

CMBBE 2023 SYMPOSIUM PROGRAMME OUTLINE

CMBBE 2023
3 - 5 May 2023, Paris, France

18th International Symposium on Computer Methods
in Biomechanics and Biomedical Engineering
www.cmbbe-symposium.com



Wednesday, 3rd May 2023

	TRACK A – Grand Amphi	TRACK B – Amphi Bezier	TRACK C – Amphi Fournel	TRACK D – Salle des Conseils	TRACK E – Amphi A
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 MULTI-SCALE MECHANICS AND MECHANOBIOLOGY FOR TOMORROW'S CARDIOVASCULAR MEDICINE <i>Chairs: Stéphane Avril, Nele Famaey</i>	B-01 SPORTS BIOMECHANICS: INJURIES AND MANAGMENT <i>Chairs: Floren Colloud, Sébastien Laporte</i>	C-01 CLINICAL BIOMECHANICS AND TRANSLATIONAL RESEARCH I <i>Chairs: Nicola Hagemester, Wafa Skalli</i>	D-01 METHODS IN MECHANICS FOR BIOLOGY AND MEDICINE I <i>Chairs: Sam Evans, Jeff Weiss</i>	E-01 MECHANOBIOLOGY I <i>Chairs: Paulo Ruis Fernandes, Bert van Rietbergen</i>
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, University of Luxembourg; Chairs: Pierre Yves Rohan, Gerard Ateshian</i> – Meeting room: Grand Amphi				
12:10 – 13:10	A-02 MULTI-SCALE MECHANICS AND MECHANOBIOLOGY FOR TOMORROW'S CARDIOVASCULAR MEDICINE <i>Chairs: Stéphane Avril, Nele Famaey</i>	B-02 HUMAN MOVEMENT: GAIT ANALYSIS, SPORTS AND INJURY MECHANISMS I <i>Chairs: Philippe Rouch, Laurent Gajny</i>	C-02 CLINICAL BIOMECHANICS AND TRANSLATIONAL RESEARCH II <i>Chairs: Irene Vignon-Clementel, Lorenzo Sala</i>	D-02 ENGINEERING INNOVATION IN WOMEN'S HEALTH <i>Chairs: Kristin Myers, Katrina Knight</i>	E02 MECHANOBIOLOGY II <i>Chairs: Sam Evans, Benjamin Wheatley</i>
13:10 – 14:10	Lunch break & Poster sessions				
	TRACK A – Grand Amphi	TRACK B – Amphi Bezier	TRACK C – Amphi Fournel	TRACK D – Salle des Conseils	TRACK E – Amphi A
14:10 – 15:40	A-03 RECENT ADVANCES IN 3D MODELING, DIAGNOSIS AND TREATMENT OF SPINAL DEFORMITIES <i>Chairs: Saša Čuković, Luigi La Barbera</i>	B-03 HUMAN MOVEMENT: GAIT ANALYSIS, SPORTS AND INJURY MECHANISMS II <i>Chairs: Floren Colloud, Julie Choisne</i>	C-03 STRUCTURES AND SYSTEMS BIOMECHANICS I <i>Chairs: Christian T. Gasser, Aline Bel-Brunon</i>	D-03 STRUCTURES AND SYSTEMS BIOMECHANICS II <i>Chairs: Kristin Myers, Dulce Oliveira</i>	E-03 MECHANOBIOLOGY III <i>Chairs: Mathias Peirlink, Heleen Fehervary</i>
15:50 – 16:50	A-04 STRUCTURES AND SYSTEMS BIOMECHANICS III <i>Chairs: Harry van Lenthe, Bert van Rietbergen</i>	B-04 HUMAN MOVEMENT: GAIT ANALYSIS, SPORTS AND INJURY MECHANISMS III <i>Chairs: Ilse Jonkers, Ayman Assi</i>	C-04 MULTI-SCALE MECHANICS AND MECHANOBIOLOGY FOR TOMORROW'S CARDIOVASCULAR MEDICINE <i>Chairs: Stéphane Avril, Nele Famaey</i>	D-04 ENGINEERING INNOVATION IN WOMEN'S HEALTH <i>Chairs: Kristin Myers, Katrina Knight</i>	E-04 CANCER MECHANOBIOLOGY <i>Chairs: Valeria Panzetta, Sabato Fusco</i>
16:50 – 17:20	Coffee break, Posters & exhibition viewing				
17:20 – 18:50	A-05 CLINICAL BIOMECHANICS & TRANSLATIONAL RESEARCH III <i>Chairs: Christoph Bourauel, Ayman Assi</i>	B-05 PREDICTION OF HIP STRENGTH FROM CLINICAL DATA <i>Chairs: Philippe Zysset, Bert van Rietbergen</i>	C-05 MECHANICAL CHARACTERIZATION OF MUSCLE ACROSS LENGTH SCALES <i>Chairs: Pierre-Yves Rohan, Benjamin Wheatley</i>	D-05 SIMVASCULAR WORKSHOP <i>Chair: Shawn C. Shadden</i>	E-05 GIBBON WORKSHOP <i>Chair: Kevin Moerman</i>
19:00	Welcome Reception, ENSAM (Conference Venue)				

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Thursday, 4th May 2023

	TRACK A – Grand Amphi	TRACK B – Amphi Bezier	TRACK C – Amphi Fournel	TRACK D – Salle des Conseils	TRACK E – Amphi A
8:00	Registration opens				
9:00 – 10:30	A-06 CLINICAL BIOMECHANICS AND TRANSLATIONAL RESEARCH IV <i>Chairs: Simona Celi, Heleen Fehervary</i>	B-06 COMPUTATIONAL EVALUATION OF ORTHOPAEDIC DEVICES <i>Chair: Ruth Wilcox, Julie Choisne</i>	C-06 HOW BIOMECHANICAL MODELS CAN IMPROVE DENTAL CLINICS? <i>Chair: Aurelie Benoit, Ludger Keilig</i>	D-06 EXPLORING BRAIN MECHANICS <i>Chairs: Silvia Budday, Lynne Bilston</i>	E-06 MULTISCALE MECHANOBIOLOGY <i>Chairs: Juan Mora-Macias, Jose Sanz-Herrera</i>
10:30 – 11:00	Coffee break, Posters & exhibition viewing				
11:00 – 12:45	A-07 HEAD AND NECK BIOMECHANICS FOR COMPUTER ASSISTED MEDICAL INTERVENTIONS <i>Chairs: Yohan Payan, Georges Bettega</i>	B-07 IMAGE ANALYSIS AND PROCESSING METHODS FOR BIOLOGY AND MEDICINE I <i>Chairs: Sébastien Laporte, Kevin Moerman</i>	C-07 MECHANISTIC MULTIPHASE MODELING OF SOFT TISSUES: IN VITRO/IN VIVO/IN SILICO APPROACHES TOWARD CLINICAL APPLICATION <i>Chairs: Giuseppe Sciume, Stephane Urcun</i>	D-07 DIGITAL TWIN OF DIFFERENT SCALES AND BIOLOGICAL PROCESSES: THE EXAMPLE OF LIVER <i>Chairs: Lorenzo Sala, Irene Vignon-Clementel</i>	E07 MECHANOBIOLOGY IV <i>Chairs: Sophie Le Cann, Nicholas Bochud</i>
13:00 – 14:00	Lunch break & Poster sessions				
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, U.S. Food and Drug Administration; Chairs: Wafa Skalli, Jos Vander Sloten – Meeting room: Grand Amphi</i>				
	TRACK A – Grand Amphi	TRACK B – Amphi Bezier	TRACK C – Amphi Fournel	TRACK D – Salle des Conseils	TRACK E – Amphi A
15:00 – 16:30	A-08 VERIFICATION AND VALIDATION OF COMPUTATIONAL MODELS <i>Chairs: Nele Famaey, Sam Evans and Heleen Fehervary</i>	B-08 METHODS IN MECHANICS FOR BIOLOGY AND MEDICINE II <i>Chairs: Michael Sacks, Sophie Le Cann</i>	C-08 STRUCTURES AND SYSTEMS BIOMECHANICS IV <i>Chairs: Mathieu Specklin, Jean-Louis Hébert</i>	D-08 STRUCTURES AND SYSTEMS BIOMECHANICS V <i>Chairs: Pierre-Yves Rohan, Benjamin Wheatley</i>	E-08 SOFA WORKSHOP <i>Chair: Hugo Talbot</i>
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 <i>Chairs: Nele Famaey, Sam Evans and Heleen Fehervary</i>	B-09 METHODS IN MECHANICS FOR BIOLOGY AND MEDICINE III <i>Chairs: Lucas Timmins, Pierre Yves Rohan</i>	C-09 HOW BIOMECHANICAL MODELS CAN IMPROVE DENTAL CLINICS? <i>Chairs: Aurelie Benoit, Ludger Keilig</i>	D-09 FEBIO WORKSHOP <i>Chairs: Gerard Ateshian, Jeffrey Weiss</i>	E-09 BIOPTIM WORKSHOP <i>Chairs: Francois Bailly, Amedeo Ceglia</i>
20:00	Conference dinner cruise on the legendary Bateau mouche boat (Departure of the boat: Pont de l'Alma – metro station Alma Marceau ; address: Bateaux-Mouches, Port de la Conférence/Pont de l'Alma.)				

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Friday, 5th May 2023

	TRACK A – Grand Amphi	TRACK B – Amphi Bezier	TRACK C – Amphi Fournel	TRACK D – Salle des Conseils	TRACK E – Amphi A
8:00	Registration opens				
9:00 – 9:50	Plenary lecture: CHALLENGES IN SPORT BIOMECHANICS ; <i>Christophe Baudot, Chief Medical Doctor, Paris Saint-Germain & Philippe Rouch, ENSAM</i> ; Chairs: Sébastien Laporte, Sam Evans – Meeting room: Grand Amphi				
10:00 – 11:00	A-10 CLINICAL BIOMECHANICS AND TRANSLATIONAL RESEARCH V Chairs: Philippe Zysset, Jos Vander Sloten	B-10 HUMAN MOVEMENT: GAIT ANALYSIS, SPORTS AND INJURY MECHANISMS IV Chairs: Sébastien Laporte, Maude Creze	C-10 BIOMECHANICS OF CARDIOVASCULAR SYSTEM: MODELLING, SIMULATION AND IMAGING Chairs: Simona Celi, Lorenza Petrini	D-10 METHODS IN MECHANICS FOR BIOLOGY AND MEDICINE IV Chairs: Michael Sacks, Klaas Vander Linden	E-10 MECHANOBIOLOGY V Chairs: Aurélie Benoit, Areti Papastavrou
11:00 – 11:30	Coffee break, Posters & exhibition viewing				
11:30 – 13:00	A-11 CLINICAL APPLICATIONS OF HIGH RESOLUTION CT Chairs: Philippe Zysset, Bert van Rietbergen	B-11 COMPUTATIONAL PULMONOLOGY: RECENT ADVANCES & CHALLENGES Chairs: Martin Genet, Aline Bel-Brunon	C-11 METHODS IN MECHANICS FOR BIOLOGY AND MEDICINE V Chairs: Kevin Moerman, Qiyao Peng	D-11 METHODS IN MECHANICS FOR BIOLOGY AND MEDICINE VI Chairs: Sébastien Laporte, Yohan Payan	E-11 MODELLING AND SIMULATION OF MUSCULOSKELETAL MECHANOBIOLOGY Chair: Areti Papastavrou, Julie Choisne
13:00 – 14:00	Lunch break & Poster sessions				
	TRACK A – Grand Amphi	TRACK B – Amphi Bezier	TRACK C – Amphi Fournel	TRACK D – Salle des Conseils	TRACK E – Amphi A
14:00 – 15:45	A-12 CLINICAL BIOMECHANICS AND TRANSLATIONAL RESEARCH VI Chairs: Jean Marc Allain, Sam Evans	B-12 3D MOVEMENT ANALYSIS AND SUBJECT-SPECIFIC MUSCULOSKELETAL MODELING - ORGANIZED JOINTLY WITH ESMAC Chairs: Ayman Assi, Hans Kainz	C-12 IMAGE ANALYSIS AND PROCESSING METHODS FOR BIOLOGY AND MEDICINE II Chairs: Claudio Vergari, Heleen Fehervary	D-12 METHODS IN MECHANICS AND MEDICINE VII Chairs: Jose Munoz, Lorenza Petrini	E-12 CURRENT CHALLENGES OF IN VIVO SUBJECT-SPECIFIC CONSTITUTIVE MODELLING OF BIOLOGICAL SOFT TISSUES Chairs: Pierre-Yves Rohan, Gerard Ateshian
16:00 – 17:30	A-13 CLINICAL BIOMECHANICS AND TRANSLATIONAL RESEARCH VII Chair: Claudio Vergari	B-13 DIGITAL TWINS FOR PERSONALISED MEDICINE Chairs: Julie Choisne, Philippe Rouch	C-13 STRUCTURES AND SYSTEMS BIOMECHANICS VI Chairs: Silvia Budday, Lynne Bilston	D-13 METHODS IN MECHANICS FOR BIOLOGY AND MEDICINE VIII Chairs: Mathieu Specklin, Cedric Laurent	E-13 MECHANOBIOLOGY VI Chairs: Juan Mora-Macias, Pierre Yves Rohan
17:30	Closing session & CMBBE awards				