

AGENDA



18 June 2020		
Session 1		
TIME		SUBJECT
10:00	10:15	Welcome - Conference starts
10:15	10:50	Keynote 1 – Prof. F. Molinari
10:50	12:05	Topic: “Impact Biomechanics, Automotive Safety”
12:05	12:20	Questions & Answers
Session 2		
TIME		SUBJECT
13:05	13:50	Sponsor keynote: Digital Orthopaedics
13:50	14:35	Topic: “Advances in Human Modelling”
14:35	14:50	Questions
14:50	15:35	Topic: Spine traumatic and therapeutics " - iLab-Spine Workshop
15:35	15:50	Questions & Answers

19 June 2020		
Session 1		
TIME		SUBJECT
10:00	10:35	Keynote 2 – Prof. B. Innocenti
10:35	11:35	Topic: “Artificial Intelligence”
11:35	11:50	Questions & Answers
11:50	12:35	Sponsor keynote: Arup
Session 2		
TIME		SUBJECT
13:20	14:05	Sponsor keynote: MSC Software
14:05	15:20	Topic: “Design, Simulation and Optimisation”
15:20	15:35	Questions & Answers
15:35	15:50	Closure

AGENDA: 18 June 2020 (1/2)



- 10:00 – 10:15 Welcome – Introduction
Prof. M. Rossetto (Chair of Department of Mechanical and Aerospace Engineering – Politecnico di Torino)
Prof. C. Bastien (Coventry University)
- 10:15 – 10:50 Keynote: “Automation in image segmentation and interpretation: traditional and new intelligent architectures”
Prof. F. Molinari (Department of Electronics and Telecommunications – Politecnico di Torino)
- Impact Biomechanics, Automotive Safety**
- 10:50 – 11:05 From accident data to driver injury prediction
C. Bruna-Rosso, W. Wei, T. Serre, P.-J. Arnoux
- 11:05 – 11:20 Kinematics evaluation of female head-neck model with reflexive neck muscles in low-speed rear impact
I.P.A. Putra, J. Iraeus, J. Fice, M.Y. Svensson, A. Linder, R. Thomson
- 11:20 – 11:35 A method to calculate brain AIS trauma score from a finite element model
C. Bastien, C. Sturgess, H. Davies, R. Wellings
- 11:35 – 11:50 Positioning methodologies of finite element human body models
D. Fiumarella, F. Germanetti, G. Belingardi, A. Scattina
- 11:50 – 12:05 Computational study on extra-articular knee structures preventing the anterior cruciate ligament from re-rupturing using the GHBMCM50-PS
M. Boljen, F. Blanke
- 12:05 – 12:20 Questions & Answers

AGENDA: 18 June 2020 (2/2)



13:05 – 13:50 Sponsor Keynote: Digital Orthopaedics

Advances in Human Modelling

13:50 – 14:05 Modelling a proprioceptive feedback loop in a lower limb model
F. Mo

14:05 – 14:20 3DOrthoTwin: highly automatic generation of subject-specific foot finite element models
E. Morales-Orcajo, A. Stenti, A-X. Fan, A. Balabanis, S-Y. Ye, T. Leemrijse, P.-A. Deleu, B. Ferré, E. Lété

14:20 – 14:35 Urolab - a computational tool to assist on the numerical analysis of the urinary system
V. Monteiro, K. Moerman, W. Adriano

14:35 – 14:50 Questions & Answers

Spine traumatic and therapeutics " - iLab-Spine Workshop

14:50 – 15:05 The central cord syndrome: a numerical investigation of its genesis
N. Bailly, L. Diotalevi, M-H. Beauséjour, E. Wagnac, J-M. Mac-Thiong, Y. Petit

15:05 – 15:20 Pattern of disco-ligamentous injuries influences spinal cord stresses and strains in post-traumatic flexion
M-H. Beauséjour, E. Wagnac, P-J. Arnoux, Y. Petit

15:20 – 15:35 Biomechanical comparison of spinal cord compression types occurring in Degenerative Cervical Myelopathy
S. Lévy, G. Baucher, P-H. Roche, V. Callot, M. Evin, P.-J. Arnoux

15:35 – 15:50 Questions & Answers

AGENDA: 19 June 2020 (1/2)



- 10:00 – 10:35 Keynote: “Knee Biomechanics Analysis and 3D modelling: to close the gap between surgeons and engineers”
Prof. Bernardo Innocenti (Université Libre de Bruxelles)
- Artificial Intelligence**
- 10:35 – 10:50 Efficient pre-simulation method for human body model with Odyssee
N. Ichinose, N. Taki, M. Takeda
- 10:50 – 11:05 Improve walking performance with Machine Learning
D. Salin, K. Kayvantash
- 11:05 – 11:20 Investigation of the bio-inspired control strategies for finite element active human body models
O.V. Martynenko, C.A. Endler, I. Wochner and S. Schmitt
- 11:20 – 11:35 ML and ROM techniques for Biomedical / Biomechanical predictions based on CAE models or MRI Images
K. Kayvantash
- 11:35 – 11:50 Questions & Answers
- 11:50 – 12:35 Sponsor Keynote: “Human Body Model Positioning Using the Oasys LS-DYNA Environment” by Arup

AGENDA: 19 June 2020 (2/2)



13:20 – 14:05 Sponsor Keynote: MSC Software

Design, Simulation and Optimisation

14:05 – 14:20 An optimization study of hemodialysis arterio-venous grafts design to reduce vascular access risk of failure
G. De Nisco, K. Siciliano, P. Tasso, M. Lodi Rizzini, V. Mazzi, K. Calò, M. Antonucci, D. Gallo, U. Morbiducci

14:20 – 14:35 Lower leg biomechanics and ski boot: computational approach
C.G. Fontanella, I. Toniolo, E.L. Carniel

14:35 – 14:50 Artery in Microgravity: a compact in vitro testbench for cardiovascular flow analysis in space
E. Torta, O. Draysonb, N. Bernardini, A. Bakkali Abderrahaman, B. Dalfó Ferrer, S. Gabetti, M. Compin, U. Morbiducci

14:50 – 15:05 Interfacial stress assessment of a dental system: from MicroCT to FE model
M. Muggeo, A. Baldi, N. Scotti, L. Peroni, A. Scattina

15:05 – 15:20 Osteoporotic Hip Augmentation with bone cement injected along curved canals
M-E. Santana Artiles, D.T. Venetsanos

15:20 – 15:35 Questions & Answers

15:35 – 15:50 Closure
Dr. K. Kayvantash (CADLM)