17:15–19:00	**Session 19 - Biomaterials and modelling;** Chairs: ***Meital Zilberman, Dafna Knani*** ▪ Simulation of protein folding based on statistical konowledge; ***Simcha Srebnik*** ▪ Molecular modelling of biomaterials used in drug delivery systems; ***Dafna Knani*** ▪ Computational modelling of cellular bodies in high elastic deformation; ***Hayley Wyatt*** ▪ Development of an adaptive bone remodelling model driven by mechanical and biological stimuli for implant analysis; ***Vee San Cheong***	**Session 23 - Tissue engineering scaffolding: Computer-aided design and 3D printing;** Chairs: ***Paulo R. Fernandes, Miguel Castilho*** ▪ Design and fabrication of a site specific bioresorbable cage for tibial tuberosity advancement in dogs; ***Paulo Fernandes*** ▪ Biomanufacturing as an effective route for skeletal tissue regeneration; ***Marco Domingos*** ▪ A new multiscale micromechanical model of vertebral trabecular bones; ***Eyass Massarwa*** ▪ Graph based over-segmentation of bone porous micro-structure; ***Yizhak Ben-Shabat*** ▪ Computer-aided tissue engineering of a novel bone-ligament-bone multistructured construct; ***Laurent Cedric***	**Session 27 - Knee joints;** Chairs: ***Howard Hillstrom, Rajshree Mootanah*** ▪ The effect of non-surgical realignment therapies upon knee contact mechanics; ***Howard Hillstrom*** ▪ Application of validated computational knee model to predict improved joint reconstruction; ***Rajshree Mootanah*** ▪ Simulation of coupled neuromuscular coordination and knee joint mechanics during movement; ***Colin Smith, Darryl Thelen*** ▪ UKA component fatigue test development using DOE and FEA; ***Danny Levine*** ▪ Soft tissues loadings on healthy knee at different physiological flexions: A coupled experimental-numerical approach; ***Woo Suck Han*** ▪ Effect of weight loss on cartilage stresses in obese subjects: Data from the osteoarthritis initiative (OAI); ***Olesya Klets***
20:30–23:00	Conference dinner at Riverside		

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Thursday, **22 September**

	Israel A	Israel C	Israel D
9:00-10:45	**Session 28 - Mechanical interactions of cells with their environment 1;** Chair: ***Ayelet Lesman*** ▪ Nonlinear elasticity in the interaction of living cells with their mechanical environment; ***Yair Shokef*** ▪ Mechanics of cell adhesion: principles of symmetry breaking and self-polarization; ***Assaf Zemel*** ▪ Shape regulation generates elastic interaction between active force dipoles; ***Roman Golkov*** ▪ Cellular mechanosensitivity: Cell reorientation under cyclic stretching; ***Eran Bouchbinder*** ▪ Model of cell-cell mechanosensing in non-linear fibrous matrix; ***Ayelet Lesman***	**Session 32 - Biomechanics for computer assisted medical interventions;** Chair: ***Yohan Payan*** ▪ Breast biomechanical modelling for compression optimization in digital breast tomosynthesis; ***Anna Mira*** ▪ Coronary atherosclerotic plaque elasticity reconstruction methods based on in vivo intravascular ultrasound strain measurements; ***Jacques Ohayon*** ▪ An integrated and non-intrusive computational approach to uncertainty quantification and statistical inverse problems for soft tissue biomechanics: Towards model selection; ***Paul Hauseux*** ▪ Improving patient safety through real-time numerical simulation; ***Stephane Cotin*** ▪ Peri-prosthetic fractures simulation for minimal invasive surgery; ***Daniel Baumgartner*** ▪ Novel model for load carriage ergonomics optimization; ***Amir Hadid***	**Session 36 - Biomechanics of movement foot and gait;** Chair: ***Alon Wolf*** ▪ Foot type biomechanics: A matter of structure, function and flexibility; ***Howard Hillstrom*** ▪ The effect of knee osteoarthritis on gait variability and equilibrium ability, ***Rita Kiss*** ▪ A Key Dataset for the Comprehensive Assessment of the Musculoskeletal System: The CAMS-Knee Project, ***William R. Taylor*** ▪ Biomechanics of foot with total ankle arthroplasty; ***Yan Wang*** ▪ Influence of muscle strength on hip contact forces following total hip arthroplasty with a minimal direct anterior approach; ***Enrico De Pieri*** ▪ A compute biomechanical gait analysis comparison using walking sticks and walker in adult scoliosis patients; ***Ram Haddas***
10:45-11:15	Coffee break in the exhibition foyer		
11:15-13:00	**Session 29 - Modelling fluctuations in active matter;** Chair: ***Yair Shokef*** ▪ Active contraction of biological fiber networks; ***Pierre Ronceray*** ▪ Broken detailed balance at mesoscopic scales in active biological systems; ***Chase Broedersz*** ▪ A chemo-mechanical free-energy-basedapproach to model durotaxis andextracellular stiffness-dependentcontraction and polarization of cells; ***Vivek Shenoy*** ▪ Fluctuations spectrum in active gels; ***Yael Roichman*** ▪ Quantitative characterization of the nuclear refractive index; ***Mirjam Schürmann***	**Session 33 - Computer methods in vascular bioengineering;** Chair: ***Shmuel Einav*** ▪ A predictive multiscale model for simulating platelets activation in shear flows; ***Danny Bluestein*** ▪ Computational modelling of embolus transport in the inferior vena cava; ***Keefe Manning*** ▪ High resolution pressure drop for combined functional and biomechanical assessment of coronary stenoses – a validated numerical study; ***Oren Rotman*** ▪ Sensitivity of pulmonary outflow patch reconstruction with respect to the native and artificial tissue properties; ***Kerem Pekkan*** ▪ Physiologic modelling and surgical optimization in single ventricle congenital heart defects; ***Alison Marsden***	**Session 37 - Spine biomechanics, imaging and therapeutics 1;** Chairs: ***Sarit Sivan, Martha Alvarez*** ▪ Patient-specific simulation of spine deformity correction based on biplanar radiographic images; ***Fabio Galbusera*** ▪ UltraSpine: Minimally invasive fractionation of degenerate intervertebral disc nucleus pulposus by ultrasound and its replacement by an injectable hydrogel; ***Constantin Coussios*** ▪ Understanding cerebrospinal fluid flow in the spinal subarachnoid space and perivascular fluid transport into the spinal cord: The role of CSF pressure pulse shape; ***Lynne Bilston*** ▪ Finite element analysis of pre and post lumbar fusion for scoliosis patients; ***Ram Haddas*** ▪ Novel injectable biomimetic glycosaminoglycan analogues for intervertebral disc regeneration: Replacing like with like; ***Sarit Sivan***
13:00-14:00	Lunch in the lunch hall		

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14:00-14:50	**Plenary 4: Physical theories of cell mechanics; *Prof. Sam Safran***; (Israel A hall)		
15:00-16:00	**Session 30 - Mechanical interactions of cells with their environment 2;** Chair: ***Martha Alvarez*** ▪ Migration, force generation and mechanosensing of tumour cells in 3-dimensional environments; ***Ben Fabry*** ▪ Proximity of metastatic cells strengthens the mechanical interaction with their environment; ***Yulia Merkher*** ▪ Isothermal langevin dynamics in systems with power-law spatially-dependent friction; ***Shaked Regev***		**Session 38 - Spine biomechanics, imaging and therapeutics 2;** Chair: ***Sarit Sivan*** ▪ Vertebral loading during daily living activities estimated from measured spinal kinematics: Elderly vs. young subjects; ***Dominika Ignasiak*** ▪ Biomechanics of implant failure after PSO: Influence of the hardware configuration through a finite element analysis; ***Tomaso Villa*** ▪ Finite element analysis based lumbosacral revision surgery using an individual navigation template, ***Peter E. Eltes*** ▪ Biomechanical gait assessment on a patient undergoing surgical correction of kyphosis from severe ankylosing spondylitis - A case study; ***Ram Haddas***
16:00-16:30	Coffee break in the exhibition foyer		
16:30-18:20	**Session 31 - Tissue elastography;** Chair: ***Ralph Sinkus*** ▪ Integrating cardiac biomechanics and MR elastography; ***David Nordsletten*** ▪ Magnetic resonance elastography of the brain; ***Katharina Schregel*** ▪ Paediatric liver viscoelastic properties differ from adults: A multifrequency MR elastography study; ***Lynne Bilston*** ▪ Functional changes in the shear modulus of the mouse brain cortex observed with electrical stimulation of the hind limb using magnetic resonance elastography (MRE); ***Samuel Patz*** ▪ Investigating the performance of a new ultrasonic elastography technique for cardiac stiffness assessment through finite element simulations; ***Pascal Verdonck*** ▪ Impacting cancer cells via mechanical waves: Can we change cellular behavior?; ***Marlies Hoelzl***	**Session 35 - Modelling soft tissue damage and healing;** Chair: ***Jos vander Sloten*** ▪ Damage of soft biological tissues: Continuum model and FE implementation; ***T. Christian Gasser*** ▪ Finite element reconstruction of acute subdural haematoma cadaver experiments; ***Zhao Ying Cui*** ▪ The effect of strains and stresses on collagen reorientation in intact and injured cartilage; ***Petri Tanska*** ▪ Biomechanical evaluation of the (un)reinforced ross procedure; ***Heleen Fehervary*** ▪ Microstuctural models of ligament and tendon elasticity and viscoelasticity; ***Tom Shearer*** ▪ Investigation of the state of stress generated by high loads in the ovine lumbar intervertebral disc using a new anisotropic hyperelastic model; ***Gloria Casaroli*** ▪ Effect of natural honey treatment and external stretching on kinematics of cell migration during gap closure; ***Daphne Weihs***	**Session 39 - Computational biomedical image-analysis and simulation 2;** Chair: ***Joao Tavares*** ▪ Generation of anatomical models for biomechanical simulation of transseptal puncture; ***Joao Tavares*** ▪ Computational modeling of electromagnetic and (focused-) ultrasound thermal therapies: Application to applicator design, personalized treatment planning/optimization, and therapeutic innovation; ***Esra Neufeld*** ▪ New method for radiographic spinal reconstruction using probabilistic principal component analysis (PPCA); ***Olivier Moal*** ▪ Prediction of alignment after surgical treatment of adult spinal deformity (ASD) with probabilistic principal component analysis; ***Olivier Moal*** ▪ Statistical shape modeling to analyse the talus in pediatric clubfoot; ***Heidi-Lynn Ploeg***
18:20-18:30	Closing and farewell		